

Chevron Environmental Management Company

REMEDIAL INVESTIGATION REPORT

Former Chevron Facility No. 90619
1205 Washington Street
Bellingham, Washington
Facility Site Identification Number: 35363194
Cleanup Site Identification Number: 8836

January 7, 2021

REMEDIAL INVESTIGATION REPORT

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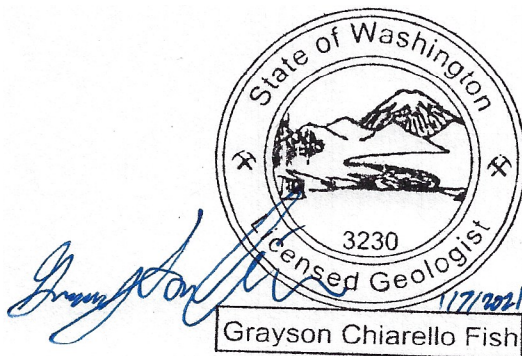
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ACRONYMS AND ABBREVIATIONS

AO	Agreed Order
APH	air-phase petroleum hydrocarbon
Arcadis	Arcadis U.S., Inc.
ASTM	ASTM International
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
Cascade	Cascade Drilling Inc, of Woodinville, Washington
CEMC	Chevron Environmental Management Company
COC	constituent of concern
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSID	Cleanup Site Identification Number
CSM	conceptual site model
CUL	cleanup level
DRO	diesel range organics
Ecology	Washington State Department of Ecology
EDB	ethylene dibromide
EDC	ethylene dichloride
FSID	Facility Site Identification Number
GRO	gasoline range organics
HO	heavy oil range organics
IDW	investigation-derived waste
inHg	inch of mercury
LNAPL	light nonaqueous phase liquid
mg/kg	milligram per kilogram
mL/min	milliliter per minute
MTBE	methyl tertiary butyl ether
MTCA	Model Toxics Control Act
PCB	polychlorinated biphenyl
PID	photo ionization detector

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PVI	petroleum vapor intrusion
RI	remedial investigation
RI Report	Remedial Investigation Report
RI Work Plan	Remedial Investigation Work Plan
RL	reporting limit
site	former Chevron Facility No. 90619, located at 1205 Washington Street in Bellingham, Washington
SVE	soil vapor extraction
TEE	terrestrial ecological evaluation
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VI	vapor intrusion
WAC	Washington Administrative Code
µg/L	microgram per liter
µg/m ³	microgram per cubic meter

1 INTRODUCTION

On behalf of Chevron Environmental Management Company (CEMC) and Equilon Enterprises LLC, Arcadis U.S., Inc. (Arcadis) has prepared this *Remedial Investigation Report* (RI Report) for the former Chevron Facility No. 90619, located at 1205 Washington Street in Bellingham, Washington (site; Figure 1). This RI Report summarizes current and historical site information and presents results of the remedial investigation (RI) conducted at the site in April 2019 and subsequent quarterly groundwater monitoring. The site is managed under Agreed Order (AO) No. DE 15742, between the Washington State Department of Ecology (Ecology), CEMC, and Equilon Enterprises LLC (d/b/a Shell Oil Products US). AO No. DE 15742 was fully executed on March 27, 2018.

The site is formally known as Chevron 90619 in the Ecology database. Identifiers are:

- Facility Site Identification Number (FSID): 35363194
- Cleanup Site Identification Number (CSID): 8836

Data collected during investigations of the site are available in Ecology's Environmental Information Management database under identification number FS35363194.

2 SITE BACKGROUND

2.1 General Site Information

Select historical site information is provided in Appendix A. A current aerial map is shown on Figure 2. General location information is summarized below (Whatcom County Assessor & Treasurer 2019):

- *Site location.* Southwest corner of the intersection of Broadway and Washington Street in Bellingham, Washington
- *Site address.* 1205 Washington St, Bellingham, Washington
- *Site county.* Whatcom
- *Site parcel number.* 3802255175470000
- *Site land use.* Urban Village – Commercial Transition
- *Vicinity land use.* Urban Village – Commercial Transition
- *Current site owner.* James Wilson
- *Current site use.* Retail Trade – Eating and Drinking land use code 58¹
- *Future site use.* No known planned change in site use or land use
- *Site surface.* 13,040 square feet (0.2994 acre)
- *Site elevation.* Approximately 75 feet above the North American Vertical Datum of 1988
- *Ecology site manager.* John Guenther

Water service to the site is provided by the City of Bellingham Public Works Department. The main source of drinking water for the City of Bellingham is from Lake Whatcom, which is located 3 miles to the east of the site.

A search of Ecology's well log database indicated that no municipal water supply wells are located within 2 miles of the site. An irrigation supply well serving a 45-acre park (Squalicum Creek Park) is located 3,800 feet northwest of the site. Another irrigation supply well serving a 120-acre golf course (Bellingham Country Club) is located 6,000 feet north of the site (Ecology 2018d).

2.2 Site History

The site operated as a retail gasoline station and repair shop from approximately 1933 to 1991. Historical documents indicate that the gasoline station was operated by Shell Oil Company through at least 1942 and was identified as a Chevron station in the 1947 Polk Directory (Leidos 2018). By 1950, a gasoline station and residential home were present onsite. The gasoline station and structures were located in the southern end of the site. By 1975, the original gas station structures were removed and the site was redeveloped with a second gasoline station and repair facility. The new fueling operations were located in

¹Washington land use codes found at <https://apps.leg.wa.gov/wac/default.aspx?cite=458-53-030>.

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the north and central portions of the site. In 1991, underground storage tanks (USTs) and associated product distribution lines were removed from the site. In approximately 1995, the fueling and repair buildings were removed and a commercial building, used as a coffee shop, was constructed in the central portion of the site. From 1995 to July 2016, the site operated as a privately owned coffee shop (Leidos 2018). A butchery currently occupies the site as a single-story building with a food preparation area and public retail space. Building occupants consist of patrons and workers. A site plan is shown on Figure 3.

Prior to their removal in 1991 (GeoEngineers 1991a), site infrastructure included:

- Two fuel dispenser islands
- Eight USTs:
 - 7,500-gallon steel regular gasoline UST
 - 6,000-gallon steel unleaded gasoline UST
 - 3,000-gallon steel supreme gasoline UST
 - 1,000-gallon fiberglass waste oil UST
 - 1,000-gallon fiberglass heating oil UST
 - 550-gallon steel heating oil UST
 - steel fuel UST of unknown capacity
 - 2000-gallon steel fuel UST.
- Associated product distribution lines.

Based on a review of historical photographs, the 550-gallon steel heating oil UST was likely associated with the former residence on the northern portion of the site. An aerial photograph from 1963 showing the historical location of the home is provided in Appendix A. Based on the location of the former residence in close proximity to the heating oil UST, as well as the 550-gallon capacity that is typical for residential heating oil systems, it is likely that the 550-gallon steel heating oil UST was used as part of a former home heating oil system.

The above-listed infrastructure was removed from the site by 1991. Historical UST information is included in Appendix A (Ecology 2019).

2.3 Site Setting

2.3.1 Regional Geology and Hydrogeology

The Bellingham, Washington area is located in the Puget Sound Lowland, bound by the Cascade Mountains to the east and the Olympic Mountains to the west. Continental glaciers advanced into the region several times during the Pleistocene Epoch (between 2 million and 10,000 years ago). This part of the Cordilleran ice sheet is known as the Puget Lobe. The most recent period of glaciation, the Vashon Stade, began approximately 15,000 years ago. As the climate cooled during the Vashon Stade, the

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continental ice sheet in Canada expanded and the Puget Lobe slowly advanced southward into the Puget Sound Lowland.

As the Vashon glacier advanced southward, streams and melting ice in front of the glacier deposited sediment throughout the Puget Sound Lowland. As the glacier continued its advance, it overrode these advance outwash deposits and covered them with glacial till. This till, also known as hardpan, consists of reworked older deposits and rocks scoured by the bottom and sides of the advancing glacier. Because of the pressure of thousands of feet of overlying ice, the till is compact and cemented in some areas, with a texture much like concrete. However, local deposits of fine- and coarse-grained sediment resulted in areas where the till was subjected to the influence of subglacial water during deposition. Approximately 13,500 years ago, the climate began to warm and the Vashon glacier started to retreat. During this retreat, recessional outwash sediment was deposited, filling in discontinuous depressions and channels in front of the glacier. Subsequent to the deposition of glacial sediment, alluvial sediment was deposited. These are predominantly fluvial deposits of sand and gravel in stream and river valleys (Minard and Booth 1988).

Groundwater flow in the Puget Sound region can generally be divided into large- and small-scale flow systems. Large-scale flow systems exist in unconsolidated, glacially derived units, and in the marine sediment and volcanic rocks underlying them. These systems are recharged by precipitation in upland areas, east of the Puget Sound, where the units are exposed. Large-scale regional system discharge is into Puget Sound. Small-scale local flow systems occur in the uppermost deposits of alluvial and lacustrine pre-glacial sediment, glacial sediment, and post-glacial alluvium, as well as in construction-related backfill. Precipitation and deeper flow systems are the primary methods of recharge for these local flow systems. Discharge of local systems is to adjacent surface-water bodies (Vaccaro et al. 1998).

2.3.2 Site Geology and Hydrogeology

The regional geology in the Bellingham area consists of a thick series of glacial and interglacial soils overlying bedrock. Soils at the site are mapped as glacial outwash, which generally consists of loose, moderately to well-sorted gravel with local boulders, sandy gravel, minor gravelly medium to coarse sand, and rare sand to silt (Lapen 2000).

Soil borings at the site indicated that the site is underlain by approximately 3 to 11 feet of fill, consisting of silt, sand, and gravel. Silt with fine sand was encountered from approximately 6 to 11 feet below ground surface (bgs). Sand and gravel layers were encountered beneath the silt at depths of 13 feet bgs. The sand and gravel was underlain by clay and silt to the total depth explored at the site (14.5 feet bgs [Leidos 2018]).

Groundwater gauging and sampling events have indicated that depth to groundwater ranges from approximately 8 to 11 feet bgs. Groundwater flows toward the south and southwest.

2.4 Site Environmental History

Select historical site information is provided in Appendix A and summarized below.

2.4.1 1990 Initial Site Assessment

The site was first listed in Ecology's Leaking Underground Storage Tank database in January 1991 following the discovery of a release of petroleum hydrocarbons during the installation of nine groundwater monitoring wells (MW-1 through MW-9) by GeoEngineers, Inc. (Leidos 2018). Boring logs from MW-1, MW-3, and MW 4 are provided in Appendix B. Boring logs from wells MW-2 and MW-5 through MW-9 could not be located. The initial subsurface investigation conducted between November and December 1990 identified soil and groundwater samples exceeding Model Toxics Control Act (MTCA) Method A cleanup levels (CULs) for benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbons as gasoline range organics (GRO) and diesel range organics (DRO) (Leidos 2018²).

2.4.2 1991 Underground Storage Tank Removal and Excavation

Between January and February 1991, the site features, including seven USTs, two hydraulic lifts, two pump islands, and the subsurface fuel delivery lines, were removed from the site. Monitoring wells MW-2, MW-6, and MW-8 were also removed at this time. Soil analytical results and field observations were documented in the *Report of GeoEnvironmental Services Tank Removal Monitoring* (GeoEngineers 1991a). The excavations ranged in depth from 4 feet bgs (fuel line excavation) to 12 feet (gasoline UST excavation) bgs. Soil samples exceeded MTCA Method A CULs in the following locations:

- Base of the waste oil UST excavation at depths of 9.5 and 10 feet bgs
- Both pump island excavations at depths of 4 and 5 feet bgs
- Delivery line excavation at a depth of 4 feet bgs
- Base of the steel fuel UST of unknown capacity excavation at a depth of 11.5 feet bgs.

Soil analytical results are presented in Tables 1 and 2 and shown on Figure 4. Approximate excavation boundaries are shown on Figure 4 and in Appendix A. A polychlorinated biphenyl (PCB) stockpile sample was analyzed from the waste oil UST excavation. Of the seven PCB analytes, none were detected at concentrations greater than their respective reporting limits (RLs) (GeoEngineers 1991a).

2.4.3 1991 Monitoring Well Installation

Ten additional monitoring wells (MW-10 through MW-19) were installed in March 1991. Boring logs are provided in Appendix B. Soil samples collected from MW-10, MW-11, and MW-12 exceeded MTCA Method A CULs for petroleum constituents. Groundwater samples collected from monitoring wells MW-10, MW-14, MW-17 and MW-18 complied with MTCA Method A CULs. Groundwater samples collected from monitoring wells MW-11, MW-12, MW- 13, MW-15, MW-16, and MW-19 exceeded MTCA Method A CULs at least once (GeoEngineers 1991b). However, groundwater samples collected from monitoring wells MW-12, MW-13, MW-15 and MW-19 complied with MTCA Method A CULs for the last sampling event and in some cases multiple sampling events before well decommission in the 1990s (see Sections 2.4.5 and 2.4.6 for decommission dates). Well construction details and groundwater analytical results are

² Soil results from the 1990 investigation were not available to Arcadis.

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presented in Tables 3 and 4, respectively, and approximate well locations are shown on Figure 3. Soil analytical results are presented in Tables 1 and 2 and shown on Figure 4.

2.4.4 1991-1992 Remedial System Operation

A soil vapor extraction (SVE) system was constructed at the site in 1991 to remediate petroleum hydrocarbons. The SVE was activated in May 1991 and shut down in September 1992 when vapor extraction rates dropped to less than 1 pound per week (GeoEngineers 1993a). An eighth UST (2000-gallon steel fuel UST) was discovered during the system installation and was removed in April 1991 (abandoned fuel tank excavation No 2 on Figure 4) (GeoEngineers 1991b). Soil analytical results are presented in Tables 1 and 2 and shown on Figure 4. Excavation boundaries are shown on Figure 4 and Appendix A. The 1991 remedial actions were documented in the *Report of GeoEnvironmental Services Supplemental Subsurface Hydrocarbon Study* (GeoEngineers 1991b).

2.4.5 1992 Remedial Investigation and Excavation

An RI conducted in September 1992 and subsequent remedial excavation conducted between September and November 1992 addressed impacts in the southern portion of the site. In September 1992, soil samples were collected from 10 test pits (TP-1 through TP-10) to depths of approximately 8 to 10 feet bgs in areas where results of previous investigations indicated that petroleum constituents exceeded MTCA Method A CULs.

Based on field observations, 13 soil samples were collected from test pits TP-1 through TP-8. Concentrations of GRO in test pits TP-3 and TP-6 at depths of approximately 8 feet bgs exceeded the MTCA Method A CULs (GeoEngineers 1993a). Following those investigations, approximately 1,150 cubic yards of soil were excavated with final depths of excavation ranging from approximately 4.5 to 14 feet bgs. Twenty-nine soil samples (920922-G1 through 921125-G29) were collected from the limits (sides and bottom) of the excavation. Two soil samples collected along the southern property boundary, 920922-G2 (11.5 feet bgs) and 921125-G26 (2.0 feet bgs) along the southeast boundary of the excavation, exceeded the MTCA Method A CUL for GRO. Total petroleum hydrocarbons as heavy oil range organics (HO) were also detected at concentrations greater than the MTCA Method A CUL in soil sample 921125-G26, collected near a 4-inch-diameter clay pipe that exited the southeastern boundary of the site.

Approximately 300 cubic yards of excavated soil containing hydrocarbons was aerated in October 1992 and then sampled for chemical analysis. Approximately 100 cubic yards of the aerated soil stockpile contained hydrocarbon concentrations less than the MTCA Method A CULs and was returned to the excavation as backfill (GeoEngineers 1993a). Following the 1992 excavation, approximately 880 cubic yards of excavated soil containing GRO concentrations above MTCA Method A CULs were stockpiled onsite and then aerated in 1993. Approximately 20 cubic yards of soil containing heavier petroleum concentrations exceeding MTCA Method A were also stockpiled onsite (GeoEngineers 1993a). After the aeration process conducted from July to September 1993, field screening and chemical analytical results indicated that concentrations of GRO in the soil aeration stockpiles were reduced to less than MTCA Method A CULs. The aerated soil was used as backfill in the remedial excavation (GeoEngineers 1993b). Approximately 80 cubic yards of soil containing HO was removed from the site and disposed offsite.

(GeoEngineers 1993b). Monitoring wells MW-9, MW-10, MW-11, and MW-13 were abandoned prior to excavation activities (GeoEngineers 1993b).

Soil analytical results are presented in Tables 1 and 2 and shown on Figure 5.

2.4.6 1994 Monitoring Well Abandonment

In January 1994, GeoEngineers evaluated the condition of the groundwater monitoring wells at the site and recommended a revised sampling schedule. During this event, monitoring wells MW-17 and MW-18 were unable to be located. Based on the evaluation, monitoring wells MW-1, MW-3, MW-4, MW-15, MW-16, and MW-19 were abandoned in February 1994 (GeoEngineers 1994).

2.4.7 2016 Site Investigation

In November 2016, Stratum Group conducted a ground penetrating radar survey at the site to evaluate the potential presence of other unknown USTs at the site. No anomalies or evidence of potential USTs were detected. In addition, six soil borings (B1 through B6) were completed in the southeastern portion of the site; five groundwater samples and six soil samples were collected (Figure 6). Concentrations of GRO in soil exceeded the MTCA Method A CUL at 7.5 and 8 feet bgs in soil borings B2 and B4, respectively, located near MW-2. Concentrations of petroleum hydrocarbons in groundwater were less than their respective MTCA Method A CULs. None of the 19 historical groundwater monitoring wells were present at the site in 2016 and were presumed to be abandoned (Stratum Group 2016). Soil analytical results are presented in Tables 1 and 2 and shown on Figure 6.

3 2019-2020 SITE INVESTIGATION

As detailed in the *Remedial Investigation Work Plan* (RI Work Plan [Leidos 2018]), the objectives for the site investigation activities included evaluating data gaps regarding the nature and extent of petroleum impacts in soil, groundwater, and soil vapor at the site and to comply with the requirements of AO No. DE 15742.

As described in the RI Work Plan, the investigation scope of work included the following activities, which are described below:

- Soil investigation
- Groundwater investigation and monitoring
- Vapor intrusion investigation

3.1 2019 Soil Investigation

3.1.1 Soil Boring Installations

On April 9, 2019, Arcadis conducted a subsurface investigation in accordance with the RI Work Plan (Leidos 2018). To delineate and confirm historical soil constituent of concern (COC) concentrations, soil samples were collected during the drilling/installation of four soil borings (SB-1, SB-2, SB-5, and SB-6), five groundwater monitoring wells (MW-20, MW-21, MW-22, MW-23, and MW-24), and one soil vapor probe (SVP-1). Soil borings SB-3 and SB-4 were not completed due to refusal at multiple attempted locations assumed to be from encountering historical building material fill. These borings were attempted to an average depth of 3.5 feet bgs. Due to multiple utility conflicts at the corner of the site adjacent to Elm Street and Broadway Street (onsite and offsite electrical and stormwater), soil boring SB-7 was not drilled as proposed. Excerpts from the utility locate report are included in Appendix A. Based on the objective for SB-7 as detailed in the RI Work Plan (Leidos 2018), soil samples collected at monitoring well MW-22 were also collected to delineate the lateral extents of soil impacts to the southeast. Boring logs are included in Appendix B. Approximate boring locations are shown on Figure 6 and summarized below:

- Boring SB-1 was advanced in the northwest driveway of the site, within the 1991 waste oil UST excavation boundaries. This boring was advanced to collect additional analytical parameters and assess the historical soil COC concentrations observed in 1991.
- Boring SB-2 was advanced approximately 20 feet southeast of SB-1, in a planter next to the northwest driveway, adjacent to the 1991 heating oil UST excavation boundaries. This boring was advanced to collect additional analytical parameters and assess the historical soil COC concentrations observed in 1991.
- Boring SB-5 was advanced to the south of the eastern driveway in the grass near the eastern boundary of the site. This boring was advanced to delineate the lateral extent of the historical soil impacts identified in 1992.

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- Boring SB-6 was advanced in the southern corner of the site in the grass between where the two adjacent sidewalks meet. This boring was advanced to assess the historical soil COC concentrations observed in 1992. This location exceeded MTCA Method A CULs for GRO in 1992.
- Soil samples were collected from the borings advanced for the new groundwater monitoring wells installed at the site:
 - MW-20 was advanced at the southwest corner of the former station building downgradient of the former waste oil and heating oil USTs to assess the historical impacts observed in 1991 in the area of the former USTs.
 - MW-21, MW-22, and MW-23 were installed to assess the groundwater COC concentrations on the downgradient side of the site. MW-21, MW-22, and MW-23 were advanced next to the sidewalk on the southeast side of the site, in the southern corner of the site, and next to the sidewalk on the western side of the site, respectively.
 - MW-24 was advanced on the south side of the current building present at the site and downgradient of the former pump island to assess the historical impacts observed in 1991.

Two samples were collected from each boring (one from the capillary fringe and one from the bottom of the boring). Drilling activities were conducted by Cascade Drilling Inc., of Woodinville, Washington (Cascade) and observed by Arcadis. The soil borings (including borings for groundwater monitoring wells) were pre-cleared using an air knife and vacuum truck or hand auger to 8 feet bgs to reduce the potential for damage to subsurface utilities. The borings were then advanced from 8 feet bgs to their respective terminal depth of 15 feet bgs with a truck-mounted direct-push probe.

3.1.2 Soil Sample Collection and Analysis

Soil samples were collected for field screening every 2 feet using a hand auger during clearing activities. From 8 feet bgs to the boring terminus, continuous soil samples were collected from the direct-push probe in 5-foot acetate liner sleeves. Boring logs were prepared by an Arcadis field staff using the Unified Soil Classification System (USCS) and are included in Appendix B. Field screening of soil samples was performed using a photo ionization detector (PID) and visual inspection methods.

Analytical samples were collected in laboratory-provided containers and placed in a cooler with ice. Samples were submitted to TestAmerica Laboratories, Inc. located in Tacoma, Washington, under standard chain-of-custody protocol. Soil samples were analyzed for the following COCs:

- GRO by Ecology Northwest Method NWTPH-Gx
- DRO and HO by Ecology Northwest Method NWTPH-Dx
- BTEX, methyl tertiary butyl ether (MTBE), ethylene dibromide (EDB), and ethylene dichloride (EDC) by United States Environmental Protection Agency (USEPA) Method 8260
- Carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and naphthalene by USEPA Method 8270
- Lead by USEPA 6010.

3.1.3 Soil Analytical Results

Soil analytical results are summarized below:

- SB-1 and SB-2 analytical samples were collected to confirm historical impacts in the area of the former waste oil UST in the northwestern portion of the site. No Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective reporting limit (RL) or were detected at concentrations less than their applicable CUL. Therefore, soil in the area of the former waste oil UST complies with MTCA Method A CULs.
- SB-5 analytical samples were collected to delineate historical impacts observed in soil sample 921125-G26. No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, historical impacts observed on the east side of the site are delineated by soil samples that comply with MTCA Method A CULs.
- SB-6 analytical samples were collected to assess impacts observed in soil sample 920922-G2, which exceeded MTCA Method A CULs for GRO in 1992 (Leidos 2018). No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, historical impacts associated with sample 920922-G2 comply with MTCA Method A CULs.
- MW-20 analytical samples were collected to delineate impacts in a location downgradient of the waste oil UST excavation. No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, soil downgradient of the waste oil UST excavation complies with MTCA Method A CULs.
- MW-21 analytical samples were collected to delineate impacts in the southeastern portion of the site, downgradient of soil samples collected from 921125-G26, and MW-12. No Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, historical impacts observed in the southeast portion of the site are delineated and comply with MTCA Method A CULs.
- MW-22 analytical samples were collected to delineate impacts downgradient of soil samples 920922-G2. No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, soil impacts associated with historical impacts observed in the south corner of the site are delineated and comply with MTCA Method A CULs.
- MW-23 analytical samples were collected to assess the soil COC concentrations to the west of the site. No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, soil in the area of MW-23 complies with MTCA Method A CULs.

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- MW-24 analytical samples were collected to assess historical impacts observed in former monitoring well MW-10. No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, historical soil impacts associated with MW-10 comply with MTCA Method A CULs.
- One analytical sample was collected from SVP-1 at a depth of 5 feet bgs to delineate impacts near the current building onsite. No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their respective RL or were detected at concentrations less than their applicable CUL. Therefore, soil in the area of SVP-1 complies with MTCA Method A CULs.

Laboratory analytical reports and chain of custody documentation are included as Appendix C. Soil analytical data are presented in Tables 1 and 2. The results presented above are summarized on Figure 6.

3.1.4 Soil Investigation Summary

Analyzed COCs in soil were either not detected at concentrations greater than their respective RLs or were detected at concentrations less than their applicable MTCA Method A CULs in the 19 soil samples collected from 5 to 15 feet bgs during the advancement of all four soil borings, all five groundwater wells, and the installed soil vapor point. Based on these findings, soil located in these areas complies with MTCA Method A CULs. Site soil analytical data are presented in Tables 1 and 2 and a map of current soil status is shown on Figure 7.

3.2 2019-2020 Groundwater Investigation

3.2.1 Groundwater Monitoring Well Installation

Between April 8 and 11, 2019, monitoring wells MW-20 to MW-24 were installed in accordance with the RI Work Plan (Leidos 2018). Monitoring well MW-20 was advanced to a depth of 14.5 feet bgs. Monitoring wells MW-21, MW-22, MW-23, and MW-24 were advanced to a depth of 15 feet bgs. The well installation is summarized below:

- MW-20 was advanced in the southwest corner of the former station building downgradient of the former waste oil and heating oil USTs to assess the historical impacts observed in 1991 in the area of the former USTs.
- MW-21, MW-22, and MW-23 were installed to assess the groundwater COC concentrations on the downgradient side of the site. MW-21 was advanced next to the sidewalk on the southeast side of the site. MW-22 was advanced in the southern corner of the site. MW-23 was advanced next to the sidewalk in the western side of the site.
- MW-24 was advanced on the south side of the current building present at the site and downgradient of the former pump island to confirm the historical impacts observed in 1991.

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The monitoring wells were installed by Cascade and constructed of 2-inch Schedule 40 polyvinyl chloride pipe with 0.02-inch slotted screen. The screen interval was set from 5 to 15 feet bgs at each location except MW-20, which has a screen interval of 4.5 to 14.5 feet bgs due to soil caving at the bottom of the boring during the installation process. Sand packs were constructed of 2/12 silica sand and extended from 1 foot above the screened interval to the total depth of the well. Each monitoring well was completed with hydrated bentonite chips to 1 foot bgs and a flush traffic-rated well monument set in concrete at the ground surface. The wells were developed following their installation via surge and purge methods.

Soil samples were collected during well installation and are described in Section 3.1. Well construction details are provided in Table 3 and in boring logs in Appendix B. A professional surveyor from Otak surveyed the finished well and soil vapor probe locations and elevations on April 18, 2019. The approximate well locations are shown on Figure 3.

3.2.2 Groundwater Sampling

Arcadis performed four quarters of groundwater sampling at the site. The groundwater monitoring events included gauging and sampling monitoring wells MW-20 through MW-24. Monitoring wells were sampled via low-flow purge method and analytical samples were collected in laboratory-provided bottles and placed in a cooler with ice. Samples were submitted to TestAmerica Laboratories, Inc. in Tacoma, Washington under standard chain-of-custody protocol. Groundwater samples were analyzed for the following COCs:

- GRO by Ecology Northwest Method NWTPH-Gx
- DRO and HO by Ecology Northwest Method NWTPH-Dx
- BTEX, MTBE, and EDC by USEPA Method 8260
- EDB by USEPA Method 8011
- cPAHs and naphthalene by USEPA Method 8270
- Total and dissolved lead by USEPA 6010.

Groundwater sampling field data sheets are provided in Appendix D.

3.2.3 Groundwater Monitoring Results

Groundwater samples collected from monitoring wells MW-20 through MW-24 during the past four quarters indicate that site COC concentrations are either less than reporting limits or less than their applicable CULs.

The groundwater monitoring results for the activities conducted during the site investigation are summarized in Tables 4 and 5. Groundwater contour maps with analytical results are provided on Figures 8 through 11. Laboratory reports and chain-of-custody documentation are presented in Appendix E.

3.3 2019 Vapor Intrusion Investigation

The vapor intrusion investigation was completed in accordance with the RI Work Plan (Leidos 2018) and applicable Ecology guidance documents:

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- Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (Ecology 2018a)
- Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion (Ecology 2016)
- Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings (Ecology 2018b)
- Frequently Asked Questions Regarding Vapor Intrusion (VI) and Ecology's 2009 Draft VI Guidance (Ecology 2018c).

3.3.1 Soil Vapor Point Installation

On April 10, 2019, SVP-1 was installed adjacent to the east side of the current building at the site, as shown on Figures 3 and 12. Due to site limitations including utility conflicts, wet and gravelly soil conditions, and onsite operations, proposed location SVP-2 was not installed.

SVP-1 was installed with a hand auger by a Washington state licensed driller from Cascade and overseen by Arcadis. The soil vapor probe was installed with a 6-inch stainless steel-wrapped screen centered at a depth of 5 feet bgs within 1 foot of sand pack. One foot of dry granular bentonite was used as a moisture barrier above the sand pack. The soil vapor probe was completed with hydrated bentonite chips to 2.5 feet bgs and a flush traffic-rated well monument set in concrete at the ground surface. SVP-1 construction details are included in the boring logs in Appendix B.

3.3.2 Outdoor Air Sampling

On April 17, 2019, Arcadis collected one outdoor ambient air sample from the site for background comparison. The sample was collected using an individually certified 1-liter stainless steel canister and co-located with soil vapor probe SVP-1.

Sampling locations are shown on Figure 12. Field conditions, flow rate, sample volumes, pump specifics, and other applicable information were recorded by field staff on sample collection logs included as Appendix F.

3.3.3 Soil Vapor Sampling

On April 17, 2019, Arcadis collected one soil vapor sample with a duplicate and equipment blank from SVP-1 in accordance with the RI Work Plan (Leidos 2018).

Prior to sampling, the soil vapor probe was leak tested using shut-in vacuum methods and a helium tracer test during purging and sampling. Shut-in vacuum testing included introducing a vacuum of at least 10 inches of mercury (inHg) to the soil vapor sample train and monitoring the induced vacuum for loss for 2 minutes. No loss of vacuum was observed during the shut-in test. Ultra-high-purity helium was introduced into a shroud made with plastic sheeting that covered the soil vapor probe, sample train, and sample canisters until a helium concentration of approximately 20 percent was achieved as measured by a helium detector. The helium concentration inside the shroud was maintained during the purging and sampling process. Stagnant air was purged from the soil vapor probe using a personal air sampling pump calibrated for approximately 200 milliliters per minute (mL/min).

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Prior to collecting the soil vapor and duplicate sample, an equipment blank sample was collected through the sample train materials, which consisted of Teflon™ tubing and stainless-steel valves and fitting. The equipment blank sample (EB-20190417) was collected by connecting a 1-liter individually certified stainless-steel evacuated canister to a laboratory-provided nitrogen gas filled 6-liter stainless-steel canister using a pre-constructed sample train. The sample train was then used to collect the soil vapor and duplicate samples.

The soil vapor and duplicate samples were collected using 1-liter individually certified stainless-steel evacuated canisters fitted with flow regulators set to 200 mL/min. The canisters collected soil vapor samples simultaneously until the attached vacuum gauges indicated that 5 inHg of vacuum remained.

After collecting the soil vapor and duplicate samples, a PID was used to measure the concentration of volatile organic compounds in the soil vapor probe. Additionally, a GEM 2000+ landfill gas meter was used to measure the concentration of oxygen, carbon dioxide, and methane in SVP-1.

The approximate location of SVP-1 is shown on Figure 3. Purge volumes, field conditions, PID readings, and other applicable information were recorded by field personnel on soil vapor sample collection logs included as Appendix F.

3.3.4 Soil Vapor Analytical Results

The soil vapor, blind duplicate, outdoor ambient air, and equipment blank samples were delivered under appropriate chain-of-custody protocols to Friedman and Bruya, Inc. of Seattle, Washington. Canister samples were submitted for the following analyses:

- BTEX, MTBE, and naphthalene by USEPA Method TO-15 and TO-15 select ion monitoring
- Air-phase petroleum hydrocarbons (APHs): EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics by Method MA-APH
- Helium by ASTM International (ASTM) Method ASTM D1946
- Oxygen, carbon dioxide, and methane by USEPA Method 3C.

For each of the samples analyzed, BTEX, MTBE, naphthalene, and APH were not detected at concentrations greater than their respective MTCA Method B sub-slab soil gas screening levels. For the SVP-1 sample, benzene, ethylbenzene, MTBE, naphthalene, and EC9-10 aromatics were not detected at concentrations greater than their respective laboratory RLs. Helium was not detected at concentrations greater than the laboratory RL.

Soil vapor and outdoor ambient air analytical results are presented in Table 6 and on Figure 12. Laboratory analytical reports are included in Appendix G.

3.4 Management of Investigation-Derived Wastes

Soil cuttings, purged groundwater, and equipment rinse water generated during investigation activities were contained in Department of Transportation approved 55-gallon steel drums. The investigation-derived waste (IDW) was labeled and stored onsite pending disposal. Following receipt of laboratory

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analytical data, the soil and water IDW was collected and transported by Clean Harbors for disposal as nonhazardous waste at a certified waste disposal facility.

4 CLEANUP STANDARDS

The MTCA Method A CULs are considered the CULs for the site. For this RI Report, soil and groundwater concentrations are compared to current MTCA Method A CULs and impacts are identified as analyte concentrations detected greater than current MTCA Method A CULs.

The preliminary COCs for the site, provided in the RI Work Plan (Leidos 2018), include GRO, DRO, HO, BTEX, lead, MTBE, EDB, EDC, cPAHs, and naphthalenes. Although PCBs have been listed as preliminary COCs for the area of the former waste oil UST, as discussed in the previous section, a review of historical data indicates that the PCB results in the sample collected from the former waste oil UST excavation were less than the respective RLs (GeoEngineers 1991a).

MTCA Method A CULs for the site COCs are presented in the table below.

CAP COC	MTCA CUL Groundwater (µg/L)	MTCA CUL Soil (mg/kg)
GRO ¹	800/1,000	30/100
DRO	500	2000
HO	500	2000
Benzene	5	0.03
Toluene	1,000	7
Ethylbenzene	700	6
Total xylenes	1,000	9
MTBE	20	0.1
EDB	0.01	0.005
EDC	5	--
Napthalenes ²	160	5
Total cPAHs ³	0.1	0.1

Notes:

¹For GRO, MTCA CULs depend on the presence of benzene: with benzene present (800 micrograms per liter [µg/L] and 30 milligrams per kilogram [mg/kg]) and without (1,000 µg/L and 100 mg/kg).

²Napthalenes calculated by summing the concentrations of 1-methyl-napthalene, 2-methyl-napthalene, and napthalene. If one or more constituents were reported as nondetect, half of the RL was used in calculations.

³Total cPAHs calculated by summing the concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene, and adjusted for toxicity using toxic equivalency factors to represent a total benzo(a)pyrene concentration (WAC 173-340-900). If one or more adjusted cPAH constituents were reported as nondetect, half of the RL was used in calculations.

MTCA Method B indoor air CULs and sub-slab soil gas screening levels for site COCs are presented in the table below.

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COC	MTCA Method B CUL Indoor Air ¹ (µg/m ³)	MTCA Method B Screening Level Sub-Slab Soil Gas ¹ (µg/m ³)
Benzene	0.321	10.7
Toluene	2,290	76,204
Ethylbenzene	457	15,200
m-Xylene	45.7	1,520
o-Xylene	45.7	1,520
Naphthalene	0.0735	2.45
MTBE	9.62	321
APH (EC5-8 aliphatics)	140 ²	4,700 ²
APH (EC9-12 aliphatics)		
APH (EC9-10 aromatics)		

Notes:

¹ Method B cancer risk values used when provided. If cancer risk values are not provided, noncancer risk is listed.

² The sum of APH ranges APH (EC5-8 aliphatics), APH (EC9-12 aliphatics), and APH (EC9-10 aromatics) are compared to their respective generic Method B indoor air CUL and sub-slab soil gas screening level (Ecology 2018b).

µg/m³ = microgram per cubic meter

5 NATURE AND EXTENT OF IMPACTS

This section describes the type of COCs at the site and the distribution of these constituents vertically and horizontally across the site. The nature and extent of impacts were determined based on investigations that took place from 1991 to 2019.

5.1 Soil Quality

As a result of multiple investigations and remediation activities conducted at the site, the nature and extent of the soil impacts associated with the former site activities are fully delineated. The historical primary areas of impact at the site were associated with the USTs and dispenser islands. All features associated with the site historical fueling activities have since been removed. Site soil analytical data are presented in Tables 1 and 2 and a map of current soil status is shown on Figure 7.

1000-gallon waste oil and heating oil USTs. Soil located near these historical sources was analyzed for BTEX, GRO, DRO, lead, EDB, EDC, naphthalene, and cPAHs, and PCBs; the current status of the soil in this area is summarized below:

- COC concentrations observed in soil sample 910125-8 in 1991 at a depth of 10 feet bgs were confirmed to be less than MTCA Method A CULs by soil sample SB-1 in April 2019.
- COC concentrations observed in soil sample 910125-9 in 1991 at a depth of 9.5 feet bgs were confirmed to be less than MTCA Method A CULs by soil sample SB-1 in April 2019.

Gasoline USTs. Soil located near this historical source was analyzed for BTEX, GRO, and DRO during UST removal excavation, monitoring well installations, and test pit excavations. No MTCA Method A soil exceedances were detected.

Steel fuel UST of unknown capacity. Soil located near this historical source was analyzed for BTEX, GRO, and DRO during UST removal and remedial excavation activities (abandoned fuel tank excavation No 1). Samples collected from borings advanced in 2019 were also analyzed for HO, EDB, EDC, naphthalene, and cPAHs; the current status of the soil in this area is summarized below:

- COC concentrations observed in soil sample 910201-19 at a depth of 11.5 feet bgs were confirmed during the 1992 remedial excavation. Soil samples 920915-TP1 and 920924-G9 collected in 1992 collected at depths of 11 and 11.5 feet bgs during excavation activities had no MTCA Method A exceedances.
- COC concentrations observed in soil sample 920922-G2 in 1992 at a depth of 11.5 feet bgs were confirmed to be less than MTCA Method A CULs by soil sample SB-6 in April 2019.
- COC concentrations observed in soil sample 920924-G11 in 1992 at a depth of 10 feet bgs were confirmed to be less than MTCA Method A CULs by soil sample B-5 in 2016.
- COC concentrations observed in soil sample MW-12 in 1991 at a depth of 8.5 feet bgs were confirmed to be less than MTCA Method A CULs in adjacent soil sample TP-2 collected in 1992 at the same depth. Additionally, the groundwater sample collected from monitoring well MW-12 in 1995 presented analytical results less than MTCA Method A CULs.

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- COC concentrations observed above MTCA Method A CULs in soil sample B-4 at a depth of 8 feet bgs in 2016 have not been confirmed, but are delineated in all directions.

2000-gallon steel fuel UST. Soil located near this historical source was analyzed for BTEX, GRO, DRO, and lead during UST removal and remedial excavation activities. Samples collected from borings advanced in 2019 were also analyzed for HO, EDB, EDC, naphthalene, and cPAHs; the current status of the soil in this area is summarized below:

- COC concentrations observed in soil samples UT-1 and UT-3 at 6.5 and 8.0 feet bgs respectively during UST removal were over-excavated during remedial excavation performed in 1992. Samples collected from G-13, B-1, and MW-24 confirm that soil analytical results were less than MTCA Method A CULs in these sampling locations.
- COC concentrations observed in soil sample MW-10 at depths of 10.5 and 14.5 feet bgs were confirmed to be less than MTCA Method A CULs by soil samples collected during the installation of MW-24 in 2019.
- COC concentrations observed in soil sample B-2 at a depth of 7.5 feet bgs in 2016 were confirmed to be less than MTCA Method A CULs by soil samples collected during the installation of MW-24 in 2019.

550-gallon steel heating oil UST. Soil located near this historical source was analyzed for GRO and DRO during UST removal and remedial excavation activities. Because it was not possible to install soil boring SB-7 as proposed, BTEX and cPAHs were not analyzed near the 550-gallon steel heating oil UST. However, this 550-gallon steel heating oil UST was likely used as part of a former home heating oil system and the testing exception described in Notes 7 and 13 of MTCA Cleanup Regulation 173-340-900 Table 830-1 are therefore applicable:

Note (7)(b) For DRO releases from typical home heating oil systems (systems of 1,100 gallons or less storing heating oil for residential consumptive use on the premises where stored), testing for BTEX is not usually required for either groundwater or soil. Testing of the ground water is also usually not required for these systems; however, if the groundwater is tested and benzene is found in the groundwater, the soil must be tested for benzene.

Note (13) Testing for carcinogenic PAHs is required for DRO and heavy oils, except for the following products for which adequate information exists to indicate their absence: Diesel No. 1 and 2, home heating oil, kerosene, jet fuels, and electrical insulating mineral oils.

Based on the absence of MTCA Method A exceedances for DRO near the former 550-gallon steel heating oil UST, the absence of current detections of BTEX or cPAHs in groundwater in the area, and the site history showing the presence and location of a former residence onsite near the former 550-gallon steel heating oil UST, additional soil investigation near the 550-gallon steel heating oil UST is not warranted.

Eastern Driveway. SB-5 analytical samples were collected from two depths to delineate historical impacts observed in soil sample 921125-G26 collected in 1992. No MTCA Method A exceedances were detected. GRO, DRO, HO, BTEX, MTBE, and lead were either not detected at concentrations greater than their

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respective RL or were detected at concentrations less than their applicable CUL. Therefore, historical impacts observed in the east side of the site are delineated by soil samples that comply with MTCA Method A CULs.

Summary. Based on the results of multiple investigations and remediation activities conducted at the site, the nature and extent of soil impacts associated with former site activities are fully delineated. Following the 2019 investigation activities, soil at the site complies with MTCA Method A requirements, with the exception of limited historical impacts remaining at B-4 at 8 feet bgs (collected in 2016) and 921125-G26 (collected in 1992) at 2 feet bgs that were not confirmed but are delineated. However, it is noted that the concentrations detected in 1992 likely have decreased over time since the sample was collected due to natural attenuation.

5.2 Groundwater Quality

Nine groundwater monitoring wells (MW-1 through MW-9) were installed in 1990. Ten additional monitoring wells (MW-10 through MW-19) were installed in March 1991. Groundwater samples were collected from the site monitoring wells from December 1990 to September 1995 and analyzed for GRO, DRO, and BTEX. No additional analytical data are available for those wells after 1995 and none of the 19 historical groundwater monitoring wells were present at the site in 2016; therefore, it is presumed that the wells were abandoned between 1995 and 2016 (Stratum Group 2016).

In 2019, Arcadis installed five new monitoring wells (MW-20 through MW-24) at the site. Groundwater samples were collected quarterly starting with second quarter 2019 and analyzed for GRO, DRO, HO, BTEX, MTBE, EDB, EDC, naphthalenes, cPAHs, and total and dissolved lead. Following the first quarter 2020 groundwater event, groundwater analytical data for the site has been compliant with MTCA Method A CULs for four consecutive quarters. Groundwater gauging and analytical results are presented in Tables 4 and 5.

6 CONCEPTUAL SITE MODEL

The conceptual site model (CSM) uses data collected during previous investigations and remediation activities to understand constituent occurrence, movement, and potential exposures at the site. Figure 13 summarizes the CSM, including site-specific exposure pathways.

6.1 Source Characterization

As a result of multiple investigations and remediation activities conducted at the site, the nature and extent of the impacts associated with the former site activities is fully delineated. Based on those activities, there are no continuing sources of hazardous substance releases at the site.

The historical primary areas of impact at the site were associated with the USTs and dispenser islands. All features associated with the site historical fueling activities have since been removed.

6.2 Fate and Transport

6.2.1 General Fate and Transport Mechanism

As a generality (non-site specific), petroleum hydrocarbons can exist in four phases in soils (unsaturated vadose zone and/or smear zone):

- *Residual phase.* Petroleum hydrocarbons are sorbed to soil or trapped within soil pore space.
- *Dissolved or aqueous phase.* Petroleum hydrocarbons are dissolved in water within soil pore space.
- *Vapor phase.* Petroleum hydrocarbons are volatilized into soil pore space.
- *Free phase.* Recoverable light nonaqueous phase liquid (LNAPL).

Following a release, petroleum hydrocarbons are driven by gravity toward the water table and, depending on the quantity released, soil type, and depth to groundwater, may reach the groundwater table. As the hydrocarbons migrate toward the water table, residual LNAPL may be left behind in each of the phases (residual, dissolved, and free).

When residual-, dissolved-, or free-phase LNAPL comes into contact with groundwater, dissolution of the hydrocarbons to the groundwater can occur. If a release of petroleum hydrocarbons is large enough, LNAPL may overcome the capillary forces at the capillary fringe within smear zone soil and pool on top of the groundwater. When rainwater infiltrates subsurface soil in the area of a release, the water will flow downward through the soil and may preferentially follow high-conductivity soil lenses horizontally before reaching groundwater.

6.2.2 Site Fate and Transport Mechanism

Petroleum hydrocarbons encountered at the site, are described below:

- *Residual phase.* The 2019 soil investigation shows that soil impacts at the site are fully delineated or confirmed compliant with MTCA Method A requirements and are not migrating. The vertical and lateral extents of the historical soil impacts identified in 1992 to the south and east of the site are

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delineated by MW-21, MW-22, SB-5, and SB-6. The historical soil COC concentrations observed in 1991 in the area of the former waste oil UST are confirmed by analytical results from soil samples SB-1 and SB-2. Due to site conditions and the encountered debris causing refusal during the installation of SB-3 and SB-4, historical COC concentrations in the area of the former 550-gallon steel heating oil UST could not be further investigated. However, as discussed in Section 5.1, based on the absence of MTCA Method A exceedances for DRO near the 550-gallon steel heating oil UST, the absence of current detections of BTEX or cPAHs in groundwater in the area, and the site history showing the presence and location of a former residence onsite near the 550-gallon steel heating oil UST, additional soil investigation near the 550-gallon steel heating oil UST is not warranted.

- *Dissolved phase.* Groundwater analytical results are less than MTCA Method A CULs for the last four quarters. Therefore, the dissolved phase does not contain constituents that are migrating onsite or offsite.
- *Vapor phase.* A soil vapor probe was installed near the former gasoline USTs and the former eastern dispenser island. Detected subsurface soil vapor concentrations of site COCs were less than applicable MTCA Method B sub-slab soil gas screening levels. Based on these findings and applicable Ecology guidance documents (Ecology 2016, 2018a, 2018b, 2018c), it is unlikely that petroleum COCs are present in soil vapor beneath the building at concentrations capable of impacting indoor air greater than MTCA Method B CULs. Therefore, the vapor phase does not contain constituents that are migrating onsite or offsite.
- *Free phase.* Not applicable to the site.

6.3 Exposure Pathways and Potential Receptors

6.3.1 Potential Receptors

A butchery currently occupies the site as a single-story building with a food preparation area and public retail space; therefore, current human receptors include butchery workers and the general public as customers and pedestrians. Building occupants consist of patrons and employed butchers. A site plan is shown on Figure 3.

Current ecological receptors include site vegetation and animals that may pass through the site. A terrestrial ecological evaluation (TEE) is required when a hazardous substance is released to soil at a site [WAC 173-340-7490(2)]. Impacts were observed in B-4 at 8 feet bgs; therefore, Arcadis conducted a simplified evaluation as set forth in WAC 173-340. The only contiguous undeveloped land within 500 feet of the site is Elizabeth Park, located approximately 300 feet west of the site. Elizabeth Park is an approximately 1.76-acre city park. Completion of Table 749-1 indicates that no further evaluation is necessary based on the following criteria:

- Area of soil contamination at the site is not more than 350 square feet
- Current or planned use makes wildlife exposure unlikely (Table 749-1).

A completed TEE Form and completed Table 749-1 are provided in Appendix H.

6.3.2 Potential Exposure Pathways

Potential exposure pathways for the site are:

- *Soil.* Exposure to soil via incidental ingestion, dermal contact, and inhalation of windblown dust and leaching to groundwater.
- *Groundwater.* Exposure to groundwater via incidental ingestion and dermal contact.
- *Soil vapor.* Exposure to soil vapor via inhalation (volatilization of petroleum impacts contained in groundwater and/or soil).

Potential exposure pathways are evaluated below.

6.3.2.1 Potential Soil Exposure Pathways

Soil at the site complies with MTCA Method A CULs, with the exception of one soil sample collected from B-4 in 2016 at a depth of 8 feet bgs.

Potential soil exposure pathways for the site include:

- *Exposure to soil via incidental ingestion, dermal contact, and inhalation of windblown dust.* With the exception of two soil samples collected from B-4 in 2016 at a depth of 8 feet bgs and from 921125-G26 in 1992 at a depth of 2 feet bgs, soil at the site complies with MTCA A CULs; therefore, exposure via incidental ingestion, dermal contact, or inhalation of windblown dust is a potentially complete pathway. However, based on the commercial use of the site, potential exposure via incidental ingestion, dermal contact, or inhalation of windblown dust for this soil impact is limited to onsite construction workers in a limited area.
- *Soil leaching to groundwater.* An empirical demonstration [WAC 173-340-740(3)(b)(iii)(A)] was used to demonstrate that soil concentrations will not cause an exceedance of groundwater CULs. Compliance monitoring was used to assess whether the empirical demonstration has been successful. COC concentrations in groundwater have been shown to be less than Method A groundwater CULs for at least four consecutive quarters. The soil leaching to groundwater pathway is therefore not considered complete.

6.3.2.2 Potential Groundwater Exposure Pathway

Groundwater samples were collected quarterly starting with second quarter 2019 and analyzed for GRO, DRO, HO, BTEX, MTBE, EDB, EDC, naphthalenes, cPAHs, and total and dissolved lead. Following the first quarter 2020 groundwater event, groundwater analytical data at the site has complied with MTCA Method A CULs for four consecutive quarters. Therefore, the groundwater pathway is not considered complete.

6.3.2.3 Soil Vapor Potential Pathway

Detected subsurface soil vapor concentrations of site COCs were less than applicable screening levels; therefore, the soil vapor pathway is not considered complete.

7 SUMMARY AND CONCLUSION

Arcadis completed the scope of work described in the RI Work Plan (Leidos 2018) to evaluate data gaps regarding the nature and extent of petroleum impacts in soil, groundwater, and soil vapor at the site. Activities completed include the advancement of four soil borings, installation and sampling of five groundwater wells, and installation and sampling of one soil vapor probe. Based on the subsurface investigation, VI investigation, and four consecutive quarters of groundwater data, there are no remaining areas of impacts that are not delineated or confirmed.

The data gaps identified in the RI Work Plan (Leidos 2018) were fully evaluated:

- The vertical and lateral extents of the historical soil impacts identified in 1992 to the south and east of the site are delineated by MW-21, MW-22, SB-5, and SB-6.
- The historical soil COC concentrations observed in 1991 in the area of the former waste oil are confirmed by SB-1 and SB-2.
- Due to site conditions and the encountered debris causing refusal during the installation of SB-3 and SB-4, the historical soil COC concentrations in the area of the 550-gallon steel heating oil UST were not delineated. However, based on the absence of MTCA Method A exceedances for DRO near the 550-gallon steel heating oil UST, the absence of current detections of BTEX or cPAHs in groundwater in the area, and the site history showing the presence and location of a former residence onsite near the 550-gallon steel heating oil UST, additional soil investigation near the 550-gallon steel heating oil UST is not warranted.
- The groundwater COC concentrations on the downgradient side of the site were assessed and are less than applicable CULs.
- The Tier 1 VI assessment was conducted and an evaluation of the data from SVP-1 indicates that COCs are not present in soil vapor at concentrations of concern.

All sources of hazardous substance and former gas station infrastructure at the site have been removed. With the exception of two soil samples collected at 8 feet bgs (B-4) and 2 feet bgs (921125-G26) in the southeast portion of the site, soil impacts at the site are delineated and comply with MTCA Method A requirements. Based on the commercial use of the site, potential exposure via incidental ingestion, dermal contact, or inhalation of windblown dust for this soil impact is limited to onsite construction workers in a limited area and thus is highly unlikely. Groundwater concentrations have been less than Method A Groundwater CULs for at least four consecutive quarters and therefore the soil leaching to groundwater pathway is not considered complete.

Detected concentrations of site COCs were less than MTCA Method A CULs in the 19 soil samples collected from 5 to 15 feet bgs during the advancement of the four soil borings, five groundwater wells, and one soil vapor point. Based on these findings, soil located in these areas complies with MTCA Method A CULs.

Based on groundwater monitoring conducted at the site, the constituents analyzed in groundwater samples have not been detected at concentrations greater than MTCA Method A CULs for four consecutive quarters. Therefore, groundwater at the site complies with MTCA Method A CULs.

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Detected subsurface soil vapor concentrations of site COCs were less than applicable MTCA Method B sub-slab soil gas screening levels. Based on these findings and applicable Ecology guidance documents (Ecology 2016, 2018a, 2018b, 2018c), it is unlikely that petroleum COCs are present in soil vapor beneath the building at concentrations capable of impacting indoor air greater than MTCA Method B CULs.

8 REFERENCES

- Ecology. 2016. Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion. Implementation Memorandum No. 14. March.
- Ecology. 2018a. Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. April.
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TABLES



Table 1
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Sample ID	Sample Date	General Location	Sample Depth (feet bgs)	TPH EPA Method 418.1	TPH-G	GRO	DRO	HO	B	E	T	X	MTBE	EDB	EDC	Napthalene	Total Lead
MTCA Method A Cleanup Levels				--	100	100*	2000	2000	0.03	6	7	9	0.1	0.005	--	--	250
1991 Gasoline USTs Excavation																	
910124-2	1/24/1991	North Wall	12	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910201-29	2/1/1991	East Wall	10	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910201-30	2/1/1991	South Wall	10	--	--	< 5	< 5	--	< 0.025	< 0.025	0.034	0.19	--	--	--	--	--
910201-31	2/1/1991	West Wall	10	--	--	25	38	--	< 0.025	0.11	0.084	1.2	--	--	--	--	--
1991 Hydraulic Lift Excavations																	
910201-27	2/1/1991	Base West Hydraulic Lift	7	ND	--	--	--	--	--	--	--	--	--	--	--	--	--
910201-28	2/1/1991	Base East Hydraulic Lift	6.5	48	--	--	--	--	--	--	--	--	--	--	--	--	--
1991 1000-Gallon Heating Oil UST Excavation																	
910125-12	1/25/1991	Base	8	22	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
910125-13	1/25/1991	East Wall	6	18	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
910201-25	2/1/1991	North Wall	7,5	19	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
910201-26	2/1/1991	South Wall	7,5	24	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
1991 1000-Gallon Waste Oil UST Excavation																	
910125-8 ¹	1/25/1991	Base	10	11,000	--	11,000	5,400	--	21	100	100	650	--	--	--	--	--
910125-9 ²	1/25/1991	South Wall	9.5	12	--	< 5	< 5	--	0.045	< 0.025	0.067	0.17	--	--	--	--	--
910125-10	1/25/1991	North Wall	9.5	130	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910125-11	1/25/1991	West Wall	9.5	17	--	< 5	< 5	--	< 0.025	< 0.025	0.031	0.038	--	--	--	--	--
1991 Pump Island and Delivery Line Excavations																	
910128-17	1/28/1991	North Side of West island	4.5	--	--	11	48	--	< 0.025	< 0.025	< 0.025	0.57	--	--	--	--	--
910128-18	1/28/1991	South Side of West Island	4	--	--	200	69	--	0.049	1.1	0.39	7.0	--	--	--	--	--
910201-32	2/1/1991	East Side of South Island	5	15	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910201-33	2/1/1991	West Side of South Island	5	16	--	< 5	< 5	--	0.065	0.11	0.033	0.48	--	--	--	--	--
910204-39	2/4/1991	Delivery Line Excavation	4	440	--	150	41	--	0.066	0.35	0.57	18	--	--	--	--	--
1991 Steel Fuel UST of Unknown Capacity Excavation																	
910125-14	1/25/1991	Base	6	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910201-19 ³	2/1/1991	Base	11.5	190	--	190	33	--	< 0.025	1.4	0.17	0.72	--	--	--	--	--
910201-20	2/1/1991	South Wall	7	23	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910201-21	2/1/1991	North Wall	8	5	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910201-22	2/1/1991	West Wall	10	ND	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
910201-23	2/1/1991	East Wall	10	34	--	19	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
1991 550-Gallon Steel Heating Oil UST Excavation																	
910204-34	2/4/1991	Base	6	5	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
910204-35	2/4/1991	South Wall	6	130	--	< 5	12	--	--	--	--	--	--	--	--	--	--
910204-36	2/4/1991	West Wall	6	63	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
910204-37	2/4/1991	East Wall	6	9	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
910204-38	2/4/1991	North Wall	6	12	--	< 5	< 5	--	--	--	--	--	--	--	--	--	--
1991 Monitoring Well Installation																	
MW-10 ⁴	3/11/1991	See Figure 3	10.5	--	--	< 5	< 5	--	0.18	0.17	0.19	0.36	--	--	--	--	--
MW-10	3/11/1991	See Figure 3	14.5	--	--	< 5	< 5	--	< 0.036	< 0.036	< 0.036	< 0.036	--	--	--	--	--
MW-11	3/12/1991	See Figure 3	10.5	--	--	490	37	--	< 2.5	43	15	200	--	--	--	--	--
MW-11	3/12/1991	See Figure 3	13.0	--	--	< 5	< 5	--	< 0.036	< 0.036	< 0.036	0.081	--	--	--	--	--
MW-12 ⁵	3/12/1991	See Figure 3	8.5	--	--	350	26	--	0.73	6.3	7.7	15	--	--	--	--	--
MW-12	3/12/1991	See Figure 3	13.0	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-13	3/12/1991	See Figure 3	3.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-13	3/12/1991	See Figure 3	13.0	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-14	3/13/1991	See Figure 3	8.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--

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Sample ID	Sample Date	General Location	Sample Depth (feet bgs)	TPH EPA Method 418.1	TPH-G	GRO	DRO	HO	B	E	T	X	MTBE	EDB	EDC	Napthalene	Total Lead
MTCA Method A Cleanup Levels				--	100	100*	2000	2000	0.03	6	7	9	0.1	0.005	--	--	250
MW-14	3/13/1991	See Figure 3	10.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-15	3/13/1991	See Figure 3	8.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-15	3/13/1991	See Figure 3	13.0	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-16	3/13/1991	See Figure 3	8.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-16	3/13/1991	See Figure 3	13.0	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-17	3/14/1991	See Figure 3	8.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-17	3/14/1991	See Figure 3	13.0	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-18	3/14/1991	See Figure 3	8.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-18	3/14/1991	See Figure 3	10.5	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
MW-19	3/14/1991	See Figure 3	13.0	--	--	< 5	< 5	--	< 0.025	< 0.025	< 0.025	< 0.025	--	--	--	--	--
1991 2000-Gallon Steel Fuel UST Excavation																	
UT-1	4/11/91	South wall	6.5	--	690	410	67	--	< 0.025	0.48	0.36	4.9	--	--	--	--	< 10
UT-2	4/11/91	North wall	6.0	--	8.5	33	< 5	--	< 0.025	0.045	0.063	0.12	--	--	--	--	44
UT-3	4/11/91	East wall	8.0	--	8.3	< 5	< 5	--	0.090	0.047	0.031	0.13	--	--	--	--	14
UT-4	4/11/91	West wall	9.0	--	< 5	< 5	< 5	--	< 0.025	< 0.25	< 0.25	< 0.25	--	--	--	--	< 10
1992 Remedial Investigation and Excavation																	
<i>1992 Remedial Investigation</i>																	
920915-TP1	9/15/92	See Figure 5; Appendix A	11.5	--	--	19	--	--	< 0.028	< 0.028	< 0.028	0.029	--	--	--	--	--
920915-TP2	9/15/92	See Figure 5; Appendix A	8.5	--	--	< 6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
920915-TP3	9/15/92	See Figure 5; Appendix A	4.0	--	--	< 6	--	--	< 0.030	< 0.030	< 0.030	< 0.030	--	--	--	--	--
920915-TP3-2	9/15/92	See Figure 5; Appendix A	8.0	--	--	190	--	--	< 0.032	0.11	< 0.032	0.30	--	--	--	--	--
920915-TP3-3	9/15/92	See Figure 5; Appendix A	9.0	--	--	< 6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
920916-TP4	9/16/92	See Figure 5; Appendix A	8.0	--	--	63	--	--	< 0.028	0.15	< 0.028	0.26	--	--	--	--	--
920916-TP5	9/16/92	See Figure 5; Appendix A	8.0	--	--	< 5.7	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
920916-TP6	9/16/92	See Figure 5; Appendix A	4.0	--	--	12	--	--	< 0.028	0.033	0.038	0.064	--	--	--	--	--
920916-TP6-2	9/16/92	See Figure 5; Appendix A	8.0	--	--	130	--	--	< 0.030	0.18	< 0.030	0.78	--	--	--	--	--
920916-TP6-3	9/16/92	See Figure 5; Appendix A	8.5	--	--	< 6.8	--	--	< 0.034	< 0.034	< 0.034	< 0.034	--	--	--	--	--
920916-TP7	9/16/92	See Figure 5; Appendix A	9.0	--	--	< 5.4	--	--	< 0.027	< 0.027	< 0.027	< 0.027	--	--	--	--	--
920916-TP8	9/16/92	See Figure 5; Appendix A	6.0	--	--	5.8	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
920916-TP8-2	9/16/92	See Figure 5; Appendix A	8.0	--	--	< 5.6	< 20	< 22	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
<i>1992 Excavation</i>																	
920922-G1	9/22/92	South wall	11.5	--	--	< 6.2	--	--	< 0.031	< 0.031	< 0.031	0.037	--	--	--	--	--
920922-G2 ⁶	9/22/92	Southeast wall	11.5	--	--	140	--	--	< 0.028	0.72	0.56	1.5	--	--	--	--	--
920922-G3	9/22/92	Southwest wall	11.5	--	--	< 6.3	--	--	< 0.032	< 0.032	< 0.032	0.048	--	--	--	--	--
920922-G4	9/22/92	South base	14.5	--	--	< 7.0	--	--	< 0.035	< 0.035	< 0.035	< 0.035	--	--	--	--	--
920923-G5	9/23/92	West wall	9.5	--	--	< 5.6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
920923-G6	9/23/92	Base	14.0	--	--	< 5.8	--	--	< 0.029	< 0.029	< 0.029	< 0.029	--	--	--	--	--
920923-G7	9/23/92	Southeast wall	9.5	--	--	< 5.6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
920923-G8	9/23/92	West wall	10.0	--	--	< 5.7	--	--	< 0.029	< 0.029	< 0.029	< 0.029	--	--	--	--	--
920924-G9	9/24/92	Base	11.0	--	--	< 6	--	--	< 0.031	< 0.031	< 0.031	< 0.031	--	--	--	--	--
920924-G10	9/24/92	Southeast wall	10.0	--	--	< 6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
920924-G11 ⁷	9/24/92	North wall	10.0	--	--	650	--	--	< 0.030	1.4	< 0.030	3.3	--	--	--	--	--
920924-G12	9/24/92	North wall	9.5	--	--	< 6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
921112-G13	11/12/92	Base	9.5	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
921112-G14	11/12/92	West wall	4.0	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
921112-G15	11/12/92	Base	9.0	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
921112-G16	11/12/92	North wall	7.0	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
921113-G17	11/13/92	North wall	6.0	--	--	20	--	--	ND	ND	ND	3.1	--	--	--	--	--

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MTCA Method A Cleanup Levels				--	100	100*	2000	2000	0.03	6	7	9	0.1	0.005	--	--	250
921113-G18	11/13/92	Base	10.0	--	--	ND	--	--	ND	ND	0.033	ND	--	--	--	--	--
921113-G19	11/13/92	East wall	9.5	--	--	ND	--	--	ND	ND	0.032	ND	--	--	--	--	--
921116-G25	11/16/92	North wall	10.0	--	--	< 6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
921125-G26 ⁸	11/25/92	Northeast wall	2.0	--	--	110	--	6,000	0.042	1.1	0.13	3.3	--	--	--	--	--
921125-G27	11/25/92	Base	4.5	--	--	< 20	--	--	< 0.031	< 0.031	< 0.031	< 0.031	--	--	--	--	--
921125-G28	11/25/92	Northeast wall	7.5	--	--	< 6	--	--	< 0.031	< 0.031	< 0.031	< 0.031	--	--	--	--	--
921125-G29	11/25/92	North wall	6.0	--	--	< 6	--	--	< 0.032	< 0.032	< 0.032	< 0.032	--	--	--	--	--
1992 Aerated Stockpile Volume (cubic yards)																	
921027-AS1	10/27/92	(100)	--	--	--	< 5.6	--	--	< 0.028	< 0.028	< 0.028	< 0.028	--	--	--	--	--
921027-AS2	10/27/92		--	--	--	< 6.2	--	--	< 0.031	< 0.031	< 0.031	< 0.031	--	--	--	--	--
921027-AS3D	10/27/92	(200)	--	--	--	230	--	--	--	--	--	--	--	--	--	--	--
921027-AS4D	10/27/92		--	--	--	1,000	--	--	--	--	--	--	--	--	--	--	--
921027-AS5	10/27/92		--	--	--	120	--	--	--	--	--	--	--	--	--	--	--
1993 Aerated Stockpile Volume (cubic yards)*																	
<i>Phase 1</i>																	
ASP-1	8/3/93	(150)	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
<i>Phase 2</i>																	
ASP-2	8/19/93		--	--	--	ND	--	--	ND	ND	0.049	0.072	--	--	--	--	--
ASP-3	8/19/93	(350)	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
ASP-4	8/19/93		--	--	--	88	--	--	ND	0.45	0.12	0.52	--	--	--	--	--
ASP-5	8/19/93		--	--	--	44	--	--	ND	0.064	ND	0.072	--	--	--	--	--
<i>Phase 3</i>																	
ASP-6R	9/9/93		--	--	--	11	--	--	ND	ND	ND	0.034	--	--	--	--	--
ASP-7R	9/9/93		--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
ASP-8R	9/9/93	(380)	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
ASP-9R	9/9/93		--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
ASP-10R	9/9/93		--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
2016 Site Investigation																	
B1-12	11/21/16	See Figure 6	12	--	--	< 3	--	--	< 0.03	< 0.05	< 0.05	< 0.2	< 0.1	--	--	--	--
B2-7.5 ⁹	11/21/16	See Figure 6	7.5	--	--	260	--	--	< 0.03	0.72	< 0.05	0.89	< 0.1	--	--	--	--
B3-12	11/21/16	See Figure 6	12	--	--	3.5	--	--	< 0.03	< 0.05	< 0.05	< 0.2	< 0.1	--	--	--	--
B4-8 ¹⁰	11/21/16	See Figure 6	8	--	--	1,000	--	--	< 0.075	4.0	< 1.2	< 5	< 2.5	--	--	--	--
B5-13	11/21/16	See Figure 6	13	--	--	< 3	--	--	< 0.03	< 0.05	< 0.05	< 0.2	< 0.1	--	--	--	--
B6-15	11/21/16	See Figure 6	15	--	--	3.7	--	--	< 0.03	< 0.05	< 0.05	< 0.2	< 0.1	--	--	--	--
2019 Site Investigation																	
MW-20	04/09/19	See Figure 6	12.5	--	--	<4.2	<18	77	<0.00041	<0.0024 H	<0.00043	<0.00406 H	<0.00031^A	<0.00021	<0.00021	0.0088 B	5.5
MW-20	04/09/19	See Figure 6	15.0	--	--	<2.1	<13	29 J	<0.0002	<0.003 H	<0.00021	<0.00437 H	<0.00015^A	<0.0001	<0.0001	0.006 B	1.6
MW-21	04/09/19	See Figure 6	10.0	--	--	<2.7	<13	23 J	<0.00041	<0.0012 H	<0.00044	<0.00248 H	<0.00032^A	<0.00021	<0.00021	0.0062 B	2.0
MW-21	04/09/19	See Figure 6	15.0	--	--	<2.6	<14	60	<0.00025	<0.0011 H	<0.00027	<0.00209 H	<0.00019^A	<0.00013	<0.00013	0.0083 B	3.4
MW-22	04/10/19	See Figure 6	12.0	--	--	<3.6	<16	42 J	<0.00036	<0.0013	<0.00038	<0.00246	<0.00028^A	<0.00019	<0.00019	<0.001	4.9
MW-22	04/10/19	See Figure 6	15.0	--	--	<5.3	19 J	120	<0.00063	<0.0022	<0.00066	<0.0043	<0.00048^A	<0.00032	<0.00032	0.0047 J B	6.6
MW-23	04/10/19	See Figure 6	13.0	--	--	<2.8	<15	43 J	<0.00036	<0.0012	<0.00038	<0.00245	<0.00028^A	<0.00019	<0.00019	0.0069 B	2.7
MW-23	04/10/19	See Figure 6	15.0	--	--	<3.9	<16	86	<0.00045	<0.0015	<0.00048	<0.003	<0.00035^A	<0.00023	<0.00023	0.0076 B	5.0
MW-24	04/11/19	See Figure 6	13.0	--	--	<2.8	<14	48 J	<0.00032	<0.0011	<0.00034	<0.00111	<0.00025^A	<0.00017	<0.00017	<0.00091	3.3
MW-24 (DUP)	04/10/19	See Figure 6	13.0	--	--	<2.5	<14	44 J	<0.00032	<0.0011 H	<0.00034	<0.00226	<0.00025^A	<0.00017	<0.00017	<0.00088	2.9
MW-24	04/11/19	See Figure 6	15.0	--	--	<3.2	<15	48 J	<0.00038	<0.0013	<0.0004	<0.0013	<0.00029^A	<0.0002	<0.0002	<0.001	3.5
SB-1	04/09/19	See Figure 6	12.5	--	--	<2.9	<15	48 J	<0.00036	<0.0012 H	<0.00038	<0.00245 H	<0.00028^A	<0.00019	<0.00019	0.0017 J B	1.8
SB-1	04/09/19	See Figure 6	15.0	--	--	<3.4	<16	77	<0.00035	<0.0015 H	<0.00037	<0.00272 H	<0.00027^A	<0.00018	<0.00018	0.01 B	5.3

Table 1
Summary of Select Soil Analytical Results
Former Chevron Facility No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA
All Results Presented in milligram per kilogram (mg/kg)

Sample ID	Sample Date	General Location	Sample Depth (feet bgs)	TPH EPA Method 418.1	TPH-G	GRO	DRO	HO	B	E	T	X	MTBE	EDB	EDC	Napthalene	Total Lead
MTCA Method A Cleanup Levels				--	100	100*	2000	2000	0.03	6	7	9	0.1	0.005	--	--	250
SB-2	04/08/19	See Figure 6	12.5	--	--	<2.6	<15	26 J	<0.00035	<0.0011 H	<0.00037	<0.00223 H	<0.00027^	<0.00018	<0.00018	0.0012 J B	3.9
SB-2	04/08/19	See Figure 6	15.0	--	--	<3.7	<16	39 J	<0.0004	<0.0011 H	<0.00042	<0.00233 H	<0.0003^	<0.0002	<0.0002	<0.001	4.7
SB-5	04/09/19	See Figure 6	12.5	--	--	<2.1	<13	36 J	<0.00026	<0.0011 H	<0.00027	<0.0021 H	<0.0002^	<0.00013	<0.00013	<0.00082	1.9
SB-5	04/09/19	See Figure 6	15.0	--	--	<3.4	<15	64	<0.00041	<0.0015 H	<0.00044	<0.00298 H	<0.00032^	<0.00021	<0.00021	0.0088 B	4.3
SB-6	04/09/19	See Figure 6	12.5	--	--	<2.4	<12	39 J	<0.00032	<0.0012 H	<0.00034	<0.00235 H	<0.00025^	<0.00016	<0.00016	0.0052 B	1.6
SB-6	04/09/19	See Figure 6	15.0	--	--	<3.7	<16	57 J	<0.00042	<0.0015 H	<0.00044	<0.00298 H	<0.00032^	<0.00021	<0.00021	0.0079 B	3.6
SVP-1	04/10/19	See Figure 6	5.0	--	--	<3.3	<15	38 J	<0.00038	<0.0013 H	<0.0004	<0.00259 H	<0.00029^	<0.00019	<0.00019	0.003 J B	7.0

Notes

Total petroleum hydrocarbons (TPH) analyzed by United States Environmental Protection Agency (USEPA) Method 418.1

TPH-G analyzed by WTPH G

Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) analyzed by USEPA Method 8015 through 1991, by WTPH G and D respectively in 1992 through 1993 and by Ecology Northwest Method NWTPH-Gx and Method NWTPH-Dx respectively in 2016 and 2019

Heavy oil range organics (HO) analyzed by WTPH-418.1 and Method NWTPH-Dx in 2019

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by USEPA Method 8020 from January 1991 through September 1993, by USEPA Method 8021 in 2016 and by USEPA Method 8260 in 2019

Methyl tertiary butyl ether (MTBE) analyzed by USEPA Method 8021 in 2016 and by USEPA Method 8260 in 2019

Ethylene dibromide (EDB), and ethylene dichloride (EDC) by United States Environmental Protection Agency (USEPA) Method 8260

Napthalene by USEPA Method 8270

Total Lead analyzed by USEPA Method 7421

J =The identification of the analyte is acceptable; the reported value is an estimate

H =Sample was prepped or analyzed beyond the specified holding time

B =Compound was found in the blank and sample

^ = RPD of the LCS and LCSD exceeds the control limits

GRO standard cleanup concentration is 30 mg/kg if benzene is present or if the sum of toluene, ethylbenzene, and xylenes are greater than 1% of the gasoline concentration. Otherwise gasoline cleanup concentration is 100 mg/kg.

BOLD and shaded = Concentration detected above MTCA Method A Cleanup Level

Greyed out row indicates soil sample has been removed from site

* Because of the limited available space, the soil aeration occurred in three phases: approximately 150 cubic yards (cy) of soil were aerated between 07/01/93 and 08/06/93, 350 cy between 08/06/93 and 08/24/93 and 380 cy between 08/24/93 and 09/23/93

¹ soil sample 910125-8 in 1991 at a depth of 10 feet bgs was confirmed by soil sample SB-1 in April 2019

² soil sample 910125-9 in 1991 at a depth of 9.5 feet bgs was confirmed by soil sample SB-1 in April 2019

³ soil sample 910201-19 at a depth of 11.5 feet bgs was confirmed by samples 920915-TP1 and 920924-G9 collected in 1992

⁴ soil samples MW-10 at depths of 10.5 and 14.5 feet bgs were confirmed by soil samples collected during the installation of MW-24 in 2019

⁵ soil sample MW-12 in 1991 at a depth of 8.5 feet bgs was confirmed by soil sample TP-2 collected in 1992

⁶ soil sample 920922-G2 in 1992 at a depth of 11.5 feet bgs was confirmed by soil sample SB-6 in April 2019

⁷ soil sample 920924-G11 in 1992 at a depth of 10 feet bgs was confirmed by soil sample B-5 in 2016

⁸ soil sample 921125-G26 in 1992 at a depth of 2 feet bgs was delineated by soil sample SB-5 in April 2019

⁹ soil sample B-2 at a depth of 7.5 feet bgs in 2016 was confirmed by soil samples collected during the installation of MW-24 in 2019

¹⁰ soil sample B4-8 in 2016 at a depth of 8 feet bgs was delineated by soil samples B-3, B-5 and B-6 collected in 2016.

Table 2
Summary of Soil Analytical Results - Semi Volatile Organic Compounds
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA
All Concentrations are in milligrams per kilograms (mg/kg)

Sample ID	Date	Depth	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs
MTCA Method A Soil Cleanup Levels			--	0.1	--	--	--	--	--	0.1
2019 Site Investigation										
MW-20	04/09/19	12.5	<0.0011	<0.00056	0.0020 J	<0.00084	0.0033 J	<0.001	<0.00084	0.00070
MW-20	04/09/19	15.0	<0.00079	<0.00042	0.00062 J	<0.00063	<0.0016	<0.00075	<0.00063	0.00042
MW-21	04/09/19	10.0	<0.00087	<0.00046	0.00068 J	<0.00068	0.0019 J	<0.00082	<0.00068	0.00047
MW-21	04/09/19	15.0	0.00095 J	0.0024 J	0.0046 J	0.00097 J	0.0069	0.0036 J	0.0034 J	0.00382
MW-22	04/10/19	12.0	<0.00096	<0.00051	<0.00075	<0.00076	<0.0019	<0.00091	<0.00076	<0.0004715
MW-22	04/10/19	15.0	<0.0036	<0.0019	0.0030 J	<0.0028	0.0080 J	<0.0034	<0.0028	0.00196
MW-23	04/10/19	13.0	<0.00089	<0.00047	0.0013 J	<0.00071	0.0026 J	<0.00085	<0.00071	0.00055
MW-23 (DUP)	04/10/19	13.0	<0.00083	<0.00044	0.00076 J	<0.00066	<0.0016	<0.00079	<0.00066	0.00045
MW-23	04/10/19	15.0	0.0013 J	0.0012 J	0.0037 J	0.00087 J	0.0072	<0.00093	<0.00078	0.00831
MW-24	04/11/19	13.0	<0.00087	<0.00046	0.00095 J	<0.00069	<0.0017	<0.00082	<0.00069	0.00049
MW-24	04/11/19	15.0	<0.00095	<0.0005	0.0016 J	<0.00075	0.0024 J	<0.0009	<0.00075	0.00060
SB-1	04/09/19	12.5	<0.00086	<0.00045	0.0009 J	<0.00068	<0.0017	<0.00081	<0.00068	0.00048
SB-1	04/09/19	15.0	0.0012 J	0.0016 J	0.0057 J	0.00092 J	0.0076	0.004 J	0.004 J	0.00326
SB-2	04/08/19	12.5	<0.00091	<0.00048	0.0025 J	<0.00072	0.0023 J	<0.00087	<0.00072	0.00067
SB-2	04/08/19	15.0	<0.00095	<0.0005	<0.00074	<0.00075	0.0019 J	<0.0009	<0.00075	0.00047
SB-5	04/09/19	12.5	<0.00077	<0.00041	0.0010 J	<0.00061	<0.0015	<0.00073	<0.00061	0.00045
SB-5	04/09/19	15.0	<0.00097	0.0012 J	0.0046 J	<0.00077	0.0056 J	0.0031 J	0.0026 J	0.00237
SB-6	04/09/19	12.5	<0.00074	<0.00039	<0.00057	<0.00058	<0.0015	<0.0007	<0.00058	<0.000361
SB-6	04/09/19	15.0	0.0016 J	0.0021 J	0.0040 J	<0.00075	0.0078	0.0027 J	0.0032 J	0.00337
SVP-1	04/10/19	5.0	<0.00094	<0.00049	0.0030 J	<0.00074	0.0039 J	<0.00089	<0.00074	0.03771

Notes:

-- = Not applicable

Depth = Depth of sample in feet below ground surface (bgs)

DUP = duplicate

< = Analytical result is not detected. Value shown is Method Detection Limit (MDL)

J = estimated value – The result is greater than or equal to the MDL and less than the Limit of Quantitation (LOQ)

cPAHs = Carcinogenic Polycyclic Aromatic Hydrocarbons

cPAHs analyzed by U.S. Environmental Protection Agency 8270C SIM

cPAHs adjusted for toxicity according to Washington State Administrative Code 173-340-708(8). If one or more adjusted cPAH constituents were reported as Non-Detect, half of the reporting limit was used in calculations.

Table 3
Well Construction
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All elevations and depths are presented in feet

Well ID	Casing Diameter	Casing Elevation	Top of Screen Depth	Bottom of Screen Depth	Sump Length	Total Well Depth	Submersible Pump	Pump Type Configuration	Northing	Easting
	inches	feet NAVD88	feet bgs	feet bgs	feet	feet bgs	Yes/No	Top/Bottom Loading	SPCS	SPCS
MW-20	2	74.7	4.5	14.5	0	14.5	No	NA	646477.80	1241292.57
MW-21	2	72.71	5	15	0	15	No	NA	646367.54	1241298.62
MW-22	2	72.41	5	15	0	15	No	NA	646333.24	1241261.31
MW-23	2	72.75	5	15	0	15	No	NA	646399.93	1241246.43
MW-24	2	74.52	5	15	0	15	No	NA	646411.24	1241272.14

Notes:

Casing elevations surveyed by Otak, Inc. on 4/18/2019

bgs = below ground surface

MW = monitoring well; observation well used for groundwater compliance monitoring

NA = not applicable

NAVD88 = North American Vertical Datum of 1988

SPCS = State Plane Coordinate System

Table 4
Groundwater Gauging Data and Analytical Results
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All analytical results are presented in micrograms per liter (µg/L)

Well ID	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
MW-1	12/6/1990		74.63	--	--	--	ND	ND	--	1.4	ND	ND	ND	--	--	--	--	--
MW-1	3/15/1991		74.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/1/1991		74.63	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-1	8/2/1991		74.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/4/1991		74.63	--	--	--	ND	ND	--	ND	ND	ND	ND	--	ND	--	--	--
MW-1	2/26/1992		74.63	8.56	--	66.07	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/25/1992		74.63	8.89	--	65.74	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	4/22/1992		74.63	8.53	--	66.10	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/19/1992		74.63	8.88	--	65.75	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-1	3/10/1993		74.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	Jan 1991	Abandoned																
MW-2	12/6/1990		--	--	--	--	11,000	4,000	--	130	48	180	610	--	--	--	--	--
MW-2	Jan 1991	Removed																
MW-3	12/6/1990		74.96	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-3	3/15/1991		74.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/1/1991		74.96	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-3	8/2/1991		74.96	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-3	11/4/1991		74.96	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-3	2/26/1992		74.96	8.85	--	66.11	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/25/1992		74.96	9.23	--	65.73	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	4/22/1992		74.96	8.83	--	66.13	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/19/1992		74.96	9.25	--	65.71	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-3	3/10/1993		74.96	--	--	--	ND	--	--	ND	0.6	ND	ND	--	--	--	--	--
MW-4	12/6/1990		74.89	--	--	--	4,000	ND	--	--	--	--	--	--	--	--	--	--
MW-4	3/15/1991		74.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/1/1991		74.89	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-4	8/2/1991		74.89	--	--	--	ND	ND	--	2.2	ND	3.3	ND	--	--	--	--	--
MW-4	11/4/1991		74.89	--	--	--	ND	ND	--	6.3	2.4	15	2.0	--	--	--	--	--
MW-4	2/26/1992		74.89	8.43	--	66.46	ND	ND	--	0.7	ND	0.7	ND	--	--	--	--	--
MW-4	3/25/1992		74.89	8.90	--	65.99	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	4/22/1992		74.89	8.60	--	66.29	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/19/1992		74.89	8.97	--	65.92	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-4	3/10/1993		74.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	2/18/1994	Abandoned																
MW-5	12/6/1990		74.77	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	3/15/1991		74.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	5/1/1991		74.77	--	--	--	ND	ND	--	9.6	ND	ND	ND	--	--	--	--	--
MW-5	8/2/1991		74.77	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	11/4/1991		74.77	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	2/26/1992		74.77	8.45	--	66.32	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/25/1992		74.77	8.74	--	66.03	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	4/22/1992		74.77	8.58	--	66.19	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	5/19/1992		74.77	8.92	--	65.85	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	3/10/1993		74.77	9.30	--	65.47	960	--	--	48	6.2	34	32	--	--	--	--	--
MW-5	6/24/1994		74.77	9.21	--	65.56	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	9/6/1994		74.77	9.47	--	65.30	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	12/13/1994		74.77	9.31	--	65.46	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	3/9/1995		74.77	9.11	--	65.66	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	6/29/1995		74.77	9.35	--	65.42	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-5	9/14/1995		74.77	9.43	--	65.34	ND	--	--	ND	ND	ND	ND	--	--	--	--	--

Table 4
Groundwater Gauging Data and Analytical Results
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All analytical results are presented in micrograms per liter (µg/L)

Well ID	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead	
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15	
MW-6	12/6/1990		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	Jan-91	Removed																	
MW-7	12/6/1990		75.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/15/1991		75.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	5/1/1991		75.07	--	--	--	ND	ND	--	2.4	ND	ND	ND	--	--	--	--	--	--
MW-7	8/2/1991		75.07	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-7	11/4/1991		75.07	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-7	2/26/1992		75.07	8.57	--	--	66.50	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/25/1992		75.07	9.08	--	--	65.99	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	4/22/1992		75.07	8.80	--	--	66.27	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	5/19/1992		75.07	9.19	--	--	65.88	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-7	3/10/1993		75.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	6/24/1994		75.07	9.31	--	--	65.76	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-7	9/6/1994		75.07	9.60	--	--	65.47	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-7	12/13/1994		75.07	9.24	--	--	65.83	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-7	3/9/1995		75.07	9.13	--	--	65.94	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-7	6/29/1995		75.07	9.50	--	--	65.57	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	9/14/1995		75.07	9.54	--	--	65.53	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-8	12/6/1990		--	--	--	--	8,000	4,000	--	290	530	180	1,100	--	--	--	--	--	--
MW-8	Jan 1991	Removed																	
MW-9	12/6/1990		75.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/15/1991		75.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/1/1991		75.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	8/2/1991		75.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	11/4/1991		75.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	2/26/1992		75.40	8.53	--	--	66.87	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/25/1992		75.40	9.08	--	--	66.32	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	4/22/1992		75.40	8.64	--	--	66.76	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/19/1992		75.40	9.32	--	--	66.08	1,200	NA	17	8.4	46	110	--	--	--	--	--	--
MW-9	Fall 1992	Abandoned																	
MW-10	3/15/1991		74.47	--	--	--	ND	ND	--	ND	0.6	ND	2.1	--	--	--	--	--	--
MW-10	5/1/1991		74.47	--	--	--	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-10	8/2/1991		74.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/4/1991		74.47	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-10	2/26/1992		74.47	5.65	--	--	68.82	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/25/1992		74.47	8.41	--	--	66.06	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	4/22/1992		74.47	5.74	--	--	68.73	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	5/19/1992		74.47	8.51	--	--	65.96	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-10	Fall 1992	Abandoned																	
MW-11	3/15/1991		74.16	--	--	--	24,000	ND	--	ND	840	1,400	7,700	--	--	--	--	--	--
MW-11	5/1/1991		74.16	--	--	--	ND	ND	--	18	3.0	64	55	--	--	--	--	--	--
MW-11	8/2/1991		74.16	--	--	--	8,000	ND	--	58	24	340	830	--	--	--	--	--	--
MW-11	2/26/1992		74.16	--	--	--	2,000	1,000	--	16	17	39	100	--	--	--	--	--	--
MW-11 (Dup)	2/26/1992		74.16	7.90	--	--	66.26	3,000	1,000	17	18	45	120	--	--	--	--	--	--
MW-11	3/25/1992		74.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	4/22/1992		74.16	9.78	--	--	64.38	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	5/19/1992		74.16	9.23	--	--	64.93	6,100	4,500	65	110	420	1,200	--	--	--	--	--	--
MW-11 (Dup)	5/19/1992		74.16	9.94	--	--	64.22	7,100	3,200	69	130	540	1,600	--	--	--	--	--	--
MW-11	Fall 1992	Abandoned																	
MW-12	3/15/1991		74.27	--	--	--	3,000	ND	--	ND	ND	94	96	--	--	--	--	--	--

Table 4
Groundwater Gauging Data and Analytical Results
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All analytical results are presented in micrograms per liter (µg/L)

Well ID	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
MW-12	5/1/1991		74.27	--	--	--	1,000	ND	--	9.7	ND	21	18	--	--	--	--	--
MW-12	8/2/1991		74.27	--	--	--	ND	ND	--	38	3.1	42	18	--	--	--	--	--
MW-12 (Dup)	8/2/1991		74.27	--	--	--	ND	ND	--	42	3.1	42	17	--	--	--	--	--
MW-12	11/4/1991		74.27	--	--	--	ND	ND	--	2.5	1.6	8.6	5.1	--	--	--	--	--
MW-12 (Dup)	11/4/1991		74.27	--	--	--	ND	ND	--	3.7	1.4	12	6.4	--	--	--	--	--
MW-12	2/26/1992		74.27	6.57	--	67.70	ND	ND	--	4.9	2.0	1.9	7.3	--	--	--	--	--
MW-12	3/25/1992		74.27	8.07	--	66.20	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	4/22/1992		74.27	6.75	--	67.52	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	5/19/1992		74.27	8.20	--	66.07	110	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-12	3/10/1993		74.27	9.40	--	64.87	ND	--	--	ND	0.5	ND	ND	--	--	--	--	--
MW-12	6/24/1994		74.27	8.88	--	65.39	640	--	--	30	2.7	22	16	--	--	--	--	--
MW-12	9/6/1994		74.27	9.20	--	65.07	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-12	12/13/1994		74.27	8.66	--	65.61	850	--	--	73	5.8	9.4	18	--	--	--	--	--
MW-12	3/9/1995		74.27	8.68	--	65.59	940	--	--	60	7.0	40	30	--	--	--	--	--
MW-12	6/29/1995		74.27	9.10	--	65.17	400	--	--	11	1.0	12	9.4	--	--	--	--	--
MW-12	9/14/1995		74.27	9.15	--	65.12	100	--	--	0.69	ND	ND	ND	--	--	--	--	--
MW-13	3/15/1991		74.56	--	--	--	2,000	ND	--	23	7.7	3.9	200	--	--	--	--	--
MW-13	5/1/1991		74.56	--	--	--	ND	ND	--	12	ND	ND	ND	--	--	--	--	--
MW-13	8/2/1991		74.56	--	--	--	ND	ND	--	7.3	ND	ND	ND	--	--	--	--	--
MW-13	11/4/1991		74.56	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-13	2/26/1992		74.56	8.32	--	66.24	--	--	--	--	--	--	--	--	--	--	--	--
MW-13	3/25/1992		74.56	9.00	--	65.56	--	--	--	--	--	--	--	--	--	--	--	--
MW-13	4/22/1992		74.56	8.49	--	66.07	--	--	--	--	--	--	--	--	--	--	--	--
MW-13	5/19/1992		74.56	8.91	--	65.65	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-13	Fall 1992	Abandoned			--				--									
MW-14	3/15/1991		74.66	--	--	--	ND	ND	--	0.9	ND	ND	ND	--	--	--	--	--
MW-14	5/1/1991		74.66	--	--	--	ND	ND	--	4.4	ND	1.5	ND	--	--	--	--	--
MW-14	8/2/1991		74.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	11/4/1991		74.66	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-14	2/26/1992		74.66	8.56	--	66.10	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	3/25/1992		74.66	9.01	--	65.65	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	4/22/1992		74.66	8.56	--	66.10	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	5/19/1992		74.66	8.95	--	65.71	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-14	3/10/1993		74.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	6/24/1994		74.66	9.04	--	65.62	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-14	9/6/1994		74.66	9.30	--	65.36	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-14	12/13/1994		74.66	8.88	--	65.78	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-14	3/9/1995		74.66	8.87	--	65.79	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-14	6/29/1995		74.66	9.25	--	65.41	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-14	9/14/1995		74.66	9.28	--	65.38	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-15	3/15/1991		74.88	--	--	--	2,000	ND	--	81	7.6	93	110	--	--	--	--	--
MW-15	5/1/1991		74.88	--	--	--	ND	ND	--	60	4.5	9.3	6.3	--	--	--	--	--
MW-15	8/2/1991		74.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	11/4/1991		74.88	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-15	2/26/1992		74.88	8.70	--	66.18	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--
MW-15	3/25/1992		74.88	9.07	--	65.81	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	4/22/1992		74.88	8.72	--	66.16	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	5/19/1992		74.88	9.09	--	65.79	ND	--	--	ND	ND	ND	ND	--	--	--	--	--
MW-15	2/18/1994	Abandoned																
MW-16	3/15/1991		--	--	--	--	7,000	ND	--	61	180	94	610	--	--	--	--	--

Table 4
Groundwater Gauging Data and Analytical Results
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All analytical results are presented in micrograms per liter (µg/L)

Well ID	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead	
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15	
MW-16	2/18/1994	Abandoned																	
MW-17	3/15/1991		75.14	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-17	5/1/1991		75.14	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-17	8/2/1991		75.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17	11/4/1991		75.14	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-17	2/26/1992		75.14	8.85	--	66.29	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17	3/25/1992		75.14	9.21	--	65.93	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17	4/22/1992		75.14	8.88	--	66.26	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17	5/19/1992		75.14	9.23	--	65.91	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-17	Fall 1992	Removed																	
MW-18	3/15/1991		74.83	--	--	--	ND	ND	--	0.7	0.5	ND	0.5	--	--	--	--	--	--
MW-18	5/1/1991		74.83	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-18	8/2/1991		74.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-18	11/4/1991		74.83	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-18	2/26/1992		74.83	8.69	--	66.14	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-18	3/25/1992		74.83	9.04	--	65.79	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-18	4/22/1992		74.83	8.66	--	66.17	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-18	5/19/1992		74.83	9.00	--	65.83	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-18	Fall 1992	Removed																	
MW-19	3/15/1991		76.28	--	--	--	3000	ND	--	130	75	ND	250	--	--	--	--	--	--
MW-19	5/1/1991		76.28	--	--	--	ND	ND	--	59	2.6	1.3	37	--	--	--	--	--	--
MW-19	8/2/1991		76.28	--	--	--	ND	ND	--	2.8	ND	ND	ND	--	--	--	--	--	--
MW-19	11/4/1991		76.28	--	--	--	ND	ND	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-19	2/26/1992		76.28	10.08	--	66.20	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	3/25/1992		76.28	10.50	--	65.78	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	4/22/1992		76.28	10.08	--	66.20	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	5/19/1992		76.28	10.46	--	65.82	ND	--	--	ND	ND	ND	ND	--	--	--	--	--	--
MW-19	3/10/1993		76.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	2/18/1994	Abandoned																	
MW-20	4/18/2019	LFP	74.70	10.78	0.00	63.92	<100	<68	<100	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020*	<0.53	<2.7	<2.7	<2.7
MW-20	9/27/2019	LFP	74.70	11.45	0.00	63.25	<100	<70	<100	<0.53 H	<0.39 H	<0.50 H	<1.14 H	<0.44 H	<0.0020	<0.53 H	<2.7	<2.7	<2.7
MW-20	11/14/2019	LFP	74.70	11.45	0.00	63.25	<100	<68	<110	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0016	<0.53	<2.7	<2.7	<2.7
MW-20	1/8/2020	LFP	74.70	10.48	0.00	64.22	<100*	<65	<96	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020	<0.53	<2.7	<2.7	<2.7
MW-21	4/18/2019	LFP	72.71	9.82	0.00	62.89	<100	100 J	150 JB	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020 *	<0.53	<2.7	<2.7	<2.7
MW-21	9/27/2019	LFP	72.71	10.36	0.00	62.35	<100	<71	<110	<0.53 H	<0.39 H	<0.50 H	<1.14 H	<0.44 H	<0.0020	<0.53 H	<2.7	<2.7	<2.7
MW-21	11/14/2019	LFP	72.71	10.36	0.00	62.35	<100	<74	110 J	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0017	<0.53	<2.7	<2.7	<2.7
MW-21 (DUP-1)	11/14/2019	LFP	72.71	10.36	0.00	62.35	<100	<75	<110	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0017	<0.53	<2.7	<2.7	<2.7
MW-21	1/8/2020	LFP	72.71	9.49	0.00	63.22	<100	<74	<110	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020	<0.53	<2.7	<2.7	<2.7
MW-21 (DUP-1)	1/8/2020	LFP	72.71	9.49	0.00	63.22	<100	<68	<100	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0021	<0.53	<2.7	<2.7	<2.7
MW-22	4/18/2019	LFP	72.41	9.07	0.00	63.34	<100	<69	110 JB	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020 *	<0.53	<2.7	<2.7	<2.7
MW-22	9/27/2019	LFP	72.41	10.52	0.00	61.89	<100	85 J	160 J	<0.53 H	<0.39 H	<0.50 H	<1.14 H	<0.44 H	<0.0020	<0.53 H	<2.7	<2.7	<2.7
MW-22	11/14/2019	LFP	72.41	10.52	0.00	61.89	<100	<72	120 J	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0017	<0.53	<2.7	<2.7	<2.7
MW-22	1/8/2020	LFP	72.41	8.38	0.00	64.03	<100	<65	<96	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020	<0.53	<2.7	<2.7	<2.7

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Groundwater Gauging Data and Analytical Results
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All analytical results are presented in micrograms per liter (µg/L)

Well ID	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
MW-23	4/18/2019	LFP	72.75	9.42	0.00	63.33	<100	110 J	200 JB	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020 *	<0.53	<2.7	<2.7
MW-23	9/27/2019	Grab ¹	72.75	10.55	0.00	62.2	<100	150	<96	<0.53 H	<0.39 H	<0.50 H	<1.14 H	<0.44 H	<0.0020	<0.53 H	<2.7	<2.7
MW-23	11/14/2019	Grab ¹	72.75	10.55	0.00	62.2	<100	<85	140 J	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0017	<0.53	<2.7	<2.7
MW-23	1/8/2020	Grab ¹	72.75	7.79	0.00	64.96	<100	<68	<100	<0.53	0.47 J	<0.50	<1.14	<0.44	<0.0020	<0.53	<2.7	<2.7
MW-24	4/18/2019	LFP	74.52	10.3	0.00	64.22	<100	77 J	400 B	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020 *	<0.53	<2.7	<2.7
MW-24 (DUP-1)	4/18/2019	LFP	74.52	10.3	0.00	64.22	<100	66 J	390 B	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020 *	<0.53	<2.7	<2.7
MW-24	9/27/2019	LFP	74.52	10.93	0.00	63.59	<100	<66	<97	<0.53 H	<0.39 H	<0.50 H	<1.14 H	<0.44 H	<0.0020	<0.53 H	<2.7	<2.7
MW-24	11/14/2019	Grab ¹	74.52	10.90	0.00	63.62	<100	<65	<96	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0017	<0.53	<2.7	<2.7
MW-24	1/8/2020	Grab ¹	74.52	9.12	0.00	65.40	<100	<68	<100	<0.53	<0.39	<0.50	<1.14	<0.44	<0.0020	<0.53	<2.7	<2.7

Notes:

BOLD and shaded = Concentration detected above MTCA Method A CUL

TOC = Top of casing in feet North American Vertical Datum of 1988 (NAVD 88)

DTW = Depth to water in feet below TOC

NAPL = Non-aqueous phase liquid thickness in feet

GWE = Groundwater elevation in feet NAVD 88

GRO = Gasoline Range Organics analyzed by Ecology Method NWTPH-Gx

DRO = Diesel Range Organics analyzed by Ecology Method NWTPH-Dx

HO = Heavy Oil Range Organics analyzed by Ecology Method NWTPH-Dx

MTBE = Methyl tertiary butyl ether

EDB = Ethylene dibromide

EDC = 1,2-Dichloroethane

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

-- = Not analyzed/not applicable

< = Analytical result is not detected. Value shown is the Method Detection Limit (MDL)

LFP = Low flow purge sample

DUP = Duplicate sample

J = estimated value – The result is greater than or equal to the MDL and less than the Limit of Quantitation (LOQ)

B = Compound was found in the blank and sample

* = Relative Percent Difference (RPD) of the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) exceeds the control limits

H = Sample was prepped or analyzed beyond the specified holding time

GRO, DRO, HO analyzed by Ecology Northwest Methods; Benzene, toluene, ethylbenzene, and total xylenes (BTEX), MTBE, and EDC by 8260B; Lead by U.S. Environmental Protection Agency (USEPA) 6010C; EDB by EPA 8011

¹: Insufficient volume to collect LFP sample

Table 5
Groundwater Analytical Results - Semi Volatile Organic Compounds
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All analytical results are presented in micrograms per liter (µg/L)

Well ID	Date	Notes	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Total Naphthalenes	Total cPAHs
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L			--	0.1	--	--	--	--	--	--	--	--	160	0.1
MW-20	4/18/2019	LFP	0.063	0.037 J	0.052	0.027 J	0.050 J	0.012 J	0.032 J	0.037 J	0.046 J	0.20	0.283	0.056
MW-20	9/27/2019	LFP	<0.016	<0.013	<0.013	<0.014	<0.018	<0.030	<0.016	<0.022	<0.045	<0.035	<0.051	<0.011
MW-20	11/14/2019	LFP	<0.013	<0.011	<0.011	<0.011	<0.015	<0.025	<0.013	<0.018	<0.037	<0.030	<0.043	<0.009
MW-20	1/8/2020	LFP	<0.015	<0.011	<0.011	<0.013	<0.017	<0.027	<0.015	<0.020	<0.041	<0.032	<0.047	<0.010
MW-21	4/18/2019	LFP	0.034 J	0.021 J	0.029 J	0.016 J	0.030 J	<0.011	0.021 J	<0.021	<0.042	0.048 J	0.080	0.032
MW-21	9/27/2019	LFP	<0.016	<0.013	<0.013	<0.014	<0.018	<0.030	<0.016	<0.022	<0.044	<0.035	<0.051	<0.011
MW-21 (DUP-1)	11/14/2019	LFP	<0.016	<0.012	<0.012	<0.014	<0.018	<0.029	<0.016	<0.021	<0.044	<0.035	<0.050	<0.010
MW-21	11/14/2019	LFP	<0.015	<0.012	<0.012	<0.013	<0.017	<0.028	<0.015	<0.020	<0.042	<0.033	<0.048	<0.010
MW-21	1/8/2020	LFP	<0.015	<0.011	<0.011	<0.013	<0.017	<0.027	<0.015	<0.020	<0.041	<0.032	<0.047	<0.009
MW-21 (DUP-1)	1/8/2020	LFP	<0.016	<0.013	<0.013	<0.014	<0.018	<0.030	<0.016	<0.022	<0.045	<0.035	<0.051	<0.011
MW-22	4/18/2019	LFP	<0.015	<0.011	0.012 J	<0.013	<0.017	<0.010	<0.015	<0.020	<0.041	<0.032	<0.047	0.009
MW-22	9/27/2019	LFP	<0.016	<0.012	<0.012	<0.013	<0.018	<0.029	<0.016	<0.021	<0.044	<0.035	<0.050	<0.010
MW-22	11/14/2019	LFP	<0.015	<0.012	<0.012	<0.013	<0.017	<0.028	<0.015	<0.020	<0.041	<0.033	<0.047	<0.010
MW-22	1/8/2020	LFP	<0.015	<0.012	<0.012	<0.013	<0.018	<0.029	<0.015	<0.021	<0.043	<0.034	<0.049	<0.010
MW-23	4/18/2019	LFP	<0.016	<0.012	<0.012	<0.013	<0.018	<0.011	<0.016	<0.021	<0.044	0.039 J	<0.072	0.009
MW-23	9/27/2019	Grab ¹	<0.014	<0.011	<0.011	<0.012	<0.016	<0.026	<0.014	<0.019	<0.039	<0.031	<0.045	<0.009
MW-23	11/14/2019	Grab ¹	<0.014	<0.011	<0.011	<0.012	<0.016	<0.026	<0.014	<0.019	<0.039	<0.031	<0.045	<0.009
MW-23	1/8/2020	Grab ¹	<0.015	<0.012	<0.013	<0.013	<0.017	<0.028	<0.015	<0.021	<0.043	<0.034	<0.049	<0.010
MW-24	4/18/2019	LFP	<0.014	<0.011	<0.011	<0.012	<0.016	<0.010	<0.014	<0.019	<0.040	0.056 J	0.086	0.009
MW-24 (DUP-1)	4/18/2019	LFP	0.024 J	0.014 J	0.019 J	<0.013	0.021 J	<0.011	<0.015	0.038 J	0.047 J	0.15	0.235	0.020
MW-24	9/27/2019	LFP	<0.015	<0.012	<0.012	<0.013	<0.017	<0.028	<0.015	<0.021	<0.042	<0.034	<0.049	<0.010
MW-24	11/14/2019	Grab ¹	<0.014	<0.011	<0.011	<0.012	<0.016	<0.026	<0.014	<0.019	<0.039	<0.031	<0.045	<0.009
MW-24	1/8/2020	Grab ¹	<0.015	<0.011	<0.011	<0.013	<0.017	<0.027	<0.015	<0.020	<0.041	<0.032	<0.047	<0.009

Notes:

-- = Not applicable

LFP = Low flow purge sample

DUP = duplicate

< = Analytical result is not detected. Value shown is Method Detection Limit (MDL)

J = estimated value – The result is greater than or equal to the MDL and less than the Limit of Quantitation (LOQ)

cPAHs = Carcinogenic Polycyclic Aromatic Hydrocarbons

cPAHs and Naphthalene's analyzed by U.S. Environmental Protection Agency 8270C SIM

cPAHs adjusted for toxicity according to Washington State Administrative Code 173-340-708(B). If one or more adjusted cPAH constituents were reported as Non-Detect, half of the MDL was used in calculations.

Naphthalenes is a sum total of 1-methyl-naphthalene, 2-methyl-naphthalene, and naphthalene. If one or more constituents were reported as Non-Detect, half of the MDL was used in calculations.

¹ Insufficient volume to collect LFP sample

Table 6
Soil Vapor Analytical Results
Former Chevron Service Station No. 90619
1205 Washington Street (Formerly 2200 Elm Street), Bellingham, WA

All analytical results are presented in micrograms per cubic meter

Location	Sample ID	Sample Type	Methods	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene	EC5-8 Aliphatics	EC9-12 Aliphatics	EC9-10 Aromatics
MTCA Method B Sub-Slab Soil Gas Screening Level					10.6	76,190	15,238	1,524	321	2.45	4,700		
SVP-1	SVP-1-20190417	Soil Vapor	TO-15 MA-APH	4/17/2019	<0.51	3.5	<0.69	1.3	<2.9	<0.42	120	410	<40
	DUP-1-20190417	Soil Vapor (Duplicate)	TO-15 MA-APH	4/17/2019	<0.48	2.4	<0.65	1.1	<2.7	<0.39	140	420	<37
Equipment Blank	EB-20190417	Equipment Blank	TO-15 MA-APH	4/17/2019	<0.51	0.74	<0.69	<2.1	<2.9	<0.42	93	68	<40
Ambient	SVP-220190417	Outdoor air	TO-15 MA-APH	4/17/2019	<0.51	0.89	<0.69	<2.1	<2.9	<0.42	<74	<56	<40

Notes:

Benzene, toluene, ethylbenzene, total xylenes, MTBE and naphthalene analyzed using USEPA Method TO-15

EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics analyzed by Massachusetts Air-Phase Petroleum Hydrocarbons (MA-APH).

The sum of EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics is compared to the Generic Sub-Slab Soil Gas Screening Level provided in Implementation Memorandum No. 18 (Washington State Department of Ecology [Ecology] 2018). When a fraction is reported as nondetect, a value of one-half the detection limit is assumed for the purpose of comparing the sum to the screening level.

Acronyms and Abbreviations:

MTBE = methyl tert-butyl ether

MTCA = Model Toxics Control Act

USEPA = United States Environmental Protection Agency

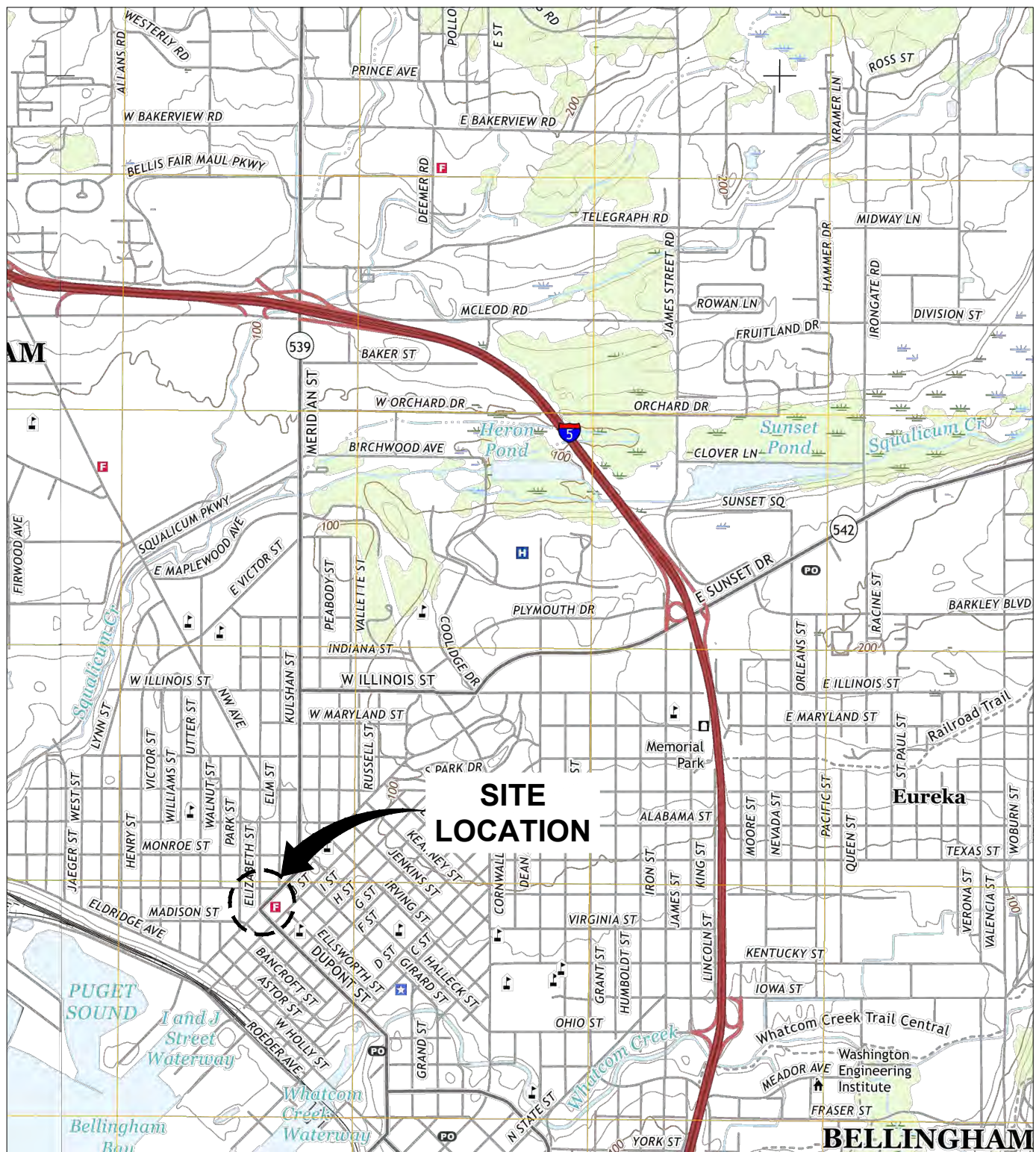
< = analyte was not detected at indicated reporting limit

Reference:

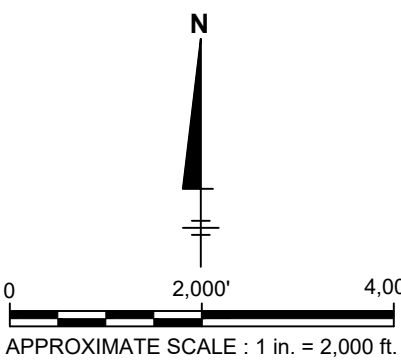
Ecology. 2018. Ecology Implementation Memorandum No. 18, Draft Petroleum Vapor Intrusion (VI): Updated Screening Levels, Cleanup Levels, and Sampling Considerations. August 7.

FIGURES





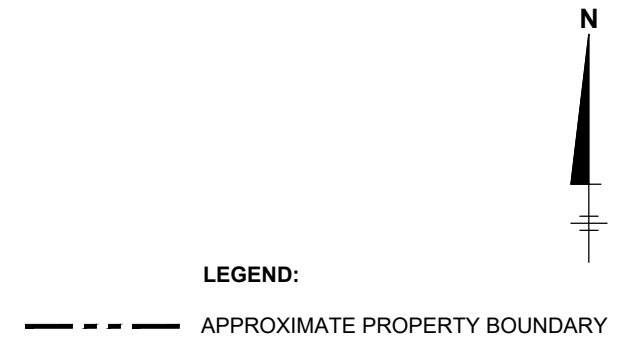
SOURCE: BASE MAP USGS 7.5. MIN. TOPO. BELLINGHAM NORTH AND FERDALE QUADRANGLES, WASHINGTON-WHATCOM CO, 2017.



FORMER CHEVRON FACILITY #90169
 1205 WASHINGTON STREET
 BELLINGHAM, WASHINGTON

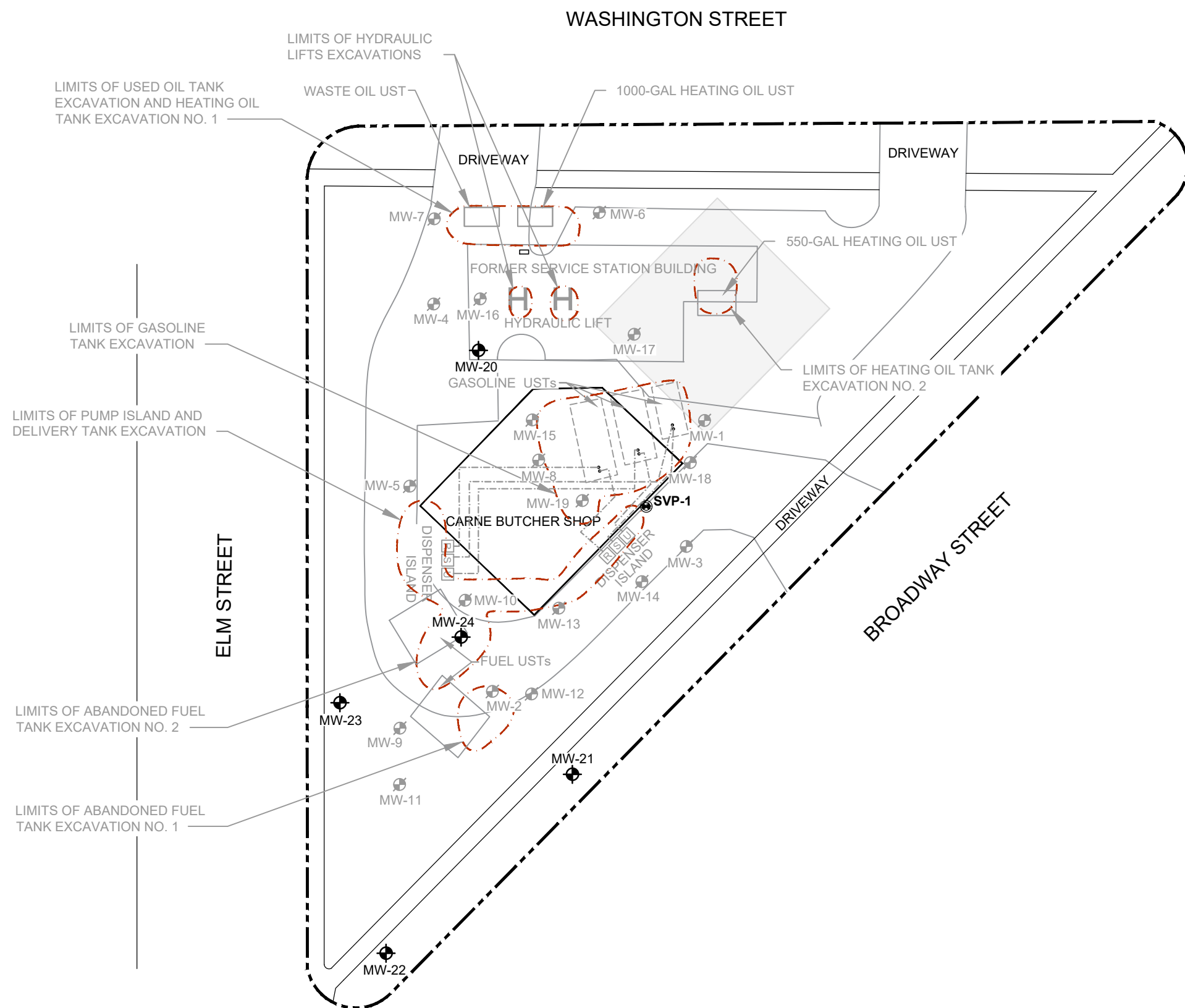
SITE LOCATION MAP

FIGURE
1



FORMER CHEVRON SERVICE STATION No. 90619
1205 WASHINGTON STREET
BELLINGHAM, WASHINGTON

AERIAL MAP



LEGEND:

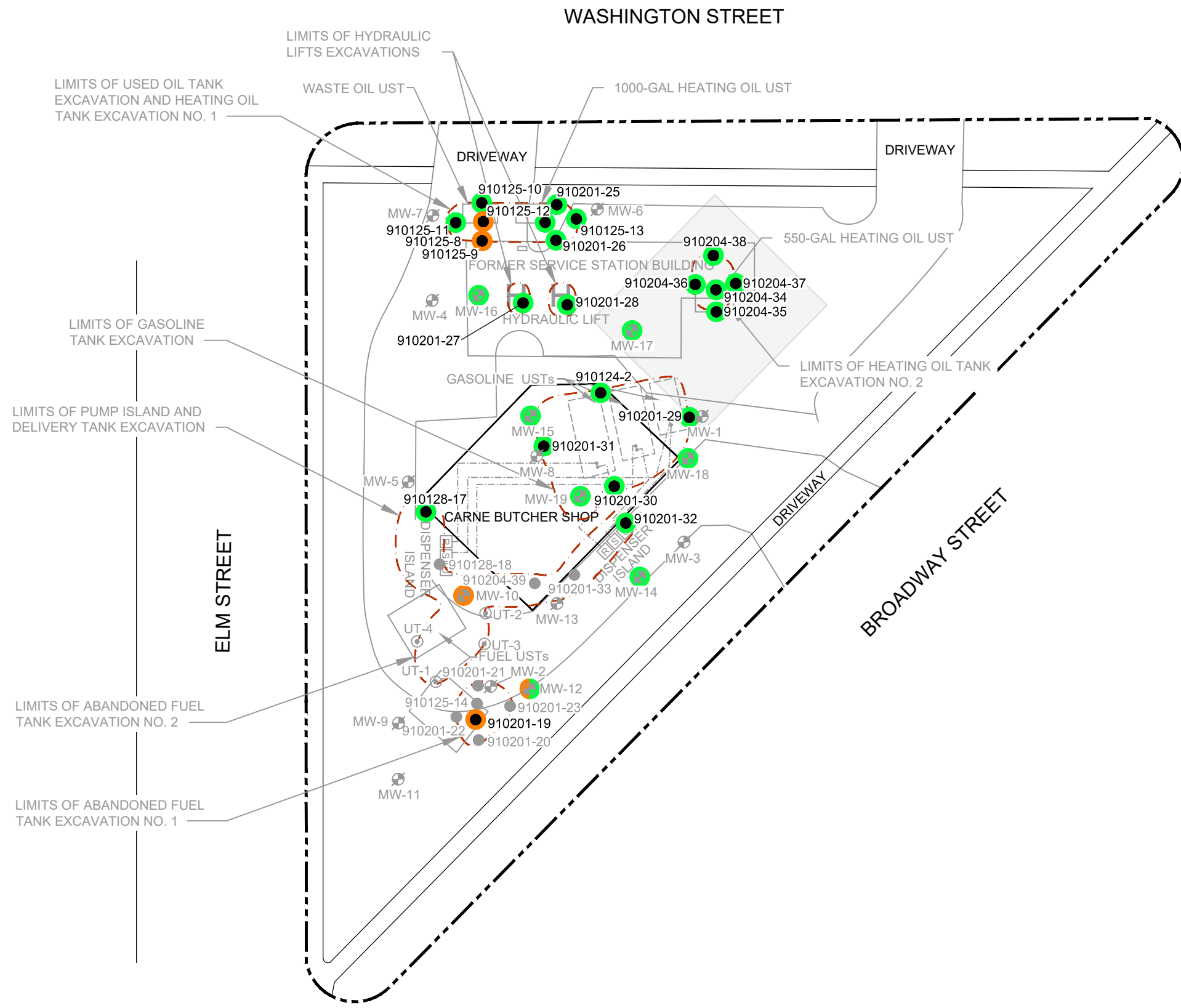
- APPROXIMATE PROPERTY BOUNDARY
- MW-20 GROUNDWATER MONITORING WELL
- MW-1 DECOMMISSIONED GROUNDWATER MONITORING WELL
- SVP-1 VAPOR EXTRACTION WELL
- PIPELINES (DISPENSERS TO THE USTs)
- EXCAVATION BOUNDARY
- APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
- UST UNDERGROUND STORAGE TANK

NOTES

1. FORMER SITE FEATURES ARE DEPICTED IN GRAY
2. LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
3. FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH



FORMER CHEVRON SERVICE STATION No. 90619 1205 WASHINGTON STREET BELLINGHAM, WASHINGTON	
<h2 style="margin: 0;">SITE PLAN</h2>	
	FIGURE <h1 style="margin: 0;">3</h1>



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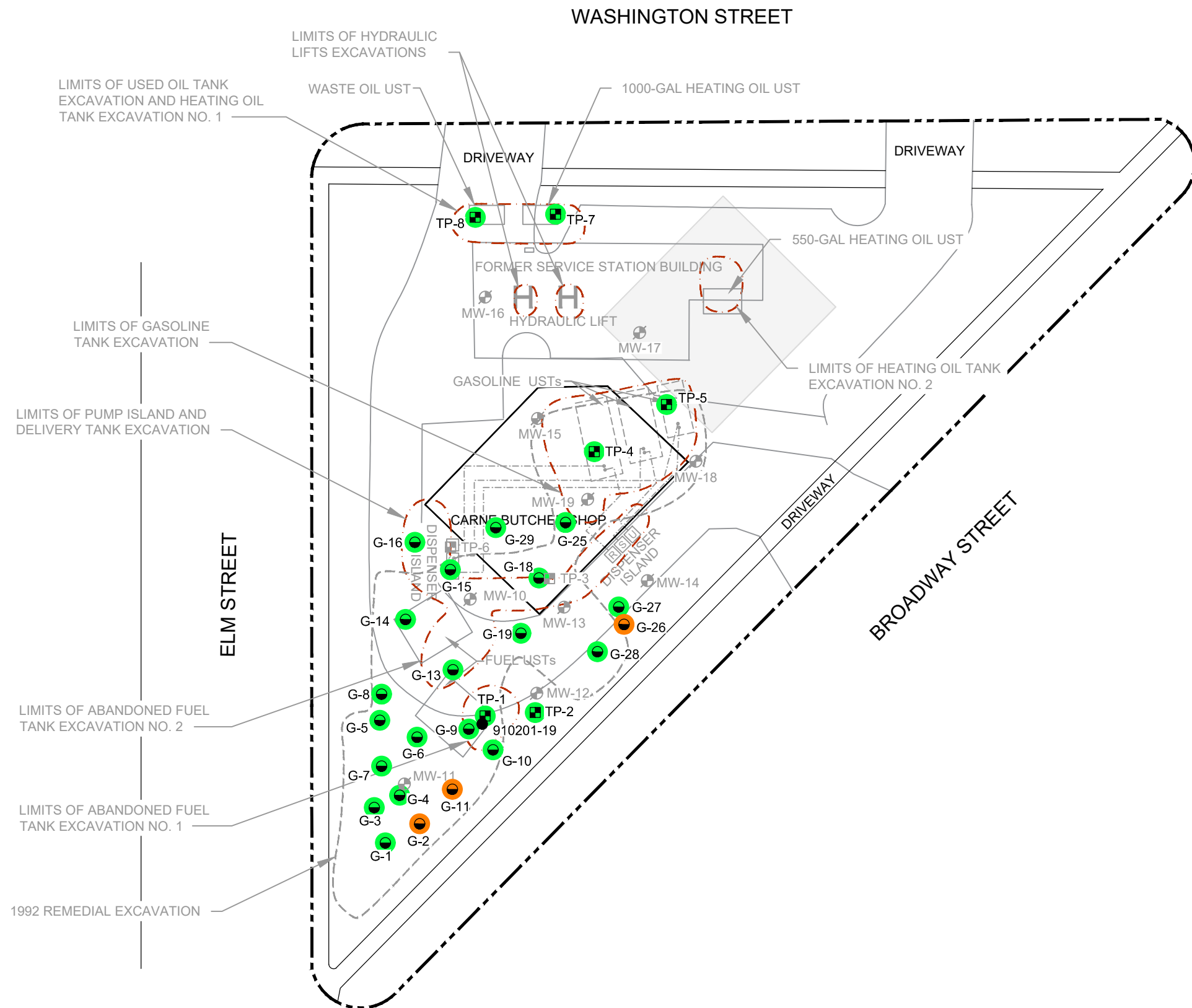
- APPROXIMATE PROPERTY BOUNDARY
- - - - - PIPELINES (DISPENSERS TO THE USTs)
- - - - - EXCAVATION BOUNDARY
- APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
- UT-1 ABANDONED FUEL TANK 2 EXCAVATION SOIL SAMPLE
- 910201-19 APPROXIMATE SOIL SAMPLE LOCATION AND NAME
- ⊕ MW-12 DECOMMISSIONED GROUNDWATER MONITORING WELL
- CONSTITUENTS ANALYZED EXCEEDED MTCA METHOD A CLEANUP LEVELS
- CONSTITUENTS ANALYZED ARE BELOW MTCA METHOD A CLEANUP LEVELS
- CONSTITUENTS ANALYZED EXCEEDED MTCA METHOD A CLEANUP LEVELS, BUT ARE VERTICALLY DELINEATED
- UST UNDERGROUND STORAGE TANK
- MTCA MODEL TOXICS CONTROL ACT

NOTES

1. FORMER SITE FEATURES ARE DEPICTED IN GRAY
2. LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
3. FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH
4. GRAYED SOIL SAMPLES INDICATE THAT SAMPLE HAS BEEN OVER-EXCAVATED AND REMOVED FROM SITE



FORMER CHEVRON SERVICE STATION No. 90619 1205 WASHINGTON STREET BELLINGHAM, WASHINGTON	
SOIL ANALYTICAL RESULTS 1991	
Design & Consultancy for natural and built assets	FIGURE 4



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- PIPELINES (DISPENSERS TO THE USTs)
- - - EXCAVATION BOUNDARY
- APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
- G-26 ● SOIL SAMPLE
- 910201-19 ● APPROXIMATE SOIL SAMPLE LOCATION AND NAME
- TP-2 ■ TEST PIT SAMPLE
- OVER-EXCAVATED TEST PIT SAMPLE
- MW-12 ● DECOMMISSIONED GROUNDWATER MONITORING WELL
- CONSTITUENTS ANALYZED EXCEEDED MTCA METHOD A CLEANUP LEVELS
- CONSTITUENTS ANALYZED ARE BELOW MTCA METHOD A CLEANUP LEVELS
- UST UNDERGROUND STORAGE TANK
- MTCA MODEL TOXICS CONTROL ACT

- NOTES**
- FORMER SITE FEATURES ARE DEPICTED IN GRAY
 - LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
 - FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH



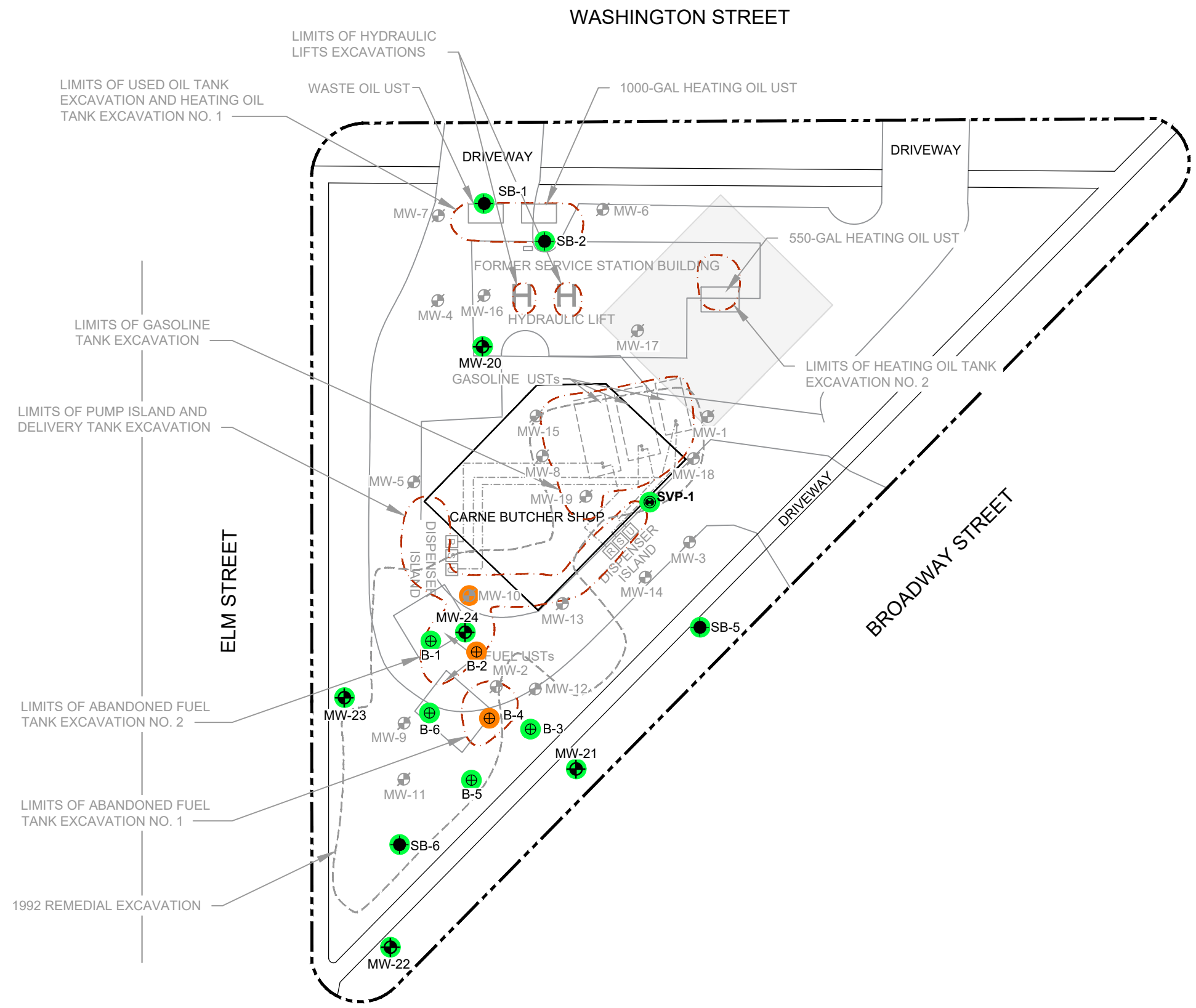
FORMER CHEVRON SERVICE STATION No. 90619
1205 WASHINGTON STREET
BELLINGHAM, WASHINGTON

SOIL ANALYTICAL RESULTS 1992

ARCADIS Design & Consultancy
for natural and built assets

FIGURE 5

DIV\GROUP\ENVCAD\CUsers\muresa\BIM_360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\90619 Bellingham\2020\3001230701-DWG\90619 - Figs - Soil Analytical Results 2016-2019.dwg LAYOUT: 6 - SAVED: 2/13/2020 9:39 AM - ACADVER: 23.05 (LMS TECH) PAGES: 6 - PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/13/2020 9:39 AM BY: MURESAN, ELENA



- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
 - PIPELINES (DISPENSERS TO THE USTs)
 - EXCAVATION BOUNDARY
 - APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
 - MW-20 GROUNDWATER MONITORING WELL
 - MW-1 DECOMMISSIONED GROUNDWATER MONITORING WELL
 - SVP-1 VAPOR EXTRACTION WELL
 - 910201-21 APPROXIMATE SOIL SAMPLE LOCATION AND NAME
 - SB-1 SOIL BORING LOCATION
 - B-3 BORING LOCATION
 - CONSTITUENTS ANALYZED EXCEEDED MTCA METHOD A CLEANUP LEVELS
 - CONSTITUENTS ANALYZED ARE BELOW MTCA METHOD A CLEANUP LEVELS
 - UST UNDERGROUND STORAGE TANK
 - MTCA MODEL TOXICS CONTROL ACT

- NOTES**
1. FORMER SITE FEATURES ARE DEPICTED IN GRAY
 2. LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
 3. FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH



FORMER CHEVRON SERVICE STATION No. 90619
1205 WASHINGTON STREET
BELLINGHAM, WASHINGTON

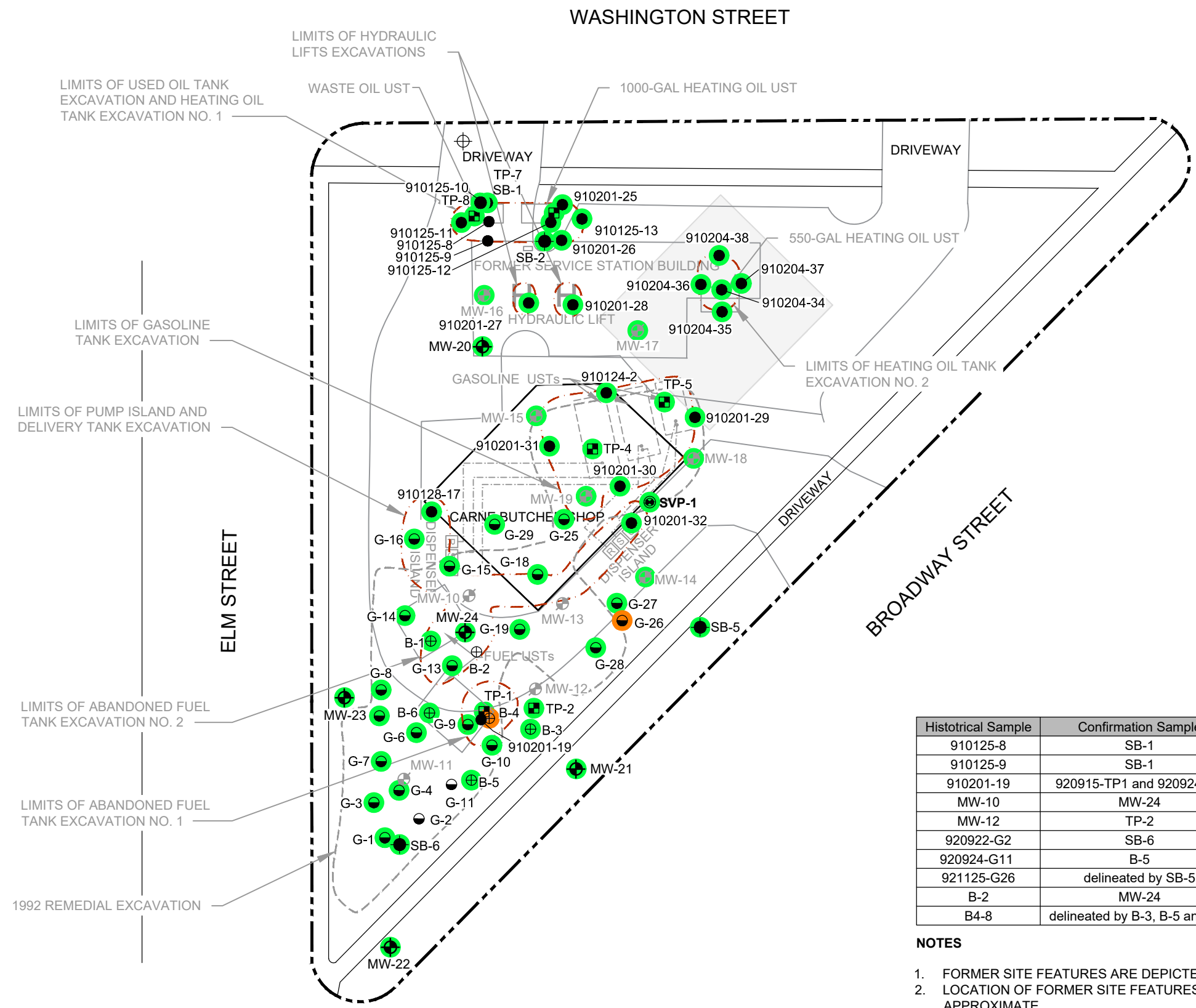
SOIL ANALYTICAL RESULTS 2016-2019

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FIGURE
6



DIV:\GROUPE\ENVCAD - CHEVRON CORPORATION\Project Files\90619 Bellingham\2020\3001230701-DWG\90619 - Fig7 - Current Soil Status.dwg LAYOUT: 7 SAVED: 2/13/2020 9:44 AM ACADVER: 23.05 (LMS TECH) PAGES: 1 OF 1 PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 2/13/2020 9:45 AM BY: MURESAN, ELENA



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- PIPELINES (DISPENSERS TO THE USTs)
- EXCAVATION BOUNDARY
- APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
- MW-20 GROUNDWATER MONITORING WELL
- 910201-21 APPROXIMATE SOIL SAMPLE LOCATION AND NAME
- G-26 SOIL SAMPLE
- TP-2 TEST PIT SAMPLE
- SVP-1 VAPOR EXTRACTION WELL
- B-3 BORING LOCATION
- OVER-EXCAVATED TEST PIT SAMPLE
- MW-12 DECOMMISSIONED GROUNDWATER MONITORING WELL
- CONSTITUENTS ANALYZED EXCEEDED MTCA METHOD A CLEANUP LEVELS
- CONSTITUENTS ANALYZED ARE BELOW MTCA METHOD A CLEANUP LEVELS
- UST UNDERGROUND STORAGE TANK
- MTCA MODEL TOXICS CONTROL ACT

Historical Sample	Confirmation Sample
910125-8	SB-1
910125-9	SB-1
910201-19	920915-TP1 and 920924-G9
MW-10	MW-24
MW-12	TP-2
920922-G2	SB-6
920924-G11	B-5
921125-G26	delineated by SB-5
B-2	MW-24
B4-8	delineated by B-3, B-5 and B-6

NOTES

1. FORMER SITE FEATURES ARE DEPICTED IN GRAY
2. LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
3. FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH



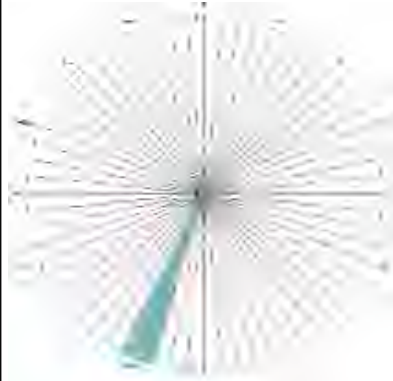
FORMER CHEVRON SERVICE STATION No. 90619
1205 WASHINGTON STREET
BELLINGHAM, WASHINGTON

CURRENT SOIL STATUS

Design & Consultancy
for natural and built assets

FIGURE
7

DIV:\GROUP\ENV\CAD - CHEVRON CORPORATION\Project Files\90619 Bellingham\2020\3001230701-DWG\90619 - Fig8 - GWA_2019.dwg LAYOUT: 8 SAVED: 2/5/2020 9:45 PM ACADVER: 23.1S (LMS TECH) PAGES: 26/2020 9:44 AM BY: HARRIS, JESS



ROSE DIAGRAM BASED ON GRADIENT CALCULATIONS FROM 1 GROUNDWATER MONITORING EVENT CONDUCTED APRIL 2019

MW-24	
Date	4/18/2019
TPH-GRO	<100 [<100]
TPH-DRO	77 J [66 J]
TPH-HRO	400 B [390 B]
Benzene	<0.53 [<0.53]
Toluene	<0.39 [<0.39]
Ethylbenzene	<0.50 [<0.50]
Total Xylenes	<1.14 [<1.14]
MTBE	<0.44 [<0.44]
EDB	<0.0020* [$<0.0020^*$]
EDC	<0.53 [<0.53]
Total Lead	<2.7 [<2.7]
Dissolved Lead	<2.7 [<2.7]
Total Naphthalenes	0.086 [0.235]
Total cPAHs	0.009 [0.020]

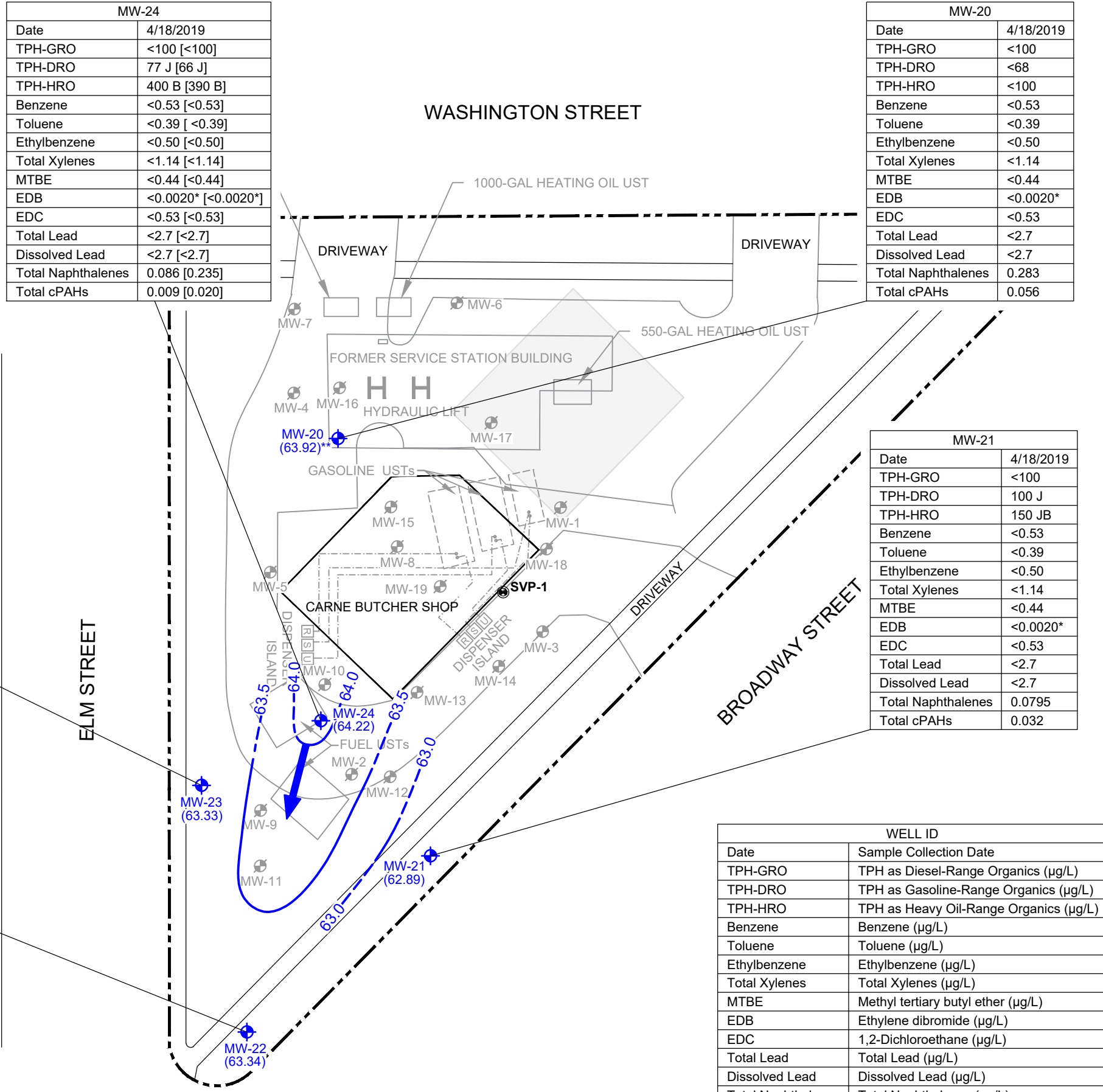
MW-20	
Date	4/18/2019
TPH-GRO	<100
TPH-DRO	<68
TPH-HRO	<100
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020*
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	0.283
Total cPAHs	0.056

MW-23	
Date	4/18/2019
TPH-GRO	<100
TPH-DRO	110 J
TPH-HRO	200 JB
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020*
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	0.0715
Total cPAHs	0.009

MW-21	
Date	4/18/2019
TPH-GRO	<100
TPH-DRO	100 J
TPH-HRO	150 JB
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020*
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	0.0795
Total cPAHs	0.032

MW-22	
Date	4/18/2019
TPH-GRO	<100
TPH-DRO	<69
TPH-HRO	110 JB
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020*
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	0.0465
Total cPAHs	0.009

WELL ID	
Date	Sample Collection Date
TPH-GRO	TPH as Diesel-Range Organics ($\mu\text{g/L}$)
TPH-DRO	TPH as Gasoline-Range Organics ($\mu\text{g/L}$)
TPH-HRO	TPH as Heavy Oil-Range Organics ($\mu\text{g/L}$)
Benzene	Benzene ($\mu\text{g/L}$)
Toluene	Toluene ($\mu\text{g/L}$)
Ethylbenzene	Ethylbenzene ($\mu\text{g/L}$)
Total Xylenes	Total Xylenes ($\mu\text{g/L}$)
MTBE	Methyl tertiary butyl ether ($\mu\text{g/L}$)
EDB	Ethylene dibromide ($\mu\text{g/L}$)
EDC	1,2-Dichloroethane ($\mu\text{g/L}$)
Total Lead	Total Lead ($\mu\text{g/L}$)
Dissolved Lead	Dissolved Lead ($\mu\text{g/L}$)
Total Naphthalenes	Total Naphthalenes ($\mu\text{g/L}$)
Total cPAHs	Total cPAHs ($\mu\text{g/L}$)



- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
 - MW-20 GROUNDWATER MONITORING WELL
 - MW-1 DECOMMISSIONED GROUNDWATER MONITORING WELL
 - SVP-1 VAPOR EXTRACTION WELL
 - PIPELINES (DISPENSERS TO THE USTs)
 - APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
 - 64.22 GROUNDWATER ELEVATION (FEET ABOVE NAVD88)
 - 64.0 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - APPROXIMATE GROUNDWATER FLOW DIRECTION
 - ** GROUNDWATER ELEVATION NOT USED FOR CONTOURING
 - * RPD OF THE LCS AND LCSD EXCEEDS THE CONTROL LIMITS
 - [66 J] DUPLICATE SAMPLE ANALYTICAL RESULTS
 - B COMPOUND WAS FOUND IN THE BLANK AND SAMPLE
 - J ESTIMATED VALUE - THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND LESS THAN THE LIMIT OF QUANTITATION (LOQ)
 - UST UNDERGROUND STORAGE TANK
 - cPAHs CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
 - NAVD88 NORTH AMERICAN VERTICAL DATUM OF 1988

- NOTES**
- FORMER SITE FEATURES ARE DEPICTED IN GRAY
 - LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
 - FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH

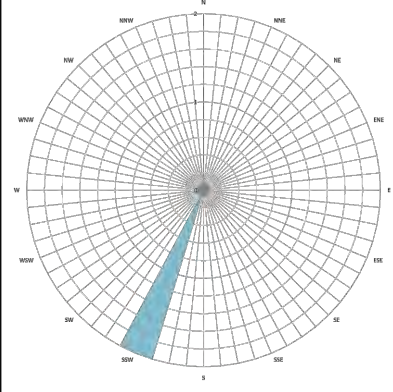


FORMER CHEVRON SERVICE STATION No. 90619
1205 WASHINGTON STREET
BELLINGHAM, WASHINGTON

**GROUNDWATER ANALYTICAL RESULTS
SECOND QUARTER 2019**

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
8



ROSE DIAGRAM BASED ON GRADIENT CALCULATIONS FROM 2 GROUNDWATER MONITORING EVENT CONDUCTED FROM SECOND QUARTER 2019 THROUGH THIRD QUARTER 2019

MW-24	
Date	9/27/2019
TPH-GRO	<100
TPH-DRO	<66
TPH-HRO	<97
Benzene	<0.53 H
Toluene	<0.39 H
Ethylbenzene	<0.50 H
Total Xylenes	<1.14 H
MTBE	<0.44 H
EDB	<0.0020
EDC	<0.53 H
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	<0.049
Total cPAHs	<0.010

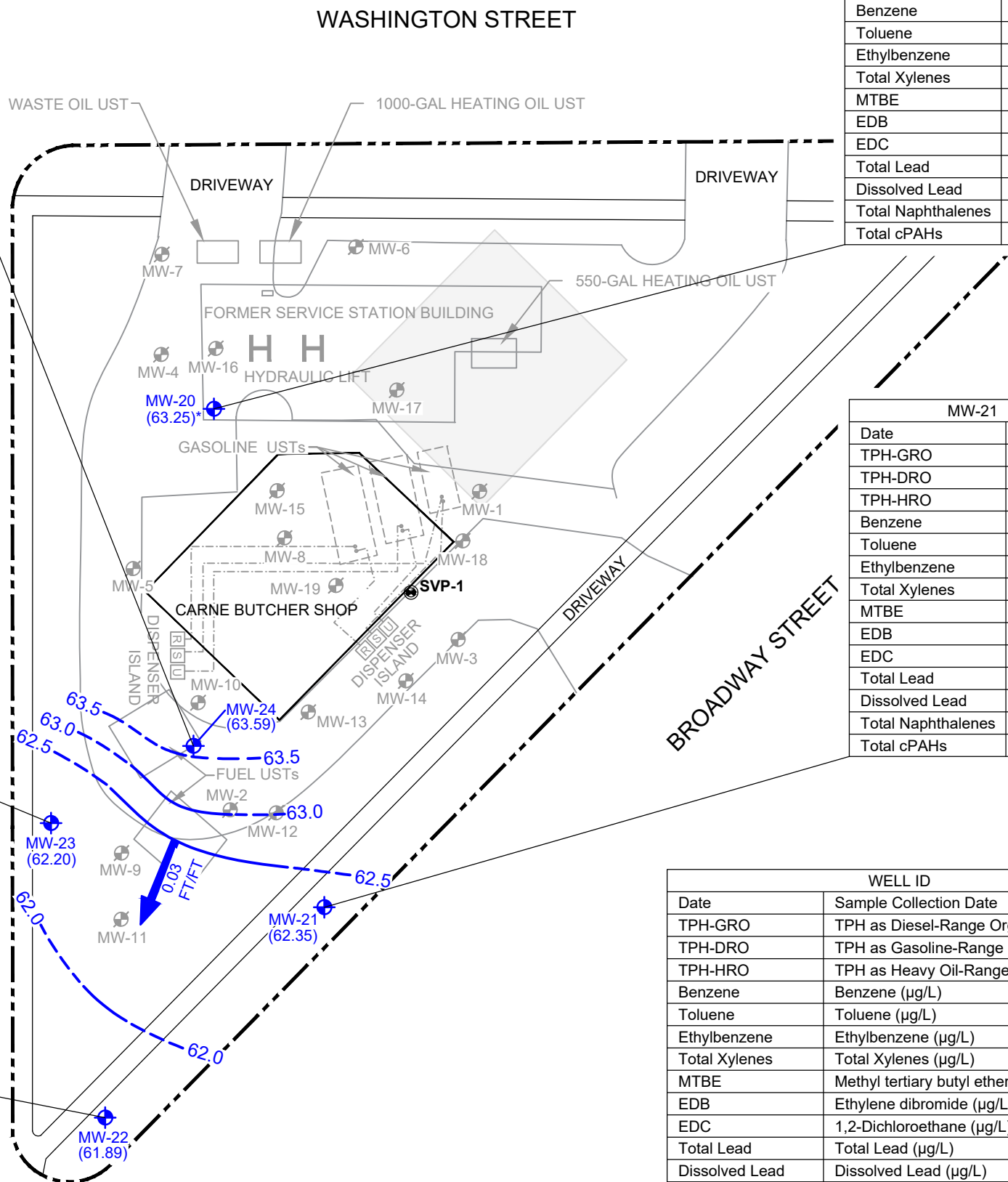
MW-20	
Date	9/27/2019
TPH-GRO	<100
TPH-DRO	<70
TPH-HRO	<100
Benzene	<0.53 H
Toluene	<0.39 H
Ethylbenzene	<0.50 H
Total Xylenes	<1.14 H
MTBE	<0.44 H
EDB	<0.0020
EDC	<0.53 H
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	<0.051
Total cPAHs	<0.011

MW-23	
Date	9/27/2019
TPH-GRO	<100
TPH-DRO	150
TPH-HRO	<96
Benzene	<0.53 H
Toluene	<0.39 H
Ethylbenzene	<0.50 H
Total Xylenes	<1.14 H
MTBE	<0.44 H
EDB	<0.0020
EDC	<0.53 H
Total Lead	<2.7
Dissolved Lead	--
Total Naphthalenes	<0.045
Total cPAHs	<0.009

MW-21	
Date	9/27/2019
TPH-GRO	<100
TPH-DRO	<71
TPH-HRO	<110
Benzene	<0.53 H
Toluene	<0.39 H
Ethylbenzene	<0.50 H
Total Xylenes	<1.14 H
MTBE	<0.44 H
EDB	<0.0020
EDC	<0.53 H
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	<0.051
Total cPAHs	<0.011

MW-22	
Date	9/27/2019
TPH-GRO	<100
TPH-DRO	85 J
TPH-HRO	160 J
Benzene	<0.53 H
Toluene	<0.39 H
Ethylbenzene	<0.50 H
Total Xylenes	<1.14 H
MTBE	<0.44 H
EDB	<0.0020
EDC	<0.53 H
Total Lead	<2.7
Dissolved Lead	<2.7
Total Naphthalenes	<0.050
Total cPAHs	<0.010

WELL ID	
Date	Sample Collection Date
TPH-GRO	TPH as Diesel-Range Organics (µg/L)
TPH-DRO	TPH as Gasoline-Range Organics (µg/L)
TPH-HRO	TPH as Heavy Oil-Range Organics (µg/L)
Benzene	Benzene (µg/L)
Toluene	Toluene (µg/L)
Ethylbenzene	Ethylbenzene (µg/L)
Total Xylenes	Total Xylenes (µg/L)
MTBE	Methyl tertiary butyl ether (µg/L)
EDB	Ethylene dibromide (µg/L)
EDC	1,2-Dichloroethane (µg/L)
Total Lead	Total Lead (µg/L)
Dissolved Lead	Dissolved Lead (µg/L)
Total Naphthalenes	Total Naphthalenes (µg/L)
Total cPAHs	Total cPAHs (µg/L)



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- MW-20 GROUNDWATER MONITORING WELL
- MW-1 DECOMMISSIONED GROUNDWATER MONITORING WELL
- SVP-1 VAPOR EXTRACTION WELL
- PIPELINES (DISPENSERS TO THE USTs)
- APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
- 63.59 GROUNDWATER ELEVATION (FEET ABOVE NAVD88)
- 63.5 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- 0.03 FT/FT APPROXIMATE HYDRAULIC GRADIENT (FEET / FOOT)
- * GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- J ESTIMATED VALUE – THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND LESS THAN THE LIMIT OF QUANTITATION (LOQ)
- UST UNDERGROUND STORAGE TANK
- cPAHs CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
- NAVD88 NORTH AMERICAN VERTICAL DATUM OF 1988
- H SAMPLE WAS PREPPED OR ANALYZED BEYOND THE SPECIFIED HOLDING TIME
- < ANALYTICAL RESULT IS NOT DETECTED. VALUE SHOWN IS THE METHOD DETECTION LIMIT (MDL)
- NOT ANALYZED/NOT APPLICABLE

- NOTES**
- FORMER SITE FEATURES ARE DEPICTED IN GRAY
 - LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
 - FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH

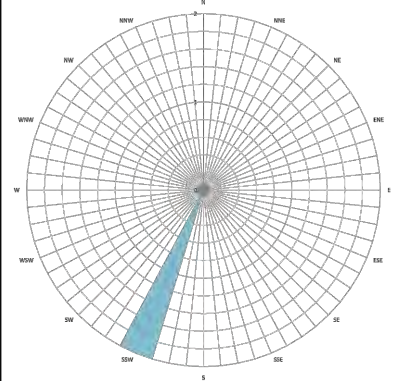


FORMER CHEVRON SERVICE STATION No. 90619
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BELLINGHAM, WASHINGTON

**GROUNDWATER ANALYTICAL RESULTS
THIRD QUARTER 2019**

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FIGURE
9



MW-24	
Date	11/14/2019
TPH-GRO	<100
TPH-DRO	<65
TPH-HRO	<96
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0017
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.045
Total cPAHs	<0.009

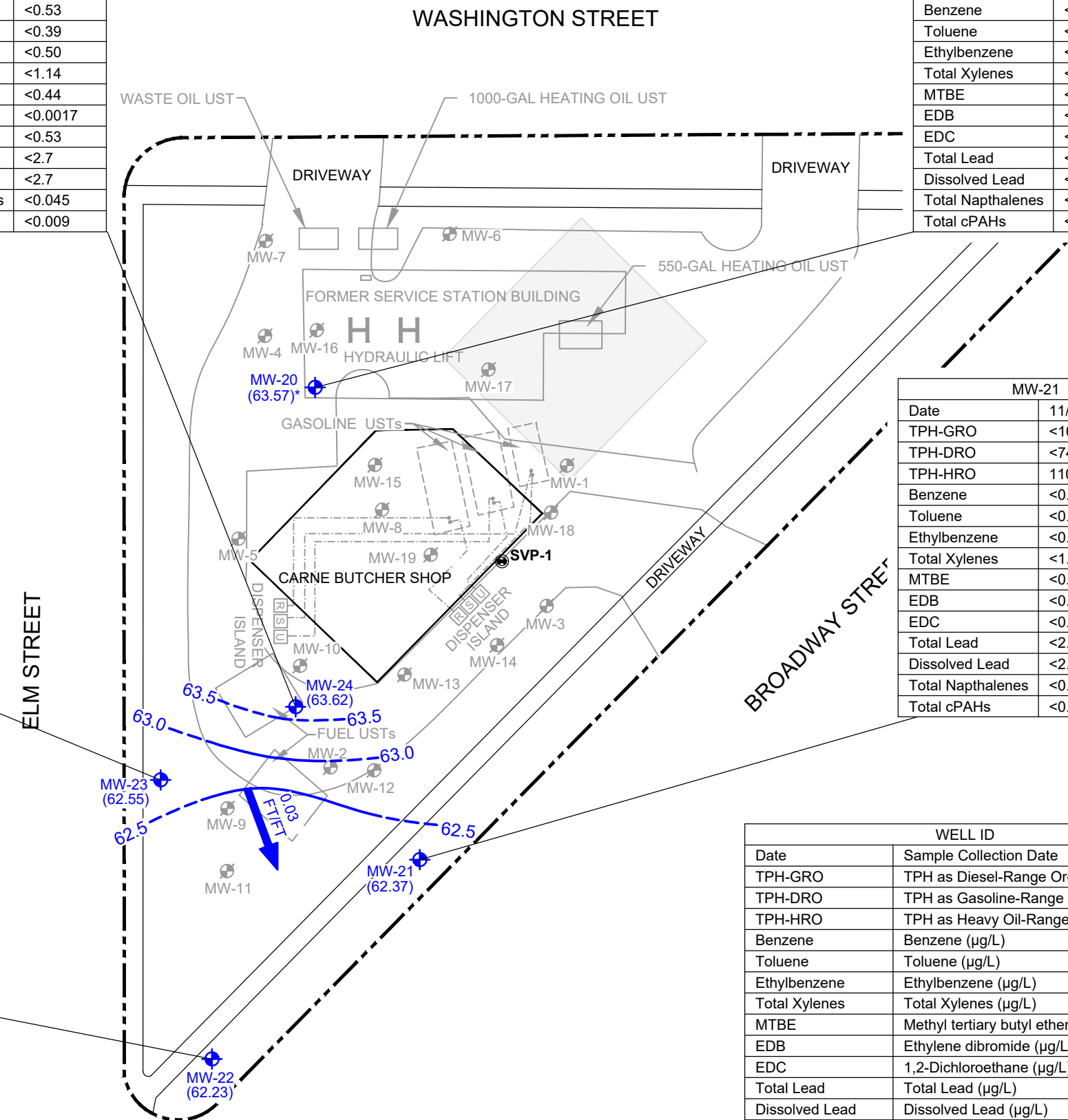
MW-20	
Date	11/14/2019
TPH-GRO	<100
TPH-DRO	<68
TPH-HRO	<110
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0016
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.043
Total cPAHs	<0.009

MW-23	
Date	11/14/2019
TPH-GRO	<100
TPH-DRO	<85
TPH-HRO	140 J
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0017
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.044S
Total cPAHs	<0.009

MW-21	
Date	11/14/2019
TPH-GRO	<100[<100]
TPH-DRO	<74[<75]
TPH-HRO	110 J[<110]
Benzene	<0.53[<0.53]
Toluene	<0.39[<0.39]
Ethylbenzene	<0.50[<0.50]
Total Xylenes	<1.14[<1.14]
MTBE	<0.44[<0.44]
EDB	<0.0017[<0.0017]
EDC	<0.53[<0.53]
Total Lead	<2.7[<2.7]
Dissolved Lead	<2.7[<2.7]
Total Napthalenes	<0.048[<0.050]
Total cPAHs	<0.010[<0.010]

MW-22	
Date	11/14/2019
TPH-GRO	<100
TPH-DRO	<72
TPH-HRO	120 J
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0017
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.047
Total cPAHs	<0.010

WELL ID	
Date	Sample Collection Date
TPH-GRO	TPH as Diesel-Range Organics (µg/L)
TPH-DRO	TPH as Gasoline-Range Organics (µg/L)
TPH-HRO	TPH as Heavy Oil-Range Organics (µg/L)
Benzene	Benzene (µg/L)
Toluene	Toluene (µg/L)
Ethylbenzene	Ethylbenzene (µg/L)
Total Xylenes	Total Xylenes (µg/L)
MTBE	Methyl tertiary butyl ether (µg/L)
EDB	Ethylene dibromide (µg/L)
EDC	1,2-Dichloroethane (µg/L)
Total Lead	Total Lead (µg/L)
Dissolved Lead	Dissolved Lead (µg/L)
Total Napthalenes	Total Napthalenes (µg/L)
Total cPAHs	Total cPAHs (µg/L)



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL
- DECOMMISSIONED GROUNDWATER MONITORING WELL
- VAPOR EXTRACTION WELL
- PIPELINES (DISPENSERS TO THE USTs)
- APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
- 63.57 GROUNDWATER ELEVATION (FEET ABOVE NAVD88)
- 63.5 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- 0.03 FT/FT APPROXIMATE HYDRAULIC GRADIENT (FEET / FOOT)
- * GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- [<110] DUPLICATE SAMPLE ANALYTICAL RESULTS
- J ESTIMATED VALUE – THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND LESS THAN THE LIMIT OF QUANTITATION (LOQ)
- UST UNDERGROUND STORAGE TANK
- cPAHs CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
- NAVD88 NORTH AMERICAN VERTICAL DATUM OF 1988
- < ANALYTICAL RESULT IS NOT DETECTED. VALUE SHOWN IS THE METHOD DETECTION LIMIT (MDL)
- NOT ANALYZED/NOT APPLICABLE

- NOTES**
1. FORMER SITE FEATURES ARE DEPICTED IN GRAY
 2. LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
 3. FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH

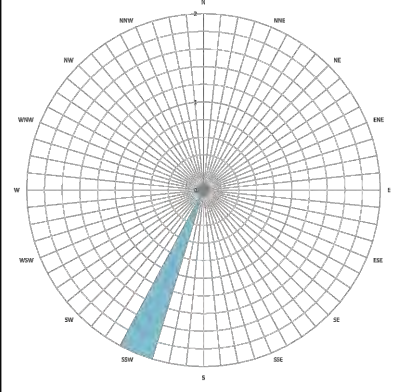


FORMER CHEVRON SERVICE STATION No. 90619
1205 WASHINGTON STREET
BELLINGHAM, WASHINGTON

**GROUNDWATER ANALYTICAL RESULTS
FOURTH QUARTER 2019**

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for natural and built assets

FIGURE
10



ROSE DIAGRAM BASED ON GRADIENT CALCULATIONS FROM 4 GROUNDWATER MONITORING EVENT CONDUCTED FROM SECOND QUARTER 2019 THROUGH FIRST QUARTER 2020

MW-24	
Date	1/8/2020
TPH-GRO	<100
TPH-DRO	<68
TPH-HRO	<100
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.047
Total cPAHs	<0.009

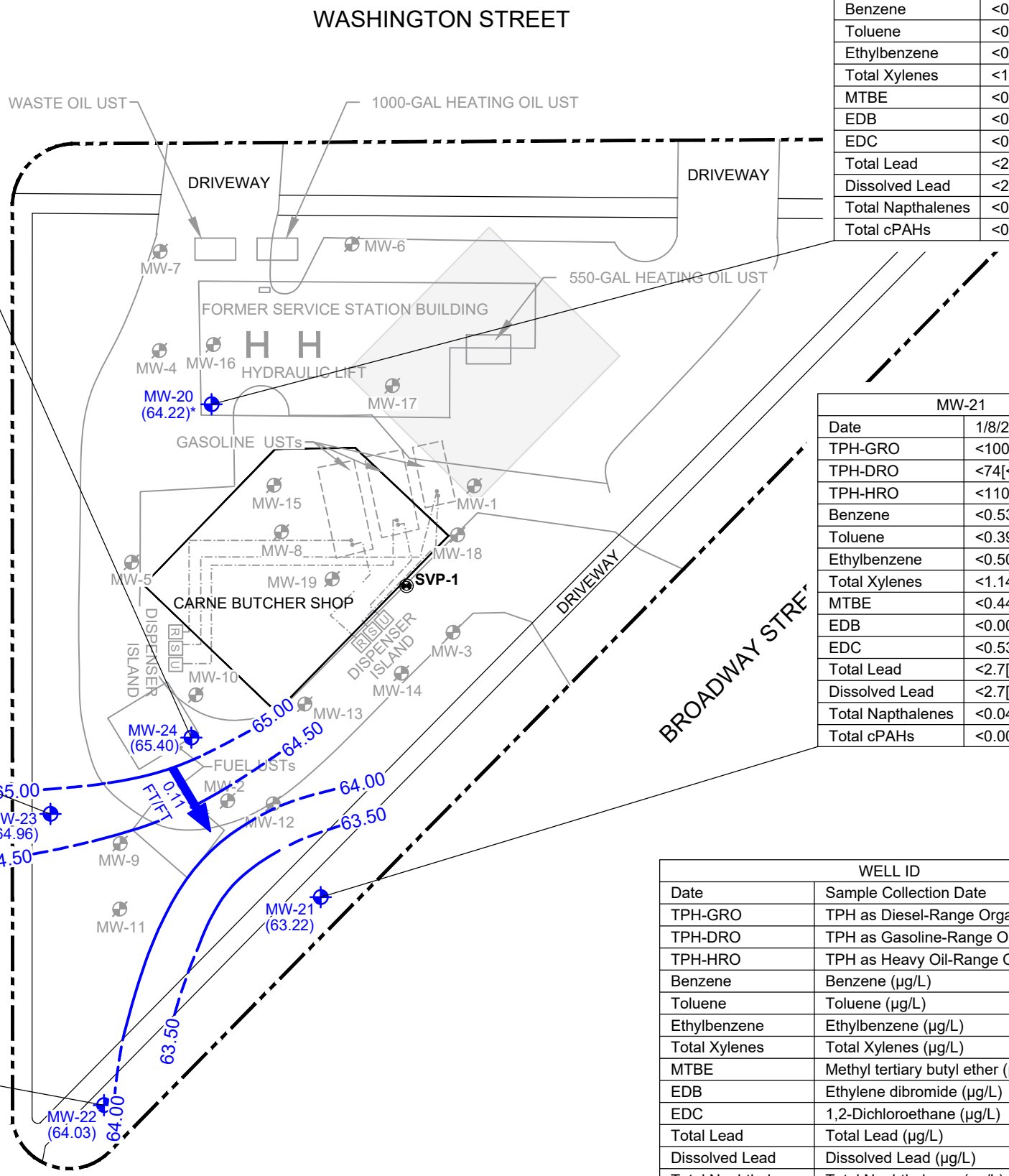
MW-23	
Date	1/8/2020
TPH-GRO	<100
TPH-DRO	<68
TPH-HRO	<100
Benzene	<0.53
Toluene	0.47 J
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.049
Total cPAHs	<0.010

MW-22	
Date	1/8/2020
TPH-GRO	<100
TPH-DRO	<65
TPH-HRO	<96
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.049
Total cPAHs	<0.010

MW-20	
Date	1/8/2020
TPH-GRO	<100
TPH-DRO	<65
TPH-HRO	<96
Benzene	<0.53
Toluene	<0.39
Ethylbenzene	<0.50
Total Xylenes	<1.14
MTBE	<0.44
EDB	<0.0020
EDC	<0.53
Total Lead	<2.7
Dissolved Lead	<2.7
Total Napthalenes	<0.047
Total cPAHs	<0.010

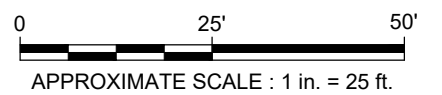
MW-21	
Date	1/8/2020
TPH-GRO	<100[<100]
TPH-DRO	<74[<68]
TPH-HRO	<110[<100]
Benzene	<0.53[<0.53]
Toluene	<0.39[<0.39]
Ethylbenzene	<0.50[<0.50]
Total Xylenes	<1.14[<1.14]
MTBE	<0.44[<0.44]
EDB	<0.0020[<0.0021]
EDC	<0.53[<0.53]
Total Lead	<2.7[<2.7]
Dissolved Lead	<2.7[<2.7]
Total Napthalenes	<0.046[<0.05]
Total cPAHs	<0.009[<0.011]

WELL ID	
Date	Sample Collection Date
TPH-GRO	TPH as Diesel-Range Organics (µg/L)
TPH-DRO	TPH as Gasoline-Range Organics (µg/L)
TPH-HRO	TPH as Heavy Oil-Range Organics (µg/L)
Benzene	Benzene (µg/L)
Toluene	Toluene (µg/L)
Ethylbenzene	Ethylbenzene (µg/L)
Total Xylenes	Total Xylenes (µg/L)
MTBE	Methyl tertiary butyl ether (µg/L)
EDB	Ethylene dibromide (µg/L)
EDC	1,2-Dichloroethane (µg/L)
Total Lead	Total Lead (µg/L)
Dissolved Lead	Dissolved Lead (µg/L)
Total Napthalenes	Total Napthalenes (µg/L)
Total cPAHs	Total cPAHs (µg/L)



- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
 - MW-20 GROUNDWATER MONITORING WELL
 - MW-1 DECOMMISSIONED GROUNDWATER MONITORING WELL
 - SVP-1 VAPOR EXTRACTION WELL
 - PIPELINES (DISPENSERS TO THE USTs)
 - APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
 - 63.59 GROUNDWATER ELEVATION (FEET ABOVE NAVD88)
 - 63.5 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - APPROXIMATE GROUNDWATER FLOW DIRECTION
 - 0.11 FT/FT APPROXIMATE HYDRAULIC GRADIENT (FEET / FOOT)
 - * GROUNDWATER ELEVATION NOT USED FOR CONTOURING
 - [<110] DUPLICATE SAMPLE ANALYTICAL RESULTS
 - J ESTIMATED VALUE - THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND LESS THAN THE LIMIT OF QUANTITATION (LOQ)
 - UST UNDERGROUND STORAGE TANK
 - cPAHs CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
 - NAVD88 NORTH AMERICAN VERTICAL DATUM OF 1988
 - < ANALYTICAL RESULT IS NOT DETECTED. VALUE SHOWN IS THE METHOD DETECTION LIMIT (MDL)
 - NOT ANALYZED/NOT APPLICABLE

- NOTES**
- FORMER SITE FEATURES ARE DEPICTED IN GRAY
 - LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
 - FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH



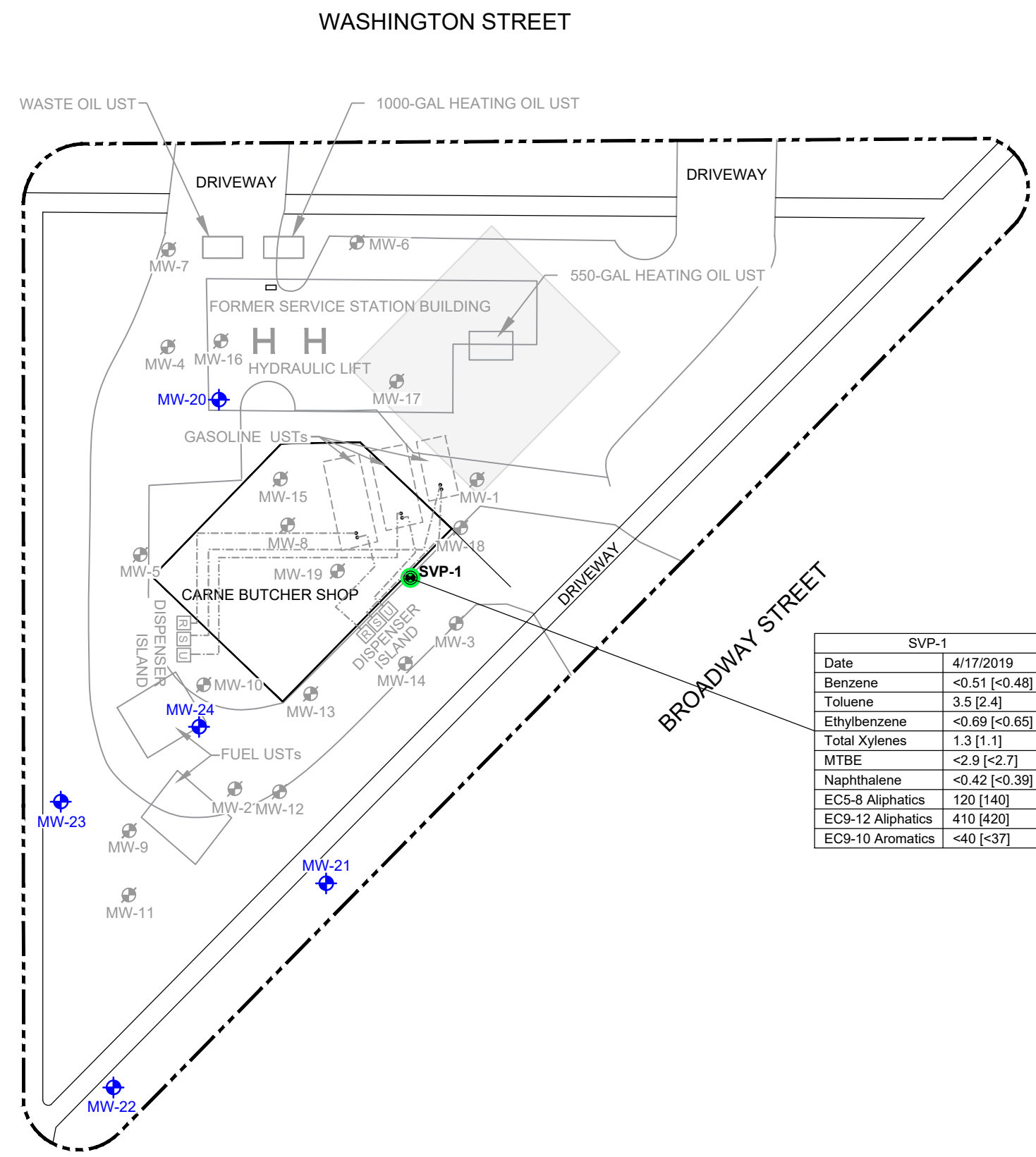
FORMER CHEVRON SERVICE STATION No. 90619
1205 WASHINGTON STREET
BELLINGHAM, WASHINGTON

**GROUNDWATER ANALYTICAL RESULTS
FIRST QUARTER 2020**

Design & Consultancy
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FIGURE
11

Ambient Outdoor Air	
Date	4/17/2019
Benzene	<0.51
Toluene	0.89
Ethylbenzene	<0.69
Total Xylenes	<2.1
MTBE	<2.9
Naphthalene	<0.42
EC5-8 Aliphatics	<74
EC9-12 Aliphatics	<56
EC9-10 Aromatics	<40



SVP-1	
Date	4/17/2019
Benzene	<0.51 [<0.48]
Toluene	3.5 [2.4]
Ethylbenzene	<0.69 [<0.65]
Total Xylenes	1.3 [1.1]
MTBE	<2.9 [<2.7]
Naphthalene	<0.42 [<0.39]
EC5-8 Aliphatics	120 [140]
EC9-12 Aliphatics	410 [420]
EC9-10 Aromatics	<40 [<37]

- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
 - MW-20 GROUNDWATER MONITORING WELL
 - MW-1 DECOMMISSIONED GROUNDWATER MONITORING WELL
 - SVP-1 VAPOR EXTRACTION WELL
 - PIPELINES (DISPENSERS TO THE USTs)
 - APPROXIMATE FOOTPRINT OF FORMER RESIDENCE ON SITE FROM AT LEAST 1950 THROUGH 1975
 - CONSTITUENTS ANALYZED ARE BELOW MTCA METHOD B SCREENING LEVELS
 - [<0.48] DUPLICATE SAMPLE ANALYTICAL RESULTS
 - UST UNDERGROUND STORAGE TANK
 - MTCA MODEL TOXICS CONTROL ACT

WELL ID	
Date	Sample Collection Date
Benzene	Benzene ($\mu\text{g}/\text{m}^3$)
Toluene	Toluene ($\mu\text{g}/\text{m}^3$)
Ethylbenzene	Ethylbenzene ($\mu\text{g}/\text{m}^3$)
Total Xylenes	Total Xylenes ($\mu\text{g}/\text{m}^3$)
MTBE	Methyl tertiary butyl ether ($\mu\text{g}/\text{m}^3$)
Naphthalene	Naphthalene ($\mu\text{g}/\text{m}^3$)
EC5-8 Aliphatics	EC5-8 Aliphatics ($\mu\text{g}/\text{m}^3$)
EC9-12 Aliphatics	EC9-12 Aliphatics ($\mu\text{g}/\text{m}^3$)
EC9-10 Aromatics	EC9-10 Aliphatics ($\mu\text{g}/\text{m}^3$)

- NOTES**
- FORMER SITE FEATURES ARE DEPICTED IN GRAY
 - LOCATION OF FORMER SITE FEATURES ARE APPROXIMATE
 - FORMER RESIDENCE BOUNDARY TAKEN FROM 1963 AERIAL PHOTOGRAPH



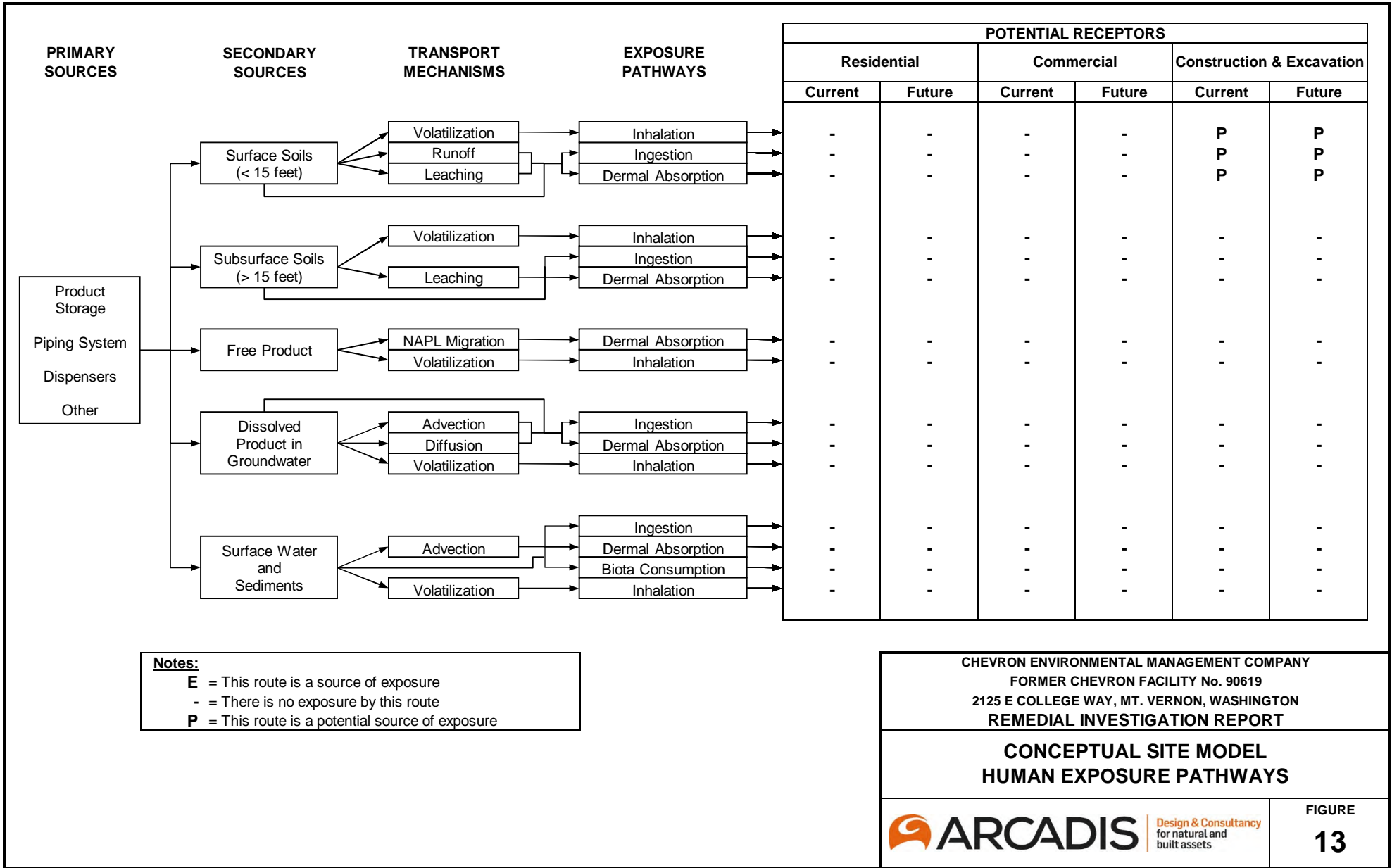
FORMER CHEVRON SERVICE STATION No. 90619
 1205 WASHINGTON STREET
 BELLINGHAM, WASHINGTON

SOIL VAPOR ANALYTICAL RESULTS
APRIL 2019

Design & Consultancy
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FIGURE
12





APPENDIX A

Pertinent Site Information





1963 Aerial Imagery, City of Bellingham Aerial Imagery Viewer. <http://www.iqmap.org/aerial-viewer/>

Photos were taken by Walker and Whiteford Inc. on April 2, 1935.

Site Name: CHEVRON 90619		Glossary
UST ID: 5060	Facility/Site ID: 35363194	Latitude: 48.76042
Address: 2200 Elm St & 1205 Washington St BELLINGHAM, WA 98225	Longitude: -122.48815	Active Tag: N/A
	County: Whatcom	Responsible Unit: Northwest

Tank Summary		
Tank Name	Tank Status	Tank Install Date
4	Removed	12/31/1964
2	Removed	12/31/1964
5	Removed	12/31/1964
1	Removed	12/31/1964
3	Removed	12/31/1964

Tank Name: 4		Tank Status: Removed	
Tank Installation: 12/31/1964	Tank Upgrade:	Business License Endorsement Expiration:	
Tank Status Date: 8/6/1996	Piping Installation:	Tank Permanently Closed Date:	
Tank Information		Piping Information	
Material: Fiberglass Reinforced Plastic		Material:	
Construction: Single Wall Tank		Construction:	
Corrosion Protection:		Corrosion Protection:	
Manifolded Tank:		SFC* at Tank:	
Release Detection:		SFC* at Dispenser/Pump:	
Tightness Test:		Primary Release Detection:	
Spill Prevention:		Secondary Release Detection:	
Overfill Prevention:		Pumping System:	
Actual Capacity:		Turbine Sump Construction:	
Capacity Range: 111 TO 1,100 Gallons		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1			

Tank Name: 2		Tank Status: Removed	
Tank Installation: 12/31/1964	Tank Upgrade:	Business License Endorsement Expiration:	
Tank Status Date: 8/6/1996	Piping Installation:	Tank Permanently Closed Date:	
Tank Information		Piping Information	
Material: Steel	Material:		
Construction: Single Wall Tank	Construction:		
Corrosion Protection:	Corrosion Protection:		
Manifolded Tank:	SFC* at Tank:		
Release Detection:	SFC* at Dispenser/Pump:		
Tightness Test:	Primary Release Detection:		
Spill Prevention:	Secondary Release Detection:		
Overfill Prevention:	Pumping System:		
Actual Capacity:	Turbine Sump Construction:		
Capacity Range:	*SFC = Steel Flex Connector		
Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		

Tank Name: 5		Tank Status: Removed	
Tank Installation: 12/31/1964	Tank Upgrade:	Business License Endorsement Expiration:	
Tank Status Date: 8/6/1996	Piping Installation:	Tank Permanently Closed Date:	
Tank Information		Piping Information	
Material: Fiberglass Reinforced Plastic	Material:		
Construction: Single Wall Tank	Construction:		
Corrosion Protection:	Corrosion Protection:		
Manifolded Tank:	SFC* at Tank:		
Release Detection:	SFC* at Dispenser/Pump:		
Tightness Test:	Primary Release Detection:		
Spill Prevention:	Secondary Release Detection:		
Overfill Prevention:	Pumping System:		
Actual Capacity:	Turbine Sump Construction:		
Capacity Range: 111 TO 1,100 Gallons	*SFC = Steel Flex Connector		
Compartment	Substance Stored	Substance Used	Capacity
1	Used Oil/Waste Oil		

Tank Name: 1		Tank Status: Removed	
Tank Installation: 12/31/1964	Tank Upgrade:	Business License Endorsement Expiration:	
Tank Status Date: 8/6/1996	Piping Installation:	Tank Permanently Closed Date:	
Tank Information		Piping Information	
Material: Steel		Material:	
Construction: Single Wall Tank		Construction:	
Corrosion Protection:		Corrosion Protection:	
Manifolded Tank:		SFC* at Tank:	
Release Detection:		SFC* at Dispenser/Pump:	
Tightness Test:		Primary Release Detection:	
Spill Prevention:		Secondary Release Detection:	
Overfill Prevention:		Pumping System:	
Actual Capacity:		Turbine Sump Construction:	
Capacity Range:		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Unleaded Gasoline		

Tank Name: 3		Tank Status: Removed	
Tank Installation: 12/31/1964	Tank Upgrade:	Business License Endorsement Expiration:	
Tank Status Date: 8/6/1996	Piping Installation:	Tank Permanently Closed Date:	
Tank Information		Piping Information	
Material: Steel		Material:	
Construction: Single Wall Tank		Construction:	
Corrosion Protection:		Corrosion Protection:	
Manifolded Tank:		SFC* at Tank:	
Release Detection:		SFC* at Dispenser/Pump:	
Tightness Test:		Primary Release Detection:	
Spill Prevention:		Secondary Release Detection:	
Overfill Prevention:		Pumping System:	
Actual Capacity:		Turbine Sump Construction:	
Capacity Range:		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Unleaded Gasoline		

Whatcom County Assessor & Treasurer

Property Search Results > 53348 JAMES WILSON for Year 2018 - 2019

Property

Account

Property ID:	53348	Legal Description:	SUPPLEMENTAL MAP OF WHATCOM LOTS 1-2-3 BLK 277- SUBJ TO COVENANT TO BIND PROPERTIES AF 951006182
Parcel # / Geo ID:	3802255175470000	Agent Code:	
Type:	Real		
Tax Area:	0100 - BELLINGHAM 501 AH	Land Use Code	58
Open Space:	N	DFL	N
Historic Property:	N	Remodel Property:	N
Multi-Family Redevelopment:	N		
Township:	T38N	Section:	25
Range:	R02E	Legal Acres:	0.3000

Location

Address:	1205 WASHINGTON ST BELLINGHAM, WA	Mapsco:	
Neighborhood:	5410027000	Map ID:	
Neighborhood CD:	5410027000		

Owner

Name:	JAMES WILSON	Owner ID:	538143
Mailing Address:	921 W LAKE SAMISH DR BELLINGHAM, WA 98229-9312	% Ownership:	100.000000000000%
		Exemptions:	

Pay Tax Due

Select the appropriate checkbox next to the year to be paid. Multiple years may be selected.

Year - Statement ID	Tax	Assessment	Penalty	Interest	Total Due
2019 - 31912 (Balance)	\$2264.29	\$0.00	\$0.00	\$0.00	\$2264.29

Total Amount to Pay: \$

*Convenience Fee not included

Taxes and Assessment Details

Property Tax Information as of 07/15/2019

Amount Due if Paid on: 

NOTE: If you plan to submit payment on a future date, make sure you enter the date and click **RECALCULATE** to obtain the correct total amount due.

Click on "Statement Details" to expand or collapse a tax statement.

Year	Statement ID	First Half Base Amt.	Second Half Base Amt.	Penalty	Interest	Base Paid	Amount Due
▶ Statement Details							
2019	31912	\$2264.43	\$2264.29	\$0.00	\$0.00	\$2264.43	\$2264.29
▶ Statement Details							
2018	32107	\$2519.87	\$2519.77	\$0.00	\$0.00	\$5039.64	\$0.00
▶ Statement Details							
2017	32411	\$2200.06	\$2199.98	\$0.00	\$0.00	\$4400.04	\$0.00
▶ Statement Details							
2016	32681	\$2027.20	\$2027.11	\$0.00	\$0.00	\$4054.31	\$0.00

Values

Map List

Taxing Jurisdiction

Improvement / Building

Sketch

Property Image

Land

Roll Value History

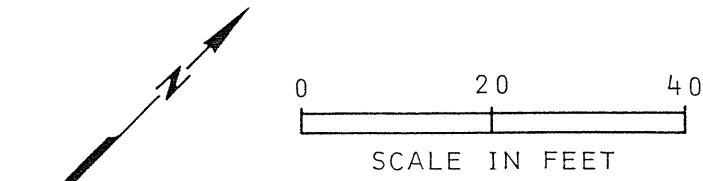
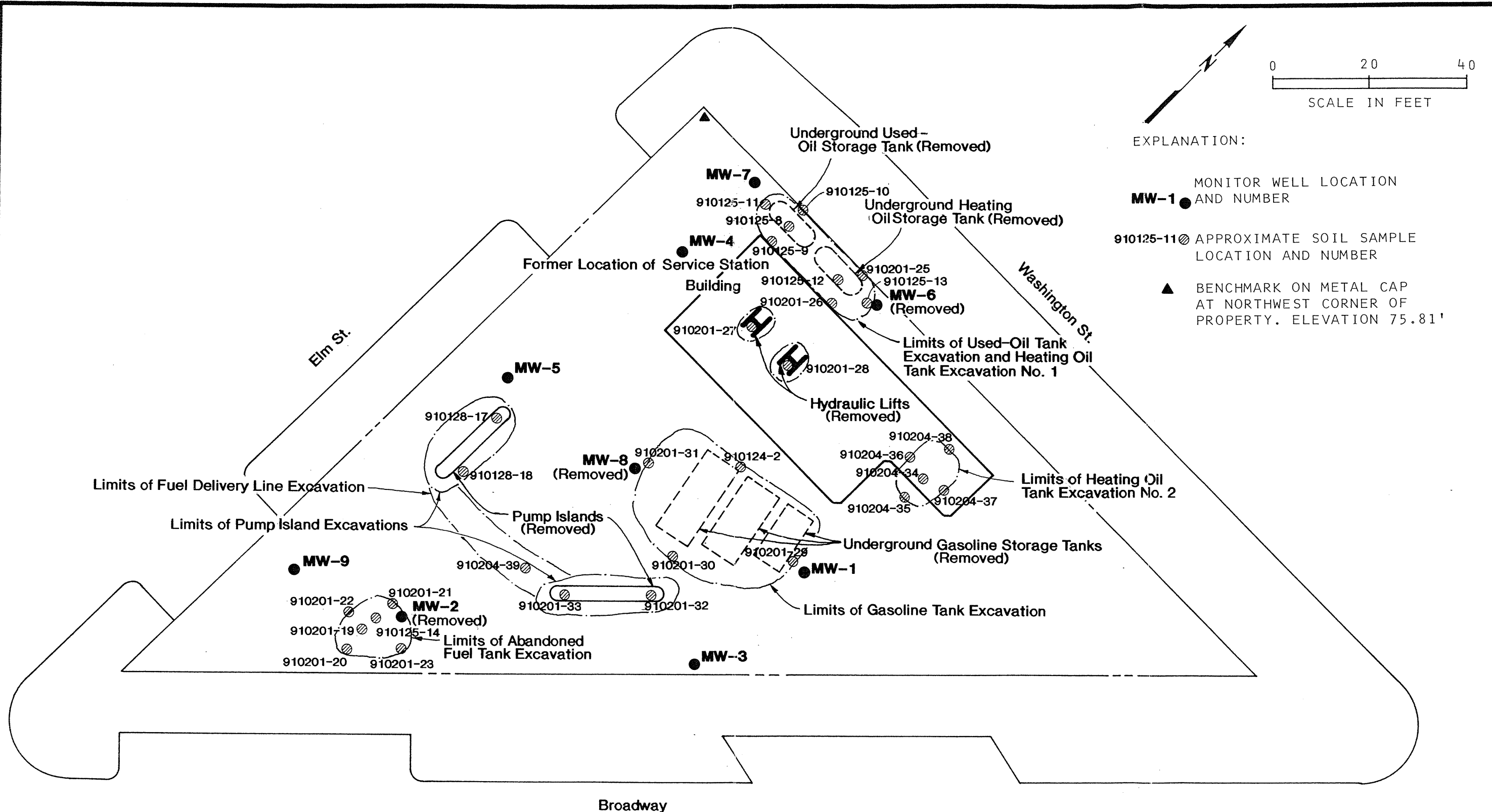
Deed and Sales History

Payout Agreement

[Assessor Home](#)

[Treasurer Home](#)

372-80-BO4 KRF:BDH 11.2.90



- EXPLANATION:
- MW-1 ● MONITOR WELL LOCATION AND NUMBER
 - 910125-11 ⊗ APPROXIMATE SOIL SAMPLE LOCATION AND NUMBER
 - ▲ BENCHMARK ON METAL CAP AT NORTHWEST CORNER OF PROPERTY. ELEVATION 75.81'

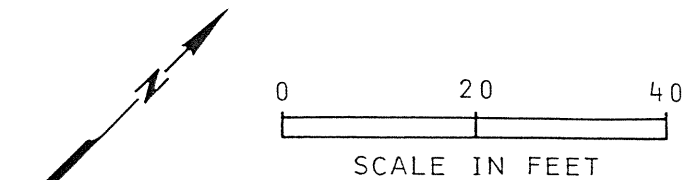
REFERENCE: DRAWING ENTITLED "GROUND PLAN, DEALER OPERATED SS 0619, BROADWAY & ELM, BELLINGHAM, WASHINGTON", BY STANDARD OIL CO. OF CALIFORNIA, DATED 3/12/68.



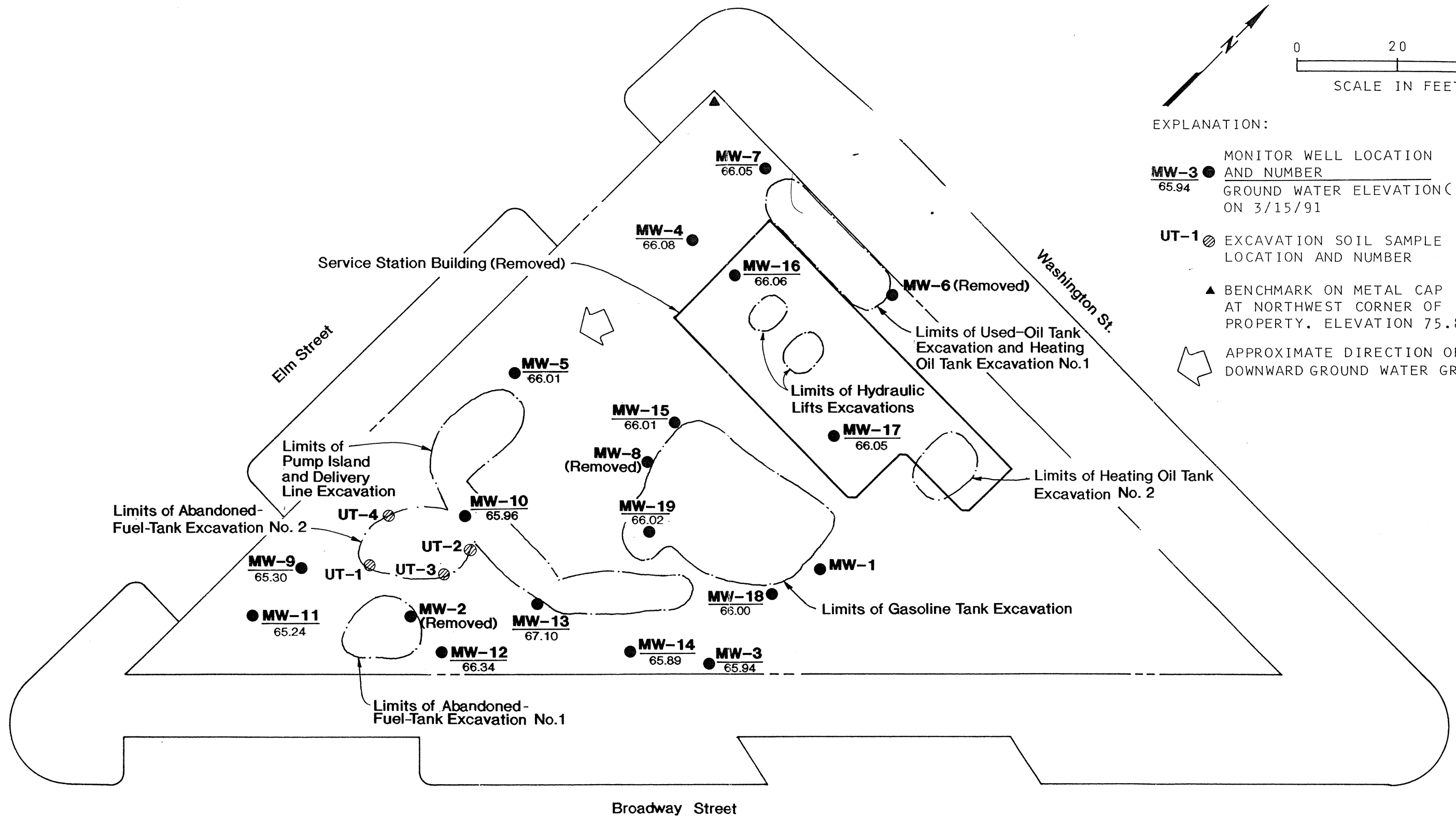
SITE PLAN
Chevron Service Station 60090619
Broadway and Elm
Bellingham, Washington

FIGURE
2

372-80-804 KRF:BDH 11.2.90



- EXPLANATION:
- MW-3** ● 65.94 MONITOR WELL LOCATION AND NUMBER
GROUND WATER ELEVATION (IN FEET) ON 3/15/91
 - UT-1** ⊗ EXCAVATION SOIL SAMPLE LOCATION AND NUMBER
 - ▲ BENCHMARK ON METAL CAP AT NORTHWEST CORNER OF PROPERTY. ELEVATION 75.81'
 - ⇨ APPROXIMATE DIRECTION OF DOWNWARD GROUND WATER GRADIENT



REFERENCE: DRAWING ENTITLED "GROUND PLAN, DEALER OPERATED SS 0619, BROADWAY & ELM, BELLINGHAM, WASHINGTON," BY STANDARD OIL CO. OF CALIFORNIA, DATED 3/12/68.



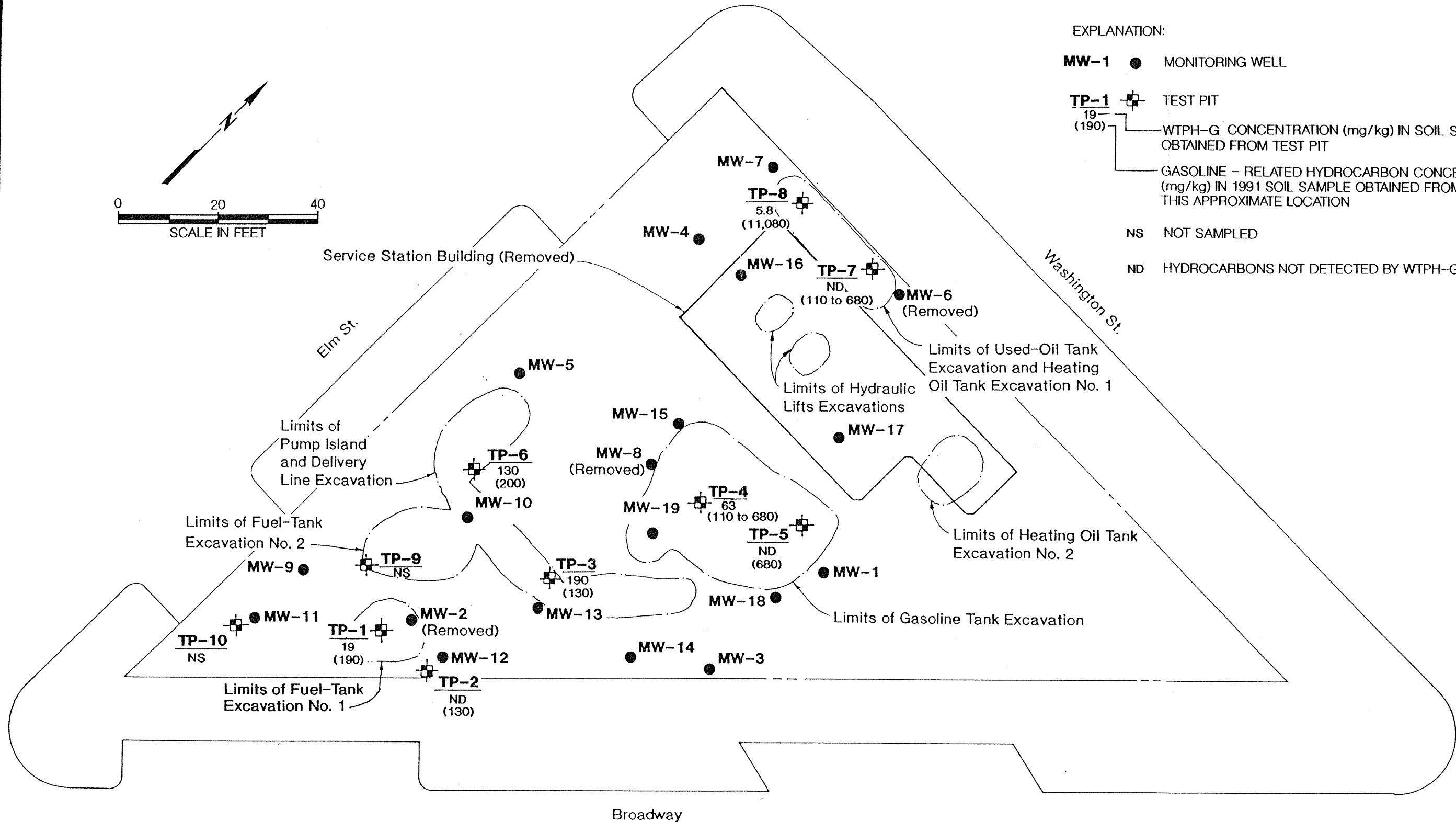
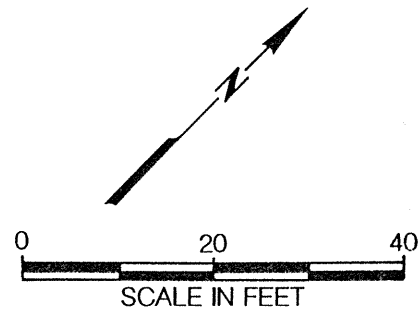
SITE PLAN
Decommissioned Service Station 60090619
2200 Elm Street
Bellingham, Washington

FIGURE
2

372-80-804 KRF:BDH 11.2.90 (B)
 Rev. DOK:ANG 12-14-92

EXPLANATION:

- MW-1 ● MONITORING WELL
- TP-1 ⊕ TEST PIT
- | | | |
|-------------|---|--|
| 19
(190) | } | WTPH-G CONCENTRATION (mg/kg) IN SOIL SAMPLE OBTAINED FROM TEST PIT |
| | } | GASOLINE - RELATED HYDROCARBON CONCENTRATION (mg/kg) IN 1991 SOIL SAMPLE OBTAINED FROM THIS APPROXIMATE LOCATION |
- NS NOT SAMPLED
- ND HYDROCARBONS NOT DETECTED BY WTPH-G ANALYSIS



Notes: 1. MW-2, MW-6 and MW-8 were removed during underground storage tank removal in January 1991.

2. The locations of all features shown are approximate.

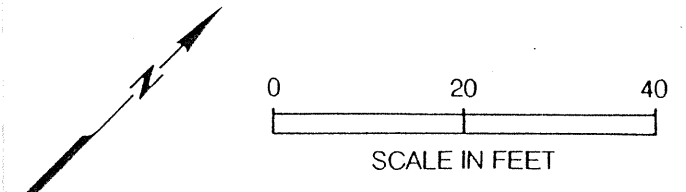
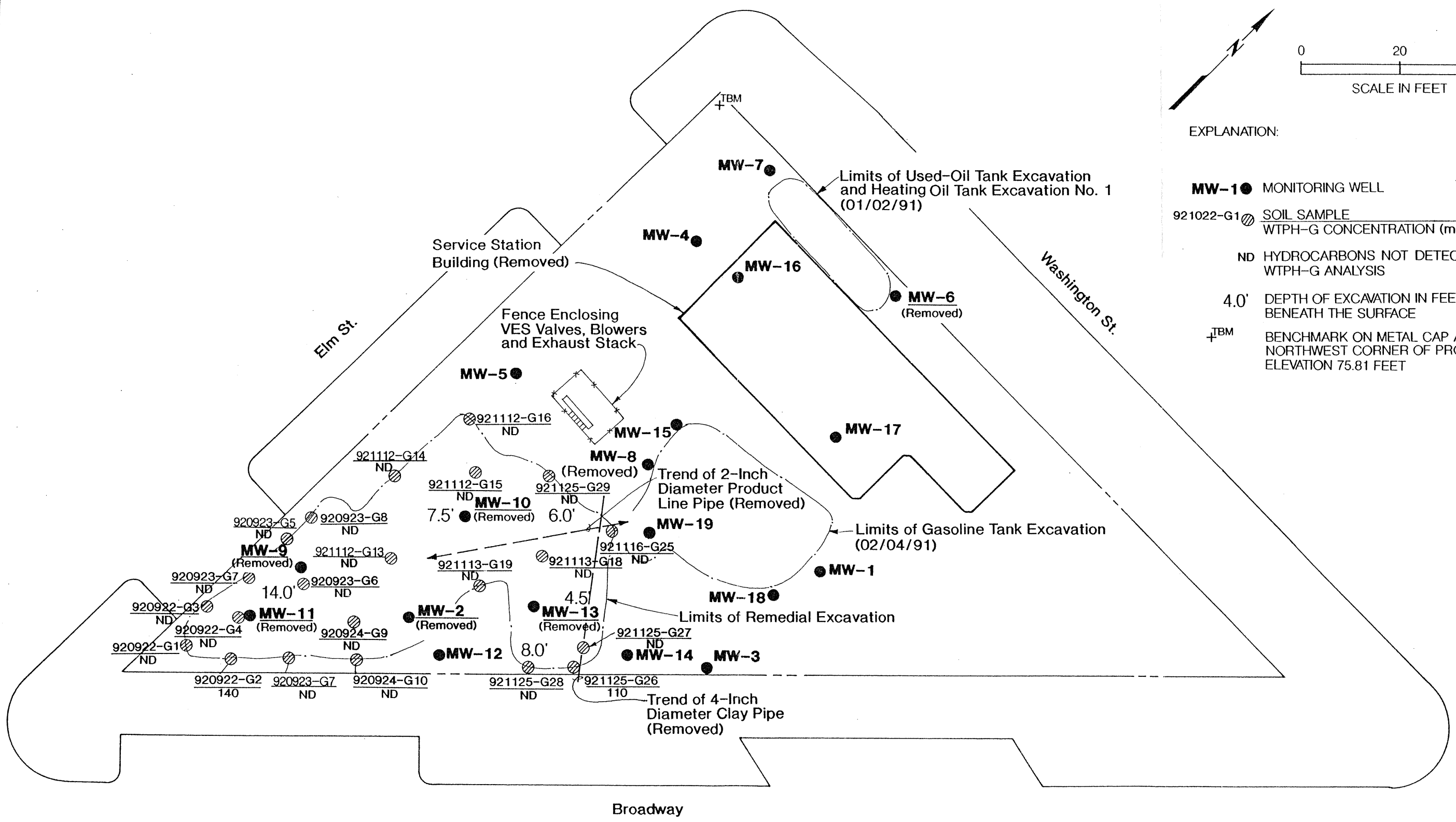
REFERENCE: DRAWING ENTITLED "GROUND PLAN, DEALER OPERATED SS 0619, BROADWAY & ELM, BELLINGHAM, WASHINGTON," BY STANDARD OIL CO. OF CALIFORNIA, DATED 03/12/68.



TEST PIT LOCATIONS
 Decommissioned Service Station 60090619
 Broadway & Elm Streets
 Bellingham, Washington

FIGURE
 2

Rev. DDK-LJD 12/21/92
 372-80-804 KRF:BDH 11.2.90 (B)

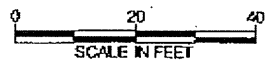


- EXPLANATION:
- MW-1** ● MONITORING WELL
 - 921022-G1 ⊗ SOIL SAMPLE
WTPH-G CONCENTRATION (mg/kg)
 - ND HYDROCARBONS NOT DETECTED BY
WTPH-G ANALYSIS
 - 4.0' DEPTH OF EXCAVATION IN FEET
BENEATH THE SURFACE
 - +TBM BENCHMARK ON METAL CAP AT
NORTHWEST CORNER OF PROPERTY;
ELEVATION 75.81 FEET

- Notes: 1. MW-2, MW-6 and MW-8 were removed during underground storage tank removal in January 1991.
2. MW-9, MW-10, MW-11 and MW-13 were removed during the remedial excavation activities.
3. The locations of all features shown are approximate.

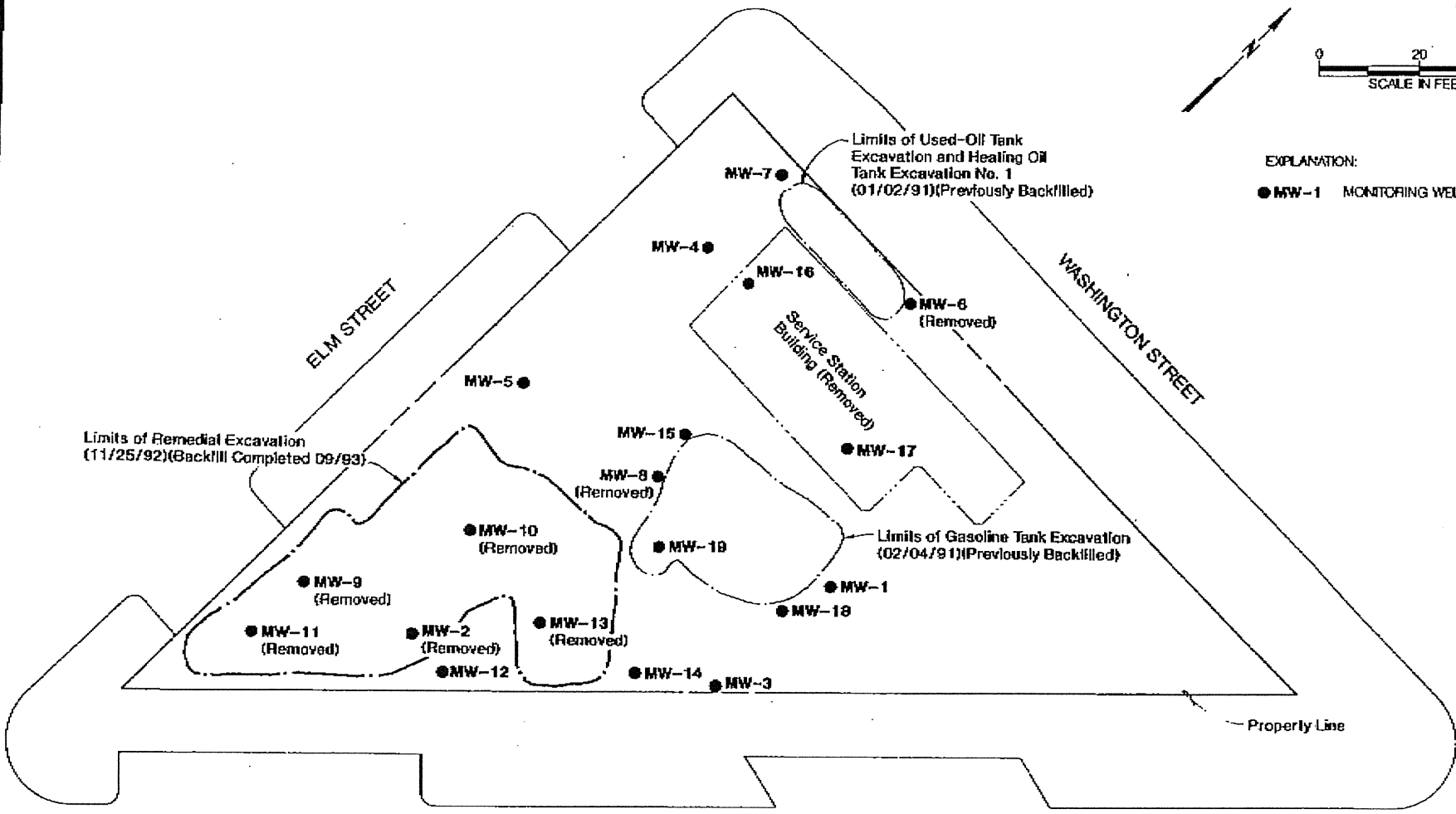
REFERENCE: DRAWING ENTITLED "GROUND PLAN, DEALER OPERATED SS 0619, BROADWAY & ELM, BELLINGHAM, WASHINGTON," BY STANDARD OIL CO. OF CALIFORNIA, DATED 03/12/68.

	REMEDIAL EXCAVATION Decommissioned Service Station 6090619 Broadway & Elm Streets Bellingham, Washington	FIGURE 3
--	--	--------------------



EXPLANATION:

● MW-1 MONITORING WELL



Limits of Remedial Excavation (11/25/92)(Backfill Completed 09/93)

Limits of Used-Oil Tank Excavation and Healing Oil Tank Excavation No. 1 (01/02/91)(Previously Backfilled)

Limits of Gasoline Tank Excavation (02/04/91)(Previously Backfilled)

Service Station Building (Removed)

Property Line

- Notes:
1. MW-2, MW-6 and MW-8 were removed during underground storage tank removal in January 1991.
 2. MW-9, MW-10, MW-11 and MW-13 were removed during the remedial excavation activities.
 3. The locations of all features shown are approximate.

Reference: Drawing entitled "Ground Plan, Dealer Operated SS 0619, Broadway & Elm, Bellingham, Washington," by Standard Oil Co. of California, dated 03/12/68.



SITE PLAN
Decommissioned Service Station 60090619
Broadway & Elm Streets
Bellingham, Washington

FIGURE
2



a trade name of ULS

ULS SERVICES CORP

SEATTLE / PORTLAND/ ALASKA/ SAN DIEGO/ LA / SAC
WWW.ULSSCORP.COM

WWW.GEOMARKOUT.COM

CORPORATE ADDRESS / INQUIRIES

P.O. Box 724, Pocatello, ID 83204 (Mail only)
 6742 W. Buckskin Rd, Pocatello, ID 83201 (Parcels only)

FIELD SERVICES:

SEATTLE/AK/HAW

4206 Gay Road East, Tacoma WA 98443

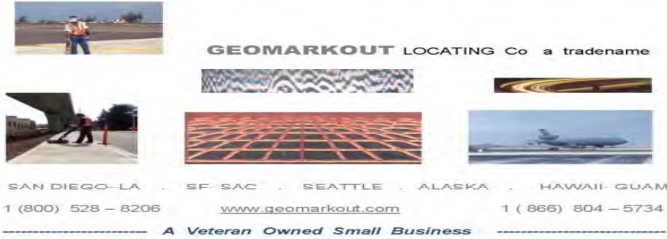
206 384 2857

SOCAL 619 562 0972

Work Order Agreement

Job Site Location 1205 WASHINGTON ST FORMER CHEVRON	Job PO TO	
City, State BELLINGHAM , WA	Date 1 APRIL 19	
CLIENT ARCADIS	1000-1400 (4) report 1	LABOR HOURS W/REPORT/ HRS 5
E-MAIL		E-MAILED
WORK REQUESTED: ELECTRONIC UTILITY LOCATION AT 12 ZONES (16 LOCATIINS) ON SITE. GENERATE REPORT.		
WORK PERFORMED	PRELIMINARY REVIEW OF CLIENT PROVIDED UTILITY DRAWINGS/AS-BUILTS: CLIENTS REPORT	
VISUAL SITE INSPECTION (MANHOLES, DRAINS): SURFACE ONLY	EMPCL CONDUCTIVE UTILITY SURVEY: CHECK GAS: X ELECTRIC: X COMM.: X WATER: X	
EMIMD METAL DETECTION SURVEY: GOOD EM AND MAG (LOW AMBIENT NOISE – HI SETTING = 7.5) ASPHALT ONLY OUTSIDE	EM INSERTION : NF	
GPR NON-CONDUCTIVE SURVEY: GOOD OVER KNOWNS	CLIENT ON-SITE REVIEW OF FINDINGS: YES	
GENERAL LIMITATIONS		
<p>NOTE: The work described herein is performed to industry standards (or higher) using multiple methodology and QA/QC protocol. ULS cannot guarantee the accuracy or the ability to detect all underground facilities and potential interferences. Non-conductive or conductive utilities/facilities may not be detected due to variables and constraints beyond ULS control. Where known, constraints and limitations will be brought to the client’s attention. Excavation work may result in injury to persons and/or damage to facilities. Client and/or excavator are advised to take all steps necessary to avoid contact with underground facilities. This includes, but is not limited to, safe digging practices, hand tooling in congested areas and within two feet on either side of marked utilities (distance may vary by law), utility drawing review, site facilities representative review, and “one-call” utilities notification. ULS and its representatives are not responsible for injury to persons or damage to facilities. This document and accompanying pages will be delivered to the client before commencement of intrusive work for the client’s review. If any questions arise, please notify our office immediately.</p> <p>NOTE: Specific comments/limitations/constraints, known and recognized will be recorded on attached pages (field notes). Caution – some facilities (conductive or non- conductive) may not be detected. Not all limitations and constraints may be recognized.</p>		
SIGNATURE OF ULS REPRESENTATIVE ON-SITE M BENEDICT		PAGE OF 1 1

ULS SERVICES CORPORATION



GEOMARKOUT

a trade name of ULS Services Corp

1205 WASHINGTON BELLINGHAM WA 19

METHODS AND GENERAL OBSERVATIONS:

COMPLETED HS TAILGATE WITH CLIENT AND VISUALLY MADE GENERAL SITE WALK TO REVIEW SURVEY AREAS ON SITE AND OFF SITE. . BEGAN MARKOUT WORK. SITE IS DRY ASPHALT, CONCRETE WITH SOME GRASS AREAS, AND LANDSCAPE AROUND BLDGS. CONCRETE REINFORCEMENT IS MINIMAL HOWEVER, PHYSICAL INTERFERENCE FROM WALL, SHRUBS, AND CURBS LIMITS SURVEY RESULTS SOME.

CHECKED FOR VALVES, METERS, AND CONDUITS, PIPING, TRENCHING SEAMS (SURFACE SCARS), VAULTS, MH LIDS, SD INLETS. OBSERVED SOME FADED EXISTING ONE CALL MARKOUTS.

EQUIPMENT USED:

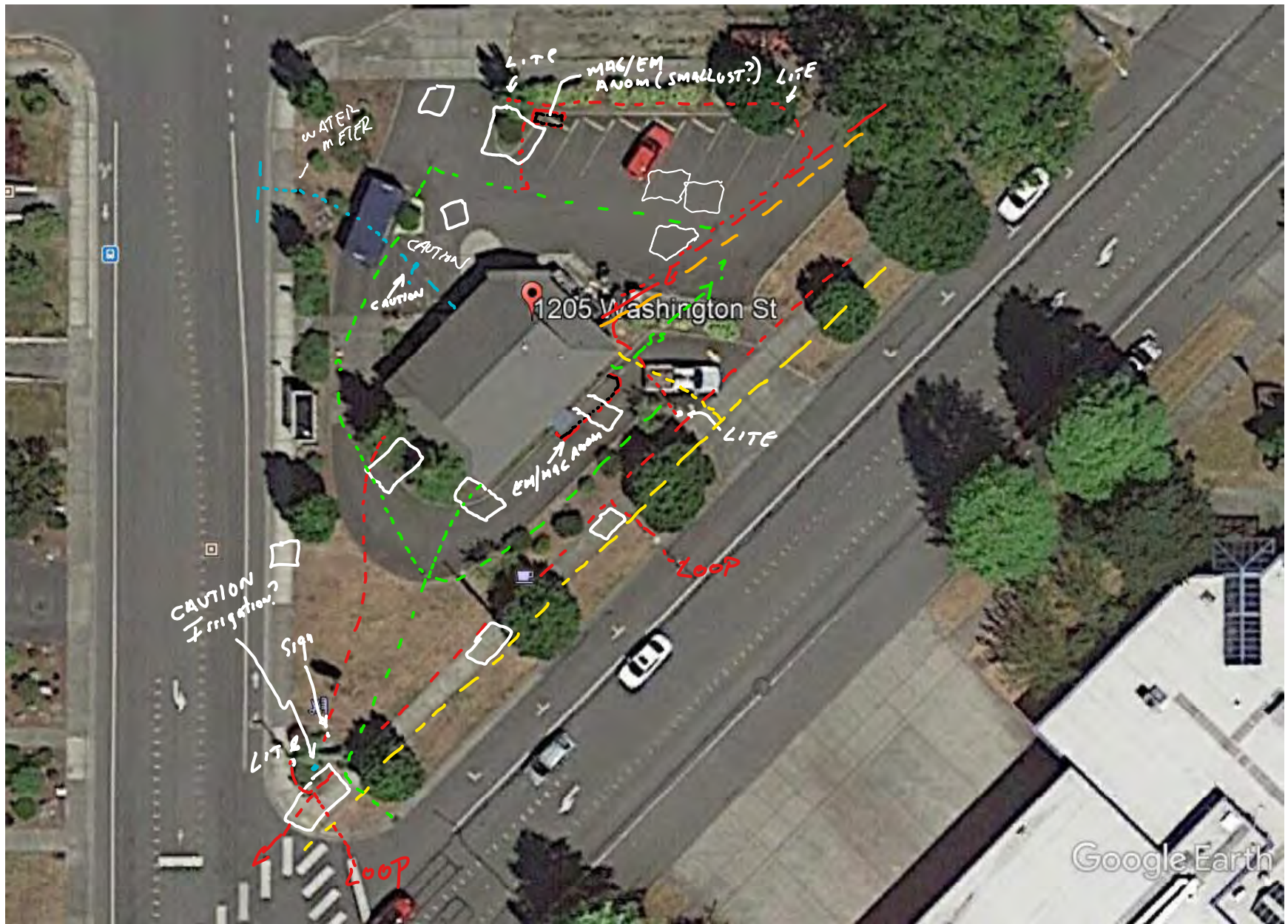
EM PIPE AND CABLE LOCATOR, USING AMBIENT, GROUND INDUCTION AND CONNECTION MODE SWEEPS.

EM INDUCTION METAL DETECTOR AND MAG GPR

EMPCL TRANSMITTER AND EM INDUCTION METAL DETECTOR BOTH HAVE GOOD EM BROADCAST OVER ASPHALT AREAS AWAY FROM ABOVE GROUND FEATURES. GPR UTILIZED AS WELL. DETECTION IS GOOD OVER KNOWNS. LIMITATIONS NEARS WALL, CURMS, LANDSCAPING.

SEE OBSERVATION COMMENTS TO RIGHT SIDE, ABOVE , BELOW AND PLOTTED FIGURE AND PHOTOS BELOW.

X	<p>ONSITE</p> <p>VISUALS YES</p>
X	<p>ONECALL /DIG ALERT NEED TO CALL</p>
X	<p>ELECTRIC CAUTION ⚠ NE CORNER BLDG THRU SITE TO NE . NEAR PROPOSED TELEPHONE AND TV SAME AS E</p>
X	<p>NAT GAS ***** ⚠ CAUTION ⚠ NE BLDG TO SIDEWALK EAST SIDE. TRENDS ALONG EDGE SIDEWALK IN GRASS (NS) ALONG EAST SIDE NEAR LOCATIONS PROPOSED IN SIDEWALK. =====</p>
X	<p>DOMESTIC WATER METER WEST BLDG ⚠ CAUTION ⚠ AIRVAC CAREFULLY. CAUTION PVC PONTENIAL IRRIGATION IN PLANTERS AND NEAR SOUTH END. HAND DIG OR VAC CAREFULLY.</p>
X	<p>SEWER/STORM SEWER</p> <p>⚠ CAUTION ⚠ LATERAL NOT KNOWN EXACTLY. OWNER POINTED OUT DIRECTION NORTH FROM C.O. NE BLDG CAUTION SD PIPES IN AREA. ⚠ CAUTION ⚠ OF ROOF DRAINS NEAR BLDG. LOOK FOR DOWN SPOUTS AND HAND DIG VAC CAREFULLY THESE LOCATIONS. *****</p> <p>CHECK FACILITIES CITY SEWER PERMITS.</p> <p>FUEL SYSTEM TANKS UNKNOWN. FORMER STATION. A EM MAG ANOMALY 4x 5 FEET IS OBSERVED NORTH SIDE SITE NEAR ENTRY ON NW CORNER. <u>COULD BE UST.</u></p> <p>=====</p> <p>WATCH FOR PGRAVEL. DO NOT JAB.</p> <p>=====</p>



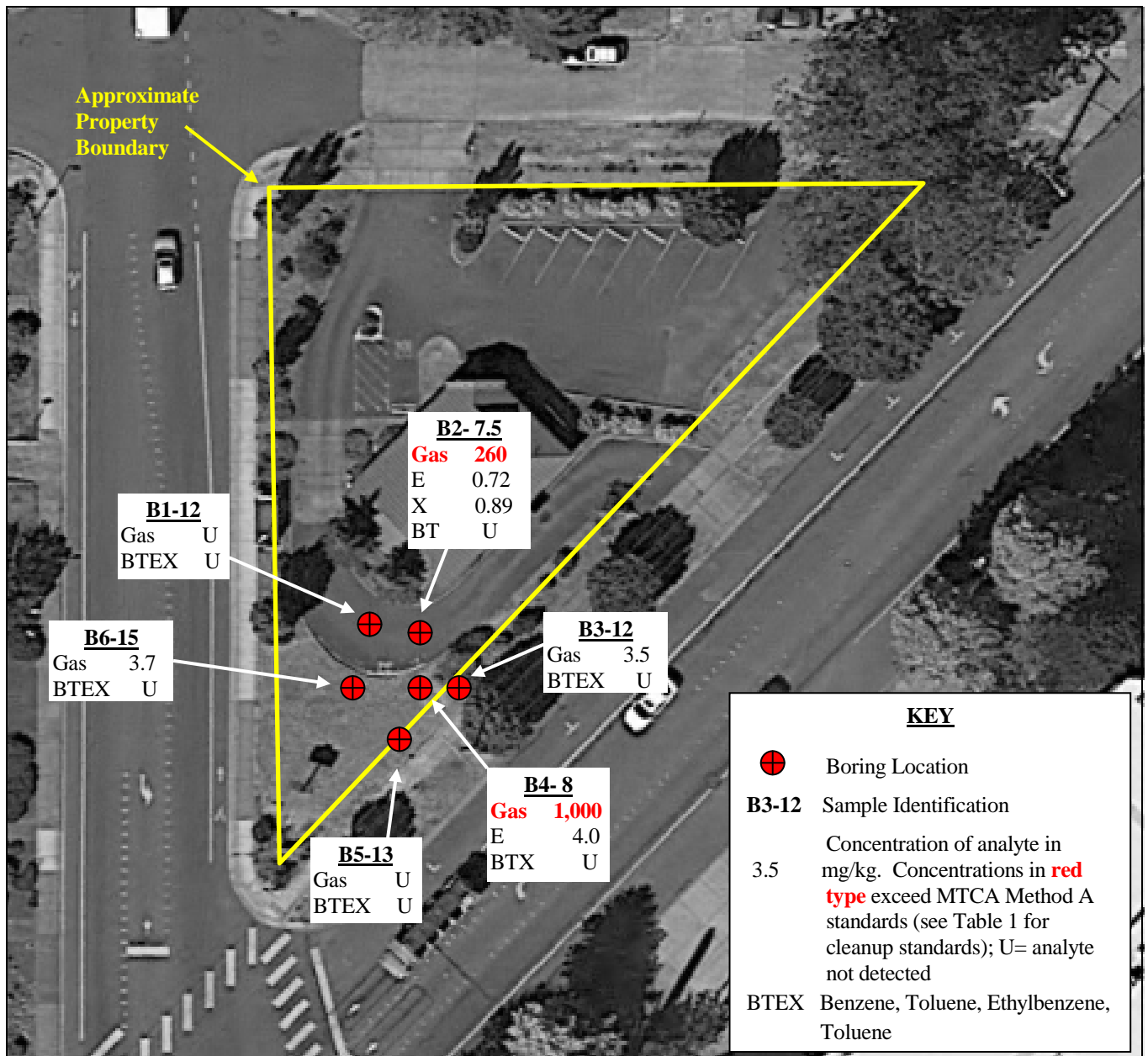


Figure 3. Location of soil samples with sample results

APPENDIX B

Boring Logs



MONITOR WELL NO. MW-1

WELL SCHEMATIC

Casing Elevation (ft.): 75.63
 Casing Stickup (ft.): -0.44

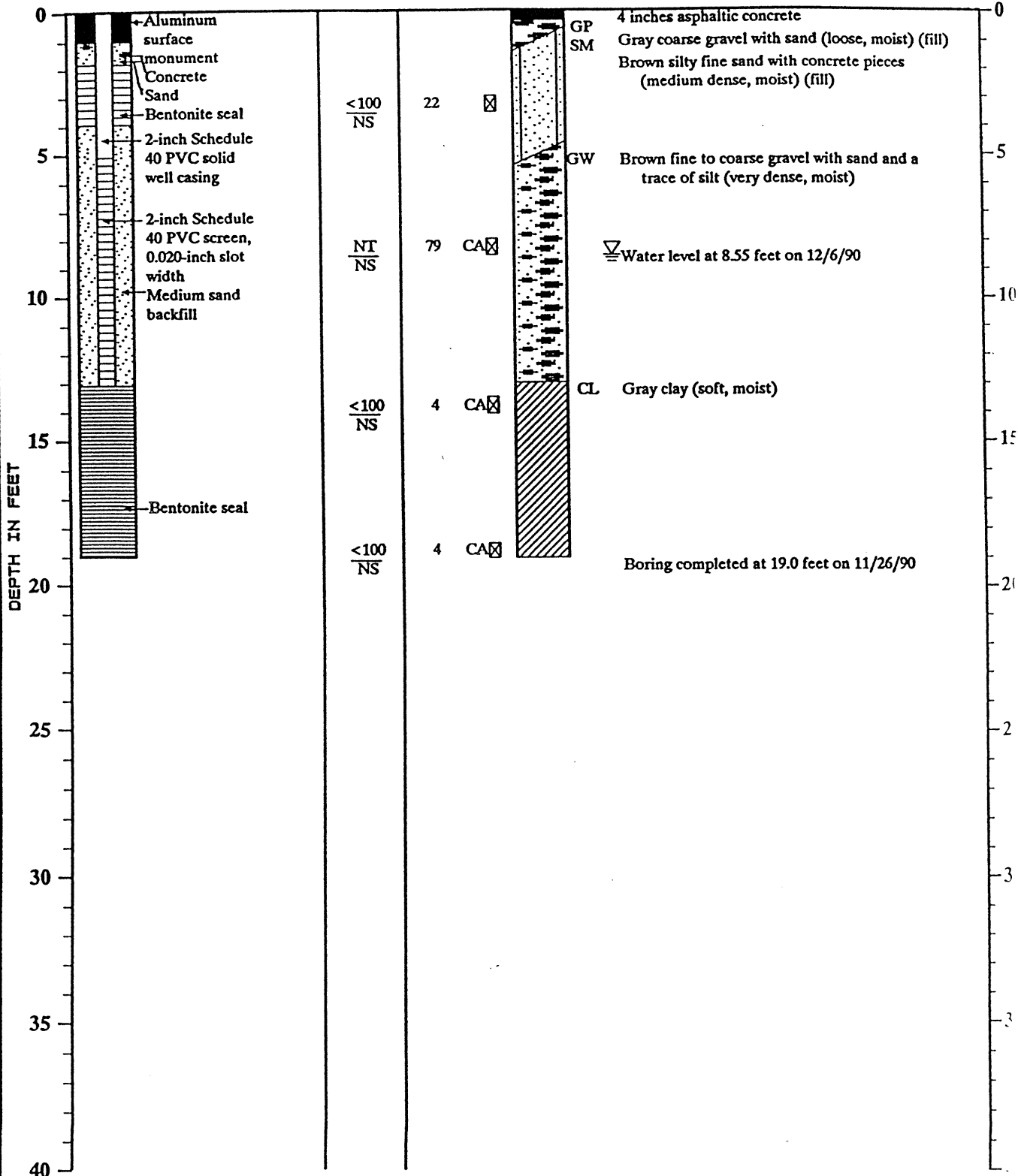
Vapor
 Conc. (ppm)
 Sheen

Blow-
 Count
 Samples

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 75.19



Note: See Figure A-2 for explanation of symbols

: KRF: EJN: CMS 1/10/91

0372-080-B04

MONITOR WELL NO. MW-3

WELL SCHEMATIC

Casing Elevation (ft.): 75.96
 Casing Stickup (ft.): -0.82

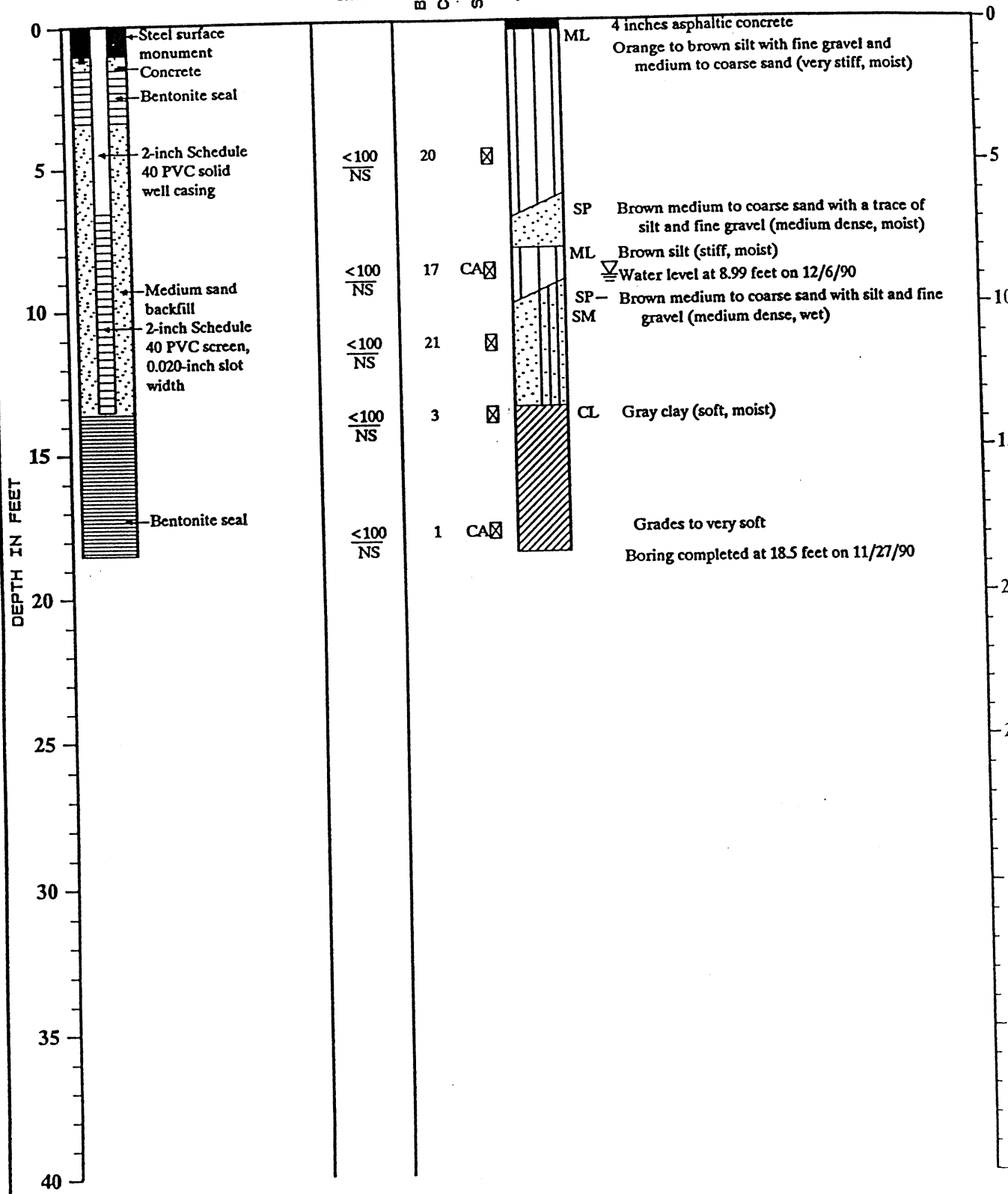
Vapor
 Conc.(ppm)
 Sheen

Blow-
 Count
 Samples

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 75.14



Note: See Figure A-2 for explanation of symbols

:KRF:EJN:CMS 1/10/91

0372-080-B04

MONITOR WELL NO. MW-4

WELL SCHEMATIC

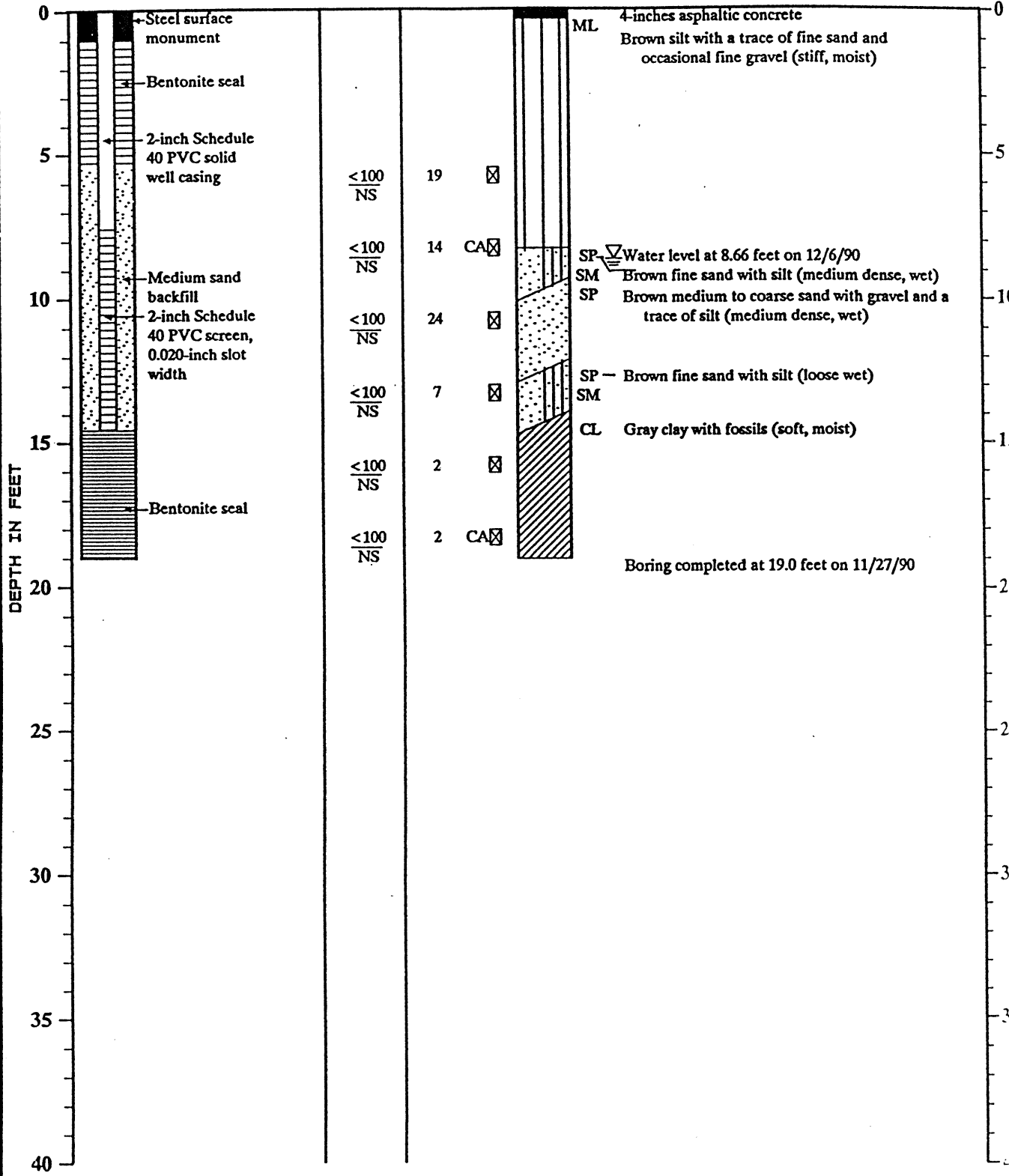
Casing Elevation (ft.): 74.89
 Casing Stickup (ft.): -0.21

Vapor
 Conc.(ppm)
 Sheen

Blow-
 Count
 Samples

Group
 Symbol

DESCRIPTION
 Surface Elevation (ft.): 75.10



Note: See Figure A-2 for explanation of symbols

: KRF: EJM: CMS 1/10/91

0372-080-B04

MONITOR WELL NO. MW-10

WELL SCHEMATIC

Casing Elevation (ft.): 74.47
 Casing Stickup (ft.): -0.18

Vapor
 Conc.(ppm)
 Sheen

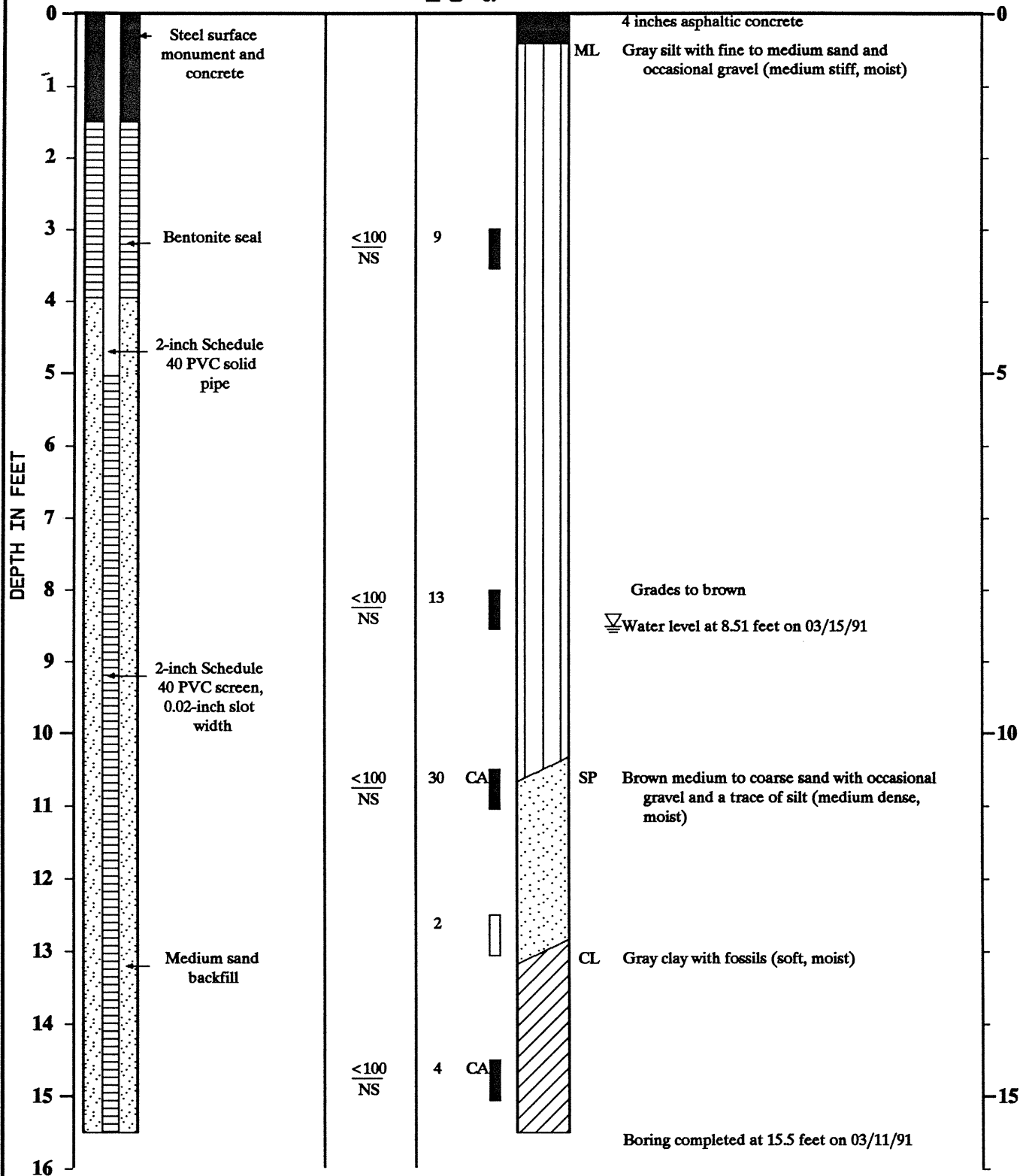
**Blow-
Count**

Samples

Group
Symbol

DESCRIPTION

Surface Elevation (ft.): 74.65



Note: See Figure A-2 for explanation of symbols



Log of Monitor Well

Figure A-3

: KRF: EJM: CMS 5/7/91

0372-080-B04

MONITOR WELL NO. MW-11

WELL SCHEMATIC

Casing Elevation (ft.): 74.16
 Casing Stickup (ft.): -0.34

Vapor
 Conc. (ppm)
 Sheen

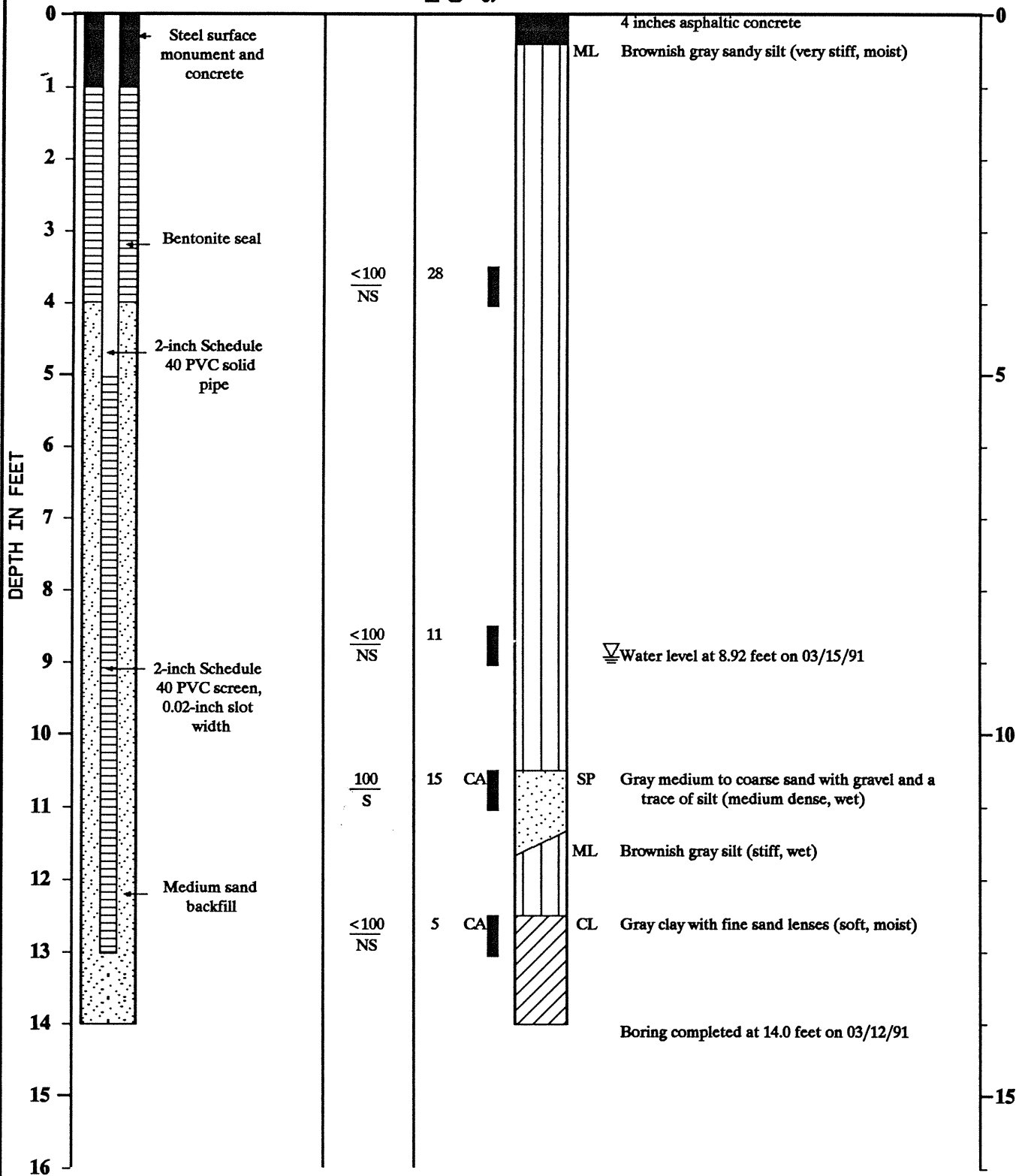
Blow-
 Count

Samp
 les

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 74.50



Note: See Figure A-2 for explanation of symbols

:KRF:EJN:CMS 5/7/91

0372-080-B04

MONITOR WELL NO. MW-12

WELL SCHEMATIC

Casing Elevation (ft.): 74.27
 Casing Stickup (ft.): -0.37

Vapor
 Conc.(ppm)
 Sheen

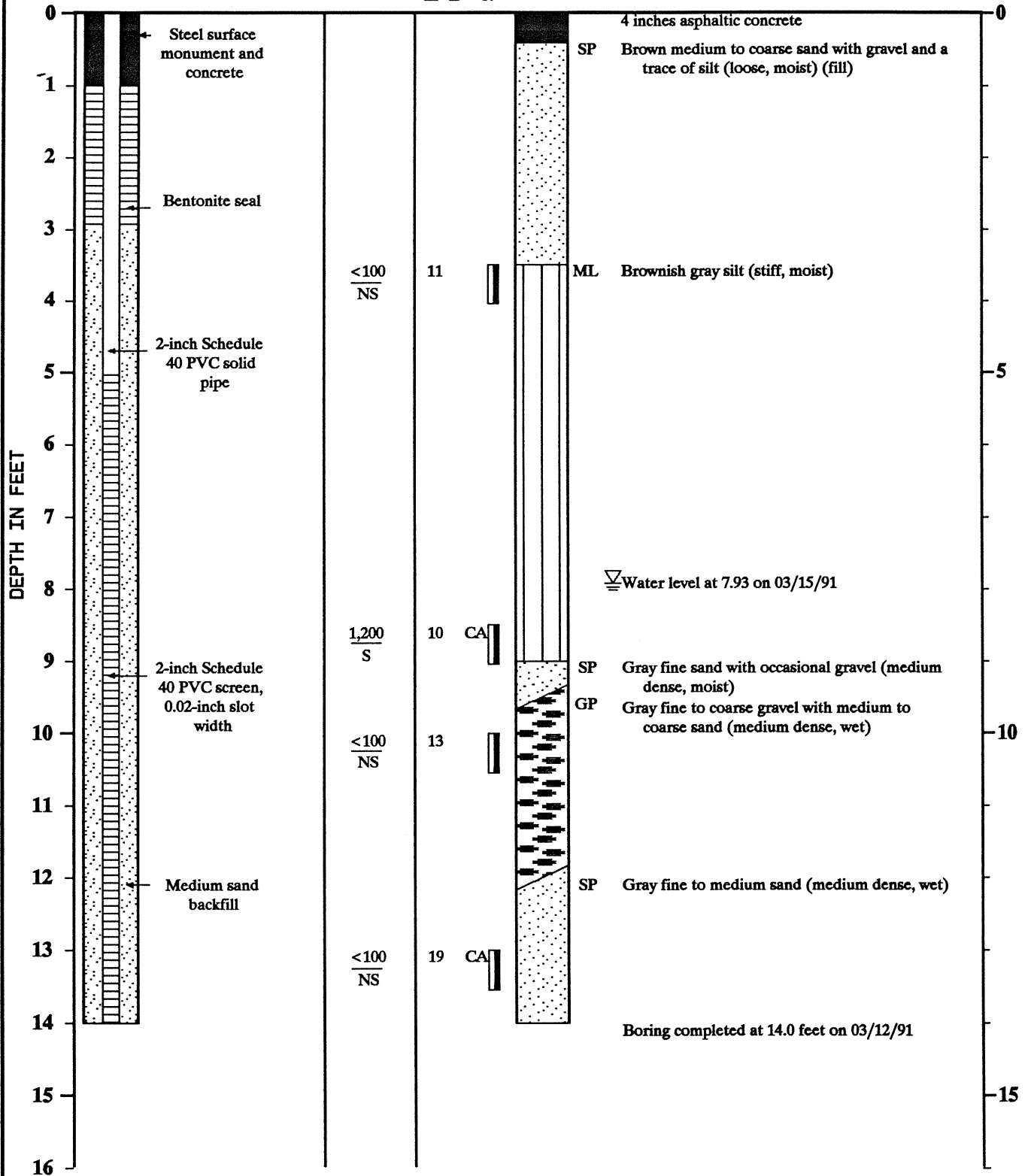
Blow-
 Count

Samples

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 74.64



Note: See Figure A-2 for explanation of symbols

MONITOR WELL NO. MW-13

WELL SCHEMATIC

Casing Elevation (ft.): 74.56
 Casing Stickup (ft.): -0.49

Vapor
 Conc.(ppm)
 Sheen

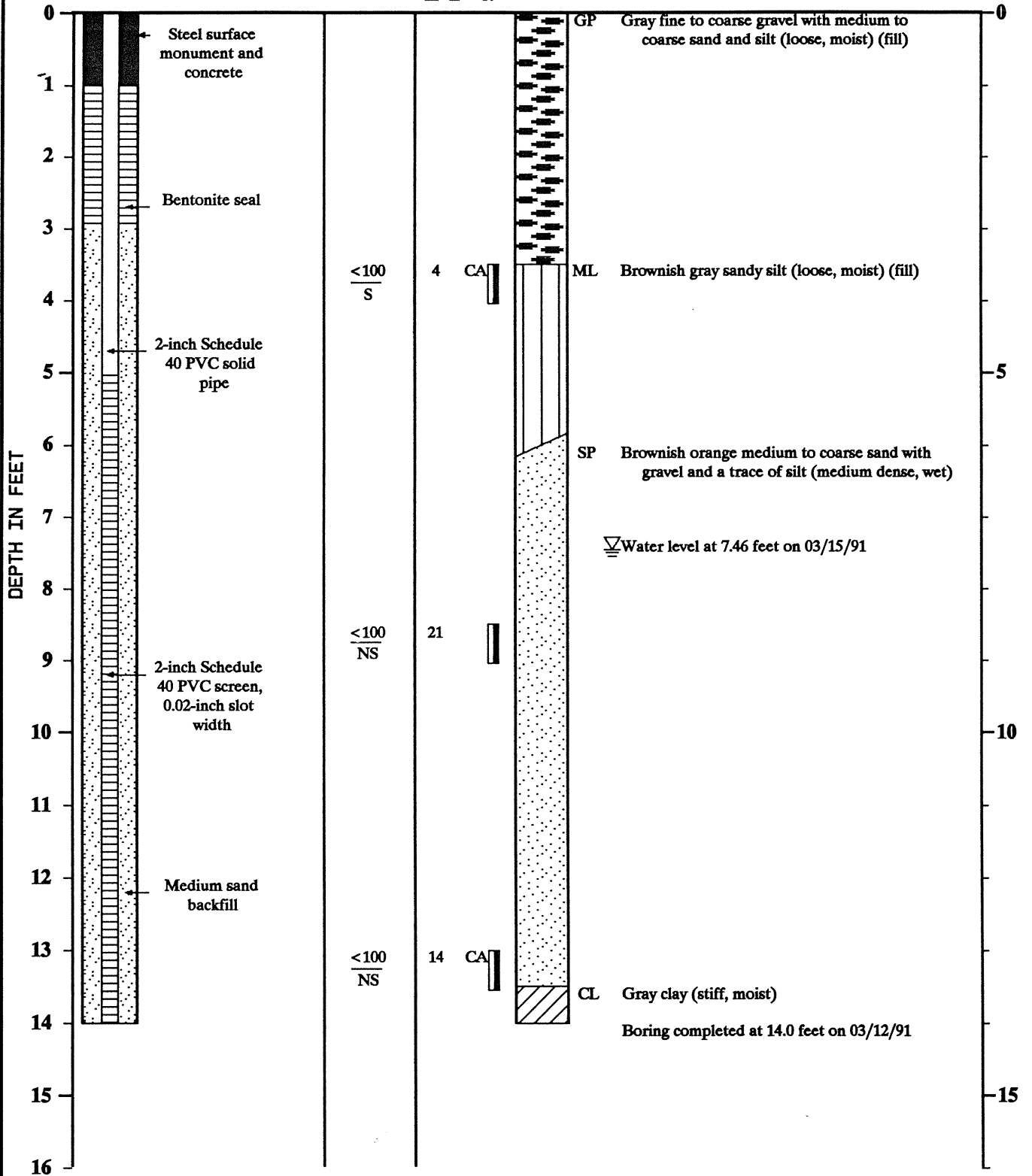
Blow-
 Count

Samp les

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 75.05



Note: See Figure A-2 for explanation of symbols

: KRF: EJM: CMS 5/7/91

0372-080-B04

MONITOR WELL NO. MW-14

WELL SCHEMATIC

Casing Elevation (ft.): 74.66
 Casing Stickup (ft.): -0.25

Vapor
 Conc.(ppm)
 Sheen

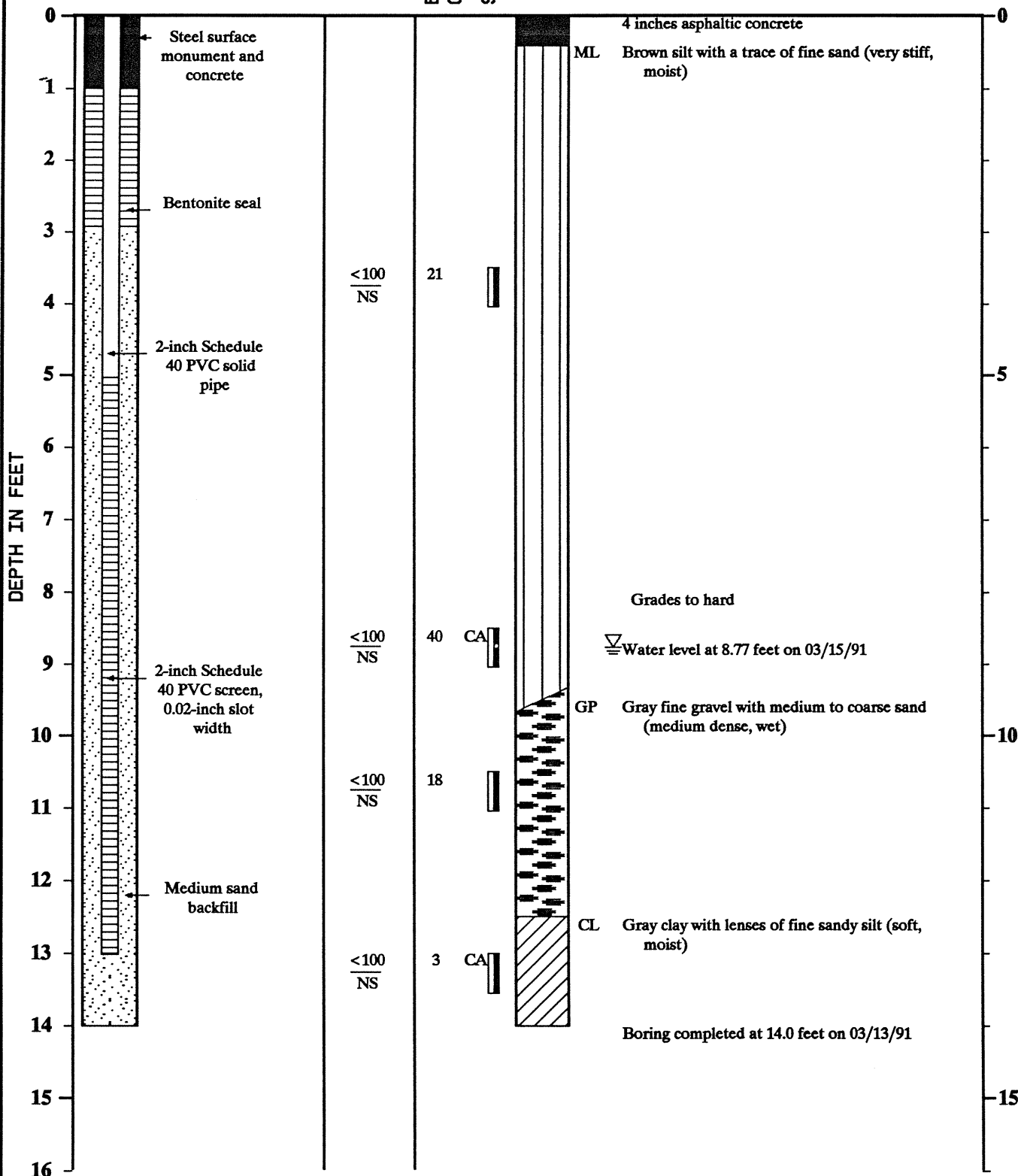
Blow-
 Count

Samp les

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 74.91



Note: See Figure A-2 for explanation of symbols

:KRF:EJN:CMS 5/7/91

0372-080-504

MONITOR WELL NO. MW-15

WELL SCHEMATIC

Casing Elevation (ft.): 74.88
 Casing Stickup (ft.): -0.21

Vapor
 Conc. (ppm)
 Sheen

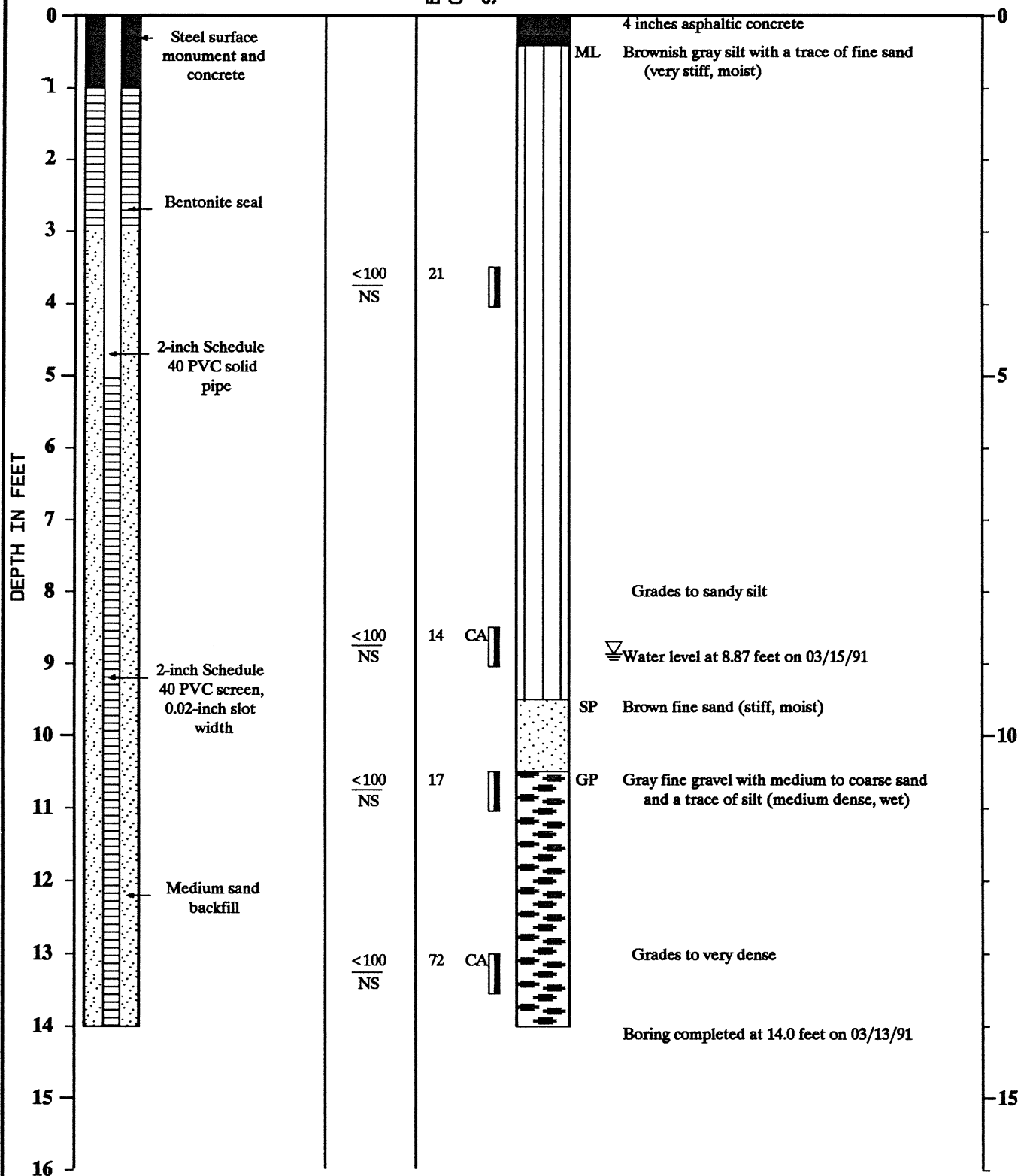
Blow-
 Count

Samp les

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 75.09



Note: See Figure A-2 for explanation of symbols

:KRF:EJN:CMS 5/7/91

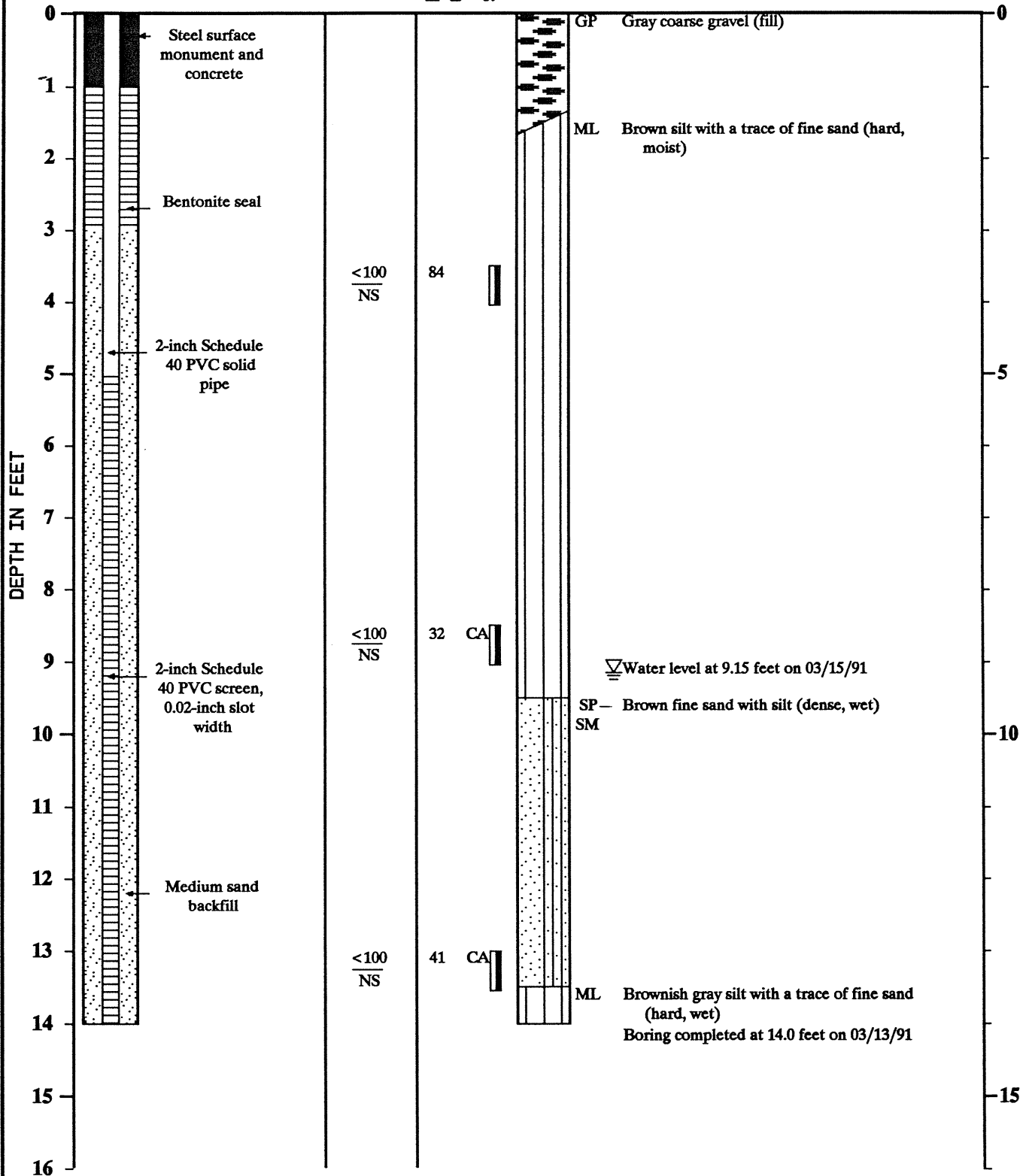
0372-080-B04

MONITOR WELL NO. MW-16

WELL SCHEMATIC

Casing Elevation (ft.): 75.21
 Casing Stickup (ft.): -0.19

Vapor Conc.(ppm) Sheen	Blow- Count	Samples	Group Symbol	DESCRIPTION
				Surface Elevation (ft.): 75.40



Note: See Figure A-2 for explanation of symbols

:KRF:EJN:CMS 5/7/91

0372-080-B04

MONITOR WELL NO. MW-17

WELL SCHEMATIC

Casing Elevation (ft.): 75.14
 Casing Stickup (ft.): -0.17

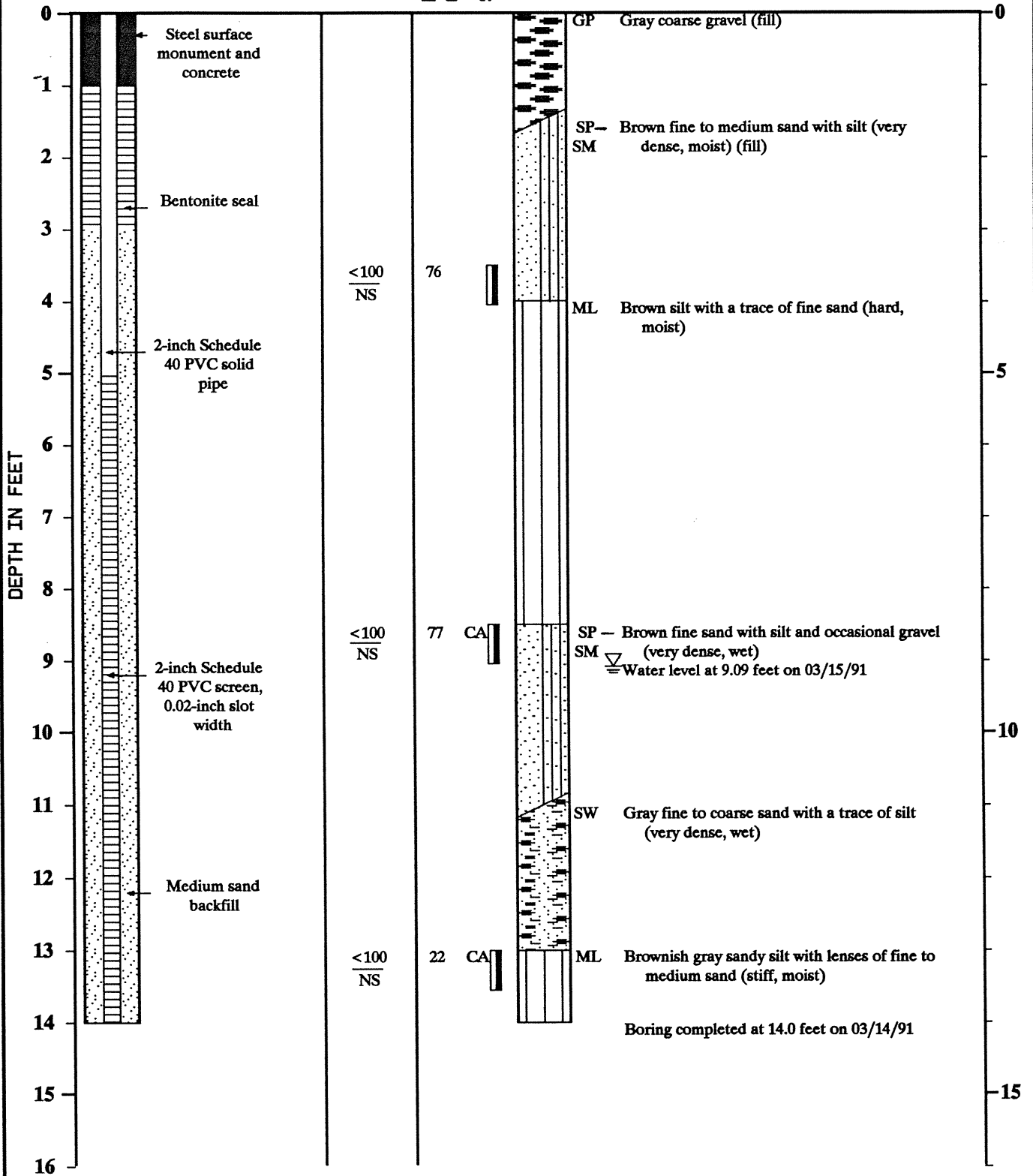
Vapor
 Conc.(ppm)
 Sheen

Blow-
 Count
 Samples

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 75.31



Note: See Figure A-2 for explanation of symbols



Log of Monitor Well

Figure A-10

:KRF:EJN:CMS 5/7/91

0372-080-B04

MONITOR WELL NO. MW-18

WELL SCHEMATIC

Casing Elevation (ft.): 74.83
 Casing Stickup (ft.): -0.18

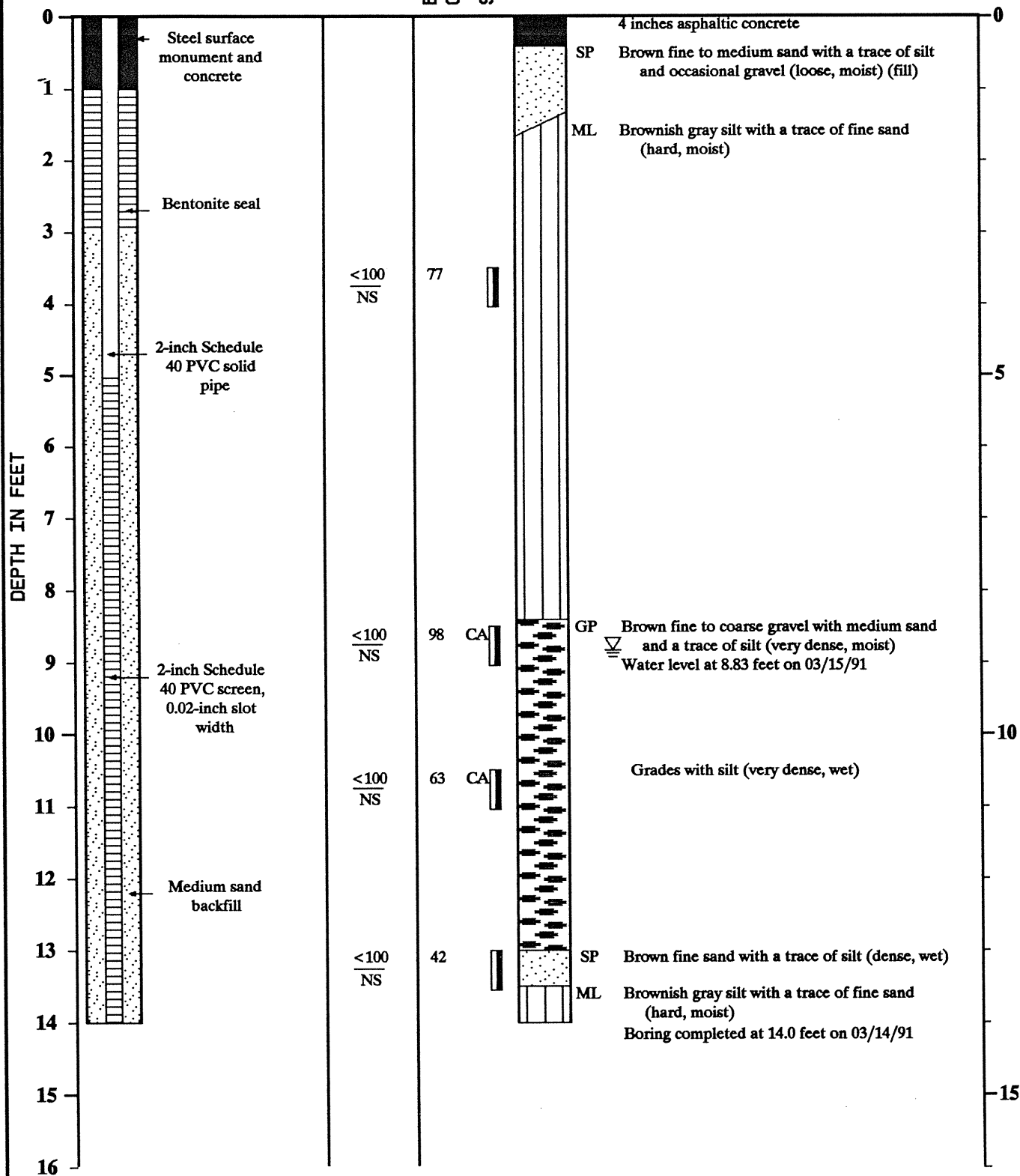
Vapor
 Conc. (ppm)
 Sheen

Blow-
 Count

Samples

DESCRIPTION

Surface Elevation (ft.): 75.01



Note: See Figure A-2 for explanation of symbols

: KRF: EJM: CMS 5/7/91

0372-080-B04

MONITOR WELL NO. MW-19

WELL SCHEMATIC

Casing Elevation (ft.): 76.28
 Casing Stickup (ft.): 1.62

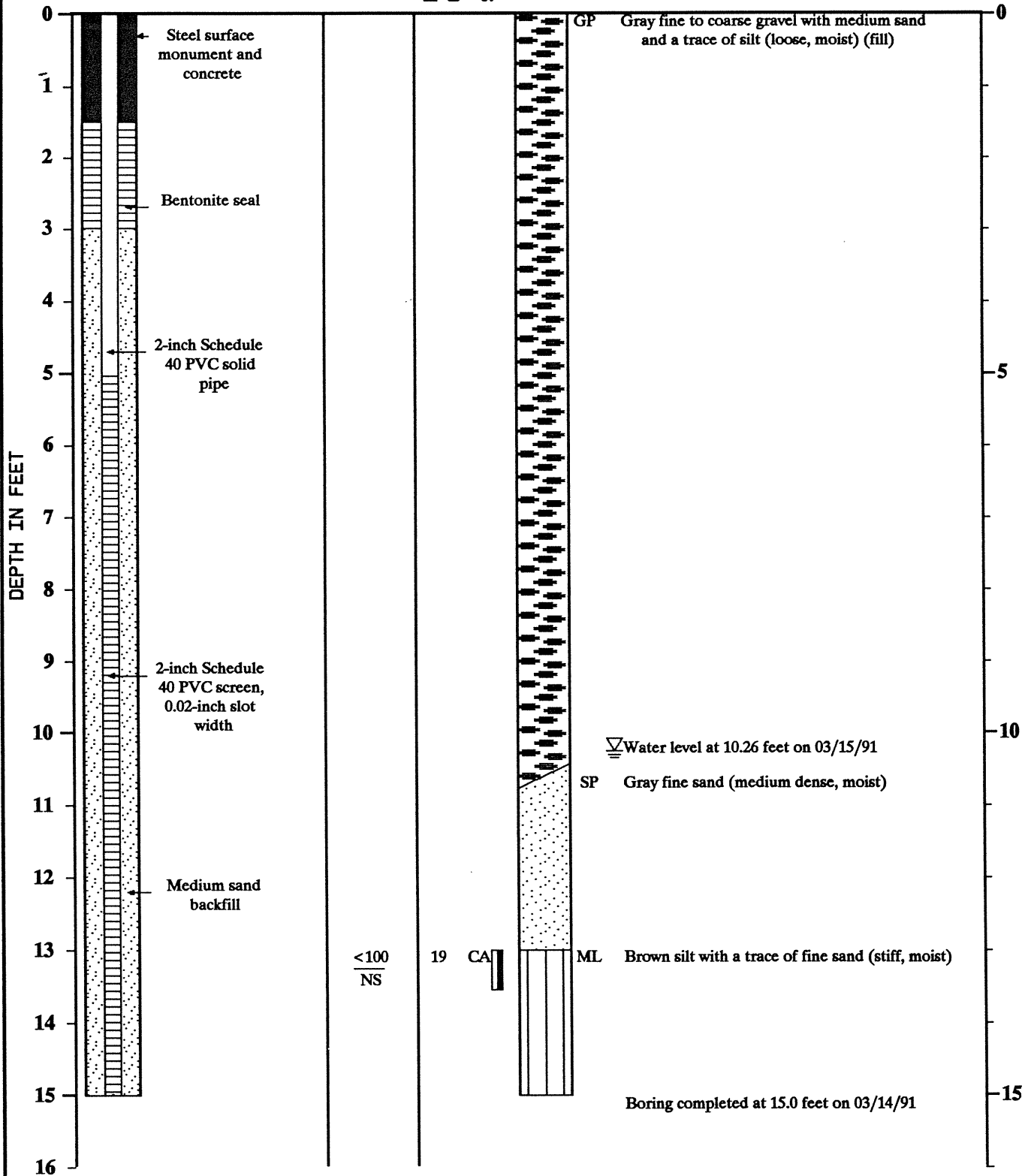
Vapor
 Conc.(ppm)
 Sheen

Blow-
 Count
 Samples

Group
 Symbol

DESCRIPTION

Surface Elevation (ft.): 74.66



Note: See Figure A-2 for explanation of symbols

: KRF: EJM: CMS 5/7/91

0372-080-B04

Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/08/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/09/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1								Flush mount	
2	HA	6		2.3	CH		(2.0-2.5') CLAY, high plasticity; cohesive; little sand and gravel; moist; dense; brownish gray.	Concrete (0-2')	
3								Bentonite (2-3')	
4	HA	6		0.4	ML		(4.0-4.5') SILT, low plasticity; cohesive; moist; loose; brown.	Sand Pack (3-15')	
5									
6	HA	6		0.6	ML		(6.0-6.5') SILT, low plasticity; cohesive; moist; loose; brown.		
7									
8	HA	6		0.9	ML		(7.5-8.0') SILT, low plasticity; cohesive; moist; loose; brown.		
9	NA	0						2" Sch 40 PVC 0.020 slot Well Screen (4.5-14.5')	
10									
11									
12	NA	60	MW-20-12.5 08:10 @ 04/09/2019	0.0	CL		(10.0-14.5') CLAY, medium plasticity; wet; dense; brown.		
13									
14									
15			MW-20-15 08:15 @ 04/09/2019	0.0	GM		(14.5-15.0') Fine GRAVEL; some silt, nonplastic; noncohesive; medium dense; gray.		
							End of boring at 15.0 ft bgs.		

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bgs.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 75.11
HA = hand auger. Well tag: BLK 114; NAD 83/98 North Coord.: 646477.80
 (North American Datum). East Coord.: 1241292.57

CHEVRON 90619 V1 D:\BORING LOGS\CHEVRON 90619 - BELLINGHAM BORING LOG DIGITIZATION\PROJECTWORKING\102-DRAWINGS\CHEVRON 90619 PROJECT FILE GRP CHEVRON.GDT 5/20/19

Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/08/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/09/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1								Flush mount	
2	HA	6		1.0	CH		(2.0-2.5') CLAY, high plasticity; cohesive; little sand; moist; medium dense; brown.	Concrete (0-2')	
3								Bentonite (2-3')	
4	HA	6		0.7	ML		(4.0-4.5') SILT, low plasticity; cohesive; moist; loose; brown.	Sand Pack (3-15')	
5									
6	HA	6		0.9	ML		(6.0-6.5') SILT, low plasticity; cohesive; moist; loose; brown.		
7									
8	HA	6		0.3	ML		(7.5-8.0') SILT, low plasticity; cohesive; moist; loose; brown.		
9	NA	24		0.0			(8.0-14.5') SAND, medium; some silt; moist; loose; brown.	2" Sch 40 PVC 0.020 slot Well Screen (5-15')	
10			MW-21-10 12:10 @ 04/09/2019						
11					SW				
12									
13	NA	18							
14									
15			MW-21-15 12:20 @ 04/09/2019		GM		(14.5-15.0') Fine GRAVEL; some clay; wet; medium dense; gray.		
End of boring at 15.0 ft bgs.									

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bgs.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 73.09
HA = hand auger. Well tag: BLK 115; NAD 83/98 North Coord.: 646367.54
 (North American Datum). East Coord.: 1241298.62

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/09/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/10/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1								Flush mount	
2	HA	6		0.6				Concrete (0-2')	
3					CL		(2.5-3.0') CLAY, medium plasticity; some silt; loose; brown.	Bentonite (2-3')	
4	HA	6		0.1	CL		(4.0-4.5') CLAY, medium plasticity; some silt; loose; brown.	Sand Pack (3-15')	
5									
6	HA	6		0.6	CL		(6.0-6.5') CLAY, medium plasticity; some silt; loose; brown.		
7									
8	HA	6		0.2	CL		(7.5-8.0') CLAY, medium plasticity; some silt; loose; brown.		
9	NA	16		0.0	SW		(8.0-12.0') Medium SAND; little grave; moist; loose; brown.		
10								2" Sch 40 PVC 0.020 slot Well Screen (5-15')	
11									
12	NA	60	MW-22-12 10:30 @ 04/10/2019	0.0					
13					GM		(12.0-14.5') GRAVEL, poorly graded; some silt and sand; wet; loose; gray.		
14									
15			MW-22-15 10:40 @ 04/10/2019	0.0	CL		(14.5-15.0') CLAY, medium plasticity; wet; dense; gray.		
End of boring at 15.0 ft bgs.									

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 72.80
HA = hand auger. Well tag: BLK 116; NAD 83/98 North Coord.: 646333.24
 (North American Datum). East Coord.: 1241261.31

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/10/2019 Logger: Ryan Brauchla
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/10/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: 48° F rainy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1								Flush mount	
2	HA	6		0.0	CL		(2.0-2.5') CLAY, medium plasticity; some silt; moist; medium dense; brown.	Concrete (0-2')	
3								Bentonite (2-3')	
4	HA	6		0.0	CL		(4.0-4.5') CLAY, medium plasticity; some silt; moist; medium dense; brown.	Sand Pack (3-15')	
5									
6	HA	6		0.0	CL		(6.0-6.5') CLAY, medium plasticity; some silt; moist; medium dense; brown.		
7									
8	HA	6		0.0	CL		(7.5-9.0') CLAY, medium plasticity; some silt; moist; medium dense; brown.		
9	NA	24							
10					SW-SC		(9.0-10.0') Lithology change to well graded coarse SAND with Clay and Gravel.		
11				0.4			(10.0-13.0') Well graded coarse SAND with clay and gravel; moist; dense; cohesive; brown.	2" Sch 40 PVC 0.020 slot Well Screen (5-15')	
12					SW-SC				
13	NA	60	MW-23-13 14:20 @ 04/10/2019						
14				0.6	SP		(13.0-14.5') Fine SAND; wet; medium density; dark gray.		
15			MW-23-15 14:30 @ 04/10/2019	0.4	CL		(14.5-15.0') CLAY, medium plasticity with trace fine gravel; soft; gray.		
							End of boring at 15.0 ft bgs.		

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 73.37
HA = hand auger; Well tag: BLK 118; NAD 83/98 North Coord.: 646399.93
 (North American Datum). East Coord.: 1241246.43

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/11/2019 Logger: Ryan Brauchla
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/11/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: 48° F light rain

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1							(0.0-0.3') Asphalt.	Flush mount	
2	HA	6		0.4	CL		(2.0-2.5') Gravelly CLAY, medium plasticity; trace sand; cohesive; brown.	Concrete (0-2')	
3								Bentonite (2-3')	
4	HA	6		0.8	CL		(4.0-4.5') Gravelly CLAY, medium plasticity; trace sand; cohesive; brown.	Sand Pack (3-15')	
5									
6	HA	6		1.2	GW		(6.0-6.5') Well graded GRAVE with SAND; some medium grained sand; moist; dense; brown. debris visible (garbage bag, roofing tile, brick).		
7									
8	HA	6		1.0	GW		(8.0-8.5') Well graded GRAVE with SAND; some medium grained sand; moist; dense; brown. debris visible (garbage bag, roofing tile, brick).		
9	NA						(8.5-9.0') Lithology change to CLAY, medium plasticity; moist; dense; brown.		
10								2" Sch 40 PVC 0.020 slot Well Screen (5-15')	
11									
12									
13	NA	60	MW-24-13 11:40 @ 04/11/2019 DUP-1	0.6	GC		(12.0-14.0') CLAYEY GRAVEL with sand; saturated; dense; gray.		
14									
15			MW-24-15 11:50 @ 04/11/2019	2.5	SC		(14.0-15.0') CLAYEY SAND; saturated; dense; dark gray.		
							End of boring at 15.0 ft bgs.		

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bgs.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 74.81
HA = hand auger; Well tag: BLK 119; NAD 83/98 North Coord.: 646411.24
(North American Datum). East Coord.: 1241272.14

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/19/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/19/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1									
2									
3	HA	6		0.0	ML		(2.0-2.5') SILT, low plasticity; little coarse sand; trace fine gravel; moist; loose; brown.		
4									
5	HA	6		0.0	ML		(4.0-4.5') SILT, low plasticity; little coarse sand; trace fine gravel; moist; loose; brown.		
6	HA	0		0.0					
7									
8									
9									
10									
11									
12									
13	NA	60	SB-1-12.5 10:30 @ 04/09/2019	0.1	SW		(10.5-14.5') SAND, medium; little silt; dense; brown and gray.		
14									
15			SB-1-15 10:45 @ 04/09/2019	0.0	CL		(14.5-15.0') CLAY, medium plasticity; some silt; dense; gray.		
							End of boring at 15.0 ft bgs.		

Backfilled with Bentonite Chips

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bgs.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 74.33
HA = hand auger; NAD 83/98 (North American Datum). North Coord.: 646507.13
 East Coord.: 1241286.80

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/08/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/08/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1									
2	HA	6		0.6	SW		(2.0-2.5') Coarse SAND with gravel; brown.		
3									
4	HA	6		0.7	CL		(4.0-4.5') CLAY, medium plasticity; some silt; cohesive; moist; medium dense; brown.		
5									
6	HA	6		0.8	CL		(6.0-6.5') CLAY, medium plasticity; some silt; cohesive; moist; medium dense; brown.		
7									
8	HA	6		0.5			(7.5-12.5') CLAY, medium plasticity; some silt; cohesive; moist; medium dense; brown.	Backfilled with Bentonite Chips	
9	NA	24		1.1	CL				
10									
11									
12									
13	NA	60	SB-2-12.5 12:30 @ 04/08/2019	1.2	SM		(12.5-14.5') SILT and SAND, low plasticity; wet; dense; brown.		
14									
15			SB-2-15 13:00 @ 04/08/2019		GW		(14.5-15.0') GRAVEL and SILT, medium plasticity; medium dense; brownish gray.		
							End of boring at 15.0 ft bgs.		

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 75.12
HA = hand auger; DP = direct push. NAD 83/98 (North North Coor.: 646495.12
American Datum). East Coor.: 1241300.13

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/09/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/09/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1									
2	HA	6		1.0	ML		(2.0-2.5') SILT and CLAY, low plasticity; moist; loose; brown.		
3									
4	HA	6		0.2	ML		(4.0-4.5') SILT and CLAY, low plasticity; moist; loose; brown.		
5									
6	HA	6		0.2	ML		(6.0-6.5') SILT and CLAY, low plasticity; moist; loose; brown.		
7									
8	HA	6		1.2	SP		(7.5-8.0') SAND, coarse; noncohesive; some gravel; loose; brown.	Backfilled with Bentonite Chips	
9	NA	24					(8.0-12.5') Fine GRAVEL; loose; gray.		
10									
11				0.4	GM				
12									
13	NA	60	SB-5-12.5 11:40 @ 04/09/2019	0.0	GM		(12.5-14.5') GRAVEL; some silt; moist; loose; gray.		
14									
15			SB-5-15 11:50 @ 04/09/2019	0.0	CL		(14.5-15.0') CLAY; some silt; wet; dense; gray.		
End of boring at 15.0 ft bgs.									

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bgs.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 73.09
HA = hand auger; NAD 83/98 (North American Datum). North Coord.: 646393.72
 East Coord.: 1241326.23

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/08/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/09/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1									
2	HA	6		1.0	ML		(2.0-2.5') SILT; some sand; moist; cohesive; medium dense; brown.		
3									
4	HA	6		1.1	ML		(4.0-4.5') SILT, noncohesive; little sand; moist; loose; brown.		
5									
6									
7									
8				0.4				Backfilled with Bentonite Chips	
9	NA	24		0.3	ML		(8.0-10.0') SILT, noncohesive; little sand; moist; loose; brown.		
10									
11					CL		(10.0-12.0') CLAY, medium plasticity; moist; dense; brown.		
12									
13	NA	60	SB-6-12.5 16:00 @ 04/09/2019	0.8	GC		(12.0-14.5') GRAVEL; some coarse sand and clay; loose; gray.		
14									
15			SB-6-15 16:15 @ 04/09/2019	0.2	CL		(14.5-15.0') CLAY, medium plasticity; wet; dense; gray.		
							End of boring at 15.0 ft bgs.		

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger/5 ft Acetate Sleeve
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 8'
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bgs.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 73.26
HA = hand auger; DP = direct push. NAD 83/98 (North North Coor.: 646349.11
American Datum). East Coor.: 1241265.66

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Soil Boring Log / Well Construction Log

Project Name: Former Chevron Facility No.90619 Date Started: 04/10/2019 Logger: Dan Gilbert
 Project Number: ASRTM0EH.0619.00030 Date Completed: 04/10/2019 Editor: NA
 Project Location: 1205 Washington St, Bellingham, WA Weather Conditions: Cloudy

Depth (feet)	Blow Counts	Recovery (in.)	Sample ID & Time	PID (ppm)	USCS Codes	USCS Graphic	Description	Construction Details	Well
1								Flushmount	
2								Concrete (0-2.5 ft)	
3	HA	6		0.0	CL		(2.5-5.0') CLAY, medium plasticity; moist; medium dense; brown.	Hydrated Bentonite (2.5-3.5 ft)	
4								Granular Bentonite Chips (3.5-4.5 ft)	
5	HA	6	SVP-1-5 11:45 @ 04/10/2019	0.0	CL		(5.0-5.5') CLAY, medium plasticity; moist; medium dense; brown.	San Pack (4.5-5.5 ft)	
6							End of boring at 5.5 ft bgs		

Drilling Co.: Cascade Drilling Sampling Method: Hand Auger
 Driller: Tim Watson Sampling Interval: Every two feet, continuous below 5'
 Drilling Method: Hand Auger Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
ppm = parts per million; NA = not applicable / available; Surface Elev.: 75.29
HA = hand auger. Well Tag: BLK 117; NAD 83/98 North Coord: 646423.10
 (North American Datum). East Coord: 1241307.54

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APPENDIX C

Soil Laboratory Analytical Reports and Chain-of-Custody Documentation



ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-85442-1

Client Project/Site: Former Chevron Facility #90169, Bellingham
Revision: 1

For:
ARCADIS U.S. Inc
111 SW Columbia Street
Suite 670
Portland, Oregon 97201

Attn: Christopher Dotson

M. Elaine Walker

Authorized for release by:
5/31/2019 10:23:28 AM

Elaine Walker, Project Manager II
(253)248-4972

elaine.walker@testamericainc.com

LINKS

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Job ID: 580-85442-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-85442-1

Revision 1: May 31, 2019

This revision was required to remove "H" flags from the 8260C reanalyses for samples MW-20-12.5 (580-85442-1), MW-20-15 (580-85442-2), MW-21-10 (580-85442-3), and MW-21-15 (580-85442-4).

Receipt

Twenty-three samples were received on 4/12/2019 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were -0.1° C and 2.0° C.

Receipt Exceptions

Since the samples submitted for analysis are soils the soils trip blank provided will be run. The water trip blank has been disposed of.

All of the tared (soil) VOA vials have had additional labels affixed to them by the client. MW-20-12.5 (580-85442-1), MW-20-15 (580-85442-2), MW-21-10 (580-85442-3), MW-21-15 (580-85442-4), MW-22-12 (580-85442-5), MW-22-15 (580-85442-6), MW-23-13 (580-85442-7), MW-23-15 (580-85442-8), MW-24-13 (580-85442-9), MW-24-15 (580-85442-10), SB-1-12.5 (580-85442-11), SB-1-15 (580-85442-12), SB-2-12.5 (580-85442-13), SB-2-15 (580-85442-14), SB-5-12.5 (580-85442-15), SB-5-15 (580-85442-16), SB-6-12.5 (580-85442-17), SB-6-15 (580-85442-18), SVP-1-5 (580-85442-19), DUP-1 (580-85442-20), RB-041119 (580-85442-21) and Trip Blank (580-85442-23). This could affect the sample's TARE weight and should be avoided in the future.

The Chain of Custody has NWTPH-Gx and 8270/cPAH/Naphthalene marked for analysis for samples RB-041119 (580-85442-21) and Trip Blank (580-85442-23); however, the containers provided were vials only. It is believed that the wrong analysis column on the COC was marked for these two samples as there is also a note that requests BTEX only in the comment section for these two samples. Both samples were logged for NWTPH-Gx and 8260C BTEX pending client verification.

The following samples were packed on ice within 30 minutes of collection per the client. MW-20-12.5 (580-85442-1), MW-20-15 (580-85442-2), MW-21-10 (580-85442-3), MW-21-15 (580-85442-4), MW-22-12 (580-85442-5), MW-22-15 (580-85442-6), MW-23-13 (580-85442-7), MW-23-15 (580-85442-8), MW-24-13 (580-85442-9), MW-24-15 (580-85442-10), SB-1-12.5 (580-85442-11), SB-1-15 (580-85442-12), SB-2-12.5 (580-85442-13), SB-2-15 (580-85442-14), SB-5-12.5 (580-85442-15), SB-5-15 (580-85442-16), SB-6-12.5 (580-85442-17), SB-6-15 (580-85442-18), SVP-1-5 (580-85442-19), DUP-1 (580-85442-20) and Trip Blank (580-85442-23)

GC/MS VOA

Method(s) 5035: The following samples were provided to the laboratory with a significantly different initial weight than that required by the reference method: MW-20-12.5 (580-85442-1), MW-20-15 (580-85442-2), MW-21-15 (580-85442-4), MW-22-12 (580-85442-5), MW-23-13 (580-85442-7), MW-23-15 (580-85442-8), MW-24-13 (580-85442-9), SB-1-12.5 (580-85442-11), SB-1-15 (580-85442-12), SB-2-12.5 (580-85442-13), SB-2-15 (580-85442-14), SB-5-12.5 (580-85442-15), SB-5-15 (580-85442-16), SB-6-12.5 (580-85442-17), SB-6-15 (580-85442-18), SVP-1-5 (580-85442-19) and DUP-1 (580-85442-20). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 5g. The amount provided was above this range.

Method(s) 8260C: Due to the high concentration of Acetone, m-Xylene & p-Xylene, o-Xylene and Toluene, the matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-298792 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260C: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 580-298920 and analytical batch 580-298919 recovered outside control limits for the following analyte: Methyl tert-butyl ether. The LCS and LCSD recoveries met acceptance limits.

Method(s) 8260C: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 580-299195 and analytical batch 580-299227 recovered outside control limits for the following analyte: Toluene. The LCS and LCSD recoveries met acceptance limits.

Method(s) 8260C: Reanalysis of the following samples were performed outside of the analytical holding time due to LCS/LCSD failures in the initial run. : MW-20-12.5 (580-85442-1), MW-20-15 (580-85442-2), MW-21-10 (580-85442-3), MW-21-15 (580-85442-4), MW-22-12 (580-85442-5), SB-1-12.5 (580-85442-11), SB-1-15 (580-85442-12), SB-2-12.5 (580-85442-13), SB-2-15 (580-85442-14), SB-5-12.5

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Job ID: 580-85442-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

(580-85442-15), SB-5-15 (580-85442-16), SB-6-12.5 (580-85442-17), SB-6-15 (580-85442-18), SVP-1-5 (580-85442-19), DUP-1 (580-85442-20) and Trip Blank (580-85442-23). The samples were placed in the freezer on 4/12/2019 at 10:35, were removed for prep on 4/23/2019 at 15:59, and analyzed on 4/24/2019.

Method(s) 8260C: The internal standards failed low for the following sample: MW-24-13 (580-85442-9). Since the ISTD is low, there is no volume remaining for a re-analysis, and the sample is ND for all analytes, the data has been reported.

Method(s) 8260C: The laboratory control sample (LCS) for preparation batch 580-299354 and analytical batch 580-299327 recovered outside acceptance limits for Toluene. There was insufficient sample to perform a re-extraction or re-analysis; therefore, the data have been reported.

Method(s) 8260C: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 580-299354 and analytical batch 580-299327 recovered outside control limits for the following analytes: Methyl tert-butyl ether and o-Xylene. The LCS and LCSD recoveries met acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D SIM: The method blank for preparation batch 580-298822 contained Naphthalene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D SIM: The following sample was diluted due to the nature of the sample matrix: MW-22-15 (580-85442-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-20-12.5

Lab Sample ID: 580-85442-1

Date Collected: 04/09/19 08:10

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 66.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	2.1	0.31	ug/Kg	☼	04/12/19 10:35	04/18/19 18:58	1
Benzene	ND		2.1	0.41	ug/Kg	☼	04/12/19 10:35	04/18/19 18:58	1
1,2-Dichloroethane	ND		1.0	0.21	ug/Kg	☼	04/12/19 10:35	04/18/19 18:58	1
1,2-Dibromoethane	ND		1.0	0.21	ug/Kg	☼	04/12/19 10:35	04/18/19 18:58	1
Ethylbenzene	ND		2.1	0.43	ug/Kg	☼	04/12/19 10:35	04/18/19 18:58	1
o-Xylene	ND		5.2	0.96	ug/Kg	☼	04/12/19 10:35	04/18/19 18:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 18:58	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 18:58	1
1,2-Dichloroethane-d4 (Surr)	109		80 - 121	04/12/19 10:35	04/18/19 18:58	1
4-Bromofluorobenzene (Surr)	104		80 - 120	04/12/19 10:35	04/18/19 18:58	1
Dibromofluoromethane (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 18:58	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	18	2.4	ug/Kg	☼	04/12/19 10:35	04/24/19 20:14	1
m-Xylene & p-Xylene	ND		18	3.1	ug/Kg	☼	04/12/19 10:35	04/24/19 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120	04/12/19 10:35	04/24/19 20:14	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 20:14	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/24/19 20:14	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 20:14	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 20:14	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		7.0	1.1	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1
Chrysene	3.3	J	7.0	2.1	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1
Benzo[a]pyrene	ND		7.0	0.56	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1
Indeno[1,2,3-cd]pyrene	ND		7.0	0.84	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1
Dibenz(a,h)anthracene	ND		7.0	1.0	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1
Benzo[b]fluoranthene	2.0	J	7.0	0.82	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1
Benzo[k]fluoranthene	ND		7.0	0.84	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1
Naphthalene	8.8	B	7.0	1.1	ug/Kg	☼	04/17/19 14:59	04/19/19 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		57 - 120	04/17/19 14:59	04/19/19 17:14	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.1	4.2	mg/Kg	☼	04/19/19 12:39	04/19/19 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	54		50 - 150	04/19/19 12:39	04/19/19 20:46	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		75	18	mg/Kg	☼	04/17/19 13:19	04/21/19 17:05	1
Motor Oil (>C24-C36)	77		75	26	mg/Kg	☼	04/17/19 13:19	04/21/19 17:05	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-20-12.5

Lab Sample ID: 580-85442-1

Date Collected: 04/09/19 08:10

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 66.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150	04/17/19 13:19	04/21/19 17:05	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.5		1.5	0.22	mg/Kg	☼	04/23/19 12:38	04/24/19 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	66.2		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	33.8		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-20-15

Lab Sample ID: 580-85442-2

Date Collected: 04/09/19 08:15

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 89.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.0	0.15	ug/Kg	☼	04/12/19 10:35	04/18/19 19:24	1
Benzene	ND		1.0	0.20	ug/Kg	☼	04/12/19 10:35	04/18/19 19:24	1
1,2-Dichloroethane	ND		0.51	0.10	ug/Kg	☼	04/12/19 10:35	04/18/19 19:24	1
1,2-Dibromoethane	ND		0.51	0.10	ug/Kg	☼	04/12/19 10:35	04/18/19 19:24	1
Ethylbenzene	ND		1.0	0.21	ug/Kg	☼	04/12/19 10:35	04/18/19 19:24	1
o-Xylene	ND		2.6	0.47	ug/Kg	☼	04/12/19 10:35	04/18/19 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 19:24	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 19:24	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/18/19 19:24	1
4-Bromofluorobenzene (Surr)	107		80 - 120	04/12/19 10:35	04/18/19 19:24	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 19:24	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	23	3.0	ug/Kg	☼	04/12/19 10:35	04/24/19 20:38	1
m-Xylene & p-Xylene	ND		23	3.9	ug/Kg	☼	04/12/19 10:35	04/24/19 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/24/19 20:38	1
Toluene-d8 (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 20:38	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 121	04/12/19 10:35	04/24/19 20:38	1
4-Bromofluorobenzene (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 20:38	1
Dibromofluoromethane (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 20:38	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.2	0.79	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1
Chrysene	ND		5.2	1.6	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1
Benzo[a]pyrene	ND		5.2	0.42	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1
Indeno[1,2,3-cd]pyrene	ND		5.2	0.63	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1
Dibenz(a,h)anthracene	ND		5.2	0.75	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1
Benzo[b]fluoranthene	0.62	J	5.2	0.62	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1
Benzo[k]fluoranthene	ND		5.2	0.63	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1
Naphthalene	6.0	B	5.2	0.84	ug/Kg	☼	04/17/19 14:59	04/19/19 17:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	85		57 - 120	04/17/19 14:59	04/19/19 17:40	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.7	2.1	mg/Kg	☼	04/19/19 12:39	04/19/19 21:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	56		50 - 150	04/19/19 12:39	04/19/19 21:14	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		54	13	mg/Kg	☼	04/17/19 13:19	04/21/19 17:49	1
Motor Oil (>C24-C36)	29	J	54	19	mg/Kg	☼	04/17/19 13:19	04/21/19 17:49	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-20-15

Lab Sample ID: 580-85442-2

Date Collected: 04/09/19 08:15

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 89.9

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150				04/17/19 13:19	04/21/19 17:49	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.6		1.3	0.19	mg/Kg	☼	04/23/19 12:38	04/24/19 13:54	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.9		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	10.1		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-21-10

Lab Sample ID: 580-85442-3

Date Collected: 04/09/19 12:10

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 87.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	2.1	0.32	ug/Kg	☼	04/12/19 10:35	04/18/19 19:50	1
Benzene	ND		2.1	0.41	ug/Kg	☼	04/12/19 10:35	04/18/19 19:50	1
1,2-Dichloroethane	ND		1.1	0.21	ug/Kg	☼	04/12/19 10:35	04/18/19 19:50	1
1,2-Dibromoethane	ND		1.1	0.21	ug/Kg	☼	04/12/19 10:35	04/18/19 19:50	1
Ethylbenzene	ND		2.1	0.44	ug/Kg	☼	04/12/19 10:35	04/18/19 19:50	1
o-Xylene	ND		5.3	0.98	ug/Kg	☼	04/12/19 10:35	04/18/19 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120	04/12/19 10:35	04/18/19 19:50	1
Toluene-d8 (Surr)	99		80 - 120	04/12/19 10:35	04/18/19 19:50	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 121	04/12/19 10:35	04/18/19 19:50	1
4-Bromofluorobenzene (Surr)	106		80 - 120	04/12/19 10:35	04/18/19 19:50	1
Dibromofluoromethane (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 19:50	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	9.0	1.2	ug/Kg	☼	04/12/19 10:35	04/24/19 21:03	1
m-Xylene & p-Xylene	ND		9.0	1.5	ug/Kg	☼	04/12/19 10:35	04/24/19 21:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	96		80 - 120	04/12/19 10:35	04/24/19 21:03	1
Toluene-d8 (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 21:03	1
1,2-Dichloroethane-d4 (Surr)	109		80 - 121	04/12/19 10:35	04/24/19 21:03	1
4-Bromofluorobenzene (Surr)	102		80 - 120	04/12/19 10:35	04/24/19 21:03	1
Dibromofluoromethane (Surr)	107		80 - 120	04/12/19 10:35	04/24/19 21:03	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.7	0.87	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1
Chrysene	1.9	J	5.7	1.7	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1
Benzo[a]pyrene	ND		5.7	0.46	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1
Indeno[1,2,3-cd]pyrene	ND		5.7	0.68	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1
Dibenz(a,h)anthracene	ND		5.7	0.82	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1
Benzo[b]fluoranthene	0.68	J	5.7	0.67	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1
Benzo[k]fluoranthene	ND		5.7	0.68	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1
Naphthalene	6.2	B	5.7	0.91	ug/Kg	☼	04/17/19 14:59	04/19/19 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	86		57 - 120	04/17/19 14:59	04/19/19 18:06	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.9	2.7	mg/Kg	☼	04/19/19 12:39	04/19/19 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	56		50 - 150	04/19/19 12:39	04/19/19 21:40	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		53	13	mg/Kg	☼	04/17/19 13:19	04/21/19 18:11	1
Motor Oil (>C24-C36)	23	J	53	18	mg/Kg	☼	04/17/19 13:19	04/21/19 18:11	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-21-10

Lab Sample ID: 580-85442-3

Date Collected: 04/09/19 12:10

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 87.2

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	105		50 - 150				04/17/19 13:19	04/21/19 18:11	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.0		1.4	0.21	mg/Kg	☼	04/23/19 12:38	04/24/19 13:57	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.2		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	12.8		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-21-15

Lab Sample ID: 580-85442-4

Date Collected: 04/09/19 12:20

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 81.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.3	0.19	ug/Kg	☼	04/12/19 10:35	04/18/19 20:16	1
Benzene	ND		1.3	0.25	ug/Kg	☼	04/12/19 10:35	04/18/19 20:16	1
1,2-Dichloroethane	ND		0.65	0.13	ug/Kg	☼	04/12/19 10:35	04/18/19 20:16	1
1,2-Dibromoethane	ND		0.65	0.13	ug/Kg	☼	04/12/19 10:35	04/18/19 20:16	1
Ethylbenzene	ND		1.3	0.27	ug/Kg	☼	04/12/19 10:35	04/18/19 20:16	1
o-Xylene	ND		3.2	0.59	ug/Kg	☼	04/12/19 10:35	04/18/19 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120	04/12/19 10:35	04/18/19 20:16	1
Toluene-d8 (Surr)	99		80 - 120	04/12/19 10:35	04/18/19 20:16	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 121	04/12/19 10:35	04/18/19 20:16	1
4-Bromofluorobenzene (Surr)	105		80 - 120	04/12/19 10:35	04/18/19 20:16	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/18/19 20:16	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	8.7	1.1	ug/Kg	☼	04/12/19 10:35	04/24/19 21:27	1
m-Xylene & p-Xylene	ND		8.7	1.5	ug/Kg	☼	04/12/19 10:35	04/24/19 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 120	04/12/19 10:35	04/24/19 21:27	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 21:27	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 121	04/12/19 10:35	04/24/19 21:27	1
4-Bromofluorobenzene (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 21:27	1
Dibromofluoromethane (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 21:27	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.95	J	5.7	0.86	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1
Chrysene	6.9		5.7	1.7	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1
Benzo[a]pyrene	2.4	J	5.7	0.45	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1
Indeno[1,2,3-cd]pyrene	3.4	J	5.7	0.68	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1
Dibenz(a,h)anthracene	3.6	J	5.7	0.82	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1
Benzo[b]fluoranthene	4.6	J	5.7	0.67	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1
Benzo[k]fluoranthene	0.97	J	5.7	0.68	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1
Naphthalene	8.3	B	5.7	0.91	ug/Kg	☼	04/17/19 14:59	04/19/19 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		57 - 120	04/17/19 14:59	04/19/19 19:24	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.6	2.6	mg/Kg	☼	04/19/19 12:39	04/19/19 22:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	53		50 - 150	04/19/19 12:39	04/19/19 22:07	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		57	14	mg/Kg	☼	04/17/19 13:19	04/21/19 18:33	1
Motor Oil (>C24-C36)	60		57	20	mg/Kg	☼	04/17/19 13:19	04/21/19 18:33	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-21-15

Lab Sample ID: 580-85442-4

Date Collected: 04/09/19 12:20

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 81.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150	04/17/19 13:19	04/21/19 18:33	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.4		1.1	0.16	mg/Kg	☼	04/23/19 12:38	04/24/19 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.4		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	18.6		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-22-12

Lab Sample ID: 580-85442-5

Date Collected: 04/10/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 72.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.9	0.28	ug/Kg	☼	04/12/19 10:35	04/18/19 20:43	1
Benzene	ND		1.9	0.36	ug/Kg	☼	04/12/19 10:35	04/18/19 20:43	1
1,2-Dichloroethane	ND		0.93	0.19	ug/Kg	☼	04/12/19 10:35	04/18/19 20:43	1
1,2-Dibromoethane	ND		0.93	0.19	ug/Kg	☼	04/12/19 10:35	04/18/19 20:43	1
Ethylbenzene	ND		1.9	0.38	ug/Kg	☼	04/12/19 10:35	04/18/19 20:43	1
o-Xylene	ND		4.7	0.86	ug/Kg	☼	04/12/19 10:35	04/18/19 20:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 20:43	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 20:43	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/18/19 20:43	1
4-Bromofluorobenzene (Surr)	105		80 - 120	04/12/19 10:35	04/18/19 20:43	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 20:43	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	9.7	1.3	ug/Kg	☼	04/12/19 10:35	04/24/19 18:36	1
m-Xylene & p-Xylene	ND		9.7	1.6	ug/Kg	☼	04/12/19 10:35	04/24/19 18:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120	04/12/19 10:35	04/24/19 18:36	1
Toluene-d8 (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 18:36	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 121	04/12/19 10:35	04/24/19 18:36	1
4-Bromofluorobenzene (Surr)	104		80 - 120	04/12/19 10:35	04/24/19 18:36	1
Dibromofluoromethane (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 18:36	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		6.3	0.96	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1
Chrysene	ND		6.3	1.9	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1
Benzo[a]pyrene	ND		6.3	0.51	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1
Indeno[1,2,3-cd]pyrene	ND		6.3	0.76	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1
Dibenz(a,h)anthracene	ND		6.3	0.91	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1
Benzo[b]fluoranthene	ND		6.3	0.75	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1
Benzo[k]fluoranthene	ND		6.3	0.76	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1
Naphthalene	ND		6.3	1.0	ug/Kg	☼	04/17/19 14:59	04/19/19 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		57 - 120	04/17/19 14:59	04/19/19 19:50	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.7	3.6	mg/Kg	☼	04/19/19 12:39	04/19/19 22:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	55		50 - 150	04/19/19 12:39	04/19/19 22:35	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		67	16	mg/Kg	☼	04/17/19 13:19	04/21/19 18:56	1
Motor Oil (>C24-C36)	42	J	67	23	mg/Kg	☼	04/17/19 13:19	04/21/19 18:56	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-22-12

Lab Sample ID: 580-85442-5

Date Collected: 04/10/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 72.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150	04/17/19 13:19	04/21/19 18:56	1

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	4.9		1.9	0.27	mg/Kg	☼	04/23/19 12:38	04/24/19 14:03	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	72.5		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	27.5		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-22-15

Lab Sample ID: 580-85442-6

Date Collected: 04/10/19 10:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 59.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	3.2	0.48	ug/Kg	☼	04/12/19 10:35	04/18/19 21:10	1
Benzene	ND		3.2	0.63	ug/Kg	☼	04/12/19 10:35	04/18/19 21:10	1
1,2-Dichloroethane	ND		1.6	0.32	ug/Kg	☼	04/12/19 10:35	04/18/19 21:10	1
1,2-Dibromoethane	ND		1.6	0.32	ug/Kg	☼	04/12/19 10:35	04/18/19 21:10	1
Ethylbenzene	ND		3.2	0.66	ug/Kg	☼	04/12/19 10:35	04/18/19 21:10	1
o-Xylene	ND		8.1	1.5	ug/Kg	☼	04/12/19 10:35	04/18/19 21:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 21:10	1
Toluene-d8 (Surr)	99		80 - 120	04/12/19 10:35	04/18/19 21:10	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 121	04/12/19 10:35	04/18/19 21:10	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/18/19 21:10	1
Dibromofluoromethane (Surr)	101		80 - 120	04/12/19 10:35	04/18/19 21:10	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	17	2.2	ug/Kg	☼	04/12/19 10:35	04/24/19 19:01	1
m-Xylene & p-Xylene	ND		17	2.8	ug/Kg	☼	04/12/19 10:35	04/24/19 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 120	04/12/19 10:35	04/24/19 19:01	1
Toluene-d8 (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 19:01	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 121	04/12/19 10:35	04/24/19 19:01	1
4-Bromofluorobenzene (Surr)	102		80 - 120	04/12/19 10:35	04/24/19 19:01	1
Dibromofluoromethane (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 19:01	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		23	3.6	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3
Chrysene	8.0	J	23	7.0	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3
Benzo[a]pyrene	ND		23	1.9	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3
Indeno[1,2,3-cd]pyrene	ND		23	2.8	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3
Dibenz(a,h)anthracene	ND		23	3.4	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3
Benzo[b]fluoranthene	3.0	J	23	2.8	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3
Benzo[k]fluoranthene	ND		23	2.8	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3
Naphthalene	4.7	J B	23	3.8	ug/Kg	☼	04/17/19 14:59	04/19/19 20:16	3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		57 - 120	04/17/19 14:59	04/19/19 20:16	3

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12	5.3	mg/Kg	☼	04/19/19 12:39	04/19/19 23:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	57		50 - 150	04/19/19 12:39	04/19/19 23:02	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	19	J	78	19	mg/Kg	☼	04/17/19 13:19	04/21/19 19:18	1
Motor Oil (>C24-C36)	120		78	27	mg/Kg	☼	04/17/19 13:19	04/21/19 19:18	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-22-15

Lab Sample ID: 580-85442-6

Date Collected: 04/10/19 10:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 59.2

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				04/17/19 13:19	04/21/19 19:18	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	6.6		1.5	0.22	mg/Kg	☼	04/23/19 12:38	04/24/19 14:06	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	59.2		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	40.8		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-23-13

Lab Sample ID: 580-85442-7

Date Collected: 04/10/19 14:20

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 77.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.9	0.28	ug/Kg	☼	04/12/19 10:35	04/18/19 21:37	1
Benzene	ND		1.9	0.36	ug/Kg	☼	04/12/19 10:35	04/18/19 21:37	1
1,2-Dichloroethane	ND		0.93	0.19	ug/Kg	☼	04/12/19 10:35	04/18/19 21:37	1
1,2-Dibromoethane	ND		0.93	0.19	ug/Kg	☼	04/12/19 10:35	04/18/19 21:37	1
Ethylbenzene	ND		1.9	0.38	ug/Kg	☼	04/12/19 10:35	04/18/19 21:37	1
o-Xylene	ND		4.6	0.85	ug/Kg	☼	04/12/19 10:35	04/18/19 21:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 21:37	1
Toluene-d8 (Surr)	97		80 - 120	04/12/19 10:35	04/18/19 21:37	1
1,2-Dichloroethane-d4 (Surr)	112		80 - 121	04/12/19 10:35	04/18/19 21:37	1
4-Bromofluorobenzene (Surr)	108		80 - 120	04/12/19 10:35	04/18/19 21:37	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 21:37	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	9.2	1.2	ug/Kg	☼	04/12/19 10:35	04/24/19 19:25	1
m-Xylene & p-Xylene	ND		9.2	1.6	ug/Kg	☼	04/12/19 10:35	04/24/19 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	96		80 - 120	04/12/19 10:35	04/24/19 19:25	1
Toluene-d8 (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 19:25	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 121	04/12/19 10:35	04/24/19 19:25	1
4-Bromofluorobenzene (Surr)	102		80 - 120	04/12/19 10:35	04/24/19 19:25	1
Dibromofluoromethane (Surr)	104		80 - 120	04/12/19 10:35	04/24/19 19:25	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.9	0.89	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1
Chrysene	2.6	J	5.9	1.8	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1
Benzo[a]pyrene	ND		5.9	0.47	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1
Indeno[1,2,3-cd]pyrene	ND		5.9	0.71	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1
Dibenz(a,h)anthracene	ND		5.9	0.85	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1
Benzo[b]fluoranthene	1.3	J	5.9	0.69	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1
Benzo[k]fluoranthene	ND		5.9	0.71	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1
Naphthalene	6.9	B	5.9	0.94	ug/Kg	☼	04/17/19 14:59	04/19/19 20:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	80		57 - 120	04/17/19 14:59	04/19/19 20:42	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.1	2.8	mg/Kg	☼	04/19/19 12:39	04/19/19 23:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	53		50 - 150	04/19/19 12:39	04/19/19 23:56	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		60	15	mg/Kg	☼	04/17/19 13:19	04/21/19 20:02	1
Motor Oil (>C24-C36)	43	J	60	21	mg/Kg	☼	04/17/19 13:19	04/21/19 20:02	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-23-13

Lab Sample ID: 580-85442-7

Date Collected: 04/10/19 14:20

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 77.8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150	04/17/19 13:19	04/21/19 20:02	1

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.7		1.0	0.15	mg/Kg	☼	04/23/19 12:38	04/24/19 14:09	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	77.8		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	22.2		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-23-15

Lab Sample ID: 580-85442-8

Date Collected: 04/10/19 14:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 70.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	2.3	0.35	ug/Kg	☼	04/12/19 10:35	04/18/19 22:05	1
Benzene	ND		2.3	0.45	ug/Kg	☼	04/12/19 10:35	04/18/19 22:05	1
1,2-Dichloroethane	ND		1.2	0.23	ug/Kg	☼	04/12/19 10:35	04/18/19 22:05	1
1,2-Dibromoethane	ND		1.2	0.23	ug/Kg	☼	04/12/19 10:35	04/18/19 22:05	1
Ethylbenzene	ND		2.3	0.48	ug/Kg	☼	04/12/19 10:35	04/18/19 22:05	1
o-Xylene	ND		5.8	1.1	ug/Kg	☼	04/12/19 10:35	04/18/19 22:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120	04/12/19 10:35	04/18/19 22:05	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 22:05	1
1,2-Dichloroethane-d4 (Surr)	109		80 - 121	04/12/19 10:35	04/18/19 22:05	1
4-Bromofluorobenzene (Surr)	107		80 - 120	04/12/19 10:35	04/18/19 22:05	1
Dibromofluoromethane (Surr)	102		80 - 120	04/12/19 10:35	04/18/19 22:05	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	*	11	1.5	ug/Kg	☼	04/12/19 10:35	04/24/19 19:50	1
m-Xylene & p-Xylene	ND		11	1.9	ug/Kg	☼	04/12/19 10:35	04/24/19 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	95		80 - 120	04/12/19 10:35	04/24/19 19:50	1
Toluene-d8 (Surr)	102		80 - 120	04/12/19 10:35	04/24/19 19:50	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/24/19 19:50	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 19:50	1
Dibromofluoromethane (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 19:50	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	1.3	J	6.5	0.99	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1
Chrysene	7.2		6.5	1.9	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1
Benzo[a]pyrene	1.2	J	6.5	0.52	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1
Indeno[1,2,3-cd]pyrene	ND		6.5	0.78	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1
Dibenz(a,h)anthracene	ND		6.5	0.93	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1
Benzo[b]fluoranthene	3.7	J	6.5	0.77	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1
Benzo[k]fluoranthene	0.87	J	6.5	0.78	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1
Naphthalene	7.6	B	6.5	1.0	ug/Kg	☼	04/17/19 14:59	04/19/19 21:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		57 - 120	04/17/19 14:59	04/19/19 21:08	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		8.4	3.9	mg/Kg	☼	04/19/19 12:39	04/20/19 00:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	57		50 - 150	04/19/19 12:39	04/20/19 00:23	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		63	16	mg/Kg	☼	04/17/19 13:19	04/21/19 20:24	1
Motor Oil (>C24-C36)	86		63	22	mg/Kg	☼	04/17/19 13:19	04/21/19 20:24	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-23-15

Lab Sample ID: 580-85442-8

Date Collected: 04/10/19 14:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 70.0

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	91		50 - 150				04/17/19 13:19	04/21/19 20:24	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.0		1.2	0.18	mg/Kg	☼	04/23/19 12:38	04/24/19 14:14	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	70.0		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	30.0		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-24-13

Lab Sample ID: 580-85442-9

Date Collected: 04/11/19 11:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 81.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.7	0.25	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1
Benzene	ND		1.7	0.32	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1
1,2-Dichloroethane	ND		0.83	0.17	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1
Toluene	ND	*	8.3	1.1	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1
1,2-Dibromoethane	ND		0.83	0.17	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1
Ethylbenzene	ND		1.7	0.34	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1
m-Xylene & p-Xylene	ND		8.3	1.4	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1
o-Xylene	ND	*	4.2	0.77	ug/Kg	☼	04/12/19 10:35	04/25/19 17:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	92		80 - 120	04/12/19 10:35	04/25/19 17:33	1
Toluene-d8 (Surr)	99		80 - 120	04/12/19 10:35	04/25/19 17:33	1
1,2-Dichloroethane-d4 (Surr)	118		80 - 121	04/12/19 10:35	04/25/19 17:33	1
4-Bromofluorobenzene (Surr)	106		80 - 120	04/12/19 10:35	04/25/19 17:33	1
Dibromofluoromethane (Surr)	103		80 - 120	04/12/19 10:35	04/25/19 17:33	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.7	0.87	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1
Chrysene	ND		5.7	1.7	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1
Benzo[a]pyrene	ND		5.7	0.46	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1
Indeno[1,2,3-cd]pyrene	ND		5.7	0.69	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1
Dibenz(a,h)anthracene	ND		5.7	0.82	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1
Benzo[b]fluoranthene	0.95	J	5.7	0.67	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1
Benzo[k]fluoranthene	ND		5.7	0.69	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1
Naphthalene	ND		5.7	0.91	ug/Kg	☼	04/17/19 14:59	04/19/19 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		57 - 120	04/17/19 14:59	04/19/19 21:34	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.2	2.8	mg/Kg	☼	04/19/19 12:39	04/20/19 00:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	55		50 - 150	04/19/19 12:39	04/20/19 00:50	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		59	14	mg/Kg	☼	04/17/19 13:19	04/21/19 20:46	1
Motor Oil (>C24-C36)	48	J	59	21	mg/Kg	☼	04/17/19 13:19	04/21/19 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	98		50 - 150	04/17/19 13:19	04/21/19 20:46	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.3		1.2	0.18	mg/Kg	☼	04/23/19 12:38	04/24/19 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.0		0.1	0.1	%			04/17/19 08:56	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-24-13

Lab Sample ID: 580-85442-9

Date Collected: 04/11/19 11:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 81.0

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.0		0.1	0.1	%			04/17/19 08:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-24-15

Lab Sample ID: 580-85442-10

Date Collected: 04/11/19 11:50

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 75.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	2.0	0.29	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1
Benzene	ND		2.0	0.38	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1
1,2-Dichloroethane	ND		0.98	0.20	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1
Toluene	ND	*	9.8	1.3	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1
1,2-Dibromoethane	ND		0.98	0.20	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1
Ethylbenzene	ND		2.0	0.40	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1
m-Xylene & p-Xylene	ND		9.8	1.7	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1
o-Xylene	ND	*	4.9	0.90	ug/Kg	☼	04/12/19 10:35	04/25/19 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	95		80 - 120	04/12/19 10:35	04/25/19 17:58	1
Toluene-d8 (Surr)	103		80 - 120	04/12/19 10:35	04/25/19 17:58	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 121	04/12/19 10:35	04/25/19 17:58	1
4-Bromofluorobenzene (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 17:58	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 17:58	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		6.2	0.95	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1
Chrysene	2.4	J	6.2	1.9	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1
Benzo[a]pyrene	ND		6.2	0.50	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1
Indeno[1,2,3-cd]pyrene	ND		6.2	0.75	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1
Dibenz(a,h)anthracene	ND		6.2	0.90	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1
Benzo[b]fluoranthene	1.6	J	6.2	0.74	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1
Benzo[k]fluoranthene	ND		6.2	0.75	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1
Naphthalene	ND		6.2	1.0	ug/Kg	☼	04/17/19 14:59	04/19/19 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	80		57 - 120	04/17/19 14:59	04/19/19 22:00	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.0	3.2	mg/Kg	☼	04/19/19 13:00	04/19/19 20:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	04/19/19 13:00	04/19/19 20:28	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		63	15	mg/Kg	☼	04/17/19 13:19	04/21/19 21:08	1
Motor Oil (>C24-C36)	48	J	63	22	mg/Kg	☼	04/17/19 13:19	04/21/19 21:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	91		50 - 150	04/17/19 13:19	04/21/19 21:08	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.5		1.6	0.24	mg/Kg	☼	04/23/19 12:38	04/24/19 14:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	75.3		0.1	0.1	%			04/17/19 08:56	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-24-15

Lab Sample ID: 580-85442-10

Date Collected: 04/11/19 11:50

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 75.3

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.7		0.1	0.1	%			04/17/19 08:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-1-12.5

Lab Sample ID: 580-85442-11

Date Collected: 04/09/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 80.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.9	0.28	ug/Kg	☼	04/12/19 10:35	04/18/19 22:33	1
Benzene	ND		1.9	0.36	ug/Kg	☼	04/12/19 10:35	04/18/19 22:33	1
1,2-Dichloroethane	ND		0.93	0.19	ug/Kg	☼	04/12/19 10:35	04/18/19 22:33	1
1,2-Dibromoethane	ND		0.93	0.19	ug/Kg	☼	04/12/19 10:35	04/18/19 22:33	1
Ethylbenzene	ND		1.9	0.38	ug/Kg	☼	04/12/19 10:35	04/18/19 22:33	1
o-Xylene	ND		4.6	0.85	ug/Kg	☼	04/12/19 10:35	04/18/19 22:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120	04/12/19 10:35	04/18/19 22:33	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 22:33	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 121	04/12/19 10:35	04/18/19 22:33	1
4-Bromofluorobenzene (Surr)	104		80 - 120	04/12/19 10:35	04/18/19 22:33	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/18/19 22:33	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	9.1	1.2	ug/Kg	☼	04/12/19 10:35	04/24/19 21:52	1
m-Xylene & p-Xylene	ND	H	9.1	1.6	ug/Kg	☼	04/12/19 10:35	04/24/19 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 120	04/12/19 10:35	04/24/19 21:52	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 21:52	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/24/19 21:52	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 21:52	1
Dibromofluoromethane (Surr)	102		80 - 120	04/12/19 10:35	04/24/19 21:52	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.6	0.86	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1
Chrysene	ND		5.6	1.7	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1
Benzo[a]pyrene	ND		5.6	0.45	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1
Indeno[1,2,3-cd]pyrene	ND		5.6	0.68	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1
Dibenz(a,h)anthracene	ND		5.6	0.81	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1
Benzo[b]fluoranthene	0.90	J	5.6	0.66	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1
Benzo[k]fluoranthene	ND		5.6	0.68	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1
Naphthalene	1.7	J B	5.6	0.90	ug/Kg	☼	04/17/19 14:59	04/19/19 22:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		57 - 120	04/17/19 14:59	04/19/19 22:26	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		6.3	2.9	mg/Kg	☼	04/19/19 13:00	04/19/19 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	04/19/19 13:00	04/19/19 20:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		61	15	mg/Kg	☼	04/17/19 13:19	04/21/19 21:30	1
Motor Oil (>C24-C36)	48	J	61	21	mg/Kg	☼	04/17/19 13:19	04/21/19 21:30	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-1-12.5

Lab Sample ID: 580-85442-11

Date Collected: 04/09/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 80.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	98		50 - 150	04/17/19 13:19	04/21/19 21:30	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.8		1.1	0.16	mg/Kg	☼	04/23/19 12:38	04/24/19 14:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80.6		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	19.4		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-1-15

Lab Sample ID: 580-85442-12

Date Collected: 04/09/19 10:45

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 74.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.8	0.27	ug/Kg	☼	04/12/19 10:35	04/18/19 23:01	1
Benzene	ND		1.8	0.35	ug/Kg	☼	04/12/19 10:35	04/18/19 23:01	1
1,2-Dichloroethane	ND		0.90	0.18	ug/Kg	☼	04/12/19 10:35	04/18/19 23:01	1
1,2-Dibromoethane	ND		0.90	0.18	ug/Kg	☼	04/12/19 10:35	04/18/19 23:01	1
Ethylbenzene	ND		1.8	0.37	ug/Kg	☼	04/12/19 10:35	04/18/19 23:01	1
o-Xylene	ND		4.5	0.82	ug/Kg	☼	04/12/19 10:35	04/18/19 23:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120	04/12/19 10:35	04/18/19 23:01	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 23:01	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 121	04/12/19 10:35	04/18/19 23:01	1
4-Bromofluorobenzene (Surr)	106		80 - 120	04/12/19 10:35	04/18/19 23:01	1
Dibromofluoromethane (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 23:01	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	11	1.5	ug/Kg	☼	04/12/19 10:35	04/24/19 22:17	1
m-Xylene & p-Xylene	ND	H	11	1.9	ug/Kg	☼	04/12/19 10:35	04/24/19 22:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	95		80 - 120	04/12/19 10:35	04/24/19 22:17	1
Toluene-d8 (Surr)	97		80 - 120	04/12/19 10:35	04/24/19 22:17	1
1,2-Dichloroethane-d4 (Surr)	111		80 - 121	04/12/19 10:35	04/24/19 22:17	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 22:17	1
Dibromofluoromethane (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 22:17	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	1.2	J	6.6	1.0	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1
Chrysene	7.6		6.6	2.0	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1
Benzo[a]pyrene	1.6	J	6.6	0.52	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1
Indeno[1,2,3-cd]pyrene	4.0	J	6.6	0.79	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1
Dibenz(a,h)anthracene	4.0	J	6.6	0.94	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1
Benzo[b]fluoranthene	5.7	J	6.6	0.77	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1
Benzo[k]fluoranthene	0.92	J	6.6	0.79	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1
Naphthalene	10	B	6.6	1.0	ug/Kg	☼	04/17/19 14:59	04/19/19 22:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		57 - 120	04/17/19 14:59	04/19/19 22:52	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.5	3.4	mg/Kg	☼	04/19/19 13:00	04/19/19 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150	04/19/19 13:00	04/19/19 21:28	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		65	16	mg/Kg	☼	04/17/19 13:19	04/21/19 21:51	1
Motor Oil (>C24-C36)	77		65	23	mg/Kg	☼	04/17/19 13:19	04/21/19 21:51	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-1-15
 Date Collected: 04/09/19 10:45
 Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-12
 Matrix: Solid
 Percent Solids: 74.6

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				04/17/19 13:19	04/21/19 21:51	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.3		1.5	0.22	mg/Kg	☼	04/23/19 12:38	04/24/19 14:32	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	74.6		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	25.4		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-2-12.5

Lab Sample ID: 580-85442-13

Date Collected: 04/08/19 12:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 79.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.8	0.27	ug/Kg	☼	04/12/19 10:35	04/18/19 23:30	1
Benzene	ND		1.8	0.35	ug/Kg	☼	04/12/19 10:35	04/18/19 23:30	1
1,2-Dichloroethane	ND		0.90	0.18	ug/Kg	☼	04/12/19 10:35	04/18/19 23:30	1
1,2-Dibromoethane	ND		0.90	0.18	ug/Kg	☼	04/12/19 10:35	04/18/19 23:30	1
Ethylbenzene	ND		1.8	0.37	ug/Kg	☼	04/12/19 10:35	04/18/19 23:30	1
o-Xylene	ND		4.5	0.83	ug/Kg	☼	04/12/19 10:35	04/18/19 23:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 120	04/12/19 10:35	04/18/19 23:30	1
Toluene-d8 (Surr)	101		80 - 120	04/12/19 10:35	04/18/19 23:30	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/18/19 23:30	1
4-Bromofluorobenzene (Surr)	102		80 - 120	04/12/19 10:35	04/18/19 23:30	1
Dibromofluoromethane (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 23:30	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	8.4	1.1	ug/Kg	☼	04/12/19 10:35	04/24/19 22:42	1
m-Xylene & p-Xylene	ND	H	8.4	1.4	ug/Kg	☼	04/12/19 10:35	04/24/19 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120	04/12/19 10:35	04/24/19 22:42	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 22:42	1
1,2-Dichloroethane-d4 (Surr)	109		80 - 121	04/12/19 10:35	04/24/19 22:42	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 22:42	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 22:42	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		6.0	0.91	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1
Chrysene	2.3	J	6.0	1.8	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1
Benzo[a]pyrene	ND		6.0	0.48	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1
Indeno[1,2,3-cd]pyrene	ND		6.0	0.72	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1
Dibenz(a,h)anthracene	ND		6.0	0.87	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1
Benzo[b]fluoranthene	2.5	J	6.0	0.71	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1
Benzo[k]fluoranthene	ND		6.0	0.72	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1
Naphthalene	1.2	J B	6.0	0.96	ug/Kg	☼	04/17/19 14:59	04/19/19 23:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	83		57 - 120	04/17/19 14:59	04/19/19 23:18	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.7	2.6	mg/Kg	☼	04/19/19 13:00	04/19/19 21:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150	04/19/19 13:00	04/19/19 21:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		62	15	mg/Kg	☼	04/17/19 13:19	04/21/19 22:35	1
Motor Oil (>C24-C36)	26	J	62	22	mg/Kg	☼	04/17/19 13:19	04/21/19 22:35	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-2-12.5
 Date Collected: 04/08/19 12:30
 Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-13
 Matrix: Solid
 Percent Solids: 79.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150	04/17/19 13:19	04/21/19 22:35	1

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.9		1.8	0.27	mg/Kg	☼	04/23/19 12:38	04/24/19 14:35	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.0		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	21.0		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-2-15

Lab Sample ID: 580-85442-14

Date Collected: 04/08/19 13:00

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 72.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	2.0	0.30	ug/Kg	☼	04/12/19 10:35	04/18/19 23:59	1
Benzene	ND		2.0	0.40	ug/Kg	☼	04/12/19 10:35	04/18/19 23:59	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg	☼	04/12/19 10:35	04/18/19 23:59	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg	☼	04/12/19 10:35	04/18/19 23:59	1
Ethylbenzene	ND		2.0	0.42	ug/Kg	☼	04/12/19 10:35	04/18/19 23:59	1
o-Xylene	ND		5.1	0.93	ug/Kg	☼	04/12/19 10:35	04/18/19 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120	04/12/19 10:35	04/18/19 23:59	1
Toluene-d8 (Surr)	99		80 - 120	04/12/19 10:35	04/18/19 23:59	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 121	04/12/19 10:35	04/18/19 23:59	1
4-Bromofluorobenzene (Surr)	104		80 - 120	04/12/19 10:35	04/18/19 23:59	1
Dibromofluoromethane (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 23:59	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	8.5	1.1	ug/Kg	☼	04/12/19 10:35	04/24/19 23:07	1
m-Xylene & p-Xylene	ND	H	8.5	1.4	ug/Kg	☼	04/12/19 10:35	04/24/19 23:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 120	04/12/19 10:35	04/24/19 23:07	1
Toluene-d8 (Surr)	99		80 - 120	04/12/19 10:35	04/24/19 23:07	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 121	04/12/19 10:35	04/24/19 23:07	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/24/19 23:07	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 23:07	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		6.3	0.95	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1
Chrysene	1.9	J	6.3	1.9	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1
Benzo[a]pyrene	ND		6.3	0.50	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1
Indeno[1,2,3-cd]pyrene	ND		6.3	0.75	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1
Dibenz(a,h)anthracene	ND		6.3	0.90	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1
Benzo[b]fluoranthene	ND		6.3	0.74	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1
Benzo[k]fluoranthene	ND		6.3	0.75	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1
Naphthalene	ND		6.3	1.0	ug/Kg	☼	04/17/19 14:59	04/19/19 23:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	81		57 - 120	04/17/19 14:59	04/19/19 23:44	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		8.0	3.7	mg/Kg	☼	04/19/19 13:00	04/19/19 22:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	04/19/19 13:00	04/19/19 22:28	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		65	16	mg/Kg	☼	04/17/19 13:19	04/21/19 22:57	1
Motor Oil (>C24-C36)	39	J	65	23	mg/Kg	☼	04/17/19 13:19	04/21/19 22:57	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-2-15
Date Collected: 04/08/19 13:00
Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-14
Matrix: Solid
Percent Solids: 72.1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	89		50 - 150				04/17/19 13:19	04/21/19 22:57	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	4.7		1.7	0.26	mg/Kg	☼	04/23/19 12:38	04/24/19 14:38	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	72.1		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	27.9		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-5-12.5

Lab Sample ID: 580-85442-15

Date Collected: 04/09/19 11:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 93.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.3	0.20	ug/Kg	☼	04/12/19 10:35	04/19/19 00:28	1
Benzene	ND		1.3	0.26	ug/Kg	☼	04/12/19 10:35	04/19/19 00:28	1
1,2-Dichloroethane	ND		0.65	0.13	ug/Kg	☼	04/12/19 10:35	04/19/19 00:28	1
1,2-Dibromoethane	ND		0.65	0.13	ug/Kg	☼	04/12/19 10:35	04/19/19 00:28	1
Ethylbenzene	ND		1.3	0.27	ug/Kg	☼	04/12/19 10:35	04/19/19 00:28	1
o-Xylene	ND		3.3	0.60	ug/Kg	☼	04/12/19 10:35	04/19/19 00:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/19/19 00:28	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/19/19 00:28	1
1,2-Dichloroethane-d4 (Surr)	108		80 - 121	04/12/19 10:35	04/19/19 00:28	1
4-Bromofluorobenzene (Surr)	107		80 - 120	04/12/19 10:35	04/19/19 00:28	1
Dibromofluoromethane (Surr)	101		80 - 120	04/12/19 10:35	04/19/19 00:28	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	8.7	1.1	ug/Kg	☼	04/12/19 10:35	04/24/19 23:33	1
m-Xylene & p-Xylene	ND	H	8.7	1.5	ug/Kg	☼	04/12/19 10:35	04/24/19 23:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120	04/12/19 10:35	04/24/19 23:33	1
Toluene-d8 (Surr)	99		80 - 120	04/12/19 10:35	04/24/19 23:33	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 121	04/12/19 10:35	04/24/19 23:33	1
4-Bromofluorobenzene (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 23:33	1
Dibromofluoromethane (Surr)	95		80 - 120	04/12/19 10:35	04/24/19 23:33	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.1	0.77	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1
Chrysene	ND		5.1	1.5	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1
Benzo[a]pyrene	ND		5.1	0.41	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1
Indeno[1,2,3-cd]pyrene	ND		5.1	0.61	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1
Dibenz(a,h)anthracene	ND		5.1	0.73	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1
Benzo[b]fluoranthene	1.0	J	5.1	0.60	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1
Benzo[k]fluoranthene	ND		5.1	0.61	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1
Naphthalene	ND		5.1	0.82	ug/Kg	☼	04/17/19 14:59	04/20/19 00:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	80		57 - 120	04/17/19 14:59	04/20/19 00:10	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.5	2.1	mg/Kg	☼	04/19/19 13:00	04/19/19 22:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	04/19/19 13:00	04/19/19 22:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		51	13	mg/Kg	☼	04/17/19 13:19	04/21/19 23:19	1
Motor Oil (>C24-C36)	36	J	51	18	mg/Kg	☼	04/17/19 13:19	04/21/19 23:19	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-5-12.5

Lab Sample ID: 580-85442-15

Date Collected: 04/09/19 11:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 93.0

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				04/17/19 13:19	04/21/19 23:19	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.9		1.1	0.17	mg/Kg	☼	04/23/19 12:38	04/24/19 14:41	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.0		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	7.0		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-5-15

Lab Sample ID: 580-85442-16

Date Collected: 04/09/19 11:50

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 73.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	2.1	0.32	ug/Kg	☼	04/12/19 10:35	04/19/19 00:58	1
Benzene	ND		2.1	0.41	ug/Kg	☼	04/12/19 10:35	04/19/19 00:58	1
1,2-Dichloroethane	ND		1.1	0.21	ug/Kg	☼	04/12/19 10:35	04/19/19 00:58	1
1,2-Dibromoethane	ND		1.1	0.21	ug/Kg	☼	04/12/19 10:35	04/19/19 00:58	1
Ethylbenzene	ND		2.1	0.44	ug/Kg	☼	04/12/19 10:35	04/19/19 00:58	1
o-Xylene	ND		5.3	0.98	ug/Kg	☼	04/12/19 10:35	04/19/19 00:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120	04/12/19 10:35	04/19/19 00:58	1
Toluene-d8 (Surr)	104		80 - 120	04/12/19 10:35	04/19/19 00:58	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 121	04/12/19 10:35	04/19/19 00:58	1
4-Bromofluorobenzene (Surr)	100		80 - 120	04/12/19 10:35	04/19/19 00:58	1
Dibromofluoromethane (Surr)	98		80 - 120	04/12/19 10:35	04/19/19 00:58	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	12	1.5	ug/Kg	☼	04/12/19 10:35	04/24/19 23:59	1
m-Xylene & p-Xylene	ND	H	12	2.0	ug/Kg	☼	04/12/19 10:35	04/24/19 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 23:59	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 23:59	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/24/19 23:59	1
4-Bromofluorobenzene (Surr)	102		80 - 120	04/12/19 10:35	04/24/19 23:59	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/24/19 23:59	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		6.4	0.97	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1
Chrysene	5.6	J	6.4	1.9	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1
Benzo[a]pyrene	1.2	J	6.4	0.51	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1
Indeno[1,2,3-cd]pyrene	2.6	J	6.4	0.77	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1
Dibenz(a,h)anthracene	3.1	J	6.4	0.92	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1
Benzo[b]fluoranthene	4.6	J	6.4	0.75	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1
Benzo[k]fluoranthene	ND		6.4	0.77	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1
Naphthalene	8.8	B	6.4	1.0	ug/Kg	☼	04/17/19 14:59	04/20/19 00:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		57 - 120	04/17/19 14:59	04/20/19 00:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.5	3.4	mg/Kg	☼	04/19/19 13:00	04/19/19 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	04/19/19 13:00	04/19/19 23:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		62	15	mg/Kg	☼	04/17/19 13:19	04/22/19 00:02	1
Motor Oil (>C24-C36)	64		62	22	mg/Kg	☼	04/17/19 13:19	04/22/19 00:02	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-5-15

Date Collected: 04/09/19 11:50

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-16

Matrix: Solid

Percent Solids: 73.6

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				04/17/19 13:19	04/22/19 00:02	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	4.3		1.1	0.17	mg/Kg	☼	04/23/19 12:38	04/24/19 14:44	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	73.6		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	26.4		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-6-12.5

Lab Sample ID: 580-85442-17

Date Collected: 04/09/19 16:00

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 92.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.6	0.25	ug/Kg	☼	04/12/19 10:35	04/19/19 01:25	1
Benzene	ND		1.6	0.32	ug/Kg	☼	04/12/19 10:35	04/19/19 01:25	1
1,2-Dichloroethane	ND		0.82	0.16	ug/Kg	☼	04/12/19 10:35	04/19/19 01:25	1
1,2-Dibromoethane	ND		0.82	0.16	ug/Kg	☼	04/12/19 10:35	04/19/19 01:25	1
Ethylbenzene	ND		1.6	0.34	ug/Kg	☼	04/12/19 10:35	04/19/19 01:25	1
o-Xylene	ND		4.1	0.75	ug/Kg	☼	04/12/19 10:35	04/19/19 01:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	101		80 - 120	04/12/19 10:35	04/19/19 01:25	1
Toluene-d8 (Surr)	97		80 - 120	04/12/19 10:35	04/19/19 01:25	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 121	04/12/19 10:35	04/19/19 01:25	1
4-Bromofluorobenzene (Surr)	104		80 - 120	04/12/19 10:35	04/19/19 01:25	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/19/19 01:25	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	9.5	1.2	ug/Kg	☼	04/12/19 10:35	04/25/19 00:25	1
m-Xylene & p-Xylene	ND	H	9.5	1.6	ug/Kg	☼	04/12/19 10:35	04/25/19 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 00:25	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 00:25	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 121	04/12/19 10:35	04/25/19 00:25	1
4-Bromofluorobenzene (Surr)	104		80 - 120	04/12/19 10:35	04/25/19 00:25	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/25/19 00:25	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		4.9	0.74	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1
Chrysene	ND		4.9	1.5	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1
Benzo[a]pyrene	ND		4.9	0.39	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1
Indeno[1,2,3-cd]pyrene	ND		4.9	0.58	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1
Dibenz(a,h)anthracene	ND		4.9	0.70	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1
Benzo[b]fluoranthene	ND		4.9	0.57	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1
Benzo[k]fluoranthene	ND		4.9	0.58	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1
Naphthalene	5.2	B	4.9	0.78	ug/Kg	☼	04/17/19 14:59	04/20/19 01:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	83		57 - 120	04/17/19 14:59	04/20/19 01:01	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.2	2.4	mg/Kg	☼	04/19/19 13:00	04/20/19 00:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150	04/19/19 13:00	04/20/19 00:28	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		49	12	mg/Kg	☼	04/17/19 13:19	04/22/19 00:24	1
Motor Oil (>C24-C36)	39	J	49	17	mg/Kg	☼	04/17/19 13:19	04/22/19 00:24	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-6-12.5

Lab Sample ID: 580-85442-17

Date Collected: 04/09/19 16:00

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 92.9

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150				04/17/19 13:19	04/22/19 00:24	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.6		1.2	0.18	mg/Kg	☼	04/23/19 12:38	04/24/19 14:47	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.9		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	7.1		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-6-15

Lab Sample ID: 580-85442-18

Date Collected: 04/09/19 16:15

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 75.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	2.1	0.32	ug/Kg	☼	04/12/19 10:35	04/19/19 01:53	1
Benzene	ND		2.1	0.42	ug/Kg	☼	04/12/19 10:35	04/19/19 01:53	1
1,2-Dichloroethane	ND		1.1	0.21	ug/Kg	☼	04/12/19 10:35	04/19/19 01:53	1
1,2-Dibromoethane	ND		1.1	0.21	ug/Kg	☼	04/12/19 10:35	04/19/19 01:53	1
Ethylbenzene	ND		2.1	0.44	ug/Kg	☼	04/12/19 10:35	04/19/19 01:53	1
o-Xylene	ND		5.3	0.98	ug/Kg	☼	04/12/19 10:35	04/19/19 01:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	101		80 - 120	04/12/19 10:35	04/19/19 01:53	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/19/19 01:53	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 121	04/12/19 10:35	04/19/19 01:53	1
4-Bromofluorobenzene (Surr)	106		80 - 120	04/12/19 10:35	04/19/19 01:53	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/19/19 01:53	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	12	1.5	ug/Kg	☼	04/12/19 10:35	04/25/19 00:52	1
m-Xylene & p-Xylene	ND	H	12	2.0	ug/Kg	☼	04/12/19 10:35	04/25/19 00:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/25/19 00:52	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 00:52	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 121	04/12/19 10:35	04/25/19 00:52	1
4-Bromofluorobenzene (Surr)	102		80 - 120	04/12/19 10:35	04/25/19 00:52	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/25/19 00:52	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	1.6	J	6.3	0.95	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1
Chrysene	7.8		6.3	1.9	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1
Benzo[a]pyrene	2.1	J	6.3	0.50	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1
Indeno[1,2,3-cd]pyrene	3.2	J	6.3	0.75	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1
Dibenz(a,h)anthracene	2.7	J	6.3	0.90	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1
Benzo[b]fluoranthene	4.0	J	6.3	0.74	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1
Benzo[k]fluoranthene	ND		6.3	0.75	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1
Naphthalene	7.9	B	6.3	1.0	ug/Kg	☼	04/17/19 14:59	04/20/19 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	73		57 - 120	04/17/19 14:59	04/20/19 01:27	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		8.0	3.7	mg/Kg	☼	04/19/19 13:00	04/20/19 00:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150	04/19/19 13:00	04/20/19 00:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		64	16	mg/Kg	☼	04/17/19 13:19	04/22/19 00:45	1
Motor Oil (>C24-C36)	57	J	64	22	mg/Kg	☼	04/17/19 13:19	04/22/19 00:45	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-6-15
 Date Collected: 04/09/19 16:15
 Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-18
 Matrix: Solid
 Percent Solids: 75.9

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>o</i> -Terphenyl	95		50 - 150			04/17/19 13:19	04/22/19 00:45	1	
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.6		1.1	0.16	mg/Kg	☼	04/23/19 12:38	04/24/19 14:50	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	75.9		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	24.1		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SVP-1-5

Lab Sample ID: 580-85442-19

Date Collected: 04/10/19 11:45

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 79.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.9	0.29	ug/Kg	☼	04/12/19 10:35	04/19/19 02:20	1
Benzene	ND		1.9	0.38	ug/Kg	☼	04/12/19 10:35	04/19/19 02:20	1
1,2-Dichloroethane	ND		0.96	0.19	ug/Kg	☼	04/12/19 10:35	04/19/19 02:20	1
1,2-Dibromoethane	ND		0.96	0.19	ug/Kg	☼	04/12/19 10:35	04/19/19 02:20	1
Ethylbenzene	ND		1.9	0.40	ug/Kg	☼	04/12/19 10:35	04/19/19 02:20	1
o-Xylene	ND		4.8	0.89	ug/Kg	☼	04/12/19 10:35	04/19/19 02:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120	04/12/19 10:35	04/19/19 02:20	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/19/19 02:20	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 121	04/12/19 10:35	04/19/19 02:20	1
4-Bromofluorobenzene (Surr)	105		80 - 120	04/12/19 10:35	04/19/19 02:20	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/19/19 02:20	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	10	1.3	ug/Kg	☼	04/12/19 10:35	04/25/19 18:22	1
m-Xylene & p-Xylene	ND	H	10	1.7	ug/Kg	☼	04/12/19 10:35	04/25/19 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	94		80 - 120	04/12/19 10:35	04/25/19 18:22	1
Toluene-d8 (Surr)	102		80 - 120	04/12/19 10:35	04/25/19 18:22	1
1,2-Dichloroethane-d4 (Surr)	109		80 - 121	04/12/19 10:35	04/25/19 18:22	1
4-Bromofluorobenzene (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 18:22	1
Dibromofluoromethane (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 18:22	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		6.2	0.94	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1
Chrysene	3.9	J	6.2	1.9	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1
Benzo[a]pyrene	ND		6.2	0.49	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1
Indeno[1,2,3-cd]pyrene	ND		6.2	0.74	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1
Dibenz(a,h)anthracene	ND		6.2	0.89	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1
Benzo[b]fluoranthene	3.0	J	6.2	0.73	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1
Benzo[k]fluoranthene	ND		6.2	0.74	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1
Naphthalene	3.0	J B	6.2	0.99	ug/Kg	☼	04/17/19 14:59	04/20/19 01:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		57 - 120	04/17/19 14:59	04/20/19 01:53	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		7.2	3.3	mg/Kg	☼	04/19/19 13:00	04/20/19 01:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150	04/19/19 13:00	04/20/19 01:28	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		62	15	mg/Kg	☼	04/17/19 13:19	04/22/19 01:07	1
Motor Oil (>C24-C36)	38	J	62	22	mg/Kg	☼	04/17/19 13:19	04/22/19 01:07	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SVP-1-5

Lab Sample ID: 580-85442-19

Date Collected: 04/10/19 11:45

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 79.4

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				04/17/19 13:19	04/22/19 01:07	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	7.0		1.6	0.23	mg/Kg	☼	04/23/19 12:38	04/24/19 14:53	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.4		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	20.6		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: DUP-1
Date Collected: 04/08/19 00:01
Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-20
Matrix: Solid
Percent Solids: 83.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.7	0.25	ug/Kg	☼	04/12/19 10:35	04/19/19 02:48	1
Benzene	ND		1.7	0.32	ug/Kg	☼	04/12/19 10:35	04/19/19 02:48	1
1,2-Dichloroethane	ND		0.83	0.17	ug/Kg	☼	04/12/19 10:35	04/19/19 02:48	1
1,2-Dibromoethane	ND		0.83	0.17	ug/Kg	☼	04/12/19 10:35	04/19/19 02:48	1
Ethylbenzene	ND		1.7	0.34	ug/Kg	☼	04/12/19 10:35	04/19/19 02:48	1
o-Xylene	ND		4.1	0.76	ug/Kg	☼	04/12/19 10:35	04/19/19 02:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/19/19 02:48	1
Toluene-d8 (Surr)	98		80 - 120	04/12/19 10:35	04/19/19 02:48	1
1,2-Dichloroethane-d4 (Surr)	108		80 - 121	04/12/19 10:35	04/19/19 02:48	1
4-Bromofluorobenzene (Surr)	105		80 - 120	04/12/19 10:35	04/19/19 02:48	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/19/19 02:48	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	8.5	1.1	ug/Kg	☼	04/12/19 10:35	04/25/19 01:18	1
m-Xylene & p-Xylene	ND	H	8.5	1.5	ug/Kg	☼	04/12/19 10:35	04/25/19 01:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/25/19 01:18	1
Toluene-d8 (Surr)	100		80 - 120	04/12/19 10:35	04/25/19 01:18	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 121	04/12/19 10:35	04/25/19 01:18	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/12/19 10:35	04/25/19 01:18	1
Dibromofluoromethane (Surr)	99		80 - 120	04/12/19 10:35	04/25/19 01:18	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.5	0.83	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1
Chrysene	ND		5.5	1.6	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1
Benzo[a]pyrene	ND		5.5	0.44	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1
Indeno[1,2,3-cd]pyrene	ND		5.5	0.66	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1
Dibenz(a,h)anthracene	ND		5.5	0.79	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1
Benzo[b]fluoranthene	0.76	J	5.5	0.65	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1
Benzo[k]fluoranthene	ND		5.5	0.66	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1
Naphthalene	ND		5.5	0.88	ug/Kg	☼	04/17/19 14:59	04/20/19 02:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		57 - 120	04/17/19 14:59	04/20/19 02:19	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.4	2.5	mg/Kg	☼	04/19/19 13:00	04/20/19 01:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150	04/19/19 13:00	04/20/19 01:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		57	14	mg/Kg	☼	04/17/19 14:17	04/22/19 01:29	1
Motor Oil (>C24-C36)	44	J	57	20	mg/Kg	☼	04/17/19 14:17	04/22/19 01:29	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: DUP-1
Date Collected: 04/08/19 00:01
Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-20
Matrix: Solid
Percent Solids: 83.1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150	04/17/19 14:17	04/22/19 01:29	1

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.9		1.3	0.20	mg/Kg	☼	04/23/19 12:38	04/24/19 14:56	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.1		0.1	0.1	%			04/17/19 08:56	1
Percent Moisture	16.9		0.1	0.1	%			04/17/19 08:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: RB-041119

Lab Sample ID: 580-85442-21

Date Collected: 04/11/19 16:45

Matrix: Water

Date Received: 04/12/19 10:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/17/19 16:11	1
Toluene	ND		2.0	0.39	ug/L			04/17/19 16:11	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/17/19 16:11	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/17/19 16:11	1
o-Xylene	ND		2.0	0.39	ug/L			04/17/19 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	96		80 - 120		04/17/19 16:11	1
Toluene-d8 (Surr)	114		80 - 122		04/17/19 16:11	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 126		04/17/19 16:11	1
4-Bromofluorobenzene (Surr)	102		80 - 125		04/17/19 16:11	1
Dibromofluoromethane (Surr)	98		77 - 120		04/17/19 16:11	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.34		0.25	0.10	mg/L			04/18/19 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		50 - 150		04/18/19 17:52	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: Trip Blank

Lab Sample ID: 580-85442-23

Date Collected: 04/08/19 00:01

Matrix: Solid

Date Received: 04/12/19 10:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0	0.39	ug/Kg	-	04/12/19 10:35	04/18/19 18:32	1
Ethylbenzene	ND		2.0	0.41	ug/Kg	-	04/12/19 10:35	04/18/19 18:32	1
o-Xylene	ND		5.0	0.92	ug/Kg	-	04/12/19 10:35	04/18/19 18:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120	04/12/19 10:35	04/18/19 18:32	1
Toluene-d8 (Surr)	101		80 - 120	04/12/19 10:35	04/18/19 18:32	1
1,2-Dichloroethane-d4 (Surr)	92		80 - 121	04/12/19 10:35	04/18/19 18:32	1
4-Bromofluorobenzene (Surr)	104		80 - 120	04/12/19 10:35	04/18/19 18:32	1
Dibromofluoromethane (Surr)	98		80 - 120	04/12/19 10:35	04/18/19 18:32	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND	H *	10	1.3	ug/Kg	-	04/12/19 10:35	04/24/19 17:23	1
m-Xylene & p-Xylene	ND	H	10	1.7	ug/Kg	-	04/12/19 10:35	04/24/19 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120	04/12/19 10:35	04/24/19 17:23	1
Toluene-d8 (Surr)	105		80 - 120	04/12/19 10:35	04/24/19 17:23	1
1,2-Dichloroethane-d4 (Surr)	91		80 - 121	04/12/19 10:35	04/24/19 17:23	1
4-Bromofluorobenzene (Surr)	101		80 - 120	04/12/19 10:35	04/24/19 17:23	1
Dibromofluoromethane (Surr)	97		80 - 120	04/12/19 10:35	04/24/19 17:23	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0	2.3	mg/Kg	-	04/19/19 13:00	04/19/19 19:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		50 - 150	04/19/19 13:00	04/19/19 19:58	1

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-298792/4
Matrix: Water
Analysis Batch: 298792

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/17/19 12:09	1
Toluene	ND		2.0	0.39	ug/L			04/17/19 12:09	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/17/19 12:09	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/17/19 12:09	1
o-Xylene	ND		2.0	0.39	ug/L			04/17/19 12:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	93		80 - 120		04/17/19 12:09	1
Toluene-d8 (Surr)	112		80 - 122		04/17/19 12:09	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		04/17/19 12:09	1
4-Bromofluorobenzene (Surr)	96		80 - 125		04/17/19 12:09	1
Dibromofluoromethane (Surr)	99		77 - 120		04/17/19 12:09	1

Lab Sample ID: LCS 580-298792/5
Matrix: Water
Analysis Batch: 298792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.6		ug/L		106	75 - 128
Toluene	10.0	11.7		ug/L		117	75 - 120
Ethylbenzene	10.0	11.3		ug/L		113	75 - 120
m-Xylene & p-Xylene	10.0	11.0		ug/L		110	75 - 120
o-Xylene	10.0	11.6		ug/L		116	74 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	91		80 - 120
Toluene-d8 (Surr)	105		80 - 122
1,2-Dichloroethane-d4 (Surr)	100		80 - 126
4-Bromofluorobenzene (Surr)	99		80 - 125
Dibromofluoromethane (Surr)	100		77 - 120

Lab Sample ID: LCSD 580-298792/6
Matrix: Water
Analysis Batch: 298792

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	10.0		ug/L		100	75 - 128	5	14
Toluene	10.0	10.9		ug/L		109	75 - 120	7	13
Ethylbenzene	10.0	10.7		ug/L		107	75 - 120	6	14
m-Xylene & p-Xylene	10.0	10.4		ug/L		104	75 - 120	5	14
o-Xylene	10.0	10.4		ug/L		104	74 - 120	11	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	93		80 - 120
Toluene-d8 (Surr)	104		80 - 122
1,2-Dichloroethane-d4 (Surr)	99		80 - 126
4-Bromofluorobenzene (Surr)	96		80 - 125

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-298792/6
Matrix: Water
Analysis Batch: 298792

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	94		77 - 120

Lab Sample ID: MB 580-298920/1-A
Matrix: Solid
Analysis Batch: 298919

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298920

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	ND		2.0	0.30	ug/Kg		04/18/19 15:30	04/18/19 18:07	1
Benzene	ND		2.0	0.39	ug/Kg		04/18/19 15:30	04/18/19 18:07	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg		04/18/19 15:30	04/18/19 18:07	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg		04/18/19 15:30	04/18/19 18:07	1
Ethylbenzene	ND		2.0	0.41	ug/Kg		04/18/19 15:30	04/18/19 18:07	1
o-Xylene	ND		5.0	0.92	ug/Kg		04/18/19 15:30	04/18/19 18:07	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Trifluorotoluene (Surr)	104		80 - 120	04/18/19 15:30	04/18/19 18:07	1
Toluene-d8 (Surr)	98		80 - 120	04/18/19 15:30	04/18/19 18:07	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 121	04/18/19 15:30	04/18/19 18:07	1
4-Bromofluorobenzene (Surr)	105		80 - 120	04/18/19 15:30	04/18/19 18:07	1
Dibromofluoromethane (Surr)	99		80 - 120	04/18/19 15:30	04/18/19 18:07	1

Lab Sample ID: LCS 580-298920/2-A
Matrix: Solid
Analysis Batch: 298919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298920

Analyte	Spike Added	LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Methyl tert-butyl ether	20.0	18.3		ug/Kg		92	75 - 126
Benzene	20.0	17.0		ug/Kg		85	79 - 135
1,2-Dichloroethane	20.0	17.9		ug/Kg		90	68 - 132
1,2-Dibromoethane	20.0	18.6		ug/Kg		93	77 - 123
Ethylbenzene	20.0	16.3		ug/Kg		81	80 - 127
o-Xylene	20.0	16.7		ug/Kg		83	80 - 125

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	100		80 - 120
Toluene-d8 (Surr)	96		80 - 120
1,2-Dichloroethane-d4 (Surr)	105		80 - 121
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120

Lab Sample ID: LCSD 580-298920/3-A
Matrix: Solid
Analysis Batch: 298919

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298920

Analyte	Spike Added	LCSD		Unit	D	%Rec	Limits	RPD	
		Result	Qualifier					RPD	Limit
Methyl tert-butyl ether	20.0	21.8	*	ug/Kg		109	75 - 126	17	15
Benzene	20.0	18.3		ug/Kg		92	79 - 135	7	15
1,2-Dichloroethane	20.0	19.8		ug/Kg		99	68 - 132	10	11

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-298920/3-A
Matrix: Solid
Analysis Batch: 298919

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298920

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane	20.0	18.9		ug/Kg		94	77 - 123	2	11
Ethylbenzene	20.0	16.7		ug/Kg		83	80 - 127	2	16
o-Xylene	20.0	17.4		ug/Kg		87	80 - 125	4	14

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	99		80 - 120
Toluene-d8 (Surr)	97		80 - 120
1,2-Dichloroethane-d4 (Surr)	108		80 - 121
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	111		80 - 120

Lab Sample ID: MB 580-299195/1-A
Matrix: Solid
Analysis Batch: 299227

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299195

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.30	ug/Kg		04/11/19 17:35	04/24/19 16:58	1
Benzene	ND		2.0	0.39	ug/Kg		04/11/19 17:35	04/24/19 16:58	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg		04/11/19 17:35	04/24/19 16:58	1
Toluene	ND		10	1.3	ug/Kg		04/11/19 17:35	04/24/19 16:58	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg		04/11/19 17:35	04/24/19 16:58	1
Ethylbenzene	ND		2.0	0.41	ug/Kg		04/11/19 17:35	04/24/19 16:58	1
m-Xylene & p-Xylene	ND		10	1.7	ug/Kg		04/11/19 17:35	04/24/19 16:58	1
o-Xylene	ND		5.0	0.92	ug/Kg		04/11/19 17:35	04/24/19 16:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120	04/11/19 17:35	04/24/19 16:58	1
Toluene-d8 (Surr)	102		80 - 120	04/11/19 17:35	04/24/19 16:58	1
1,2-Dichloroethane-d4 (Surr)	109		80 - 121	04/11/19 17:35	04/24/19 16:58	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/11/19 17:35	04/24/19 16:58	1
Dibromofluoromethane (Surr)	100		80 - 120	04/11/19 17:35	04/24/19 16:58	1

Lab Sample ID: LCS 580-299195/2-A
Matrix: Solid
Analysis Batch: 299227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299195

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	20.0	19.7		ug/Kg		98	75 - 126
Benzene	20.0	19.1		ug/Kg		95	79 - 135
1,2-Dichloroethane	20.0	18.5		ug/Kg		92	68 - 132
Toluene	20.0	22.3		ug/Kg		111	80 - 125
1,2-Dibromoethane	20.0	18.1		ug/Kg		90	77 - 123
Ethylbenzene	20.0	18.5		ug/Kg		93	80 - 127
m-Xylene & p-Xylene	20.0	18.3		ug/Kg		91	80 - 128
o-Xylene	20.0	18.7		ug/Kg		94	80 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	100		80 - 120

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-299195/2-A
Matrix: Solid
Analysis Batch: 299227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299195

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	101		80 - 121
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120

Lab Sample ID: LCSD 580-299195/3-A
Matrix: Solid
Analysis Batch: 299227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299195

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Methyl tert-butyl ether	20.0	20.6		ug/Kg		103	75 - 126	5	15	
Benzene	20.0	19.3		ug/Kg		97	79 - 135	1	15	
1,2-Dichloroethane	20.0	18.7		ug/Kg		93	68 - 132	1	11	
Toluene	20.0	18.6	*	ug/Kg		93	80 - 125	18	16	
1,2-Dibromoethane	20.0	18.3		ug/Kg		92	77 - 123	2	11	
Ethylbenzene	20.0	18.9		ug/Kg		95	80 - 127	2	16	
m-Xylene & p-Xylene	20.0	18.4		ug/Kg		92	80 - 128	1	13	
o-Xylene	20.0	19.3		ug/Kg		97	80 - 125	3	14	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	100		80 - 120
Toluene-d8 (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	101		80 - 121
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	105		80 - 120

Lab Sample ID: MB 580-299354/1-A
Matrix: Solid
Analysis Batch: 299327

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299354

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	ND		2.0	0.30	ug/Kg		04/11/19 17:35	04/25/19 17:08	1
Benzene	ND		2.0	0.39	ug/Kg		04/11/19 17:35	04/25/19 17:08	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg		04/11/19 17:35	04/25/19 17:08	1
Toluene	ND		10	1.3	ug/Kg		04/11/19 17:35	04/25/19 17:08	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg		04/11/19 17:35	04/25/19 17:08	1
Ethylbenzene	ND		2.0	0.41	ug/Kg		04/11/19 17:35	04/25/19 17:08	1
m-Xylene & p-Xylene	ND		10	1.7	ug/Kg		04/11/19 17:35	04/25/19 17:08	1
o-Xylene	ND		5.0	0.92	ug/Kg		04/11/19 17:35	04/25/19 17:08	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Trifluorotoluene (Surr)	98		80 - 120	04/11/19 17:35	04/25/19 17:08	1
Toluene-d8 (Surr)	101		80 - 120	04/11/19 17:35	04/25/19 17:08	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 121	04/11/19 17:35	04/25/19 17:08	1
4-Bromofluorobenzene (Surr)	103		80 - 120	04/11/19 17:35	04/25/19 17:08	1
Dibromofluoromethane (Surr)	99		80 - 120	04/11/19 17:35	04/25/19 17:08	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-299354/2-A
Matrix: Solid
Analysis Batch: 299327

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299354
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Methyl tert-butyl ether	20.0	18.0		ug/Kg		90	75 - 126
Benzene	20.0	17.4		ug/Kg		87	79 - 135
1,2-Dichloroethane	20.0	17.9		ug/Kg		89	68 - 132
Toluene	20.0	13.4	*	ug/Kg		67	80 - 125
1,2-Dibromoethane	20.0	18.6		ug/Kg		93	77 - 123
Ethylbenzene	20.0	17.3		ug/Kg		86	80 - 127
m-Xylene & p-Xylene	20.0	16.9		ug/Kg		85	80 - 128
o-Xylene	20.0	17.3		ug/Kg		86	80 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	98		80 - 120
Toluene-d8 (Surr)	98		80 - 120
1,2-Dichloroethane-d4 (Surr)	103		80 - 121
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120

Lab Sample ID: LCSD 580-299354/3-A
Matrix: Solid
Analysis Batch: 299327

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299354
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Methyl tert-butyl ether	20.0	21.2	*	ug/Kg		106	75 - 126	17	15
Benzene	20.0	18.9		ug/Kg		95	79 - 135	8	15
1,2-Dichloroethane	20.0	18.9		ug/Kg		95	68 - 132	6	11
Toluene	20.0	14.7	*	ug/Kg		73	80 - 125	9	16
1,2-Dibromoethane	20.0	19.8		ug/Kg		99	77 - 123	6	11
Ethylbenzene	20.0	19.7		ug/Kg		98	80 - 127	13	16
m-Xylene & p-Xylene	20.0	19.2		ug/Kg		96	80 - 128	13	13
o-Xylene	20.0	20.6	*	ug/Kg		103	80 - 125	18	14

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	101		80 - 120
Toluene-d8 (Surr)	96		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		80 - 121
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-298822/1-A
Matrix: Solid
Analysis Batch: 298994

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298822

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.0	0.76	ug/Kg		04/17/19 14:59	04/19/19 16:22	1
Chrysene	ND		5.0	1.5	ug/Kg		04/17/19 14:59	04/19/19 16:22	1
Benzo[a]pyrene	ND		5.0	0.40	ug/Kg		04/17/19 14:59	04/19/19 16:22	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.60	ug/Kg		04/17/19 14:59	04/19/19 16:22	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-298822/1-A
Matrix: Solid
Analysis Batch: 298994

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298822

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dibenz(a,h)anthracene	ND		5.0	0.72	ug/Kg		04/17/19 14:59	04/19/19 16:22	1
Benzo[b]fluoranthene	ND		5.0	0.59	ug/Kg		04/17/19 14:59	04/19/19 16:22	1
Benzo[k]fluoranthene	ND		5.0	0.60	ug/Kg		04/17/19 14:59	04/19/19 16:22	1
Naphthalene	5.37		5.0	0.80	ug/Kg		04/17/19 14:59	04/19/19 16:22	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	89		57 - 120	04/17/19 14:59	04/19/19 16:22	1

Lab Sample ID: LCS 580-298822/2-A
Matrix: Solid
Analysis Batch: 298994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298822

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Benzo[a]anthracene	1000	946		ug/Kg		95	66 - 120
Chrysene	1000	835		ug/Kg		83	69 - 120
Benzo[a]pyrene	1000	990		ug/Kg		99	72 - 124
Indeno[1,2,3-cd]pyrene	1000	910		ug/Kg		91	65 - 121
Dibenz(a,h)anthracene	1000	940		ug/Kg		94	70 - 125
Benzo[b]fluoranthene	1000	872		ug/Kg		87	63 - 121
Benzo[k]fluoranthene	1000	1030		ug/Kg		103	63 - 123
Naphthalene	1000	797		ug/Kg		80	70 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	81		57 - 120

Lab Sample ID: 580-85442-3 MS
Matrix: Solid
Analysis Batch: 298994

Client Sample ID: MW-21-10
Prep Type: Total/NA
Prep Batch: 298822

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Benzo[a]anthracene	ND		1070	1020		ug/Kg	☼	96	66 - 120
Chrysene	1.9	J	1070	873		ug/Kg	☼	81	69 - 120
Benzo[a]pyrene	ND		1070	1060		ug/Kg	☼	99	72 - 124
Indeno[1,2,3-cd]pyrene	ND		1070	1000		ug/Kg	☼	94	65 - 121
Dibenz(a,h)anthracene	ND		1070	1020		ug/Kg	☼	95	70 - 125
Benzo[b]fluoranthene	0.68	J	1070	937		ug/Kg	☼	88	63 - 121
Benzo[k]fluoranthene	ND		1070	1080		ug/Kg	☼	101	63 - 123
Naphthalene	6.2	B	1070	881		ug/Kg	☼	82	70 - 120

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	86		57 - 120

Lab Sample ID: 580-85442-3 MSD
Matrix: Solid
Analysis Batch: 298994

Client Sample ID: MW-21-10
Prep Type: Total/NA
Prep Batch: 298822

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	Limits	RPD	
				Result	Qualifier					Limit	Limit
Benzo[a]anthracene	ND		1100	998		ug/Kg	☼	91	66 - 120	2	14

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-85442-3 MSD
Matrix: Solid
Analysis Batch: 298994

Client Sample ID: MW-21-10
Prep Type: Total/NA
Prep Batch: 298822

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	1.9	J	1100	861		ug/Kg	☼	78	69 - 120	1	10
Benzo[a]pyrene	ND		1100	1070		ug/Kg	☼	97	72 - 124	0	12
Indeno[1,2,3-cd]pyrene	ND		1100	1000		ug/Kg	☼	91	65 - 121	0	15
Dibenz(a,h)anthracene	ND		1100	1010		ug/Kg	☼	92	70 - 125	1	13
Benzo[b]fluoranthene	0.68	J	1100	940		ug/Kg	☼	86	63 - 121	0	10
Benzo[k]fluoranthene	ND		1100	1070		ug/Kg	☼	98	63 - 123	1	15
Naphthalene	6.2	B	1100	887		ug/Kg	☼	80	70 - 120	1	12
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Terphenyl-d14	82		57 - 120								

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-298876/6
Matrix: Water
Analysis Batch: 298876

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/18/19 11:33	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	72		50 - 150						

Lab Sample ID: LCS 580-298876/28
Matrix: Water
Analysis Batch: 298876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.914		mg/L		91	79 - 120
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene (Surr)	80		50 - 150				

Lab Sample ID: LCSD 580-298876/29
Matrix: Water
Analysis Batch: 298876

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.889		mg/L		89	79 - 120	3	10
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	74		50 - 150						

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-298966/1-A
Matrix: Solid
Analysis Batch: 298974

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0	2.3	mg/Kg		04/19/19 12:39	04/19/19 13:58	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66		50 - 150				04/19/19 12:39	04/19/19 13:58	1

Lab Sample ID: LCS 580-298966/2-A
Matrix: Solid
Analysis Batch: 298974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	40.0	34.8		mg/Kg		87	80 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	65		50 - 150						

Lab Sample ID: LCSD 580-298966/3-A
Matrix: Solid
Analysis Batch: 298974

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298966

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	36.0		mg/Kg		90	80 - 120	3	10
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	68		50 - 150						

Lab Sample ID: MB 580-298968/1-A
Matrix: Solid
Analysis Batch: 298971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298968

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0	2.3	mg/Kg		04/19/19 13:00	04/19/19 18:28	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150				04/19/19 13:00	04/19/19 18:28	1

Lab Sample ID: LCS 580-298968/2-A
Matrix: Solid
Analysis Batch: 298971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline	40.0	37.1		mg/Kg		93	80 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		50 - 150						

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-298968/3-A
Matrix: Solid
Analysis Batch: 298971

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298968

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline	40.0	37.0		mg/Kg		92	80 - 120	0	10
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		50 - 150						

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-298804/1-A
Matrix: Solid
Analysis Batch: 299008

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298804

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		04/17/19 13:19	04/21/19 15:58	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		04/17/19 13:19	04/21/19 15:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	97		50 - 150				04/17/19 13:19	04/21/19 15:58	1

Lab Sample ID: LCS 580-298804/2-A
Matrix: Solid
Analysis Batch: 299008

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298804

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	500	461		mg/Kg		92	70 - 125
Motor Oil (>C24-C36)	500	462		mg/Kg		92	70 - 129
Surrogate	%Recovery	Qualifier	Limits				
o-Terphenyl	96		50 - 150				

Lab Sample ID: LCSD 580-298804/3-A
Matrix: Solid
Analysis Batch: 299008

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298804

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	500	505		mg/Kg		101	70 - 125	9	16
Motor Oil (>C24-C36)	500	509		mg/Kg		102	70 - 129	10	16
Surrogate	%Recovery	Qualifier	Limits						
o-Terphenyl	93		50 - 150						

Lab Sample ID: 580-85442-1 DU
Matrix: Solid
Analysis Batch: 299008

Client Sample ID: MW-20-12.5
Prep Type: Total/NA
Prep Batch: 298804

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
#2 Diesel (C10-C24)	ND		ND		mg/Kg	☼	NC	35
Motor Oil (>C24-C36)	77		74.2		mg/Kg	☼	4	35

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-85442-1 DU
 Matrix: Solid
 Analysis Batch: 299008

Client Sample ID: MW-20-12.5
 Prep Type: Total/NA
 Prep Batch: 298804

Surrogate	%Recovery	DU Qualifier	DU Limits
<i>o</i> -Terphenyl	89		50 - 150

Lab Sample ID: 580-85442-12 DU
 Matrix: Solid
 Analysis Batch: 299008

Client Sample ID: SB-1-15
 Prep Type: Total/NA
 Prep Batch: 298804

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	Limit
			Result	Qualifier				
#2 Diesel (C10-C24)	ND		ND		mg/Kg	☼	NC	35
Motor Oil (>C24-C36)	77		55.9	J	mg/Kg	☼	31	35

Surrogate	%Recovery	DU Qualifier	DU Limits
<i>o</i> -Terphenyl	88		50 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 580-299158/24-A
 Matrix: Solid
 Analysis Batch: 299313

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 299158

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.5	0.22	mg/Kg		04/23/19 12:38	04/24/19 13:20	1

Lab Sample ID: LCS 580-299158/25-A
 Matrix: Solid
 Analysis Batch: 299313

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 299158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	48.7		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 580-299158/26-A
 Matrix: Solid
 Analysis Batch: 299313

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 299158

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	50.0	48.2		mg/Kg		96	80 - 120	1	20

Lab Sample ID: 580-85442-1 MS
 Matrix: Solid
 Analysis Batch: 299313

Client Sample ID: MW-20-12.5
 Prep Type: Total/NA
 Prep Batch: 299158

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	5.5		50.1	53.0		mg/Kg	☼	95	80 - 120

Lab Sample ID: 580-85442-1 MSD
 Matrix: Solid
 Analysis Batch: 299313

Client Sample ID: MW-20-12.5
 Prep Type: Total/NA
 Prep Batch: 299158

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	5.5		50.5	52.2		mg/Kg	☼	93	80 - 120	1	20

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 580-85442-1 DU
 Matrix: Solid
 Analysis Batch: 299313

Client Sample ID: MW-20-12.5
 Prep Type: Total/NA
 Prep Batch: 299158

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	5.5		5.99		mg/Kg	☼	9	20

Method: 2540G - SM 2540G

Lab Sample ID: 580-85442-1 DU
 Matrix: Solid
 Analysis Batch: 298754

Client Sample ID: MW-20-12.5
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	66.2		67.6		%		2	20
Percent Moisture	33.8		32.4		%		4	20

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-20-12.5

Lab Sample ID: 580-85442-1

Date Collected: 04/09/19 08:10

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-20-12.5

Lab Sample ID: 580-85442-1

Date Collected: 04/09/19 08:10

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 66.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 18:58	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 20:14	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 17:14	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/19/19 20:46	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 17:05	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 13:29	HJM	TAL SEA

Client Sample ID: MW-20-15

Lab Sample ID: 580-85442-2

Date Collected: 04/09/19 08:15

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-20-15

Lab Sample ID: 580-85442-2

Date Collected: 04/09/19 08:15

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 19:24	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 20:38	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 17:40	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/19/19 21:14	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 17:49	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 13:54	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-21-10

Lab Sample ID: 580-85442-3

Date Collected: 04/09/19 12:10

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-21-10

Lab Sample ID: 580-85442-3

Date Collected: 04/09/19 12:10

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 19:50	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 21:03	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 18:06	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/19/19 21:40	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 18:11	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 13:57	HJM	TAL SEA

Client Sample ID: MW-21-15

Lab Sample ID: 580-85442-4

Date Collected: 04/09/19 12:20

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-21-15

Lab Sample ID: 580-85442-4

Date Collected: 04/09/19 12:20

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 81.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 20:16	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 21:27	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 19:24	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/19/19 22:07	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 18:33	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:00	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-22-12

Lab Sample ID: 580-85442-5

Date Collected: 04/10/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-22-12

Lab Sample ID: 580-85442-5

Date Collected: 04/10/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 72.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 20:43	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 18:36	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 19:50	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/19/19 22:35	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 18:56	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:03	HJM	TAL SEA

Client Sample ID: MW-22-15

Lab Sample ID: 580-85442-6

Date Collected: 04/10/19 10:40

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-22-15

Lab Sample ID: 580-85442-6

Date Collected: 04/10/19 10:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 59.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 21:10	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 19:01	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		3	298994	04/19/19 20:16	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/19/19 23:02	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 19:18	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:06	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-23-13

Date Collected: 04/10/19 14:20

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-23-13

Date Collected: 04/10/19 14:20

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-7

Matrix: Solid

Percent Solids: 77.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 21:37	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 19:25	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 20:42	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/19/19 23:56	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 20:02	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:09	HJM	TAL SEA

Client Sample ID: MW-23-15

Date Collected: 04/10/19 14:30

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-23-15

Date Collected: 04/10/19 14:30

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-8

Matrix: Solid

Percent Solids: 70.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 22:05	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 19:50	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 21:08	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/20/19 00:23	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 20:24	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:14	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: MW-24-13

Date Collected: 04/11/19 11:40

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-24-13

Date Collected: 04/11/19 11:40

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-9

Matrix: Solid

Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			299354	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	299327	04/25/19 17:33	APR	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 21:34	W1T	TAL SEA
Total/NA	Prep	5035			298966	04/19/19 12:39	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298974	04/20/19 00:50	TL1	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 20:46	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:17	HJM	TAL SEA

Client Sample ID: MW-24-15

Date Collected: 04/11/19 11:50

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: MW-24-15

Date Collected: 04/11/19 11:50

Date Received: 04/12/19 10:30

Lab Sample ID: 580-85442-10

Matrix: Solid

Percent Solids: 75.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			299354	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	299327	04/25/19 17:58	APR	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 22:00	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 20:28	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 21:08	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:20	HJM	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-1-12.5

Lab Sample ID: 580-85442-11

Date Collected: 04/09/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-1-12.5

Lab Sample ID: 580-85442-11

Date Collected: 04/09/19 10:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 22:33	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 21:52	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 22:26	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 20:58	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 21:30	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:29	HJM	TAL SEA

Client Sample ID: SB-1-15

Lab Sample ID: 580-85442-12

Date Collected: 04/09/19 10:45

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-1-15

Lab Sample ID: 580-85442-12

Date Collected: 04/09/19 10:45

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 74.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 23:01	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 22:17	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 22:52	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 21:28	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 21:51	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:32	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-2-12.5

Lab Sample ID: 580-85442-13

Date Collected: 04/08/19 12:30

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-2-12.5

Lab Sample ID: 580-85442-13

Date Collected: 04/08/19 12:30

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 23:30	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 22:42	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 23:18	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 21:58	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 22:35	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:35	HJM	TAL SEA

Client Sample ID: SB-2-15

Lab Sample ID: 580-85442-14

Date Collected: 04/08/19 13:00

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-2-15

Lab Sample ID: 580-85442-14

Date Collected: 04/08/19 13:00

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 72.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 23:59	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 23:07	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/19/19 23:44	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 22:28	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 22:57	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:38	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-5-12.5

Lab Sample ID: 580-85442-15

Date Collected: 04/09/19 11:40

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-5-12.5

Lab Sample ID: 580-85442-15

Date Collected: 04/09/19 11:40

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/19/19 00:28	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 23:33	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/20/19 00:10	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 22:58	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/21/19 23:19	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:41	HJM	TAL SEA

Client Sample ID: SB-5-15

Lab Sample ID: 580-85442-16

Date Collected: 04/09/19 11:50

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-5-15

Lab Sample ID: 580-85442-16

Date Collected: 04/09/19 11:50

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 73.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/19/19 00:58	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 23:59	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/20/19 00:35	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 23:58	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/22/19 00:02	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:44	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SB-6-12.5

Lab Sample ID: 580-85442-17

Date Collected: 04/09/19 16:00

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-6-12.5

Lab Sample ID: 580-85442-17

Date Collected: 04/09/19 16:00

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/19/19 01:25	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/25/19 00:25	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/20/19 01:01	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/20/19 00:28	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/22/19 00:24	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:47	HJM	TAL SEA

Client Sample ID: SB-6-15

Lab Sample ID: 580-85442-18

Date Collected: 04/09/19 16:15

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SB-6-15

Lab Sample ID: 580-85442-18

Date Collected: 04/09/19 16:15

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 75.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/19/19 01:53	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/25/19 00:52	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/20/19 01:27	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/20/19 00:58	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/22/19 00:45	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:50	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: SVP-1-5

Lab Sample ID: 580-85442-19

Date Collected: 04/10/19 11:45

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: SVP-1-5

Lab Sample ID: 580-85442-19

Date Collected: 04/10/19 11:45

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/19/19 02:20	T1W	TAL SEA
Total/NA	Prep	5035	RA		299354	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299327	04/25/19 18:22	APR	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/20/19 01:53	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/20/19 01:28	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 13:19	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/22/19 01:07	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:53	HJM	TAL SEA

Client Sample ID: DUP-1

Lab Sample ID: 580-85442-20

Date Collected: 04/08/19 00:01

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	298754	04/17/19 08:56	BAH	TAL SEA

Client Sample ID: DUP-1

Lab Sample ID: 580-85442-20

Date Collected: 04/08/19 00:01

Matrix: Solid

Date Received: 04/12/19 10:30

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/19/19 02:48	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/25/19 01:18	T1W	TAL SEA
Total/NA	Prep	3546			298822	04/17/19 14:59	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	298994	04/20/19 02:19	W1T	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/20/19 01:58	T1W	TAL SEA
Total/NA	Prep	3546			298804	04/17/19 14:17	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299008	04/22/19 01:29	ERZ	TAL SEA
Total/NA	Prep	3050B			299158	04/23/19 12:38	T1H	TAL SEA
Total/NA	Analysis	6010C		1	299313	04/24/19 14:56	HJM	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Client Sample ID: RB-041119

Lab Sample ID: 580-85442-21

Date Collected: 04/11/19 16:45

Matrix: Water

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	298792	04/17/19 16:11	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298876	04/18/19 17:52	TL1	TAL SEA

Client Sample ID: Trip Blank

Lab Sample ID: 580-85442-23

Date Collected: 04/08/19 00:01

Matrix: Solid

Date Received: 04/12/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			298920	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C		1	298919	04/18/19 18:32	T1W	TAL SEA
Total/NA	Prep	5035	RA		299195	04/12/19 10:35	APR	TAL SEA
Total/NA	Analysis	8260C	RA	1	299227	04/24/19 17:23	T1W	TAL SEA
Total/NA	Prep	5035			298968	04/19/19 13:00	Z1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	298971	04/19/19 19:58	T1W	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oregon	NELAP	10	WA100007	11-05-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids



Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85442-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-85442-1	MW-20-12.5	Solid	04/09/19 08:10	04/12/19 10:30	
580-85442-2	MW-20-15	Solid	04/09/19 08:15	04/12/19 10:30	
580-85442-3	MW-21-10	Solid	04/09/19 12:10	04/12/19 10:30	
580-85442-4	MW-21-15	Solid	04/09/19 12:20	04/12/19 10:30	
580-85442-5	MW-22-12	Solid	04/10/19 10:30	04/12/19 10:30	
580-85442-6	MW-22-15	Solid	04/10/19 10:40	04/12/19 10:30	
580-85442-7	MW-23-13	Solid	04/10/19 14:20	04/12/19 10:30	
580-85442-8	MW-23-15	Solid	04/10/19 14:30	04/12/19 10:30	
580-85442-9	MW-24-13	Solid	04/11/19 11:40	04/12/19 10:30	
580-85442-10	MW-24-15	Solid	04/11/19 11:50	04/12/19 10:30	
580-85442-11	SB-1-12.5	Solid	04/09/19 10:30	04/12/19 10:30	
580-85442-12	SB-1-15	Solid	04/09/19 10:45	04/12/19 10:30	
580-85442-13	SB-2-12.5	Solid	04/08/19 12:30	04/12/19 10:30	
580-85442-14	SB-2-15	Solid	04/08/19 13:00	04/12/19 10:30	
580-85442-15	SB-5-12.5	Solid	04/09/19 11:40	04/12/19 10:30	
580-85442-16	SB-5-15	Solid	04/09/19 11:50	04/12/19 10:30	
580-85442-17	SB-6-12.5	Solid	04/09/19 16:00	04/12/19 10:30	
580-85442-18	SB-6-15	Solid	04/09/19 16:15	04/12/19 10:30	
580-85442-19	SVP-1-5	Solid	04/10/19 11:45	04/12/19 10:30	
580-85442-20	DUP-1	Solid	04/08/19 00:01	04/12/19 10:30	
580-85442-21	RB-041119	Water	04/11/19 16:45	04/12/19 10:30	
580-85442-23	Trip Blank	Solid	04/08/19 00:01	04/12/19 10:30	

Client: <u>Arcadis</u>		Client Contact: <u>Ryan Brauchla/Chris Dotson</u>		Date: <u>4-11-2019</u>	Chain of Custody Number: <u>35574</u>
Address: <u>1100 Olive Way, Suite 800</u>		Telephone Number (Area Code) <u>(509) 38-9828</u> / <u>(503) 724-1240</u>		Lab Number: <u>253-922-2310</u>	Page <u>1</u> of <u>2</u>
City: <u>Seattle</u>	State: <u>WA</u>	Zip Code: <u>98101</u>	Sampler: <u>Dan Gilbert</u>	Lab Contact: <u>Elaine Walker</u>	Analysis (Attach list if more space is needed)
Project Name and Location (State): <u>90619 Bellingham (WA)</u>			Billing Contact: <u>Elaine Walker/Chris Dotson</u>		
Contract/Purchase Order/Quote No.: <u>ASRT MEOH.0619</u>					

85442

Special Instructions/
Conditions of Receipt



Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Unpres.	Containers & Preservatives															
			Air	Aqueous	Sed.	Soil		H2SO4	HNO3	HCl	NaOH	ZnAc	MeOH	Methanol	NWTPH-Gx	NWTPH-Dx	8011 (EDB)	8260 (BTEX/MTBE)	8290 (PAHs/Asphalt)	6010 (Lead)			
-1 MW-20-12.5	4/9/19	0810	X	X	X	X	4																
MW-20-15	4/9/19	0815	X	X	X	X	4																
3 MW-21-10	4/9/19	1210				X	4																
MW-21-15	4/9/19	1220				X	4																
-5 MW-22-12	4/10/19	1030				X	4																
MW-22-15	4/10/19	1046				X	4																
-7 MW-23-13	4/10/19	1420				X	4																
MW-23-15	4/10/19	1430				X	4																
-9 MW-24-13	4/11/19	1140				X	4																
MW-24-15	4/11/19	1150				X	4																
1 MW SB-1-12.5	4/9/19	1030				X	4																
SB-1-15	4/9/19	1045				X	4																

Therm. ID: A2 Cor: -0.1 ° Unc: 0.3 °
 Cooler Dsc: Lo Blue
 Packing: hvd FedEx: _____
 Cust. Seal: Yes ___ No X UPS: _____
 Blue Ice: Wet, Dry, None Lab Cour: _____
 Other: Citro

Therm. ID: A2 Cor: 2.0 ° Unc: 2.4 °
 Cooler Dsc: Lo Blue
 Packing: hvd FedEx: _____
 Cust. Seal: Yes ___ No X UPS: _____
 Blue Ice: Wet, Dry, None Lab Cour: _____
 Other: _____

Cooler: Yes No Cooler Temp: _____
 Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown
 Sample Disposal: Return To Client Disposal By Lab Archive For _____ Months
 (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other Standard
 QC Requirements (Specify)

1. Relinquished By: <u>Ryan Brauchla</u> Date: <u>4-12-19</u> Time: <u>1030</u>	1. Received By: <u>Tom Blankinship</u> Date: <u>4/12/19</u> Time: <u>1030</u>
2. Relinquished By: _____ Date: _____ Time: _____	2. Received By: _____ Date: _____ Time: _____
3. Relinquished By: _____ Date: _____ Time: _____	3. Received By: _____ Date: _____ Time: _____

Comments

Client Arcadis	Client Contact Ryan Brauchle / Chris Dotson	Date 4-11-2019	Chain of Custody Number 35915
Address 1100 Olive Way, Suite 800	Telephone Number (Area Code)/Fax Number (509) 438-9828 / (509) 724-1240	Lab Number 253-922-2310	Page 2 of 2

City Seattle	State WA	Zip Code 98101	Sampler Daniel Gilbert	Lab Contact Elaine Walker	Analysis (Attach list if more space is needed) 85442
Project Name and Location (State) 90619 Bellingham (WA)			Billing Contact Elaine Walker/Chris Dotson		
Contract/Purchase Order/Quote No. ASRTMEOH.0619					

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives										Special Instructions/ Conditions of Receipt							
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2/NaOH	methanol	NWTPH-Gx	NWTPH-Dx	8011 (EDS)	8260 (BTEX/MTBE/EC)		8270 (PAHs/NaphH)	6010 (Lead)					
-13 SB-2-12.5	4/8/19	1230				X	4																		
SB-2-15	4/8/19	1300				X	4																		
-15 SB-5-12.5	4/9/19	1140				X	4																		
SB-5-15	4/9/19	1150				X	4																		
-17 SB-6-12.5	4/9/19	1600				X	4																		
SB-6-15	4/9/19	1615				X	4																		
-19 SVP-1-5	4/10/19	1145				X	4																		
DUP-1	-	-				X	4																		
-21 RB-041119	4/11/19	1645	X																						BTEX only
Trip Blank	-	-	X	X			6																		BTEX only

Cooler <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp: _____	Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input type="checkbox"/> Archive For _____ Months	<input checked="" type="checkbox"/> Disposal By Lab (A fee may be assessed if samples are retained longer than 1 month)
--	---	--	--

Turn Around Time Required (business days) <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input type="checkbox"/> Other <u>Standard</u>	QC Requirements (Specify)
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1. Relinquished By Sign/Print Ryan Brauchle	Date 4-12-19	Time 1030	1. Received By Sign/Print Tom [Signature]	Date 4/12/19	Time 1030
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments

Revised CDC 580-85442

Rush

Short Hold

Chain of Custody Record

Client: Washington State Dept of Ecology Date: 4/19/19 Chain of Custody Number: 35574
 Address: 1000 21st Ave SW, Suite 802 Lab Number: 50438-9828/503721-240
 City: WA State: WA Zip Code: 98101 Page: 1 of 2
 Project Name and Location (State): WA 14 (1A)
 Contract/Purchase Order/Quote No.: 50438-9828

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Aq	Sol	Sol	Unpres.	H2SO4	HNO3	HCl	NaOH			ZnAc/NaOH
MW-20-12.5	4/9/19	0810	X	X	X	4						WTPH-C WTPH-D 8011 (EDR) 1264/1267 6010/1267	
MW-20-15	4/9/19	0815	X	X	X	4						X	
MW-21-10	4/9/19	1216	X	X	X	4						X	
MW-21-15	4/9/19	1220	X	X	X	4						X	
MW-22-12	4/10/19	1030	X	X	X	4						X	
MW-22-15	4/10/19	1046	X	X	X	4						X	
MW-23-10	4/10/19	1120	X	X	X	4						X	
MW-23-15	4/10/19	1430	X	X	X	4						X	
MW-24-12	4/11/19	1147	X	X	X	4						X	
MW-24-15	4/11/19	1150	X	X	X	4						X	
MW-SB-1-12.5	4/9/19	1030	X	X	X	4						X	A2TB -0.1/0.5
MW-SB-1-15	4/9/19	1045	X	X	X	4						X	A2TB 1.0/2.0

Cooler: Yes No Cooler Temp. _____
 Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____
 1. Relinquished By: Ryan Bouchla / Ryan Bouchla Date: 4-12-19 Time: 1030
 2. Relinquished By: Ryan Bouchla Date: _____ Time: _____
 3. Relinquished By: _____ Date: _____ Time: _____

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Other _____
 Sample Disposal: Return To Client Archive For _____ Months Disposal By Lab (A fee may be assessed if samples are retained longer than 1 month)

QC Requirements (Specify):
 1. Received By: Ryan Bouchla Date: 4/12/19 Time: _____
 2. Received By: _____ Date: _____ Time: _____
 3. Received By: _____ Date: _____ Time: _____

Comments: Note: All samples were packed in ice within 30 minutes of collection u-511 DSG
 DISTRIBUTION: WHITE - Steps with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy



Client Contact
Name: Paul Bravch / Chris Dotson
Date: 4-11-2019
Chain of Custody Number: 15917

Address
Address: 1100 Olive Way
City: Seattle
State: WA
Zip Code: 98101
Telephone Number (Area Code)/Fax Number: (206) 422-2310 / (509) 722-2310
Page: 2 of 2

Project Name and Location (State)
WATER TREATMENT PLANT

Contract/Purchase Order/Quote No.
WFO 0614

Sample ID and Location/Description
(Containers for each sample may be combined on one line)

Sample ID	Date	Time	Matrix	Containers & Preservatives	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
SB-12.5	4/19/19	11:00	Air	4	NMTPH-DX	
SB-15	4/19/19	11:50	Air	4	NMTPH-DX	
SB-6-12.5	4/19/19	16:00	Air	4	NMTPH-DX	
SB-119	4/19/19	16:05	Air	4	NMTPH-DX	
SVP-1-5	4/19/19	11:45	Air	4	NMTPH-DX	
DUP-1	-	-	Air	4	NMTPH-DX	
SB-119	4/19/19	16:4	Air	6	NMTPH-DX	
Trap Stack	-	-	Air	6	NMTPH-DX	BTEX

Matrix
Air: Aqueous: Sed: Soil: Unpres.: H2SO4: HNO3: HCl: NaOH: Zinc/ Nich:

Containers & Preservatives
Unpres.: H2SO4: HNO3: HCl: NaOH: Zinc/ Nich:

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Cooler
 Yes No Cooler Temp: _____
Turn Around Time Required (business days)
 24 Hours 48 Hours 5 Days 10 Days 15 Days Other: _____

QC Requirements (Specify)
1. Relinquished By: Paul Bravch Date: 4-12-19 Time: 1030
2. Relinquished By: _____ Date: _____ Time: _____
3. Relinquished By: _____ Date: _____ Time: _____

Sample Disposal
 Return To Client Archive For _____ Months Disposal By Lab (A fee may be assessed if samples are retained longer than 1 month)

Comments
Note: All samples were packed in ice within 30 minutes of collection.
DISTRIBUTION: WHITE - Slays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-85442-1

Login Number: 85442

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D

Groundwater Sampling Event Field Notes



ASRTM0EH.0619, MW-20, 2019-04-18

Created	2019-04-18 17:32:40 UTC by Ryan Brauchla
Updated	2019-04-22 18:18:37 UTC by Ryan Brauchla
Location	48.7603879301332, -122.48813725088
Project Number	ASRTM0EH.0619
Project Name / Location	Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Date	2019-04-18
Well ID	MW-20
Sampler Name	Ryan Brauchla
Weather	45F, rain

Evacuation Details

Well Head PID reading (ppm)	6.6
Measuring Point (mp) Description	Top of Casing
Casing Diameter (inches)	2
Static Water Level (ft-bmp)	10.78
Total Depth (ft-bmp)	14.7
Water Column	3.92
Gallons in Well	0.64

Reference Note: Well Volume Calculation [$\pi r^2 h$, where h= 1foot] Well radius (inch):Volume (Gal./foot):Volume (mL/foot) 0.5" = 0.04 gal/ft = 154 mL/ft 1" = 0.16 gal/ft = 617 mL/ft 2" = 0.65 gal/ft = 2470 mL/ft 3" = 1.47 gal/ft = 5557 mL/ft

Purge Method	Low-Flow
Type of Equipment used	Peristaltic
Sample Method	Low-Flow
Sample Depth (ft-bmp) (e.g. pump intake)	14
Purge Start	10:47
Water Quality Meter Make/Model	YSI Pro Plus

@10:54, DTW:11.25, pH:6.05, temp:12.3, cond:0.364, turb:, DO:0.38, redox:138.4

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	10:54
Rate (mL/min)	200
Depth to Water (ft)	11.25
Milliliters Purged (total)	1200
pH	6.05
Conductivity (mS/cm)	0.364
Dissolved Oxygen (mg/L)	0.38
Temperature (Degrees Celsius)	12.3
Redox (ORP mV)	138.4
parameters	@10:54, DTW:11.25, pH:6.05, temp:12.3, cond:0.364, turb:, DO:0.38, redox:138.4

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@10:59, DTW:11.35, pH:6.15, temp:12.4, cond:0.353, turb:, DO:0.42, redox:125

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
-----------------	--

Reading Time	10:59
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	11.35
Milliliters Purged (total)	2200
pH	6.15
Conductivity (mS/cm)	0.353
Dissolved Oxygen (mg/L)	0.42
Temperature (Degrees Celsius)	12.4
Redox (ORP mV)	125
parameters	@10:59, DTW:11.35, pH:6.15, temp:12.4, cond:0.353, turb:, DO:0.42, redox:125

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@11:04, DTW:11.42, pH:6.21, temp:12.4, cond:0.351, turb:, DO:0.45, redox:114.6

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	11:04
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	11.42
Milliliters Purged (total)	3200
pH	6.21
Conductivity (mS/cm)	0.351
Dissolved Oxygen (mg/L)	0.45
Temperature (Degrees Celsius)	12.4
Redox (ORP mV)	114.6
parameters	@11:04, DTW:11.42, pH:6.21, temp:12.4, cond:0.351, turb:, DO:0.45, redox:114.6

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@11:09, DTW:11.46, pH:6.24, temp:12.4, cond:0.343, turb:, DO:0.35, redox:104.1

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	11:09
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	11.46
Milliliters Purged (total)	4200
pH	6.24
Conductivity (mS/cm)	0.343
Dissolved Oxygen (mg/L)	0.35
Temperature (Degrees Celsius)	12.4
Redox (ORP mV)	104.1
parameters	@11:09, DTW:11.46, pH:6.24, temp:12.4, cond:0.343, turb:, DO:0.35, redox:104.1

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@11:12, DTW:11.46, pH:6.25, temp:12.5, cond:0.338, turb:, DO:0.33, redox:97.4

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	11:12
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	11.46
Milliliters Purged (total)	5000
pH	6.25
Conductivity (mS/cm)	0.338
Dissolved Oxygen (mg/L)	0.33
Temperature (Degrees Celsius)	12.5
Redox (ORP mV)	97.4
parameters	@11:12, DTW:11.46, pH:6.25, temp:12.5, cond:0.338, turb:, DO:0.33, redox:97.4

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@11:19, DTW:11.46, pH:6.29, temp:12.4, cond:0.334, turb:, DO:0.3, redox:87.7

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	11:19
Minutes Elapsed between readings	7
Rate (mL/min)	200
Depth to Water (ft)	11.46
Milliliters Purged (total)	6400
pH	6.29
Conductivity (mS/cm)	0.334
Dissolved Oxygen (mg/L)	0.3
Temperature (Degrees Celsius)	12.4
Redox (ORP mV)	87.7
parameters	@11:19, DTW:11.46, pH:6.29, temp:12.4, cond:0.334, turb:, DO:0.3, redox:87.7

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@11:21, DTW:11.46, pH:6.3, temp:12.4, cond:0.332, turb:, DO:0.28, redox:85.6

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	11:21
Minutes Elapsed between readings	2
Rate (mL/min)	200
Depth to Water (ft)	11.46
Milliliters Purged (total)	6800
pH	6.3
Conductivity (mS/cm)	0.332

Dissolved Oxygen (mg/L)	0.28
Temperature (Degrees Celsius)	12.4
Redox (ORP mV)	85.6
parameters	@11:21, DTW:11.46, pH:6.3, temp:12.4, cond:0.332, turb:, DO:0.28, redox:85.6

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@11:24, DTW:11.46, pH:6.31, temp:1.4, cond:0.332, turb:, DO:0.27, redox:82.7

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	11:24
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	11.46
Milliliters Purged (total)	7200
pH	6.31
Conductivity (mS/cm)	0.332
Dissolved Oxygen (mg/L)	0.27
Temperature (Degrees Celsius)	1.4
Redox (ORP mV)	82.7
parameters	@11:24, DTW:11.46, pH:6.31, temp:1.4, cond:0.332, turb:, DO:0.27, redox:82.7

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@11:27, DTW:11.46, pH:6.32, temp:12.5, cond:0.331, turb:, DO:0.27, redox:81.2

Well-ClientName	MW-20Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	11:27
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	11.46
Milliliters Purged (total)	8000
pH	6.32
Conductivity (mS/cm)	0.331
Dissolved Oxygen (mg/L)	0.27
Temperature (Degrees Celsius)	12.5
Redox (ORP mV)	81.2
parameters	@11:27, DTW:11.46, pH:6.32, temp:12.5, cond:0.331, turb:, DO:0.27, redox:81.2

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

Purge End	11:27
Total Volume Measured (units)	Milliliters
Total Milliliters Purged	8000
Well Volumes Purged	3.3

Sample Information

Sample Time	11:30
Color	Clear
Notable odors	None

Well Information

Well Location	North of building entrance
Condition of Well	Good
Well Locked at Arrival	No
Lock Functioning	No
Well Locked at Departure	No
Access to well maintained	Yes
Well housing and pad in good shape	Yes
Well properly labeled	Yes

Photo of Well



ASRTM0EH.0619, MW-21, 2019-04-18

Created	2019-04-18 19:35:17 UTC by Dan Gilbert
Updated	2019-04-18 22:49:54 UTC by Dan Gilbert
Location	48.7601772090874, -122.488034153471
Project Number	ASRTM0EH.0619
Project Name / Location	Bellingham 90619
Date	2019-04-18
Well ID	MW-21
Sampler Name	Dan Gilbert
Weather	Rainy

Evacuation Details

Well Head PID reading (ppm)	2.7
Measuring Point (mp) Description	Top of Casing
Casing Diameter (inches)	2
Static Water Level (ft-bmp)	9.82
Total Depth (ft-bmp)	14.7
Water Column	4.88
Gallons in Well	0.79

Reference Note: Well Volume Calculation [$\pi r^2 h$, where h= 1foot] Well radius (inch):Volume (Gal./foot):Volume (mL/foot) 0.5" = 0.04 gal/ft = 154 mL/ft 1" = 0.16 gal/ft = 617 mL/ft 2" = 0.65 gal/ft = 2470 mL/ft 3" = 1.47 gal/ft = 5557 mL/ft

Purge Method	Low-Flow
Type of Equipment used	Peristaltic
Sample Method	Low-Flow
Sample Depth (ft-bmp) (e.g. pump intake)	14
Purge Start	12:36
Water Quality Meter Make/Model	YSI

@12:38, DTW:11.46, pH:6.35, temp:12, cond:0.385, turb:, DO:0.9, redox:116.3

Well-ClientName	MW-21Bellingham 90619
Reading Time	12:38
Rate (mL/min)	200
Depth to Water (ft)	11.46
Milliliters Purged (total)	1000
pH	6.35
Conductivity (mS/cm)	0.385
Dissolved Oxygen (mg/L)	0.9
Temperature (Degrees Celsius)	12
Redox (ORP mV)	116.3
parameters	@12:38, DTW:11.46, pH:6.35, temp:12, cond:0.385, turb:, DO:0.9, redox:116.3

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:41, DTW:11.68, pH:6.37, temp:12, cond:0.38, turb:, DO:1.06, redox:114.3

Well-ClientName	MW-21Bellingham 90619
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Reading Time	12:41
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	11.68
Milliliters Purged (total)	1600
pH	6.37
Conductivity (mS/cm)	0.38
Dissolved Oxygen (mg/L)	1.06
Temperature (Degrees Celsius)	12
Redox (ORP mV)	114.3
parameters	@12:41, DTW:11.68, pH:6.37, temp:12, cond:0.38, turb:, DO:1.06, redox:114.3

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:44, DTW:11.95, pH:6.39, temp:12, cond:0.374, turb:, DO:1.55, redox:112.6

Well-ClientName	MW-21Bellingham 90619
Reading Time	12:44
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	11.95
Milliliters Purged (total)	2200
pH	6.39
Conductivity (mS/cm)	0.374
Dissolved Oxygen (mg/L)	1.55
Temperature (Degrees Celsius)	12
Redox (ORP mV)	112.6
parameters	@12:44, DTW:11.95, pH:6.39, temp:12, cond:0.374, turb:, DO:1.55, redox:112.6

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:47, DTW:12.11, pH:6.41, temp:12.1, cond:0.36, turb:, DO:0.79, redox:109

Well-ClientName	MW-21Bellingham 90619
Reading Time	12:47
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	12.11
Milliliters Purged (total)	2800
pH	6.41
Conductivity (mS/cm)	0.36
Dissolved Oxygen (mg/L)	0.79
Temperature (Degrees Celsius)	12.1
Redox (ORP mV)	109
parameters	@12:47, DTW:12.11, pH:6.41, temp:12.1, cond:0.36, turb:, DO:0.79, redox:109

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:50, DTW:12.36, pH:6.41, temp:12.1, cond:0.354, turb:, DO:0.42, redox:107.3

Well-ClientName	MW-21Bellingham 90619
Reading Time	12:50
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	12.36
Milliliters Purged (total)	3400
pH	6.41
Conductivity (mS/cm)	0.354
Dissolved Oxygen (mg/L)	0.42
Temperature (Degrees Celsius)	12.1
Redox (ORP mV)	107.3
parameters	@12:50, DTW:12.36, pH:6.41, temp:12.1, cond:0.354, turb:, DO:0.42, redox:107.3

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:54, DTW:12.58, pH:6.41, temp:12.1, cond:0.356, turb:, DO:0.67, redox:105.3

Well-ClientName	MW-21Bellingham 90619
Reading Time	12:54
Minutes Elapsed between readings	4
Rate (mL/min)	200
Depth to Water (ft)	12.58
Milliliters Purged (total)	4200
pH	6.41
Conductivity (mS/cm)	0.356
Dissolved Oxygen (mg/L)	0.67
Temperature (Degrees Celsius)	12.1
Redox (ORP mV)	105.3
parameters	@12:54, DTW:12.58, pH:6.41, temp:12.1, cond:0.356, turb:, DO:0.67, redox:105.3

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:58, DTW:12.83, pH:6.45, temp:12.1, cond:0.362, turb:, DO:0.36, redox:104.5

Well-ClientName	MW-21Bellingham 90619
Reading Time	12:58
Minutes Elapsed between readings	4
Rate (mL/min)	200
Depth to Water (ft)	12.83
Milliliters Purged (total)	5000
pH	6.45
Conductivity (mS/cm)	0.362

Dissolved Oxygen (mg/L)	0.36
Temperature (Degrees Celsius)	12.1
Redox (ORP mV)	104.5
parameters	@12:58, DTW:12.83, pH:6.45, temp:12.1, cond:0.362, turb:, DO:0.36, redox:104.5

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@13:03, DTW:12.96, pH:6.51, temp:12.1, cond:0.372, turb:, DO:0.41, redox:102.6

Well-ClientName	MW-21Bellingham 90619
Reading Time	13:03
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	12.96
Milliliters Purged (total)	6000
pH	6.51
Conductivity (mS/cm)	0.372
Dissolved Oxygen (mg/L)	0.41
Temperature (Degrees Celsius)	12.1
Redox (ORP mV)	102.6
parameters	@13:03, DTW:12.96, pH:6.51, temp:12.1, cond:0.372, turb:, DO:0.41, redox:102.6

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@13:06, DTW:12.96, pH:6.52, temp:12.1, cond:0.371, turb:, DO:0.37, redox:102.5

Well-ClientName	MW-21Bellingham 90619
Reading Time	13:06
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	12.96
Milliliters Purged (total)	6600
pH	6.52
Conductivity (mS/cm)	0.371
Dissolved Oxygen (mg/L)	0.37
Temperature (Degrees Celsius)	12.1
Redox (ORP mV)	102.5
parameters	@13:06, DTW:12.96, pH:6.52, temp:12.1, cond:0.371, turb:, DO:0.37, redox:102.5

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

Purge End	13:06
Total Volume Measured (units)	Milliliters
Total Milliliters Purged	6600
Well Volumes Purged	2.21

Sample Information

Sample Time	13:00
Color	Clear

Well Information

Well Location	Next to sidewalk
Condition of Well	Good
Well Locked at Arrival	Yes
Lock Functioning	Yes
Well Locked at Departure	Yes
Access to well maintained	Yes
Well housing and pad in good shape	Yes
Well properly labeled	Yes

ASRTM0EH.0619, MW-22, 2019-04-18

Created	2019-04-18 21:27:29 UTC by Dan Gilbert
Updated	2019-04-18 22:49:31 UTC by Dan Gilbert
Location	48.7600951502554, -122.488098694126
Project Number	ASRTM0EH.0619
Project Name / Location	Bellingham 90619
Date	2019-04-18
Well ID	MW-22
Sampler Name	Dan Gilbert
Weather	Rainy

Evacuation Details

Well Head PID reading (ppm)	1.7
Measuring Point (mp) Description	Top of Casing
Casing Diameter (inches)	2
Static Water Level (ft-bmp)	9.07
Total Depth (ft-bmp)	15
Water Column	5.93
Gallons in Well	0.96

Reference Note: Well Volume Calculation [$\pi r^2 h$, where h= 1foot] Well radius (inch):Volume (Gal./foot):Volume (mL/foot) 0.5" = 0.04 gal/ft = 154 mL/ft 1" = 0.16 gal/ft = 617 mL/ft 2" = 0.65 gal/ft = 2470 mL/ft 3" = 1.47 gal/ft = 5557 mL/ft

Purge Method	Low-Flow
Type of Equipment used	Peristaltic
Sample Method	Low-Flow
Sample Depth (ft-bmp) (e.g. pump intake)	14
Purge Start	14:25
Water Quality Meter Make/Model	YSI

@14:28, DTW:9.18, pH:6.49, temp:11.9, cond:0.346, turb., DO:2.32, redox:85.8

Well-ClientName	MW-22Bellingham 90619
Reading Time	14:28
Rate (mL/min)	200
Depth to Water (ft)	9.18
Milliliters Purged (total)	1000
pH	6.49
Conductivity (mS/cm)	0.346
Dissolved Oxygen (mg/L)	2.32
Temperature (Degrees Celsius)	11.9
Redox (ORP mV)	85.8
parameters	@14:28, DTW:9.18, pH:6.49, temp:11.9, cond:0.346, turb., DO:2.32, redox:85.8

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:32, DTW:9.21, pH:6.46, temp:11.8, cond:0.342, turb., DO:2.05, redox:85.5

Well-ClientName	MW-22Bellingham 90619
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Reading Time	14:32
Minutes Elapsed between readings	4
Rate (mL/min)	200
Depth to Water (ft)	9.21
Milliliters Purged (total)	1800
pH	6.46
Conductivity (mS/cm)	0.342
Dissolved Oxygen (mg/L)	2.05
Temperature (Degrees Celsius)	11.8
Redox (ORP mV)	85.5
parameters	@14:32, DTW:9.21, pH:6.46, temp:11.8, cond:0.342, turb:, DO:2.05, redox:85.5

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:35, DTW:9.25, pH:6.44, temp:11.8, cond:0.327, turb:, DO:2.02, redox:83.1

Well-ClientName	MW-22Bellingham 90619
Reading Time	14:35
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	9.25
Milliliters Purged (total)	2400
pH	6.44
Conductivity (mS/cm)	0.327
Dissolved Oxygen (mg/L)	2.02
Temperature (Degrees Celsius)	11.8
Redox (ORP mV)	83.1
parameters	@14:35, DTW:9.25, pH:6.44, temp:11.8, cond:0.327, turb:, DO:2.02, redox:83.1

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:38, DTW:9.25, pH:6.41, temp:11.7, cond:0.31, turb:, DO:2, redox:81.9

Well-ClientName	MW-22Bellingham 90619
Reading Time	14:38
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	9.25
Milliliters Purged (total)	3000
pH	6.41
Conductivity (mS/cm)	0.31
Dissolved Oxygen (mg/L)	2
Temperature (Degrees Celsius)	11.7
Redox (ORP mV)	81.9
parameters	@14:38, DTW:9.25, pH:6.41, temp:11.7, cond:0.31, turb:, DO:2, redox:81.9

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:42, DTW:9.29, pH:6.4, temp:11.7, cond:0.302, turb:, DO:2.02, redox:81

Well-ClientName	MW-22Bellingham 90619
Reading Time	14:42
Minutes Elapsed between readings	4
Rate (mL/min)	200
Depth to Water (ft)	9.29
Milliliters Purged (total)	3800
pH	6.4
Conductivity (mS/cm)	0.302
Dissolved Oxygen (mg/L)	2.02
Temperature (Degrees Celsius)	11.7
Redox (ORP mV)	81
parameters	@14:42, DTW:9.29, pH:6.4, temp:11.7, cond:0.302, turb:, DO:2.02, redox:81

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:45, DTW:9.3, pH:6.38, temp:11.7, cond:0.292, turb:, DO:2, redox:80

Well-ClientName	MW-22Bellingham 90619
Reading Time	14:45
Minutes Elapsed between readings	3
Rate (mL/min)	200
Depth to Water (ft)	9.3
Milliliters Purged (total)	4400
pH	6.38
Conductivity (mS/cm)	0.292
Dissolved Oxygen (mg/L)	2
Temperature (Degrees Celsius)	11.7
Redox (ORP mV)	80
parameters	@14:45, DTW:9.3, pH:6.38, temp:11.7, cond:0.292, turb:, DO:2, redox:80

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:47, DTW:9.3, pH:6.37, temp:11.7, cond:0.288, turb:, DO:2.02, redox:79.6

Well-ClientName	MW-22Bellingham 90619
Reading Time	14:47
Minutes Elapsed between readings	2
Rate (mL/min)	200
Depth to Water (ft)	9.3
Milliliters Purged (total)	4800
pH	6.37
Conductivity (mS/cm)	0.288

Dissolved Oxygen (mg/L)	2.02
Temperature (Degrees Celsius)	11.7
Redox (ORP mV)	79.6
parameters	@14:47, DTW:9.3, pH:6.37, temp:11.7, cond:0.288, turb:, DO:2.02, redox:79.6

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:49, DTW:9.31, pH:6.37, temp:11.7, cond:0.287, turb:, DO:2, redox:79.4

Well-ClientName	MW-22Bellingham 90619
Reading Time	14:49
Minutes Elapsed between readings	2
Rate (mL/min)	200
Depth to Water (ft)	9.31
Milliliters Purged (total)	5200
pH	6.37
Conductivity (mS/cm)	0.287
Dissolved Oxygen (mg/L)	2
Temperature (Degrees Celsius)	11.7
Redox (ORP mV)	79.4
parameters	@14:49, DTW:9.31, pH:6.37, temp:11.7, cond:0.287, turb:, DO:2, redox:79.4

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

Purge End	14:49
Total Volume Measured (units)	Milliliters

Sample Information

Sample Time	15:15
Color	Clear

Well Information

Well Location	Corner of site by busy intersection
Condition of Well	Good
Well Locked at Arrival	Yes
Lock Functioning	Yes
Well Locked at Departure	Yes
Access to well maintained	Yes
Well housing and pad in good shape	Yes
Well properly labeled	Yes

ASRTM0EH.0619, MW-23, 2019-04-18

Created	2019-04-18 21:06:59 UTC by Ryan Brauchla
Updated	2019-04-22 18:18:00 UTC by Ryan Brauchla
Location	48.7602860900096, -122.488293405736
Project Number	ASRTM0EH.0619
Project Name / Location	Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Date	2019-04-18
Well ID	MW-23
Sampler Name	Ryan Brauchla
Weather	50 F, rain

Evacuation Details

Well Head PID reading (ppm)	0.9
Measuring Point (mp) Description	Top of Casing
Casing Diameter (inches)	2
Static Water Level (ft-bmp)	9.42
Total Depth (ft-bmp)	15.3
Water Column	5.88
Gallons in Well	0.96

Reference Note: Well Volume Calculation [$\pi r^2 h$, where h = 1foot] Well radius (inch):Volume (Gal./foot):Volume (mL/foot) 0.5" = 0.04 gal/ft = 154 mL/ft 1" = 0.16 gal/ft = 617 mL/ft 2" = 0.65 gal/ft = 2470 mL/ft 3" = 1.47 gal/ft = 5557 mL/ft

Purge Method	Low-Flow
Type of Equipment used	Peristaltic
Sample Method	Low-Flow
Sample Depth (ft-bmp) (e.g. pump intake)	15
Purge Start	14:10
Water Quality Meter Make/Model	YSI Pro Plus

@14:15, DTW:10.57, pH:7.13, temp:12.9, cond:0.75, turb:, DO:3.82, redox:96

Well-ClientName	MW-23Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	14:15
Rate (mL/min)	200
Depth to Water (ft)	10.57
Milliliters Purged (total)	1000
pH	7.13
Conductivity (mS/cm)	0.75
Dissolved Oxygen (mg/L)	3.82
Temperature (Degrees Celsius)	12.9
Redox (ORP mV)	96
parameters	@14:15, DTW:10.57, pH:7.13, temp:12.9, cond:0.75, turb:, DO:3.82, redox:96

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:20, DTW:11.84, pH:7.06, temp:12.9, cond:0.71, turb:, DO:3.03, redox:96.2

Well-ClientName	MW-23Chevron Bellingham / 1205 Washington Street, Bellingham, WA
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Reading Time	14:20
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	11.84
Milliliters Purged (total)	2000
pH	7.06
Conductivity (mS/cm)	0.71
Dissolved Oxygen (mg/L)	3.03
Temperature (Degrees Celsius)	12.9
Redox (ORP mV)	96.2
parameters	@14:20, DTW:11.84, pH:7.06, temp:12.9, cond:0.71, turb:, DO:3.03, redox:96.2

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:30, DTW:13.97, pH:7.07, temp:13.1, cond:0.72, turb:, DO:2.99, redox:93.4

Well-ClientName	MW-23Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	14:30
Minutes Elapsed between readings	10
Rate (mL/min)	200
Depth to Water (ft)	13.97
Milliliters Purged (total)	4000
pH	7.07
Conductivity (mS/cm)	0.72
Dissolved Oxygen (mg/L)	2.99
Temperature (Degrees Celsius)	13.1
Redox (ORP mV)	93.4
parameters	@14:30, DTW:13.97, pH:7.07, temp:13.1, cond:0.72, turb:, DO:2.99, redox:93.4

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:35, DTW:13.87, pH:7.08, temp:13.2, cond:0.72, turb:, DO:3.18, redox:93.4

Well-ClientName	MW-23Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	14:35
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	13.87
Milliliters Purged (total)	5000
pH	7.08
Conductivity (mS/cm)	0.72
Dissolved Oxygen (mg/L)	3.18
Temperature (Degrees Celsius)	13.2
Redox (ORP mV)	93.4
parameters	@14:35, DTW:13.87, pH:7.08, temp:13.2, cond:0.72, turb:, DO:3.18, redox:93.4

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@14:40, DTW:13.87, pH:7.11, temp:13.1, cond:0.75, turb:, DO:6.23, redox:94.1

Well-ClientName	MW-23Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	14:40
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	13.87
Milliliters Purged (total)	6000
pH	7.11
Conductivity (mS/cm)	0.75
Dissolved Oxygen (mg/L)	6.23
Temperature (Degrees Celsius)	13.1
Redox (ORP mV)	94.1
parameters	@14:40, DTW:13.87, pH:7.11, temp:13.1, cond:0.75, turb:, DO:6.23, redox:94.1

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

Purge End	14:40
Total Volume Measured (units)	Milliliters
Total Milliliters Purged	6000
Well Volumes Purged	1.65

Sample Information

Sample Time	15:00
Color	Cloudy
Notable odors	None

Well Information

Well Location	Elm Street Sidewalk
Condition of Well	Good
Well Locked at Arrival	No
Lock Functioning	No
Well Locked at Departure	No
Access to well maintained	Yes
Well housing and pad in good shape	Yes
Well properly labeled	Yes

Photo of Well



Comments

Well goes dry at 14:40, wait for recharge and sample at 15:00

ASRTM0EH.0619, MW-24, 2019-04-18

Created	2019-04-18 19:05:48 UTC by Ryan Brauchla
Updated	2019-04-22 18:18:58 UTC by Ryan Brauchla
Location	48.7602218427218, -122.488264571989
Project Number	ASRTM0EH.0619
Project Name / Location	Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Date	2019-04-18
Well ID	MW-24
Sampler Name	Ryan Brauchla
Replicate No. (e.g. Dup)	DUP-1
Weather	50F, rain

Evacuation Details

Well Head PID reading (ppm)	0.6
Measuring Point (mp) Description	Top of Casing
Casing Diameter (inches)	2
Static Water Level (ft-bmp)	10.3
Total Depth (ft-bmp)	15.2
Water Column	4.9
Gallons in Well	0.8
Reference Note: Well Volume Calculation [$\pi r^2 h$, where h= 1foot] Well radius (inch):Volume (Gal./foot):Volume (mL/foot) 0.5" = 0.04 gal/ft = 154 mL/ft 1" = 0.16 gal/ft = 617 mL/ft 2" = 0.65 gal/ft = 2470 mL/ft 3" = 1.47 gal/ft = 5557 mL/ft	
Purge Method	Low-Flow
Type of Equipment used	Peristaltic
Sample Method	Low-Flow
Sample Depth (ft-bmp) (e.g. pump intake)	15
Purge Start	12:05
Water Quality Meter Make/Model	YSI Pro Plus

@12:10, DTW:11.6, pH:6.78, temp:12.4, cond:0.68, turb:, DO:1.19, redox:121.8

Well-ClientName	MW-24Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	12:10
Rate (mL/min)	200
Depth to Water (ft)	11.6
Milliliters Purged (total)	1000
pH	6.78
Conductivity (mS/cm)	0.68
Dissolved Oxygen (mg/L)	1.19
Temperature (Degrees Celsius)	12.4
Redox (ORP mV)	121.8
parameters	@12:10, DTW:11.6, pH:6.78, temp:12.4, cond:0.68, turb:, DO:1.19, redox:121.8

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:15, DTW:12.41, pH:6.71, temp:12.3, cond:0.597, turb:, DO:2.28, redox:116.3

Well-ClientName	MW-24Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	12:15
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	12.41
Milliliters Purged (total)	2000
pH	6.71
Conductivity (mS/cm)	0.597
Dissolved Oxygen (mg/L)	2.28
Temperature (Degrees Celsius)	12.3
Redox (ORP mV)	116.3
parameters	@12:15, DTW:12.41, pH:6.71, temp:12.3, cond:0.597, turb:, DO:2.28, redox:116.3

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:20, DTW:13.2, pH:6.73, temp:12.3, cond:0.607, turb:, DO:1.38, redox:90.7

Well-ClientName	MW-24Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	12:20
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	13.2
Milliliters Purged (total)	3000
pH	6.73
Conductivity (mS/cm)	0.607
Dissolved Oxygen (mg/L)	1.38
Temperature (Degrees Celsius)	12.3
Redox (ORP mV)	90.7
parameters	@12:20, DTW:13.2, pH:6.73, temp:12.3, cond:0.607, turb:, DO:1.38, redox:90.7

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:25, DTW:13.43, pH:6.71, temp:12.4, cond:0.626, turb:, DO:0.81, redox:83.8

Well-ClientName	MW-24Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	12:25
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	13.43
Milliliters Purged (total)	4000
pH	6.71
Conductivity (mS/cm)	0.626
Dissolved Oxygen (mg/L)	0.81
Temperature (Degrees Celsius)	12.4
Redox (ORP mV)	83.8
parameters	@12:25, DTW:13.43, pH:6.71, temp:12.4, cond:0.626, turb:, DO:0.81, redox:83.8

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:30, DTW:13.97, pH:6.77, temp:12.3, cond:0.7, turb:, DO:0.43, redox:83.5

Well-ClientName	MW-24Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	12:30
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	13.97
Milliliters Purged (total)	5000
pH	6.77
Conductivity (mS/cm)	0.7
Dissolved Oxygen (mg/L)	0.43
Temperature (Degrees Celsius)	12.3
Redox (ORP mV)	83.5
parameters	@12:30, DTW:13.97, pH:6.77, temp:12.3, cond:0.7, turb:, DO:0.43, redox:83.5

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:35, DTW:14.36, pH:6.62, temp:12.5, cond:0.68, turb:, DO:2.51, redox:67.4

Well-ClientName	MW-24Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	12:35
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	14.36
Milliliters Purged (total)	6000
pH	6.62
Conductivity (mS/cm)	0.68
Dissolved Oxygen (mg/L)	2.51
Temperature (Degrees Celsius)	12.5
Redox (ORP mV)	67.4
parameters	@12:35, DTW:14.36, pH:6.62, temp:12.5, cond:0.68, turb:, DO:2.51, redox:67.4

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

@12:40, DTW:14.96, pH:6.63, temp:12.5, cond:0.548, turb:, DO:2.95, redox:56.9

Well-ClientName	MW-24Chevron Bellingham / 1205 Washington Street, Bellingham, WA
Reading Time	12:40
Minutes Elapsed between readings	5
Rate (mL/min)	200
Depth to Water (ft)	14.96
Milliliters Purged (total)	7000
pH	6.63
Conductivity (mS/cm)	0.548

Dissolved Oxygen (mg/L)	2.95
Temperature (Degrees Celsius)	12.5
Redox (ORP mV)	56.9
parameters	@12:40, DTW:14.96, pH:6.63, temp:12.5, cond:0.548, turb:, DO:2.95, redox:56.9

Well is considered stabilized and ready for sample collection when the following is met for three consecutive readings collected at 3 to 5 minute intervals: -turbidity remains within 10% (or within 1 NTU if turbidity is <10NTU) -specific conductance and temp remain within 3% - ORP within + or - 10 mV -DO within 10% -pH within 0.1 unit

Purge End	12:43
Total Volume Measured (units)	Milliliters
Total Milliliters Purged	7400
Well Volumes Purged	2.44

Sample Information

Sample Time	13:15
Color	Cloudy
Notable odors	None

Well Information

Well Location	Drive thru
Condition of Well	Good
Well Locked at Arrival	No
Lock Functioning	No
Well Locked at Departure	No
Access to well maintained	Yes
Well housing and pad in good shape	Yes
Well properly labeled	Yes

Photo of Well



Comments Well dry at 1243, wait for recharge and sample at 1315



Groundwater Gauging Log

Client:	Chevron						
Project Name/Location:	90619						
Date(s):	9/27/2019						
Sampler(s):	Trevor Bryant						
Equipment:	oil/water interface probe						
Well	Date	Time	Depth to Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	PID (ppmv)	Remarks
MW-20	9/27/2019	10:58:00	11.45	14.5	--	0.7	
MW-24	9/27/2019	11:08:00	10.93	15	--	0	
MW-23	9/27/2019	11:18:00	10.55	15	--	0.3	
MW-21	9/27/2019	11:25:00	10.36	15	--	0.2	
MW-22	9/27/2019	11:31:00	10.52	15	--	0.4	



Groundwater Sampling Form

Project Number	30012307	Well ID	MW-20	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy/rainy 55 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.45	Total Depth (ft-bmp)	14.5	Water Column(ft)	3
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	15:05	Volumes Purged	0.95	Sample ID	MW-20
Purge Start	11:40	Gallons Purged	0.48	Replicate/ Code No.	
Purge End	11:53				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:43		200	11.45	0.00	5.98	0.376		3.86	16.8	98.7	Clear	
11:47	4	200	11.45	0.21	6.07	0.375		3.43	16.7	87.8	Clear	
11:50	3	200	11.45	0.37	6.01	0.376		3.29	16.8	82.8	Clear	
11:52	2	200	12.01	0.48	6.05	0.377		3.22	16.8	79.7	Clear	

Constituent Sampled	Container	Number	Preservative
Comments:			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____ Well Locked at Arrival: yes

Condition of Well: Great Well Locked at Departure: yes

Well Completion: Flush mount Key Number To Well: NA

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Sampling Form

Project Number	30012307	Well ID	MW-21	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.36	Total Depth (ft-bmp)	15	Water Column(ft)	5
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:00	Volumes Purged	1.34	Sample ID	MW-21
Purge Start	12:40	Gallons Purged	1.00	Replicate/ Code No.	
Purge End	12:59			Sampled by	Trevor Bryant

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:40		200	10.36	0.00	6.1	292.3		1.69	16.2	135.5	Clear	None
12:46	6	200	10.36	0.32	6.2	283.7		1.14	16	134.9	Clear	None
12:49	3	200	10.36	0.48	6.22	284.1		0.88	16	132.4	Clear	None
12:53	4	200	10.36	0.69	6.23	0.279		0.58	16.1	124.6	Clear	None
12:56	3	200	10.36	0.85	6.21	0.276		0.51	16	118.2	Clear	None
12:59	3	200	10.36	1.00	6.19	0.275		0.49	16.2	112.7	Clear	None

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: yes _____
Condition of Well: Great _____	Well Locked at Departure: yes _____
Well Completion: Flush mount _____	Key Number To Well: NA _____

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Sampling Form

Project Number	30012307	Well ID	MW-22	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.5	Total Depth (ft-bmp)	15	Water Column(ft)	5
MP Elevation		Pump Intake (ft-bmp)	13.5	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	15:00	Volumes Purged	2.17	Sample ID	MW-22
Purge Start	13:59	Gallons Purged	1.59	Replicate/ Code No.	
Purge End	14:30				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
13:59		200	10.5	0.00	6.43	0.287		3.77	16.5	109	Light brown	None
14:02	3	200	10.82	0.16	6.36	0.276		4.38	16.6	109.2	Light brown	None
14:07	5	200	11	0.42	6.36	0.273		4.16	16.6	109.5	Light brown	None
14:11	4	200	11.15	0.63	6.37	270.2		3.46	16.7	107.7	Light brown	None
14:14	3	200	11.34	0.79	6.35	0.272		2.31	16.6	107.8	Light brown	None
14:18	4	200	11.98	1.00	6.38	0.281		1.72	16.6	106.8	Light brown	None
14:22	4	200	12.61	1.22	6.43	0.294		1.52	16.5	106.5	Light brown	None
14:26	4	200	13.2	1.43	6.34	0.309		1.9	16.2	107.2	Light brown	None
14:32	6	150	13.7	1.74	6.49	0.306		1.92	16.1	101.2	Light brown	None

Constituent Sampled	Container	Number	Preservative
Comments:	Well did not stabilize and went dry. Conductance and DO did not stabilize.		

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Sampling Form

Project Number	30012307	Well ID	MW-23	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.55	Total Depth (ft-bmp)	15	Water Column(ft)	4
				Gallons in Well	0.72
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Low-Flow
				Sample Method	Grab
Sample Time	#Error	Volumes Purged	1.10	Sample ID	MW-23
				Sampled by	Dan Gilbert
Purge Start	14:11	Gallons Purged	0.79	Replicate/ Code No.	
Purge End	14:15				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
#Error				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
Comments:	Well pumped dry. Sampled recharge at 200ml per minute		

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Sampling Form

Project Number	30012307	Well ID	MW-24	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.57	Total Depth (ft-bmp)	15	Water Column(ft)	3
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:30	Volumes Purged	1.89	Sample ID	MW-20
Purge Start	12:48	Gallons Purged	1.06	Replicate/ Code No.	
Purge End	13:11				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:52		200	11.57	0.11	6.16	0.581		3.99	16.3	128.9	Clear	
12:55	3	200	12.26	0.26	6.03	0.563		4.07	16.5	118.3	Clear	
12:58	3	200	12.86	0.42	6.03	0.564		4.01	16.6	111.2	Clear	
13:02	4	200	13.56	0.63	6.05	0.562		3.16	16.5	99.7	Clear	
13:06	4	200	13.56	0.85	6.07	0.568		2.95	16.3	91.9	Clear	
13:08	2	200	13.56	1.00	6.15	0.566		3.07	16.3	87.1	Clear	

Constituent Sampled	Container	Number	Preservative
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Comments: Well went dry after stabilization. Waited for well to recharge during sampling

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: yes _____
Condition of Well: Great _____	Well Locked at Departure: yes _____
Well Completion: Flush mount _____	Key Number To Well: NA _____

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Gauging Log

Client:	Chevron						
Project Name/Location:	90619						
Date(s):	11/14/2019						
Sampler(s):	Trevor Bryant						
Equipment:	oil/water interface probe						
Well	Date	Time	Depth to Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	PID (ppmv)	Remarks
MW-20	11/14/2019	10:36:00	11.13	--	--	0	
MW-24	11/14/2019	10:40:00	10.9	--	--	0	
MW-23	11/14/2019	10:43:00	10.2	--	--	0	
MW-21	11/14/2019	10:45:00	10.34	--	--	0	
MW-22	11/14/2019	10:47:00	10.18	--	--	0	

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-20	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.23	Total Depth (ft-bmp)	14.5	Water Column(ft)	3
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	12:15	Volumes Purged	2.74	Sample ID	MW-20
Purge Start	11:35	Gallons Purged	1.45	Replicate/ Code No.	
Purge End	12:10				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:36		200	10.9	0.05	5.54	0.333		5.36	15.3	161.6	Clear	
11:40	4	200	11.55	0.26	5.74	0.35		3.23	15.9	139.4	Clear	
11:44	4	150	11.55	0.42	5.79	0.344		2.84	15.7	126.1	Clear	
11:48	4	150	11.53	0.58	5.8	0.345		2.65	15.8	116.3	Clear	
11:52	4	150	11.51	0.74	5.84	0.342		2.57	15.7	109.6	Clear	
11:56	4	150	11.51	0.90	5.84	0.341		2.45	15.8	103.2	Clear	
12:00	4	150	11.51	1.06	5.85	0.341		2.45	15.8	98.9	Clear	
12:04	4	150	11.51	1.22	5.84	0.341		2.4	15.9	94.2	Clear	
12:08	4	150	11.52	1.37	5.85	0.341		2.38	15.8	90.5	Clear	

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Parking lot	Well Locked at Arrival: yes
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>NA</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-21	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.34	Total Depth (ft-bmp)	15	Water Column(ft)	5
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:05	Volumes Purged	2.16	Sample ID	MW-21
Purge Start	12:27	Gallons Purged	1.64	Replicate/ Code No.	DUP-1
Purge End	13:03				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:28		200	10.34	0.00	6.42	0.373		1.76	14.7	347.2	Clear	
12:32	4	200	11.19	0.21	6.38	0.367		1.14	15.2	304.8	Clear	
12:35	3	200	11.21	0.37	6.39	0.37		1.04	15.1	301.6	Clear	
12:38	3	200	11.34	0.53	6.39	0.37		1.05	15	297.3	Clear	
12:44	6	200	11.34	0.85	6.39	0.369		0.82	15.1	277	Clear	
12:47	3	200	11.69	1.00	6.4	0.368		0.76	15.2	255	Clear	
12:51	4	200	11.69	1.22	6.4	0.367		0.59	15.1	213.6	Clear	
12:53	2	200	11.91	1.32	6.41	0.367		0.49	15.1	188.3	Clear	
12:57	4	200	12	1.53	6.41	0.365		0.41	15.1	162.9	Clear	
13:00	3	200	12.11	1.48	6.42	0.364		0.34	15.2	151.8	Clear	
13:03	3	200	12.11	1.64	6.42	0.362		0.28	15.2	144.2	Clear	

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: yes _____
Condition of Well: Great _____	Well Locked at Departure: yes _____
Well Completion: NA _____	Key Number To Well: NA _____

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-22	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.18	Total Depth (ft-bmp)	15	Water Column(ft)	5
				Gallons in Well	0.78
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	11:30	Volumes Purged	1.42	Sample ID	MW-22
Purge Start	11:08	Gallons Purged	1.11	Replicate/ Code No.	
Purge End	#Error			Sampled by	Trevor Bryant

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:05		200	10.18	0.00	5.72	0.486		1.69	14	320.5	Clear	
11:10	5	200	11.15	0.26	6.16	0.43		1.53	14.4	305.8	Clear	
11:15	5	200	10.54	0.53	6.37	0.407		1.77	14.5	290.2	Clear	
11:18	3	200	10.6	0.69	6.38	0.391		2.2	14.4	289.8	Clear	
11:22	4	200	10.68	0.90	6.37	0.385		2.34	14.5	291.4	Clear	
11:26	4	200	10.68	1.11	6.37	0.38		2.3	14.7	287.9	Clear	

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>NA</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-23	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.2	Total Depth (ft-bmp)	15	Water Column(ft)	5
				Gallons in Well	0.78
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Grab
				Sample Method	Grab
Sample Time	14:05	Volumes Purged	1.02	Sample ID	MW-23
				Sampled by	Dan Gilbert
Purge Start	#Error	Gallons Purged	0.79	Replicate/ Code No.	
Purge End	#Error				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:12				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
Comments:			
Started purging well dry at 11:12. Well went dry after around 3000 milliliters purged, or .8 gallons Started sampling at 200mL per minute at 13:50 Start DTW: 12.28ft End DTW: Dry			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: By bus stop	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-24	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.9	Total Depth (ft-bmp)	15	Water Column(ft)	4
				Gallons in Well	0.67
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Grab
				Sample Method	Grab
Sample Time	13:20	Volumes Purged	0.99	Sample ID	MW-24
				Sampled by	Dan Gilbert
Purge Start	#Error	Gallons Purged	0.66	Replicate/ Code No.	
Purge End	#Error				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
10:59				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
Comments:			
Started purging the well dry at 10:55. Well went dry after around 2500 milliliters, or 2/3 of a gallon.			
Started purging again at 13:05 at 200mL per minute Start DTW: 12.35 End DTW:14.4			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Drive thru	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Gauging Log

Client:	Chevron						
Project Name/Location:	90619						
Date(s):	1/8/2020						
Sampler(s):	Trevor Bryant						
Equipment:	oil/water interface probe						
Well	Date	Time	Depth to Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	PID (ppmv)	Remarks
MW-20	1/8/2020	10:06:00	10.48	14.5	--	0	
MW-24	1/8/2020	10:06:00	9.12	15	--	0	
MW-21	1/8/2020	10:17:00	9.49	15	--	0.3	
MW-23	1/8/2020	10:19:00	7.79	15	--	0	
MW-22	1/8/2020	10:21:00	8.38	15	--	0.5	

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-20	Date	1/8/2020
Project Name/Location	Bellingham			Weather(°F)	Rainy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.48	Total Depth (ft-bmp)	14.5	Water Column(ft)	4
				Gallons in Well	0.65
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	11:54	Volumes Purged	2.24	Sample ID	MW-20
Purge Start	11:20	Gallons Purged	1.45	Replicate/ Code No.	
Purge End	11:47				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:21		200	10.5	0.05	6.09	0.303		20.2	13.8	29.6	Clear	
11:40	19	200	10.79	1.06	6.39	0.294		4.6	13.9	-1.9	Clear	
11:43	3	200	10.79	1.22	6.39	0.294		4.4	13.9	-3	Clear	
11:46	3	200	10.79	1.37	6.39	0.293		4.2	14	-3.4	Clear	

Constituent Sampled	Container	Number	Preservative
Comments:			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: <u>Parking lot</u>	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-21	Date	1/8/2020
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy, 45
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	9.49	Total Depth (ft-bmp)	15	Water Column(ft)	6
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	11:30	Volumes Purged	1.59	Sample ID	MW-21
Purge Start	11:02	Gallons Purged	1.43	Replicate/ Code No.	DUP-1
Purge End	11:29				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:02		200	9.49	0.00	6.28	0.361		3.88	12	67	Clear	None
11:05	3	200	9.92	0.16	6.28	0.35		3.32	12.6	61.2	Clear	None
11:08	3	200	10.24	0.32	6.29	0.345		2.96	12.5	56.3	Clear	None
11:11	3	200	10.44	0.48	6.29	0.346		2.71	12.5	53.3	Clear	None
11:14	3	200	10.7	0.63	6.3	0.352		2.69	12.7	51	Clear	None
11:17	3	200	10.7	0.79	6.3	0.356		2.84	12.6	50.3	Clear	None
11:20	3	200	11.1	0.95	6.3	0.358		2.91	12.5	49.3	Clear	None
11:23	3	200	11.1	1.11	6.3	0.361		2.83	12.5	48.6	Clear	None
11:26	3	200	11.33	1.27	6.3	0.362		2.68	12.6	47.6	Clear	None
11:29	3	200	11.33	1.43	6.31	0.36		2.6	12.7	47	Clear	None

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-22	Date	1/8/2020
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy, 45
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	8.38	Total Depth (ft-bmp)	15	Water Column(ft)	7
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:30	Volumes Purged	2.05	Sample ID	MW-22
Purge Start	12:48	Gallons Purged	2.22	Replicate/ Code No.	
Purge End	13:29				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:48		200	8.38	0.00	6.6	0.27		17.2	11.8	156.1	Clear	None
12:51	3	200	8.49	0.16	6.45	0.271		11.68	11.9	152.3	Clear	None
12:54	3	200	8.49	0.32	6.41	0.27		11.09	12	151.3	Clear	None
12:57	3	200	8.57	0.48	6.38	0.272		10.46	12.2	146.7	Clear	None
13:00	3	200	8.57	0.63	6.36	0.271		10.11	12.3	144	Clear	None
13:03	3	200	8.6	0.79	6.32	0.268		9.81	12.4	141.5	Clear	None
13:05	2	200	8.61	0.95	6.35	0.265		9.46	12.5	139.3	Clear	None
13:08	3	200	8.61	1.11	6.3	0.264		9.21	12.4	138.3	Clear	None
13:11	3	200	8.61	1.27	6.31	0.257		8.98	12.3	135.9	Clear	None
13:14	3	200	8.64	1.43	6.32	0.252		8.67	12.4	134.4	Clear	None
13:17	3	200	8.66	1.59	6.29	0.247		7.98	12.4	132.5	Clear	None
13:20	3	200	8.66	1.74	6.29	0.243		7.79	12.5	130.8	Clear	None
13:23	3	200	8.67	1.90	6.27	0.239		7.45	12.5	129.3	Clear	None
13:26	3	200	8.68	2.06	6.26	0.237		7.09	12.5	127.4	Clear	None
13:29	3	200	8.69	2.22	6.25	0.234		7.12	12.5	125.7	Clear	None

Constituent Sampled	Container	Number	Preservative
Comments:			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Location: _____
Condition of Well: Great _____
Well Completion: Flush mount _____

Well Locked at Arrival: yes _____
Well Locked at Departure: yes _____
Key Number To Well: NA _____

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-23	Date	1/8/2020
Project Name/Location	Bellingham			Weather(°F)	Rainy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	7.79	Total Depth (ft-bmp)	15	Water Column(ft)	7
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Volumetric
				Sample Method	Low-Flow
Sample Time	13:45	Volumes Purged	1.58	Sample ID	MW-23
Purge Start	10:46	Gallons Purged	1.85	Replicate/ Code No.	
Purge End	#Error			Sampled by	Dan Gilbert

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
10:49				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
Comments:	Well was purged dry of approximately 7000 mL. Sampled recharge		

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: <u>Bus stop</u>	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-24	Date	1/8/2020
Project Name/Location	Bellingham			Weather(°F)	Rainy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	9.12	Total Depth (ft-bmp)	15	Water Column(ft)	6
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Volumetric
				Sample Method	Low-Flow
Sample Time	12:55	Volumes Purged	1.65	Sample ID	MW-24
Purge Start	10:22	Gallons Purged	1.59	Replicate/ Code No.	
Purge End	10:38				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
10:42				0.00							Cloudy	

Constituent Sampled	Container	Number	Preservative
Comments: Well was purged dry of approximately 6000 mL. Sampled recharge using low flow methods			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Drive thru	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Sampling Form

Project Number	30012307	Well ID	MW-20	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy/rainy 55 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.45	Total Depth (ft-bmp)	14.5	Water Column(ft)	3
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	15:05	Volumes Purged	0.95	Sample ID	MW-20
Purge Start	11:40	Gallons Purged	0.48	Replicate/ Code No.	
Purge End	11:53				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:43		200	11.45	0.00	5.98	0.376		3.86	16.8	98.7	Clear	
11:47	4	200	11.45	0.21	6.07	0.375		3.43	16.7	87.8	Clear	
11:50	3	200	11.45	0.37	6.01	0.376		3.29	16.8	82.8	Clear	
11:52	2	200	12.01	0.48	6.05	0.377		3.22	16.8	79.7	Clear	

Constituent Sampled	Container	Number	Preservative
Comments:			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____ Well Locked at Arrival: yes

Condition of Well: Great Well Locked at Departure: yes

Well Completion: Flush mount Key Number To Well: NA

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius



Groundwater Sampling Form

Project Number	30012307	Well ID	MW-21	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.36	Total Depth (ft-bmp)	15	Water Column(ft)	5
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:00	Volumes Purged	1.34	Sample ID	MW-21
Purge Start	12:40	Gallons Purged	1.00	Replicate/ Code No.	
Purge End	12:59			Sampled by	Trevor Bryant

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:40		200	10.36	0.00	6.1	292.3		1.69	16.2	135.5	Clear	None
12:46	6	200	10.36	0.32	6.2	283.7		1.14	16	134.9	Clear	None
12:49	3	200	10.36	0.48	6.22	284.1		0.88	16	132.4	Clear	None
12:53	4	200	10.36	0.69	6.23	0.279		0.58	16.1	124.6	Clear	None
12:56	3	200	10.36	0.85	6.21	0.276		0.51	16	118.2	Clear	None
12:59	3	200	10.36	1.00	6.19	0.275		0.49	16.2	112.7	Clear	None

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <input checked="" type="checkbox"/> yes
Condition of Well: <u>Great</u>	Well Locked at Departure: <input type="checkbox"/> yes
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Project Number	30012307	Well ID	MW-22	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.5	Total Depth (ft-bmp)	15	Water Column(ft)	5
MP Elevation		Pump Intake (ft-bmp)	13.5	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	15:00	Volumes Purged	2.17	Sample ID	MW-22
Purge Start	13:59	Gallons Purged	1.59	Replicate/ Code No.	
Purge End	14:30				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
13:59		200	10.5	0.00	6.43	0.287		3.77	16.5	109	Light brown	None
14:02	3	200	10.82	0.16	6.36	0.276		4.38	16.6	109.2	Light brown	None
14:07	5	200	11	0.42	6.36	0.273		4.16	16.6	109.5	Light brown	None
14:11	4	200	11.15	0.63	6.37	270.2		3.46	16.7	107.7	Light brown	None
14:14	3	200	11.34	0.79	6.35	0.272		2.31	16.6	107.8	Light brown	None
14:18	4	200	11.98	1.00	6.38	0.281		1.72	16.6	106.8	Light brown	None
14:22	4	200	12.61	1.22	6.43	0.294		1.52	16.5	106.5	Light brown	None
14:26	4	200	13.2	1.43	6.34	0.309		1.9	16.2	107.2	Light brown	None
14:32	6	150	13.7	1.74	6.49	0.306		1.92	16.1	101.2	Light brown	None

Constituent Sampled	Container	Number	Preservative
Comments:	Well did not stabilize and went dry. Conductance and DO did not stabilize.		

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Project Number	30012307	Well ID	MW-23	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.55	Total Depth (ft-bmp)	15	Water Column(ft)	4
				Gallons in Well	0.72
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Low-Flow
				Sample Method	Grab
Sample Time	#Error	Volumes Purged	1.10	Sample ID	MW-23
				Sampled by	Dan Gilbert
Purge Start	14:11	Gallons Purged	0.79	Replicate/ Code No.	
Purge End	14:15				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
#Error				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
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Comments: Well pumped dry. Sampled recharge at 200ml per minute

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <input checked="" type="checkbox"/> yes
Condition of Well: Great	Well Locked at Departure: <input checked="" type="checkbox"/> yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Project Number	30012307	Well ID	MW-24	Date	9/27/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)		Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.57	Total Depth (ft-bmp)	15	Water Column(ft)	3
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:30	Volumes Purged	1.89	Sample ID	MW-20
Purge Start	12:48	Gallons Purged	1.06	Replicate/ Code No.	
Purge End	13:11				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:52		200	11.57	0.11	6.16	0.581		3.99	16.3	128.9	Clear	
12:55	3	200	12.26	0.26	6.03	0.563		4.07	16.5	118.3	Clear	
12:58	3	200	12.86	0.42	6.03	0.564		4.01	16.6	111.2	Clear	
13:02	4	200	13.56	0.63	6.05	0.562		3.16	16.5	99.7	Clear	
13:06	4	200	13.56	0.85	6.07	0.568		2.95	16.3	91.9	Clear	
13:08	2	200	13.56	1.00	6.15	0.566		3.07	16.3	87.1	Clear	

Constituent Sampled	Container	Number	Preservative
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Comments: Well went dry after stabilization. Waited for well to recharge during sampling

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: yes _____
Condition of Well: Great _____	Well Locked at Departure: yes _____
Well Completion: Flush mount _____	Key Number To Well: NA _____

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Client:		Chevron					
Project Name/Location:		90619					
Date(s):		11/14/2019					
Sampler(s):		Trevor Bryant					
Equipment:		oil/water interface probe					
Well	Date	Time	Depth to Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	PID (ppmv)	Remarks
MW-20	11/14/2019	10:36:00	11.13	--	--	0	
MW-24	11/14/2019	10:40:00	10.9	--	--	0	
MW-23	11/14/2019	10:43:00	10.2	--	--	0	
MW-21	11/14/2019	10:45:00	10.34	--	--	0	
MW-22	11/14/2019	10:47:00	10.18	--	--	0	

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-20	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.23	Total Depth (ft-bmp)	14.5	Water Column(ft)	3
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	12:15	Volumes Purged	2.74	Sample ID	MW-20
Purge Start	11:35	Gallons Purged	1.45	Replicate/ Code No.	
Purge End	12:10				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:36		200	10.9	0.05	5.54	0.333		5.36	15.3	161.6	Clear	
11:40	4	200	11.55	0.26	5.74	0.35		3.23	15.9	139.4	Clear	
11:44	4	150	11.55	0.42	5.79	0.344		2.84	15.7	126.1	Clear	
11:48	4	150	11.53	0.58	5.8	0.345		2.65	15.8	116.3	Clear	
11:52	4	150	11.51	0.74	5.84	0.342		2.57	15.7	109.6	Clear	
11:56	4	150	11.51	0.90	5.84	0.341		2.45	15.8	103.2	Clear	
12:00	4	150	11.51	1.06	5.85	0.341		2.45	15.8	98.9	Clear	
12:04	4	150	11.51	1.22	5.84	0.341		2.4	15.9	94.2	Clear	
12:08	4	150	11.52	1.37	5.85	0.341		2.38	15.8	90.5	Clear	

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Parking lot	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>NA</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-21	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.34	Total Depth (ft-bmp)	15	Water Column(ft)	5
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:05	Volumes Purged	2.16	Sample ID	MW-21
Purge Start	12:27	Gallons Purged	1.64	Replicate/ Code No.	DUP-1
Purge End	13:03				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:28		200	10.34	0.00	6.42	0.373		1.76	14.7	347.2	Clear	
12:32	4	200	11.19	0.21	6.38	0.367		1.14	15.2	304.8	Clear	
12:35	3	200	11.21	0.37	6.39	0.37		1.04	15.1	301.6	Clear	
12:38	3	200	11.34	0.53	6.39	0.37		1.05	15	297.3	Clear	
12:44	6	200	11.34	0.85	6.39	0.369		0.82	15.1	277	Clear	
12:47	3	200	11.69	1.00	6.4	0.368		0.76	15.2	255	Clear	
12:51	4	200	11.69	1.22	6.4	0.367		0.59	15.1	213.6	Clear	
12:53	2	200	11.91	1.32	6.41	0.367		0.49	15.1	188.3	Clear	
12:57	4	200	12	1.53	6.41	0.365		0.41	15.1	162.9	Clear	
13:00	3	200	12.11	1.48	6.42	0.364		0.34	15.2	151.8	Clear	
13:03	3	200	12.11	1.64	6.42	0.362		0.28	15.2	144.2	Clear	

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: yes _____
Condition of Well: Great _____	Well Locked at Departure: yes _____
Well Completion: NA _____	Key Number To Well: NA _____

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-22	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Partly cloudy, 59 degrees
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.18	Total Depth (ft-bmp)	15	Water Column(ft)	5
MP Elevation		Pump Intake (ft-bmp)	14	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	11:30	Volumes Purged	1.42	Sample ID	MW-22
Purge Start	11:08	Gallons Purged	1.11	Replicate/ Code No.	
Purge End	#Error				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:05		200	10.18	0.00	5.72	0.486		1.69	14	320.5	Clear	
11:10	5	200	11.15	0.26	6.16	0.43		1.53	14.4	305.8	Clear	
11:15	5	200	10.54	0.53	6.37	0.407		1.77	14.5	290.2	Clear	
11:18	3	200	10.6	0.69	6.38	0.391		2.2	14.4	289.8	Clear	
11:22	4	200	10.68	0.90	6.37	0.385		2.34	14.5	291.4	Clear	
11:26	4	200	10.68	1.11	6.37	0.38		2.3	14.7	287.9	Clear	

Constituent Sampled	Container	Number	Preservative
---------------------	-----------	--------	--------------

Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>NA</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-23	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.2	Total Depth (ft-bmp)	15	Water Column(ft)	5
				Gallons in Well	0.78
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Grab
				Sample Method	Grab
Sample Time	14:05	Volumes Purged	1.02	Sample ID	MW-23
				Sampled by	Dan Gilbert
Purge Start	#Error	Gallons Purged	0.79	Replicate/ Code No.	
Purge End	#Error				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:12				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
Comments:	Started purging well dry at 11:12. Well went dry after around 3000 milliliters purged, or .8 gallons Started sampling at 200mL per minute at 13:50 Start DTW: 12.28ft End DTW: Dry		

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: <u>By bus stop</u>	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-24	Date	11/14/2019
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.9	Total Depth (ft-bmp)	15	Water Column(ft)	4
				Gallons in Well	0.67
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Grab
				Sample Method	Grab
Sample Time	13:20	Volumes Purged	0.99	Sample ID	MW-24
				Sampled by	Dan Gilbert
Purge Start	#Error	Gallons Purged	0.66	Replicate/ Code No.	
Purge End	#Error				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
10:59				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
Comments:			
Started purging the well dry at 10:55. Well went dry after around 2500 milliliters, or 2/3 of a gallon.			
Started purging again at 13:05 at 200mL per minute Start DTW: 12.35 End DTW:14.4			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Drive thru	Well Locked at Arrival: yes
Condition of Well: Great	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Client:		Chevron					
Project Name/Location:		90619					
Date(s):		1/8/2020					
Sampler(s):		Trevor Bryant					
Equipment:		oil/water interface probe					
Well	Date	Time	Depth to Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	PID (ppmv)	Remarks
MW-20	1/8/2020	10:06:00	10.48	14.5	--	0	
MW-24	1/8/2020	10:06:00	9.12	15	--	0	
MW-21	1/8/2020	10:17:00	9.49	15	--	0.3	
MW-23	1/8/2020	10:19:00	7.79	15	--	0	
MW-22	1/8/2020	10:21:00	8.38	15	--	0.5	

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-20	Date	1/8/2020
Project Name/Location	Bellingham			Weather(°F)	Rainy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.48	Total Depth (ft-bmp)	14.5	Water Column(ft)	4
				Gallons in Well	0.65
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	11:54	Volumes Purged	2.24	Sample ID	MW-20
Purge Start	11:20	Gallons Purged	1.45	Replicate/ Code No.	
Purge End	11:47				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:21		200	10.5	0.05	6.09	0.303		20.2	13.8	29.6	Clear	
11:40	19	200	10.79	1.06	6.39	0.294		4.6	13.9	-1.9	Clear	
11:43	3	200	10.79	1.22	6.39	0.294		4.4	13.9	-3	Clear	
11:46	3	200	10.79	1.37	6.39	0.293		4.2	14	-3.4	Clear	

Constituent Sampled	Container	Number	Preservative
Comments:			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: <u>Parking lot</u>	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-21	Date	1/8/2020
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy, 45
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	9.49	Total Depth (ft-bmp)	15	Water Column(ft)	6
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	11:30	Volumes Purged	1.59	Sample ID	MW-21
Purge Start	11:02	Gallons Purged	1.43	Replicate/ Code No.	DUP-1
Purge End	11:29				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
11:02		200	9.49	0.00	6.28	0.361		3.88	12	67	Clear	None
11:05	3	200	9.92	0.16	6.28	0.35		3.32	12.6	61.2	Clear	None
11:08	3	200	10.24	0.32	6.29	0.345		2.96	12.5	56.3	Clear	None
11:11	3	200	10.44	0.48	6.29	0.346		2.71	12.5	53.3	Clear	None
11:14	3	200	10.7	0.63	6.3	0.352		2.69	12.7	51	Clear	None
11:17	3	200	10.7	0.79	6.3	0.356		2.84	12.6	50.3	Clear	None
11:20	3	200	11.1	0.95	6.3	0.358		2.91	12.5	49.3	Clear	None
11:23	3	200	11.1	1.11	6.3	0.361		2.83	12.5	48.6	Clear	None
11:26	3	200	11.33	1.27	6.3	0.362		2.68	12.6	47.6	Clear	None
11:29	3	200	11.33	1.43	6.31	0.36		2.6	12.7	47	Clear	None

Constituent Sampled	Container	Number	Preservative
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Comments:

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-22	Date	1/8/2020
Project Name/Location	Chevron 90619			Weather(°F)	Cloudy, 45
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	8.38	Total Depth (ft-bmp)	15	Water Column(ft)	7
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
				Sample Method	Low-Flow
Sample Time	13:30	Volumes Purged	2.05	Sample ID	MW-22
Purge Start	12:48	Gallons Purged	2.22	Replicate/ Code No.	
Purge End	13:29				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
12:48		200	8.38	0.00	6.6	0.27		17.2	11.8	156.1	Clear	None
12:51	3	200	8.49	0.16	6.45	0.271		11.68	11.9	152.3	Clear	None
12:54	3	200	8.49	0.32	6.41	0.27		11.09	12	151.3	Clear	None
12:57	3	200	8.57	0.48	6.38	0.272		10.46	12.2	146.7	Clear	None
13:00	3	200	8.57	0.63	6.36	0.271		10.11	12.3	144	Clear	None
13:03	3	200	8.6	0.79	6.32	0.268		9.81	12.4	141.5	Clear	None
13:05	2	200	8.61	0.95	6.35	0.265		9.46	12.5	139.3	Clear	None
13:08	3	200	8.61	1.11	6.3	0.264		9.21	12.4	138.3	Clear	None
13:11	3	200	8.61	1.27	6.31	0.257		8.98	12.3	135.9	Clear	None
13:14	3	200	8.64	1.43	6.32	0.252		8.67	12.4	134.4	Clear	None
13:17	3	200	8.66	1.59	6.29	0.247		7.98	12.4	132.5	Clear	None
13:20	3	200	8.66	1.74	6.29	0.243		7.79	12.5	130.8	Clear	None
13:23	3	200	8.67	1.90	6.27	0.239		7.45	12.5	129.3	Clear	None
13:26	3	200	8.68	2.06	6.26	0.237		7.09	12.5	127.4	Clear	None
13:29	3	200	8.69	2.22	6.25	0.234		7.12	12.5	125.7	Clear	None

Constituent Sampled	Container	Number	Preservative
Comments:			

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Location: _____
Condition of Well: Great _____
Well Completion: Flush mount _____

Well Locked at Arrival: yes _____
Well Locked at Departure: yes _____
Key Number To Well: NA _____

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-23	Date	1/8/2020
Project Name/Location	Bellingham			Weather(°F)	Rainy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	7.79	Total Depth (ft-bmp)	15	Water Column(ft)	7
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Volumetric
				Sample Method	Low-Flow
Sample Time	13:45	Volumes Purged	1.58	Sample ID	MW-23
Purge Start	10:46	Gallons Purged	1.85	Replicate/ Code No.	
Purge End	#Error				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
10:49				0.00							Clear	

Constituent Sampled	Container	Number	Preservative
Comments:	Well was purged dry of approximately 7000 mL. Sampled recharge		

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: <u>Bus stop</u>	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30012307	Well ID	MW-24	Date	1/8/2020
Project Name/Location	Bellingham			Weather(°F)	Rainy
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in.)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	9.12	Total Depth (ft-bmp)	15	Water Column(ft)	6
MP Elevation		Pump Intake (ft-bmp)	15	Purge Method	Volumetric
				Sample Method	Low-Flow
Sample Time	12:55	Volumes Purged	1.65	Sample ID	MW-24
Purge Start	10:22	Gallons Purged	1.59	Replicate/ Code No.	
Purge End	10:38				

Time	Minutes Elapsed	Rate (mL/min)	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
											Color	Odor
10:42				0.00							Cloudy	

Constituent Sampled	Container	Number	Preservative
Comments:	Well was purged dry of approximately 6000 mL. Sampled recharge using low flow methods		

Well Casing Volume Conversion

Well diameter (inches) 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 = gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Drive thru	Well Locked at Arrival: <u>yes</u>
Condition of Well: <u>Great</u>	Well Locked at Departure: <u>yes</u>
Well Completion: <u>Flush mount</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in. = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

APPENDIX E

Groundwater Monitoring Laboratory Analytical Reports and Chain of Custody Documentation



ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-85606-1

Client Project/Site: Former Chevron Facility #90169, Bellingham

For:

ARCADIS U.S. Inc
111 SW Columbia Street
Suite 670
Portland, Oregon 97201

Attn: Christopher Dotson

M. Elaine Walker

Authorized for release by:
5/7/2019 3:41:17 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Job ID: 580-85606-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-85606-1

Receipt

Seven samples were received on 4/19/2019 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8011: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 580-299489 and analytical batch 580-299842 recovered outside control limits for the following analytes: EDB

Method(s) NWTPH-Dx: The method blank for preparation batch 580-299543 and analytical batch 580-299620 contained Motor Oil (>C24-C36) above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-20

Lab Sample ID: 580-85606-1

Date Collected: 04/18/19 11:30

Matrix: Water

Date Received: 04/19/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 19:10	1
EDC	ND		2.0	0.53	ug/L			04/23/19 19:10	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 19:10	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 19:10	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 19:10	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 19:10	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 19:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120		04/23/19 19:10	1
Toluene-d8 (Surr)	99		80 - 122		04/23/19 19:10	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		04/23/19 19:10	1
4-Bromofluorobenzene (Surr)	100		80 - 125		04/23/19 19:10	1
Dibromofluoromethane (Surr)	100		77 - 120		04/23/19 19:10	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.037	J	0.10	0.020	ug/L		04/24/19 07:29	04/26/19 12:17	1
2-Methylnaphthalene	0.046	J	0.21	0.041	ug/L		04/24/19 07:29	04/26/19 12:17	1
Benzo[a]anthracene	0.063		0.052	0.015	ug/L		04/24/19 07:29	04/26/19 12:17	1
Benzo[a]pyrene	0.037	J	0.10	0.011	ug/L		04/24/19 07:29	04/26/19 12:17	1
Benzo[b]fluoranthene	0.052		0.052	0.011	ug/L		04/24/19 07:29	04/26/19 12:17	1
Benzo[k]fluoranthene	0.027	J	0.052	0.013	ug/L		04/24/19 07:29	04/26/19 12:17	1
Chrysene	0.050	J	0.10	0.017	ug/L		04/24/19 07:29	04/26/19 12:17	1
Dibenz(a,h)anthracene	0.012	J	0.10	0.010	ug/L		04/24/19 07:29	04/26/19 12:17	1
Indeno[1,2,3-cd]pyrene	0.032	J	0.052	0.015	ug/L		04/24/19 07:29	04/26/19 12:17	1
Naphthalene	0.20		0.10	0.032	ug/L		04/24/19 07:29	04/26/19 12:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	71		53 - 120	04/24/19 07:29	04/26/19 12:17	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/30/19 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		04/30/19 19:20	1
Trifluorotoluene (Surr)	99		50 - 150		04/30/19 19:20	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND	*	0.0099	0.0020	ug/L		04/26/19 14:16	05/01/19 02:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	98		60 - 140	04/26/19 14:16	05/01/19 02:14	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.068	mg/L		04/29/19 09:19	04/29/19 20:18	1
Motor Oil (>C24-C36)	ND		0.37	0.10	mg/L		04/29/19 09:19	04/29/19 20:18	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-20
Date Collected: 04/18/19 11:30
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	81		50 - 150	04/29/19 09:19	04/29/19 20:18	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		04/22/19 15:55	04/23/19 13:49	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/02/19 17:44	05/03/19 19:43	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-21

Lab Sample ID: 580-85606-2

Date Collected: 04/18/19 13:00

Matrix: Water

Date Received: 04/19/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 19:35	1
EDC	ND		2.0	0.53	ug/L			04/23/19 19:35	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 19:35	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 19:35	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 19:35	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 19:35	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 19:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120		04/23/19 19:35	1
Toluene-d8 (Surr)	100		80 - 122		04/23/19 19:35	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		04/23/19 19:35	1
4-Bromofluorobenzene (Surr)	98		80 - 125		04/23/19 19:35	1
Dibromofluoromethane (Surr)	95		77 - 120		04/23/19 19:35	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.021	ug/L		04/24/19 07:29	04/26/19 12:43	1
2-Methylnaphthalene	ND		0.22	0.042	ug/L		04/24/19 07:29	04/26/19 12:43	1
Benzo[a]anthracene	0.034	J	0.054	0.015	ug/L		04/24/19 07:29	04/26/19 12:43	1
Benzo[a]pyrene	0.021	J	0.11	0.012	ug/L		04/24/19 07:29	04/26/19 12:43	1
Benzo[b]fluoranthene	0.029	J	0.054	0.012	ug/L		04/24/19 07:29	04/26/19 12:43	1
Benzo[k]fluoranthene	0.016	J	0.054	0.013	ug/L		04/24/19 07:29	04/26/19 12:43	1
Chrysene	0.030	J	0.11	0.017	ug/L		04/24/19 07:29	04/26/19 12:43	1
Dibenz(a,h)anthracene	ND		0.11	0.011	ug/L		04/24/19 07:29	04/26/19 12:43	1
Indeno[1,2,3-cd]pyrene	0.021	J	0.054	0.015	ug/L		04/24/19 07:29	04/26/19 12:43	1
Naphthalene	0.048	J	0.11	0.034	ug/L		04/24/19 07:29	04/26/19 12:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	79		53 - 120	04/24/19 07:29	04/26/19 12:43	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/30/19 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		04/30/19 20:20	1
Trifluorotoluene (Surr)	105		50 - 150		04/30/19 20:20	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND	*	0.010	0.0020	ug/L		04/26/19 14:16	05/01/19 02:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	102		60 - 140	04/26/19 14:16	05/01/19 02:30	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.10	J	0.13	0.074	mg/L		04/29/19 09:19	04/29/19 20:40	1
Motor Oil (>C24-C36)	0.15	J B	0.40	0.11	mg/L		04/29/19 09:19	04/29/19 20:40	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-21
Date Collected: 04/18/19 13:00
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150	04/29/19 09:19	04/29/19 20:40	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		04/22/19 15:55	04/23/19 13:52	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/02/19 17:44	05/03/19 20:11	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-22

Lab Sample ID: 580-85606-3

Date Collected: 04/18/19 15:15

Matrix: Water

Date Received: 04/19/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 19:59	1
EDC	ND		2.0	0.53	ug/L			04/23/19 19:59	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 19:59	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 19:59	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 19:59	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 19:59	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120		04/23/19 19:59	1
Toluene-d8 (Surr)	99		80 - 122		04/23/19 19:59	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		04/23/19 19:59	1
4-Bromofluorobenzene (Surr)	101		80 - 125		04/23/19 19:59	1
Dibromofluoromethane (Surr)	96		77 - 120		04/23/19 19:59	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.020	ug/L		04/24/19 07:29	04/26/19 13:09	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		04/24/19 07:29	04/26/19 13:09	1
Benzo[a]anthracene	ND		0.052	0.015	ug/L		04/24/19 07:29	04/26/19 13:09	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		04/24/19 07:29	04/26/19 13:09	1
Benzo[b]fluoranthene	0.012	J	0.052	0.011	ug/L		04/24/19 07:29	04/26/19 13:09	1
Benzo[k]fluoranthene	ND		0.052	0.013	ug/L		04/24/19 07:29	04/26/19 13:09	1
Chrysene	ND		0.10	0.017	ug/L		04/24/19 07:29	04/26/19 13:09	1
Dibenz(a,h)anthracene	ND		0.10	0.010	ug/L		04/24/19 07:29	04/26/19 13:09	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.015	ug/L		04/24/19 07:29	04/26/19 13:09	1
Naphthalene	ND		0.10	0.032	ug/L		04/24/19 07:29	04/26/19 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		53 - 120	04/24/19 07:29	04/26/19 13:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/30/19 20:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150		04/30/19 20:50	1
Trifluorotoluene (Surr)	112		50 - 150		04/30/19 20:50	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND	*	0.0099	0.0020	ug/L		04/26/19 14:16	05/01/19 02:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	97		60 - 140	04/26/19 14:16	05/01/19 02:46	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.069	mg/L		04/29/19 09:19	04/29/19 21:24	1

Motor Oil (>C24-C36)	0.11	J B	0.37	0.10	mg/L		04/29/19 09:19	04/29/19 21:24	1
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Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-22
Date Collected: 04/18/19 15:15
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	86		50 - 150	04/29/19 09:19	04/29/19 21:24	1

Method: 6010C - Metals (ICP) - Total Recoverable									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		04/22/19 15:55	04/23/19 13:56	1

Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/02/19 17:44	05/03/19 20:14	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-23
Date Collected: 04/18/19 15:00
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 20:23	1
EDC	ND		2.0	0.53	ug/L			04/23/19 20:23	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 20:23	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 20:23	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 20:23	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 20:23	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 20:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120		04/23/19 20:23	1
Toluene-d8 (Surr)	101		80 - 122		04/23/19 20:23	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		04/23/19 20:23	1
4-Bromofluorobenzene (Surr)	99		80 - 125		04/23/19 20:23	1
Dibromofluoromethane (Surr)	96		77 - 120		04/23/19 20:23	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.021	ug/L		04/24/19 07:29	04/26/19 13:35	1
2-Methylnaphthalene	ND		0.22	0.044	ug/L		04/24/19 07:29	04/26/19 13:35	1
Benzo[a]anthracene	ND		0.056	0.016	ug/L		04/24/19 07:29	04/26/19 13:35	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		04/24/19 07:29	04/26/19 13:35	1
Benzo[b]fluoranthene	ND		0.056	0.012	ug/L		04/24/19 07:29	04/26/19 13:35	1
Benzo[k]fluoranthene	ND		0.056	0.013	ug/L		04/24/19 07:29	04/26/19 13:35	1
Chrysene	ND		0.11	0.018	ug/L		04/24/19 07:29	04/26/19 13:35	1
Dibenz(a,h)anthracene	ND		0.11	0.011	ug/L		04/24/19 07:29	04/26/19 13:35	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.016	ug/L		04/24/19 07:29	04/26/19 13:35	1
Naphthalene	0.039	J	0.11	0.035	ug/L		04/24/19 07:29	04/26/19 13:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	67		53 - 120	04/24/19 07:29	04/26/19 13:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/30/19 21:20	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	98		50 - 150		04/30/19 21:20	1			
Trifluorotoluene (Surr)	104		50 - 150		04/30/19 21:20	1			

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND	*	0.0099	0.0020	ug/L		04/26/19 14:16	05/01/19 03:02	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dibromopropane	93		60 - 140	04/26/19 14:16	05/01/19 03:02	1			

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.11	J	0.12	0.068	mg/L		04/29/19 09:19	04/29/19 21:46	1
Motor Oil (>C24-C36)	0.20	J B	0.37	0.10	mg/L		04/29/19 09:19	04/29/19 21:46	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-23
Date Collected: 04/18/19 15:00
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-4
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	85		50 - 150	04/29/19 09:19	04/29/19 21:46	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/01/19 10:41	05/02/19 17:29	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/02/19 17:44	05/03/19 20:18	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-24

Lab Sample ID: 580-85606-5

Date Collected: 04/18/19 13:15

Matrix: Water

Date Received: 04/19/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 20:48	1
EDC	ND		2.0	0.53	ug/L			04/23/19 20:48	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 20:48	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 20:48	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 20:48	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 20:48	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 120		04/23/19 20:48	1
Toluene-d8 (Surr)	101		80 - 122		04/23/19 20:48	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		04/23/19 20:48	1
4-Bromofluorobenzene (Surr)	100		80 - 125		04/23/19 20:48	1
Dibromofluoromethane (Surr)	101		77 - 120		04/23/19 20:48	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.019	ug/L		04/24/19 07:29	04/26/19 14:01	1
2-Methylnaphthalene	ND		0.20	0.040	ug/L		04/24/19 07:29	04/26/19 14:01	1
Benzo[a]anthracene	ND		0.051	0.014	ug/L		04/24/19 07:29	04/26/19 14:01	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		04/24/19 07:29	04/26/19 14:01	1
Benzo[b]fluoranthene	ND		0.051	0.011	ug/L		04/24/19 07:29	04/26/19 14:01	1
Benzo[k]fluoranthene	ND		0.051	0.012	ug/L		04/24/19 07:29	04/26/19 14:01	1
Chrysene	ND		0.10	0.016	ug/L		04/24/19 07:29	04/26/19 14:01	1
Dibenz(a,h)anthracene	ND		0.10	0.010	ug/L		04/24/19 07:29	04/26/19 14:01	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.014	ug/L		04/24/19 07:29	04/26/19 14:01	1
Naphthalene	0.056	J	0.10	0.032	ug/L		04/24/19 07:29	04/26/19 14:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	65		53 - 120	04/24/19 07:29	04/26/19 14:01	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/30/19 21:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		04/30/19 21:50	1
Trifluorotoluene (Surr)	110		50 - 150		04/30/19 21:50	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND	*	0.0099	0.0020	ug/L		04/26/19 14:16	05/01/19 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	94		60 - 140	04/26/19 14:16	05/01/19 03:18	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.077	J	0.11	0.066	mg/L		04/29/19 09:19	04/29/19 22:08	1
Motor Oil (>C24-C36)	0.40	B	0.35	0.097	mg/L		04/29/19 09:19	04/29/19 22:08	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-24
Date Collected: 04/18/19 13:15
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-5
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	85		50 - 150	04/29/19 09:19	04/29/19 22:08	1

Method: 6010C - Metals (ICP) - Total Recoverable							D	Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit					
Lead	ND		0.030	0.0027	mg/L		05/01/19 10:41	05/02/19 17:32	1	

Method: 6010C - Metals (ICP) - Dissolved							D	Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit					
Lead	ND		0.030	0.0027	mg/L		05/02/19 17:44	05/03/19 20:21	1	

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: DUP-1
Date Collected: 04/18/19 00:01
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 21:12	1
EDC	ND		2.0	0.53	ug/L			04/23/19 21:12	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 21:12	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 21:12	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 21:12	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 21:12	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	101		80 - 120		04/23/19 21:12	1
Toluene-d8 (Surr)	99		80 - 122		04/23/19 21:12	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		04/23/19 21:12	1
4-Bromofluorobenzene (Surr)	100		80 - 125		04/23/19 21:12	1
Dibromofluoromethane (Surr)	92		77 - 120		04/23/19 21:12	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.038	J	0.11	0.020	ug/L		04/24/19 07:29	04/26/19 14:27	1
2-Methylnaphthalene	0.047	J	0.21	0.041	ug/L		04/24/19 07:29	04/26/19 14:27	1
Benzo[a]anthracene	0.024	J	0.053	0.015	ug/L		04/24/19 07:29	04/26/19 14:27	1
Benzo[a]pyrene	0.014	J	0.11	0.012	ug/L		04/24/19 07:29	04/26/19 14:27	1
Benzo[b]fluoranthene	0.019	J	0.053	0.012	ug/L		04/24/19 07:29	04/26/19 14:27	1
Benzo[k]fluoranthene	ND		0.053	0.013	ug/L		04/24/19 07:29	04/26/19 14:27	1
Chrysene	0.021	J	0.11	0.017	ug/L		04/24/19 07:29	04/26/19 14:27	1
Dibenz(a,h)anthracene	ND		0.11	0.011	ug/L		04/24/19 07:29	04/26/19 14:27	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.015	ug/L		04/24/19 07:29	04/26/19 14:27	1
Naphthalene	0.15		0.11	0.033	ug/L		04/24/19 07:29	04/26/19 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	64		53 - 120	04/24/19 07:29	04/26/19 14:27	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/30/19 22:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150		04/30/19 22:20	1
Trifluorotoluene (Surr)	107		50 - 150		04/30/19 22:20	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND	*	0.010	0.0020	ug/L		04/26/19 14:16	05/01/19 03:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	97		60 - 140	04/26/19 14:16	05/01/19 03:33	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.066	J	0.11	0.065	mg/L		04/29/19 09:19	04/29/19 22:29	1
Motor Oil (>C24-C36)	0.39	B	0.35	0.096	mg/L		04/29/19 09:19	04/29/19 22:29	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: DUP-1
Date Collected: 04/18/19 00:01
Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-6
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	84		50 - 150	04/29/19 09:19	04/29/19 22:29	1

Method: 6010C - Metals (ICP) - Total Recoverable									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/01/19 10:41	05/02/19 17:35	1

Method: 6010C - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/02/19 17:44	05/03/19 20:24	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: Trip Blank

Lab Sample ID: 580-85606-7

Date Collected: 04/18/19 00:01

Matrix: Water

Date Received: 04/19/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 21:36	1
EDC	ND		2.0	0.53	ug/L			04/23/19 21:36	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 21:36	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 21:36	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 21:36	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 21:36	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 21:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120		04/23/19 21:36	1
Toluene-d8 (Surr)	100		80 - 122		04/23/19 21:36	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		04/23/19 21:36	1
4-Bromofluorobenzene (Surr)	98		80 - 125		04/23/19 21:36	1
Dibromofluoromethane (Surr)	99		77 - 120		04/23/19 21:36	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/29/19 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		04/29/19 16:21	1
Trifluorotoluene (Surr)	121		50 - 150		04/29/19 16:21	1

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-299170/4
Matrix: Water
Analysis Batch: 299170

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			04/23/19 14:38	1
EDC	ND		2.0	0.53	ug/L			04/23/19 14:38	1
Ethylbenzene	ND		3.0	0.50	ug/L			04/23/19 14:38	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			04/23/19 14:38	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			04/23/19 14:38	1
o-Xylene	ND		2.0	0.39	ug/L			04/23/19 14:38	1
Toluene	ND		2.0	0.39	ug/L			04/23/19 14:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120		04/23/19 14:38	1
Toluene-d8 (Surr)	99		80 - 122		04/23/19 14:38	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		04/23/19 14:38	1
4-Bromofluorobenzene (Surr)	102		80 - 125		04/23/19 14:38	1
Dibromofluoromethane (Surr)	98		77 - 120		04/23/19 14:38	1

Lab Sample ID: LCS 580-299170/5
Matrix: Water
Analysis Batch: 299170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.83		ug/L		98	75 - 128
EDC	10.0	9.96		ug/L		100	76 - 131
Ethylbenzene	10.0	9.55		ug/L		95	75 - 120
Methyl tert-butyl ether	10.0	9.67		ug/L		97	72 - 130
m-Xylene & p-Xylene	10.0	9.54		ug/L		95	75 - 120
o-Xylene	10.0	9.60		ug/L		96	74 - 120
Toluene	10.0	9.35		ug/L		94	75 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	98		80 - 120
Toluene-d8 (Surr)	99		80 - 122
1,2-Dichloroethane-d4 (Surr)	100		80 - 126
4-Bromofluorobenzene (Surr)	98		80 - 125
Dibromofluoromethane (Surr)	102		77 - 120

Lab Sample ID: LCSD 580-299170/6
Matrix: Water
Analysis Batch: 299170

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	9.77		ug/L		98	75 - 128	1	14
EDC	10.0	9.85		ug/L		98	76 - 131	1	11
Ethylbenzene	10.0	9.44		ug/L		94	75 - 120	1	14
Methyl tert-butyl ether	10.0	9.66		ug/L		97	72 - 130	0	18
m-Xylene & p-Xylene	10.0	9.35		ug/L		94	75 - 120	2	14
o-Xylene	10.0	9.54		ug/L		95	74 - 120	1	16
Toluene	10.0	9.19		ug/L		92	75 - 120	2	13

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-299170/6
Matrix: Water
Analysis Batch: 299170

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	98		80 - 120
Toluene-d8 (Surr)	100		80 - 122
1,2-Dichloroethane-d4 (Surr)	101		80 - 126
4-Bromofluorobenzene (Surr)	99		80 - 125
Dibromofluoromethane (Surr)	101		77 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-299211/1-A
Matrix: Water
Analysis Batch: 299336

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299211

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1-Methylnaphthalene	ND		0.10	0.019	ug/L		04/24/19 07:29	04/25/19 11:26	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		04/24/19 07:29	04/25/19 11:26	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		04/24/19 07:29	04/25/19 11:26	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		04/24/19 07:29	04/25/19 11:26	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		04/24/19 07:29	04/25/19 11:26	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		04/24/19 07:29	04/25/19 11:26	1
Chrysene	ND		0.10	0.016	ug/L		04/24/19 07:29	04/25/19 11:26	1
Dibenz(a,h)anthracene	ND		0.10	0.010	ug/L		04/24/19 07:29	04/25/19 11:26	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		04/24/19 07:29	04/25/19 11:26	1
Naphthalene	ND		0.10	0.031	ug/L		04/24/19 07:29	04/25/19 11:26	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	86		53 - 120	04/24/19 07:29	04/25/19 11:26	1

Lab Sample ID: LCS 580-299211/2-A
Matrix: Water
Analysis Batch: 299336

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299211

Analyte	Spike Added	LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
1-Methylnaphthalene	4.00	2.76		ug/L		69	41 - 120
2-Methylnaphthalene	4.00	2.77		ug/L		69	43 - 120
Benzo[a]anthracene	4.00	3.43		ug/L		86	61 - 120
Benzo[a]pyrene	4.00	3.37		ug/L		84	65 - 120
Benzo[b]fluoranthene	4.00	3.15		ug/L		79	58 - 120
Benzo[k]fluoranthene	4.00	3.79		ug/L		95	58 - 120
Chrysene	4.00	3.06		ug/L		76	58 - 120
Dibenz(a,h)anthracene	4.00	2.94		ug/L		73	60 - 125
Indeno[1,2,3-cd]pyrene	4.00	3.29		ug/L		82	56 - 120
Naphthalene	4.00	2.62		ug/L		65	45 - 120

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	76		53 - 120

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-299211/3-A
Matrix: Water
Analysis Batch: 299336

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299211

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
							Lower	Upper		
1-Methylnaphthalene	4.00	2.70		ug/L		68	41	120	2	26
2-Methylnaphthalene	4.00	2.69		ug/L		67	43	120	3	30
Benzo[a]anthracene	4.00	3.38		ug/L		85	61	120	1	16
Benzo[a]pyrene	4.00	3.37		ug/L		84	65	120	0	17
Benzo[b]fluoranthene	4.00	3.16		ug/L		79	58	120	0	20
Benzo[k]fluoranthene	4.00	3.67		ug/L		92	58	120	3	20
Chrysene	4.00	3.03		ug/L		76	58	120	1	16
Dibenz(a,h)anthracene	4.00	2.89		ug/L		72	60	125	2	15
Indeno[1,2,3-cd]pyrene	4.00	3.30		ug/L		83	56	120	0	15
Naphthalene	4.00	2.55		ug/L		64	45	120	2	27

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	73		53 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-299583/6
Matrix: Water
Analysis Batch: 299583

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			04/29/19 14:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150		04/29/19 14:51	1
Trifluorotoluene (Surr)	117		50 - 150		04/29/19 14:51	1

Lab Sample ID: LCS 580-299583/7
Matrix: Water
Analysis Batch: 299583

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.885		mg/L		89	79 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		50 - 150
Trifluorotoluene (Surr)	103		50 - 150

Lab Sample ID: LCSD 580-299583/8
Matrix: Water
Analysis Batch: 299583

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline	1.00	0.874		mg/L		87	79 - 120	1	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		50 - 150

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-299583/8
Matrix: Water
Analysis Batch: 299583

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	101		50 - 150

Lab Sample ID: MB 580-299667/6
Matrix: Water
Analysis Batch: 299667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline	ND		0.25	0.10	mg/L			04/30/19 14:50	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	91		50 - 150		04/30/19 14:50	1
Trifluorotoluene (Surr)	112		50 - 150		04/30/19 14:50	1

Lab Sample ID: LCS 580-299667/7
Matrix: Water
Analysis Batch: 299667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Gasoline	1.00	0.921		mg/L		92	79 - 120

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	101		50 - 150
Trifluorotoluene (Surr)	106		50 - 150

Lab Sample ID: LCSD 580-299667/8
Matrix: Water
Analysis Batch: 299667

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline	1.00	0.900		mg/L		90	79 - 120	2	10

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	98		50 - 150
Trifluorotoluene (Surr)	104		50 - 150

Method: 8011 - EDB (1,2-Dibromometano)

Lab Sample ID: MB 580-299489/3-A
Matrix: Water
Analysis Batch: 299842

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299489

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethylene Dibromide	ND		0.010	0.0020	ug/L		04/26/19 14:16	04/30/19 23:35	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dibromopropane	98		60 - 140	04/26/19 14:16	04/30/19 23:35	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Method: 8011 - EDB (1,2-Dibromometano) (Continued)

Lab Sample ID: LCS 580-299489/4-A
Matrix: Water
Analysis Batch: 299842

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299489

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Ethylene Dibromide	0.0571	0.0621		ug/L		109	60 - 140
Surrogate		LCS %Recovery	LCS Qualifier				Limits
1,2-Dibromopropane		114					60 - 140

Lab Sample ID: LCSD 580-299489/5-A
Matrix: Water
Analysis Batch: 299842

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299489

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Ethylene Dibromide	0.0571	0.0788	*	ug/L		138	60 - 140	24	20
Surrogate		LCSD %Recovery	LCSD Qualifier				Limits		
1,2-Dibromopropane		90					60 - 140		

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-299543/1-A
Matrix: Water
Analysis Batch: 299620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299543

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		04/29/19 09:19	04/29/19 17:21	1
Motor Oil (>C24-C36)	0.107	J	0.35	0.096	mg/L		04/29/19 09:19	04/29/19 17:21	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	105		50 - 150				04/29/19 09:19	04/29/19 17:21	1

Lab Sample ID: LCS 580-299543/2-A
Matrix: Water
Analysis Batch: 299620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299543

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	2.00	2.02		mg/L		101	50 - 120
Motor Oil (>C24-C36)	2.00	2.06		mg/L		103	64 - 120
Surrogate		LCS %Recovery	LCS Qualifier				Limits
o-Terphenyl		106					50 - 150

Lab Sample ID: LCSD 580-299543/3-A
Matrix: Water
Analysis Batch: 299620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299543

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.00	1.81		mg/L		91	50 - 120	11	26
Motor Oil (>C24-C36)	2.00	1.94		mg/L		97	64 - 120	6	24

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-299543/3-A
Matrix: Water
Analysis Batch: 299620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299543

Surrogate	%Recovery	LCSD Qualifier	Limits
o-Terphenyl	78	LCSD	50 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 580-299106/22-A
Matrix: Water
Analysis Batch: 299183

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 299106

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L	-	04/22/19 15:55	04/23/19 13:05	1

Lab Sample ID: LCS 580-299106/23-A
Matrix: Water
Analysis Batch: 299183

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 299106

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	1.04		mg/L	-	104	80 - 120

Lab Sample ID: LCSD 580-299106/24-A
Matrix: Water
Analysis Batch: 299183

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 299106

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1.00	1.05		mg/L	-	105	80 - 120	1	20

Lab Sample ID: MB 580-299772/22-A
Matrix: Water
Analysis Batch: 299921

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 299772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L	-	05/01/19 10:41	05/02/19 16:55	1

Lab Sample ID: LCS 580-299772/23-A
Matrix: Water
Analysis Batch: 299921

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 299772

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.970		mg/L	-	97	80 - 120

Lab Sample ID: LCSD 580-299772/24-A
Matrix: Water
Analysis Batch: 299921

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 299772

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1.00	0.977		mg/L	-	98	80 - 120	1	20

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 580-299784/7-B
Matrix: Water
Analysis Batch: 300009

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 299911

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		05/02/19 17:44	05/03/19 19:34	1

Lab Sample ID: LCS 580-299784/8-B
Matrix: Water
Analysis Batch: 300009

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 299911

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	1.00	0.959		mg/L		96	80 - 120

Lab Sample ID: LCSD 580-299784/9-B
Matrix: Water
Analysis Batch: 300009

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 299911

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	1.00	0.956		mg/L		96	80 - 120	0	20

Lab Sample ID: 580-85606-1 MS
Matrix: Water
Analysis Batch: 300009

Client Sample ID: MW-20
Prep Type: Dissolved
Prep Batch: 299911

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	ND		1.00	0.970		mg/L		97	75 - 125

Lab Sample ID: 580-85606-1 MSD
Matrix: Water
Analysis Batch: 300009

Client Sample ID: MW-20
Prep Type: Dissolved
Prep Batch: 299911

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	ND		1.00	0.955		mg/L		96	75 - 125	2	20

Lab Sample ID: 580-85606-1 DU
Matrix: Water
Analysis Batch: 300009

Client Sample ID: MW-20
Prep Type: Dissolved
Prep Batch: 299911

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		mg/L		NC	20

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-20

Lab Sample ID: 580-85606-1

Date Collected: 04/18/19 11:30

Matrix: Water

Date Received: 04/19/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	299170	04/23/19 19:10	W1T	TAL SEA
Total/NA	Prep	3510C			299211	04/24/19 07:29	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	299443	04/26/19 12:17	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	299667	04/30/19 19:20	Z1R	TAL SEA
Total/NA	Prep	8011			299489	04/26/19 14:16	CJB	TAL SEA
Total/NA	Analysis	8011		1	299842	05/01/19 02:14	TL1	TAL SEA
Total/NA	Prep	3510C			299543	04/29/19 09:19	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299620	04/29/19 20:18	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			299784	05/01/19 12:59	T1H	TAL SEA
Dissolved	Prep	3005A			299911	05/02/19 17:44	T1H	TAL SEA
Dissolved	Analysis	6010C		1	300009	05/03/19 19:43	SPP	TAL SEA
Total Recoverable	Prep	3005A			299106	04/22/19 15:55	JKM	TAL SEA
Total Recoverable	Analysis	6010C		1	299183	04/23/19 13:49	HJM	TAL SEA

Client Sample ID: MW-21

Lab Sample ID: 580-85606-2

Date Collected: 04/18/19 13:00

Matrix: Water

Date Received: 04/19/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	299170	04/23/19 19:35	W1T	TAL SEA
Total/NA	Prep	3510C			299211	04/24/19 07:29	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	299443	04/26/19 12:43	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	299667	04/30/19 20:20	Z1R	TAL SEA
Total/NA	Prep	8011			299489	04/26/19 14:16	CJB	TAL SEA
Total/NA	Analysis	8011		1	299842	05/01/19 02:30	TL1	TAL SEA
Total/NA	Prep	3510C			299543	04/29/19 09:19	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299620	04/29/19 20:40	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			299784	05/01/19 12:59	T1H	TAL SEA
Dissolved	Prep	3005A			299911	05/02/19 17:44	T1H	TAL SEA
Dissolved	Analysis	6010C		1	300009	05/03/19 20:11	SPP	TAL SEA
Total Recoverable	Prep	3005A			299106	04/22/19 15:55	JKM	TAL SEA
Total Recoverable	Analysis	6010C		1	299183	04/23/19 13:52	HJM	TAL SEA

Client Sample ID: MW-22

Lab Sample ID: 580-85606-3

Date Collected: 04/18/19 15:15

Matrix: Water

Date Received: 04/19/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	299170	04/23/19 19:59	W1T	TAL SEA
Total/NA	Prep	3510C			299211	04/24/19 07:29	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	299443	04/26/19 13:09	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	299667	04/30/19 20:50	Z1R	TAL SEA
Total/NA	Prep	8011			299489	04/26/19 14:16	CJB	TAL SEA
Total/NA	Analysis	8011		1	299842	05/01/19 02:46	TL1	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: MW-22

Date Collected: 04/18/19 15:15

Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299543	04/29/19 09:19	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299620	04/29/19 21:24	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			299784	05/01/19 12:59	T1H	TAL SEA
Dissolved	Prep	3005A			299911	05/02/19 17:44	T1H	TAL SEA
Dissolved	Analysis	6010C		1	300009	05/03/19 20:14	SPP	TAL SEA
Total Recoverable	Prep	3005A			299106	04/22/19 15:55	JKM	TAL SEA
Total Recoverable	Analysis	6010C		1	299183	04/23/19 13:56	HJM	TAL SEA

Client Sample ID: MW-23

Date Collected: 04/18/19 15:00

Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	299170	04/23/19 20:23	W1T	TAL SEA
Total/NA	Prep	3510C			299211	04/24/19 07:29	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	299443	04/26/19 13:35	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	299667	04/30/19 21:20	Z1R	TAL SEA
Total/NA	Prep	8011			299489	04/26/19 14:16	CJB	TAL SEA
Total/NA	Analysis	8011		1	299842	05/01/19 03:02	TL1	TAL SEA
Total/NA	Prep	3510C			299543	04/29/19 09:19	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299620	04/29/19 21:46	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			299784	05/01/19 12:59	T1H	TAL SEA
Dissolved	Prep	3005A			299911	05/02/19 17:44	T1H	TAL SEA
Dissolved	Analysis	6010C		1	300009	05/03/19 20:18	SPP	TAL SEA
Total Recoverable	Prep	3005A			299772	05/01/19 10:41	T1H	TAL SEA
Total Recoverable	Analysis	6010C		1	299921	05/02/19 17:29	SPP	TAL SEA

Client Sample ID: MW-24

Date Collected: 04/18/19 13:15

Date Received: 04/19/19 08:20

Lab Sample ID: 580-85606-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	299170	04/23/19 20:48	W1T	TAL SEA
Total/NA	Prep	3510C			299211	04/24/19 07:29	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	299443	04/26/19 14:01	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	299667	04/30/19 21:50	Z1R	TAL SEA
Total/NA	Prep	8011			299489	04/26/19 14:16	CJB	TAL SEA
Total/NA	Analysis	8011		1	299842	05/01/19 03:18	TL1	TAL SEA
Total/NA	Prep	3510C			299543	04/29/19 09:19	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299620	04/29/19 22:08	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			299784	05/01/19 12:59	T1H	TAL SEA
Dissolved	Prep	3005A			299911	05/02/19 17:44	T1H	TAL SEA
Dissolved	Analysis	6010C		1	300009	05/03/19 20:21	SPP	TAL SEA
Total Recoverable	Prep	3005A			299772	05/01/19 10:41	T1H	TAL SEA
Total Recoverable	Analysis	6010C		1	299921	05/02/19 17:32	SPP	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Client Sample ID: DUP-1

Lab Sample ID: 580-85606-6

Date Collected: 04/18/19 00:01

Matrix: Water

Date Received: 04/19/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	299170	04/23/19 21:12	W1T	TAL SEA
Total/NA	Prep	3510C			299211	04/24/19 07:29	KO	TAL SEA
Total/NA	Analysis	8270D SIM		1	299443	04/26/19 14:27	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	299667	04/30/19 22:20	Z1R	TAL SEA
Total/NA	Prep	8011			299489	04/26/19 14:16	CJB	TAL SEA
Total/NA	Analysis	8011		1	299842	05/01/19 03:33	TL1	TAL SEA
Total/NA	Prep	3510C			299543	04/29/19 09:19	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299620	04/29/19 22:29	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			299784	05/01/19 12:59	T1H	TAL SEA
Dissolved	Prep	3005A			299911	05/02/19 17:44	T1H	TAL SEA
Dissolved	Analysis	6010C		1	300009	05/03/19 20:24	SPP	TAL SEA
Total Recoverable	Prep	3005A			299772	05/01/19 10:41	T1H	TAL SEA
Total Recoverable	Analysis	6010C		1	299921	05/02/19 17:35	SPP	TAL SEA

Client Sample ID: Trip Blank

Lab Sample ID: 580-85606-7

Date Collected: 04/18/19 00:01

Matrix: Water

Date Received: 04/19/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	299170	04/23/19 21:36	W1T	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	299583	04/29/19 16:21	TL1	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oregon	NELAP	10	WA100007	11-05-19

- 1
- 2
- 3
- 4
- 5
- 6
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- 8
- 9
- 10
- 11

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-85606-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-85606-1	MW-20	Water	04/18/19 11:30	04/19/19 08:20
580-85606-2	MW-21	Water	04/18/19 13:00	04/19/19 08:20
580-85606-3	MW-22	Water	04/18/19 15:15	04/19/19 08:20
580-85606-4	MW-23	Water	04/18/19 15:00	04/19/19 08:20
580-85606-5	MW-24	Water	04/18/19 13:15	04/19/19 08:20
580-85606-6	DUP-1	Water	04/18/19 00:01	04/19/19 08:20
580-85606-7	Trip Blank	Water	04/18/19 00:01	04/19/19 08:20



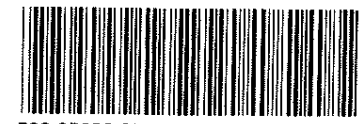
Rush

Short Hold

Chain of Custody Record

Client Arcadis		Client Contact Ryan Branchla		Date 4/18/2019	Chain of Custody Number 35937
Address 1100 olive way, suite 800		Telephone Number (Area Code)/Fax Number 509-438-9828		Lab Number 253-922-2310	Page 1 of 1
City Seattle	State WA	Zip Code 98101	Sampler Ryan Branchla	Lab Contact Elaine walker	Special Instructions/ Conditions of Receipt 85606
Project Name and Location (State) Former Chevron 90169 Washington			Billing Contact Chris Dotson		
Contract/Purchase Order/Quote No. ASRTMDEH. 0619			Analysis (Attach list if more space is needed)		

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives																																		
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Sealant	8270C-CPAH+Maphthalene	6020B-DSS Lead	6020B-Total Pb	NWTPH Gx	6011-EDB	NWTPH DX	8260C-BTEX																					
-1 MW-20	4/18/19	11:30	X				3		1	8					2	X	X	X	X	X	X	X																			
MW-21	4/18/19	13:00	X				3		1	8					2	X	X	X	X	X	X	X																			
-3 MW-22	4/18/19	15:15	X				3		1	8					2	X	X	X	X	X	X	X																			
MW-23	4/18/19	15:00	X				3		1	8					2	X	X	X	X	X	X	X																			
-5 MW-24	4/18/19	13:15	X				3		1	8					2	X	X	X	X	X	X	X																			
Dup-1	4/18/19		X				3		1	8					2	X	X	X	X	X	X	X																			
-7 Trip blank			X																																						



580-85606 Chain of Custody

Therm. ID: **A2** Cor: **3.4** Unc: **3.4**
Cooler Desc: **LB**
Packing: **LB** FedEx: _____
Cust. Seal: Yes **No** UPS: _____
Blue Ice, Wet, Dry, None Other: **LD** Lab Cour: _____

Cooler Yes No Cooler Temp: _____ Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days) 24 Hours 48 Hours 5 Days 10 Days 15 Days Other **Standard** QC Requirements (Specify)

1. Relinquished By Sign/Print <i>Ryan Branchla</i>	Date 4-19-19	Time 0820	1. Received By Sign/Print <i>Ken Hobbs</i>	Date 4-19-19	Time 0820
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments
All samples packed on ice immediately after collection

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-85606-1

Login Number: 85606

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

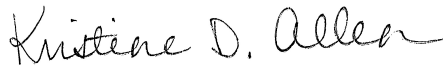
Laboratory Job ID: 580-89647-1

Client Project/Site: Former Chevron Facility #90169, Bellingham

For:

ARCADIS U.S. Inc
111 SW Columbia Street
Suite 670
Portland, Oregon 97201

Attn: Christopher Dotson



Authorized for release by:
10/15/2019 4:01:45 PM

Kristine Allen, Manager of Project Management
(253)248-4970

kristine.allen@testamericainc.com

Designee for

Elaine Walker, Project Manager II
(253)248-4972

elaine.walker@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Job ID: 580-89647-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

**Job Narrative
580-89647-1**

Comments

No additional comments.

Receipt

The samples were received on 9/28/2019 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8011: The following continuing calibration verification (CCV) standard associated with batch 580-313847 recovered outside acceptance criteria for %D for surrogate 1,2-Dibromopropane on the confirmation column only. Since the %Rec is within the acceptance criteria for the surrogate in the CCV and associated samples, the data have been reported. The following sample is impacted: (CCV 580-313812/1-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Client Sample ID: MW-20

Lab Sample ID: 580-89647-1

Date Collected: 09/27/19 12:05

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.022	ug/L		10/02/19 09:10	10/02/19 18:43	1
2-Methylnaphthalene	ND		0.23	0.045	ug/L		10/02/19 09:10	10/02/19 18:43	1
Benzo[a]anthracene	ND		0.057	0.016	ug/L		10/02/19 09:10	10/02/19 18:43	1
Benzo[a]pyrene	ND		0.11	0.013	ug/L		10/02/19 09:10	10/02/19 18:43	1
Benzo[b]fluoranthene	ND		0.057	0.013	ug/L		10/02/19 09:10	10/02/19 18:43	1
Benzo[k]fluoranthene	ND		0.057	0.014	ug/L		10/02/19 09:10	10/02/19 18:43	1
Chrysene	ND		0.11	0.018	ug/L		10/02/19 09:10	10/02/19 18:43	1
Dibenz(a,h)anthracene	ND		0.11	0.030	ug/L		10/02/19 09:10	10/02/19 18:43	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.016	ug/L		10/02/19 09:10	10/02/19 18:43	1
Naphthalene	ND		0.11	0.035	ug/L		10/02/19 09:10	10/02/19 18:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	63		53 - 120				10/02/19 09:10	10/02/19 18:43	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			10/08/19 19:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150					10/08/19 19:11	1
Trifluorotoluene (Surr)	69		50 - 150					10/08/19 19:11	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		10/09/19 15:52	10/10/19 19:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	90		60 - 140				10/09/19 15:52	10/10/19 19:54	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.070	mg/L		10/05/19 12:24	10/06/19 18:46	1
Motor Oil (>C24-C36)	ND		0.38	0.10	mg/L		10/05/19 12:24	10/06/19 18:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	90		50 - 150				10/05/19 12:24	10/06/19 18:46	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/12/19 07:44	10/14/19 17:00	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/04/19 15:01	10/08/19 01:25	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Client Sample ID: MW-21

Lab Sample ID: 580-89647-2

Date Collected: 09/27/19 13:00

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.022	ug/L		10/02/19 09:10	10/02/19 19:09	1
2-Methylnaphthalene	ND		0.23	0.044	ug/L		10/02/19 09:10	10/02/19 19:09	1
Benzo[a]anthracene	ND		0.057	0.016	ug/L		10/02/19 09:10	10/02/19 19:09	1
Benzo[a]pyrene	ND		0.11	0.013	ug/L		10/02/19 09:10	10/02/19 19:09	1
Benzo[b]fluoranthene	ND		0.057	0.013	ug/L		10/02/19 09:10	10/02/19 19:09	1
Benzo[k]fluoranthene	ND		0.057	0.014	ug/L		10/02/19 09:10	10/02/19 19:09	1
Chrysene	ND		0.11	0.018	ug/L		10/02/19 09:10	10/02/19 19:09	1
Dibenz(a,h)anthracene	ND		0.11	0.030	ug/L		10/02/19 09:10	10/02/19 19:09	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.016	ug/L		10/02/19 09:10	10/02/19 19:09	1
Naphthalene	ND		0.11	0.035	ug/L		10/02/19 09:10	10/02/19 19:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	61		53 - 120				10/02/19 09:10	10/02/19 19:09	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			10/08/19 19:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150					10/08/19 19:35	1
Trifluorotoluene (Surr)	60		50 - 150					10/08/19 19:35	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		10/09/19 15:52	10/10/19 20:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	114		60 - 140				10/09/19 15:52	10/10/19 20:10	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.071	mg/L		10/05/19 12:24	10/06/19 19:27	1
Motor Oil (>C24-C36)	ND		0.38	0.11	mg/L		10/05/19 12:24	10/06/19 19:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	64		50 - 150				10/05/19 12:24	10/06/19 19:27	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/12/19 07:44	10/14/19 17:03	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/04/19 15:01	10/08/19 01:29	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Client Sample ID: MW-22

Lab Sample ID: 580-89647-3

Date Collected: 09/27/19 15:00

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.021	ug/L		10/02/19 09:10	10/02/19 19:35	1
2-Methylnaphthalene	ND		0.22	0.044	ug/L		10/02/19 09:10	10/02/19 19:35	1
Benzo[a]anthracene	ND		0.056	0.016	ug/L		10/02/19 09:10	10/02/19 19:35	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		10/02/19 09:10	10/02/19 19:35	1
Benzo[b]fluoranthene	ND		0.056	0.012	ug/L		10/02/19 09:10	10/02/19 19:35	1
Benzo[k]fluoranthene	ND		0.056	0.013	ug/L		10/02/19 09:10	10/02/19 19:35	1
Chrysene	ND		0.11	0.018	ug/L		10/02/19 09:10	10/02/19 19:35	1
Dibenz(a,h)anthracene	ND		0.11	0.029	ug/L		10/02/19 09:10	10/02/19 19:35	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.016	ug/L		10/02/19 09:10	10/02/19 19:35	1
Naphthalene	ND		0.11	0.035	ug/L		10/02/19 09:10	10/02/19 19:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		53 - 120				10/02/19 09:10	10/02/19 19:35	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			10/08/19 20:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		50 - 150					10/08/19 20:23	1
Trifluorotoluene (Surr)	72		50 - 150					10/08/19 20:23	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		10/09/19 15:52	10/10/19 20:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	114		60 - 140				10/09/19 15:52	10/10/19 20:26	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.085	J	0.12	0.072	mg/L		10/05/19 12:24	10/06/19 19:47	1
Motor Oil (>C24-C36)	0.16	J	0.39	0.11	mg/L		10/05/19 12:24	10/06/19 19:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150				10/05/19 12:24	10/06/19 19:47	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/12/19 07:44	10/14/19 17:06	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/04/19 15:01	10/08/19 01:32	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Client Sample ID: MW-23

Lab Sample ID: 580-89647-4

Date Collected: 09/27/19 16:00

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.019	ug/L		10/02/19 09:10	10/02/19 20:02	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		10/02/19 09:10	10/02/19 20:02	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		10/02/19 09:10	10/02/19 20:02	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		10/02/19 09:10	10/02/19 20:02	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		10/02/19 09:10	10/02/19 20:02	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		10/02/19 09:10	10/02/19 20:02	1
Chrysene	ND		0.10	0.016	ug/L		10/02/19 09:10	10/02/19 20:02	1
Dibenz(a,h)anthracene	ND		0.10	0.026	ug/L		10/02/19 09:10	10/02/19 20:02	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		10/02/19 09:10	10/02/19 20:02	1
Naphthalene	ND		0.10	0.031	ug/L		10/02/19 09:10	10/02/19 20:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	66		53 - 120				10/02/19 09:10	10/02/19 20:02	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			10/08/19 20:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150					10/08/19 20:47	1
Trifluorotoluene (Surr)	93		50 - 150					10/08/19 20:47	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		10/09/19 15:52	10/10/19 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	116		60 - 140				10/09/19 15:52	10/10/19 20:41	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.15		0.11	0.065	mg/L		10/05/19 12:24	10/06/19 20:07	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		10/05/19 12:24	10/06/19 20:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	55		50 - 150				10/05/19 12:24	10/06/19 20:07	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/12/19 07:44	10/14/19 17:09	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Client Sample ID: MW-24

Lab Sample ID: 580-89647-5

Date Collected: 09/27/19 13:30

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.021	ug/L		10/02/19 09:10	10/02/19 20:28	1
2-Methylnaphthalene	ND		0.22	0.042	ug/L		10/02/19 09:10	10/02/19 20:28	1
Benzo[a]anthracene	ND		0.054	0.015	ug/L		10/02/19 09:10	10/02/19 20:28	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		10/02/19 09:10	10/02/19 20:28	1
Benzo[b]fluoranthene	ND		0.054	0.012	ug/L		10/02/19 09:10	10/02/19 20:28	1
Benzo[k]fluoranthene	ND		0.054	0.013	ug/L		10/02/19 09:10	10/02/19 20:28	1
Chrysene	ND		0.11	0.017	ug/L		10/02/19 09:10	10/02/19 20:28	1
Dibenz(a,h)anthracene	ND		0.11	0.028	ug/L		10/02/19 09:10	10/02/19 20:28	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.015	ug/L		10/02/19 09:10	10/02/19 20:28	1
Naphthalene	ND		0.11	0.034	ug/L		10/02/19 09:10	10/02/19 20:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	66		53 - 120				10/02/19 09:10	10/02/19 20:28	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			10/08/19 21:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		50 - 150					10/08/19 21:12	1
Trifluorotoluene (Surr)	95		50 - 150					10/08/19 21:12	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		10/09/19 15:52	10/10/19 20:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	112		60 - 140				10/09/19 15:52	10/10/19 20:57	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.066	mg/L		10/05/19 12:24	10/06/19 20:27	1
Motor Oil (>C24-C36)	ND		0.35	0.097	mg/L		10/05/19 12:24	10/06/19 20:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	84		50 - 150				10/05/19 12:24	10/06/19 20:27	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/12/19 07:44	10/14/19 17:13	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/04/19 15:01	10/08/19 01:35	1

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-312981/1-A

Matrix: Water

Analysis Batch: 313097

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 312981

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1-Methylnaphthalene	ND		0.10	0.019	ug/L		10/02/19 09:10	10/02/19 17:24	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		10/02/19 09:10	10/02/19 17:24	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		10/02/19 09:10	10/02/19 17:24	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		10/02/19 09:10	10/02/19 17:24	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		10/02/19 09:10	10/02/19 17:24	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		10/02/19 09:10	10/02/19 17:24	1
Chrysene	ND		0.10	0.016	ug/L		10/02/19 09:10	10/02/19 17:24	1
Dibenz(a,h)anthracene	ND		0.10	0.026	ug/L		10/02/19 09:10	10/02/19 17:24	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		10/02/19 09:10	10/02/19 17:24	1
Naphthalene	ND		0.10	0.031	ug/L		10/02/19 09:10	10/02/19 17:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	66		53 - 120				10/02/19 09:10	10/02/19 17:24	1

Lab Sample ID: LCS 580-312981/2-A

Matrix: Water

Analysis Batch: 313144

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 312981

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1-Methylnaphthalene	4.00	2.36		ug/L		59	35 - 120
2-Methylnaphthalene	4.00	2.45		ug/L		61	33 - 120
Benzo[a]anthracene	4.00	3.30		ug/L		83	61 - 129
Benzo[a]pyrene	4.00	3.29		ug/L		82	56 - 130
Benzo[b]fluoranthene	4.00	3.37		ug/L		84	53 - 133
Benzo[k]fluoranthene	4.00	3.18		ug/L		79	51 - 132
Chrysene	4.00	3.23		ug/L		81	47 - 126
Dibenz(a,h)anthracene	4.00	3.34		ug/L		83	60 - 133
Indeno[1,2,3-cd]pyrene	4.00	3.48		ug/L		87	56 - 135
Naphthalene	4.00	2.25		ug/L		56	36 - 120
Surrogate		LCS	LCS				Limits
Terphenyl-d14		67					53 - 120

Lab Sample ID: LCSD 580-312981/3-A

Matrix: Water

Analysis Batch: 313097

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 312981

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
1-Methylnaphthalene	4.00	2.30		ug/L		58	35 - 120	3	34
2-Methylnaphthalene	4.00	2.38		ug/L		60	33 - 120	3	30
Benzo[a]anthracene	4.00	3.27		ug/L		82	61 - 129	1	31
Benzo[a]pyrene	4.00	2.85		ug/L		71	56 - 130	14	27
Benzo[b]fluoranthene	4.00	2.82		ug/L		71	53 - 133	18	25
Benzo[k]fluoranthene	4.00	2.82		ug/L		70	51 - 132	12	25
Chrysene	4.00	2.66		ug/L		66	47 - 126	19	23
Dibenz(a,h)anthracene	4.00	2.93		ug/L		73	60 - 133	13	25
Indeno[1,2,3-cd]pyrene	4.00	3.30		ug/L		83	56 - 135	5	24
Naphthalene	4.00	2.19		ug/L		55	36 - 120	3	27

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	64		53 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-313628/5

Matrix: Water

Analysis Batch: 313628

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			10/08/19 11:30	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	95		50 - 150		10/08/19 11:30	1			
Trifluorotoluene (Surr)	113		50 - 150		10/08/19 11:30	1			

Lab Sample ID: LCS 580-313628/6

Matrix: Water

Analysis Batch: 313628

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.932		mg/L		93	79 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	98		50 - 150				
Trifluorotoluene (Surr)	102		50 - 150				

Lab Sample ID: LCSD 580-313628/7

Matrix: Water

Analysis Batch: 313628

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.937		mg/L		94	79 - 120	1	10
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		50 - 150						
Trifluorotoluene (Surr)	109		50 - 150						

Method: 8011 - EDB (1,2-Dibromometano)

Lab Sample ID: MB 580-313812/3-A

Matrix: Water

Analysis Batch: 313847

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 313812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		10/09/19 15:51	10/10/19 18:50	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dibromopropane	127		60 - 140		10/09/19 15:51	10/10/19 18:50	1		

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Method: 8011 - EDB (1,2-Dibromometano) (Continued)

Lab Sample ID: LCS 580-313812/4-A
Matrix: Water
Analysis Batch: 313847

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0571	0.0631		ug/L		110	60 - 140
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dibromopropane	118		60 - 140				

Lab Sample ID: LCSD 580-313812/5-A
Matrix: Water
Analysis Batch: 313847

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 313812

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.0571	0.0601		ug/L		105	60 - 140	5	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,2-Dibromopropane	109		60 - 140						

Lab Sample ID: LLCS 580-313812/6-A
Matrix: Water
Analysis Batch: 313847

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313812

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0114	0.0155		ug/L		136	60 - 140
Surrogate	%Recovery	LLCS Qualifier	Limits				
1,2-Dibromopropane	97		60 - 140				

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-313397/1-A
Matrix: Water
Analysis Batch: 313418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		10/05/19 12:24	10/06/19 12:03	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		10/05/19 12:24	10/06/19 12:03	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	91		50 - 150				10/05/19 12:24	10/06/19 12:03	1

Lab Sample ID: LCS 580-313397/2-A
Matrix: Water
Analysis Batch: 313418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.00	1.75		mg/L		88	50 - 120
Motor Oil (>C24-C36)	2.00	2.19		mg/L		109	64 - 120

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-313397/2-A
 Matrix: Water
 Analysis Batch: 313418

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 313397

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	83		50 - 150

Lab Sample ID: LCSD 580-313397/3-A
 Matrix: Water
 Analysis Batch: 313418

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 313397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	2.00	1.86		mg/L		93	50 - 120	6	26
Motor Oil (>C24-C36)	2.00	2.17		mg/L		109	64 - 120	1	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	80		50 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 580-314087/22-A
 Matrix: Water
 Analysis Batch: 314277

Client Sample ID: Method Blank
 Prep Type: Total Recoverable
 Prep Batch: 314087

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/12/19 07:44	10/14/19 16:12	1

Lab Sample ID: LCS 580-314087/23-A
 Matrix: Water
 Analysis Batch: 314277

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 314087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: LCSD 580-314087/24-A
 Matrix: Water
 Analysis Batch: 314277

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total Recoverable
 Prep Batch: 314087

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1.00	0.996		mg/L		100	80 - 120	3	20

Lab Sample ID: MB 580-313028/22-B
 Matrix: Water
 Analysis Batch: 313649

Client Sample ID: Method Blank
 Prep Type: Dissolved
 Prep Batch: 313348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		10/04/19 15:01	10/08/19 00:03	1

Lab Sample ID: LCS 580-313028/23-B
 Matrix: Water
 Analysis Batch: 313649

Client Sample ID: Lab Control Sample
 Prep Type: Dissolved
 Prep Batch: 313348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.987		mg/L		99	80 - 120

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 580-313028/24-B

Matrix: Water

Analysis Batch: 313649

Client Sample ID: Lab Control Sample Dup

Prep Type: Dissolved

Prep Batch: 313348

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.00	0.974		mg/L		97	80 - 120	1	20

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Client Sample ID: MW-20

Lab Sample ID: 580-89647-1

Date Collected: 09/27/19 12:05

Matrix: Water

Date Received: 09/28/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			312981	10/02/19 09:10	T1L	TAL SEA
Total/NA	Analysis	8270D SIM		1	313097	10/02/19 18:43	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 19:11	W1T	TAL SEA
Total/NA	Prep	8011			313812	10/09/19 15:52	CJB	TAL SEA
Total/NA	Analysis	8011		1	313847	10/10/19 19:54	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 18:46	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313028	10/02/19 11:00	ART	TAL SEA
Dissolved	Prep	3005A			313348	10/04/19 15:01	ART	TAL SEA
Dissolved	Analysis	6010C		1	313649	10/08/19 01:25	SPP	TAL SEA
Total Recoverable	Prep	3005A			314087	10/12/19 07:44	A1B	TAL SEA
Total Recoverable	Analysis	6010C		1	314277	10/14/19 17:00	T1H	TAL SEA

Client Sample ID: MW-21

Lab Sample ID: 580-89647-2

Date Collected: 09/27/19 13:00

Matrix: Water

Date Received: 09/28/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			312981	10/02/19 09:10	T1L	TAL SEA
Total/NA	Analysis	8270D SIM		1	313097	10/02/19 19:09	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 19:35	W1T	TAL SEA
Total/NA	Prep	8011			313812	10/09/19 15:52	CJB	TAL SEA
Total/NA	Analysis	8011		1	313847	10/10/19 20:10	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 19:27	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313028	10/02/19 11:00	ART	TAL SEA
Dissolved	Prep	3005A			313348	10/04/19 15:01	ART	TAL SEA
Dissolved	Analysis	6010C		1	313649	10/08/19 01:29	SPP	TAL SEA
Total Recoverable	Prep	3005A			314087	10/12/19 07:44	A1B	TAL SEA
Total Recoverable	Analysis	6010C		1	314277	10/14/19 17:03	T1H	TAL SEA

Client Sample ID: MW-22

Lab Sample ID: 580-89647-3

Date Collected: 09/27/19 15:00

Matrix: Water

Date Received: 09/28/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			312981	10/02/19 09:10	T1L	TAL SEA
Total/NA	Analysis	8270D SIM		1	313097	10/02/19 19:35	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 20:23	W1T	TAL SEA
Total/NA	Prep	8011			313812	10/09/19 15:52	CJB	TAL SEA
Total/NA	Analysis	8011		1	313847	10/10/19 20:26	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 19:47	JCM	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Client Sample ID: MW-22

Lab Sample ID: 580-89647-3

Date Collected: 09/27/19 15:00

Matrix: Water

Date Received: 09/28/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			313028	10/02/19 11:00	ART	TAL SEA
Dissolved	Prep	3005A			313348	10/04/19 15:01	ART	TAL SEA
Dissolved	Analysis	6010C		1	313649	10/08/19 01:32	SPP	TAL SEA
Total Recoverable	Prep	3005A			314087	10/12/19 07:44	A1B	TAL SEA
Total Recoverable	Analysis	6010C		1	314277	10/14/19 17:06	T1H	TAL SEA

Client Sample ID: MW-23

Lab Sample ID: 580-89647-4

Date Collected: 09/27/19 16:00

Matrix: Water

Date Received: 09/28/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			312981	10/02/19 09:10	T1L	TAL SEA
Total/NA	Analysis	8270D SIM		1	313097	10/02/19 20:02	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 20:47	W1T	TAL SEA
Total/NA	Prep	8011			313812	10/09/19 15:52	CJB	TAL SEA
Total/NA	Analysis	8011		1	313847	10/10/19 20:41	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 20:07	JCM	TAL SEA
Total Recoverable	Prep	3005A			314087	10/12/19 07:44	A1B	TAL SEA
Total Recoverable	Analysis	6010C		1	314277	10/14/19 17:09	T1H	TAL SEA

Client Sample ID: MW-24

Lab Sample ID: 580-89647-5

Date Collected: 09/27/19 13:30

Matrix: Water

Date Received: 09/28/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			312981	10/02/19 09:10	T1L	TAL SEA
Total/NA	Analysis	8270D SIM		1	313097	10/02/19 20:28	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	313628	10/08/19 21:12	W1T	TAL SEA
Total/NA	Prep	8011			313812	10/09/19 15:52	CJB	TAL SEA
Total/NA	Analysis	8011		1	313847	10/10/19 20:57	W1T	TAL SEA
Total/NA	Prep	3510C			313397	10/05/19 12:24	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313418	10/06/19 20:27	JCM	TAL SEA
Dissolved	Filtration	FILTRATION			313028	10/02/19 11:06	ART	TAL SEA
Dissolved	Prep	3005A			313348	10/04/19 15:01	ART	TAL SEA
Dissolved	Analysis	6010C		1	313649	10/08/19 01:35	SPP	TAL SEA
Total Recoverable	Prep	3005A			314087	10/12/19 07:44	A1B	TAL SEA
Total Recoverable	Analysis	6010C		1	314277	10/14/19 17:13	T1H	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-05-19

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89647-1	MW-20	Water	09/27/19 12:05	09/28/19 09:25	
580-89647-2	MW-21	Water	09/27/19 13:00	09/28/19 09:25	
580-89647-3	MW-22	Water	09/27/19 15:00	09/28/19 09:25	
580-89647-4	MW-23	Water	09/27/19 16:00	09/28/19 09:25	
580-89647-5	MW-24	Water	09/27/19 13:30	09/28/19 09:25	

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Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-89647-1

Login Number: 89647

List Number: 1

Creator: Gall, Brandon A

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-89647-2

Client Project/Site: Former Chevron Facility #90169, Bellingham

For:

ARCADIS U.S. Inc
111 SW Columbia Street
Suite 670
Portland, Oregon 97201

Attn: Christopher Dotson

M. Elaine Walker

Authorized for release by:
10/22/2019 1:55:19 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Job ID: 580-89647-2

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-89647-2

Receipt

Five samples were received on 9/28/2019 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

Receipt Exceptions

The client activated samples for 8260C (BTEX, MTBE, EDC) analysis on 10/15/19. MW-20-W-190927 (580-89647-1), MW-21-W-190927 (580-89647-2), MW-22-W-190927 (580-89647-3), MW-23-W-190927 (580-89647-4), MW-24-W-190927 (580-89647-5) and Trip Blank-W-190927 (580-89647-6), outside the hold time. This analysis was not originally requested on the COC.

GC/MS VOA

Method 8260C: The following samples were analyzed outside of analytical holding time due to having the analysis activated outside of hold: MW-20-W-190927 (580-89647-1), MW-21-W-190927 (580-89647-2), MW-22-W-190927 (580-89647-3), MW-23-W-190927 (580-89647-4) and MW-24-W-190927 (580-89647-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Client Sample ID: MW-20-W-190927

Lab Sample ID: 580-89647-1

Date Collected: 09/27/19 12:05

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	H	2.0	0.44	ug/L			10/17/19 21:09	1
Benzene	ND	H	3.0	0.53	ug/L			10/17/19 21:09	1
EDC	ND	H	2.0	0.53	ug/L			10/17/19 21:09	1
Toluene	ND	H	2.0	0.39	ug/L			10/17/19 21:09	1
Ethylbenzene	ND	H	3.0	0.50	ug/L			10/17/19 21:09	1
m-Xylene & p-Xylene	ND	H	3.0	0.75	ug/L			10/17/19 21:09	1
o-Xylene	ND	H	2.0	0.39	ug/L			10/17/19 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 120		10/17/19 21:09	1
Toluene-d8 (Surr)	103		80 - 120		10/17/19 21:09	1
1,2-Dichloroethane-d4 (Surr)	94		80 - 126		10/17/19 21:09	1
4-Bromofluorobenzene (Surr)	93		80 - 120		10/17/19 21:09	1
Dibromofluoromethane (Surr)	96		80 - 120		10/17/19 21:09	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Client Sample ID: MW-21-W-190927

Lab Sample ID: 580-89647-2

Date Collected: 09/27/19 13:00

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	H	2.0	0.44	ug/L			10/17/19 21:34	1
Benzene	ND	H	3.0	0.53	ug/L			10/17/19 21:34	1
EDC	ND	H	2.0	0.53	ug/L			10/17/19 21:34	1
Toluene	ND	H	2.0	0.39	ug/L			10/17/19 21:34	1
Ethylbenzene	ND	H	3.0	0.50	ug/L			10/17/19 21:34	1
m-Xylene & p-Xylene	ND	H	3.0	0.75	ug/L			10/17/19 21:34	1
o-Xylene	ND	H	2.0	0.39	ug/L			10/17/19 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	96		80 - 120		10/17/19 21:34	1
Toluene-d8 (Surr)	99		80 - 120		10/17/19 21:34	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		10/17/19 21:34	1
4-Bromofluorobenzene (Surr)	93		80 - 120		10/17/19 21:34	1
Dibromofluoromethane (Surr)	102		80 - 120		10/17/19 21:34	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Client Sample ID: MW-22-W-190927

Lab Sample ID: 580-89647-3

Date Collected: 09/27/19 15:00

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	H	2.0	0.44	ug/L			10/17/19 22:00	1
Benzene	ND	H	3.0	0.53	ug/L			10/17/19 22:00	1
EDC	ND	H	2.0	0.53	ug/L			10/17/19 22:00	1
Toluene	ND	H	2.0	0.39	ug/L			10/17/19 22:00	1
Ethylbenzene	ND	H	3.0	0.50	ug/L			10/17/19 22:00	1
m-Xylene & p-Xylene	ND	H	3.0	0.75	ug/L			10/17/19 22:00	1
o-Xylene	ND	H	2.0	0.39	ug/L			10/17/19 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120		10/17/19 22:00	1
Toluene-d8 (Surr)	101		80 - 120		10/17/19 22:00	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		10/17/19 22:00	1
4-Bromofluorobenzene (Surr)	93		80 - 120		10/17/19 22:00	1
Dibromofluoromethane (Surr)	98		80 - 120		10/17/19 22:00	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Client Sample ID: MW-23-W-190927

Lab Sample ID: 580-89647-4

Date Collected: 09/27/19 16:00

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	H	2.0	0.44	ug/L			10/17/19 22:25	1
Benzene	ND	H	3.0	0.53	ug/L			10/17/19 22:25	1
EDC	ND	H	2.0	0.53	ug/L			10/17/19 22:25	1
Toluene	ND	H	2.0	0.39	ug/L			10/17/19 22:25	1
Ethylbenzene	ND	H	3.0	0.50	ug/L			10/17/19 22:25	1
m-Xylene & p-Xylene	ND	H	3.0	0.75	ug/L			10/17/19 22:25	1
o-Xylene	ND	H	2.0	0.39	ug/L			10/17/19 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	96		80 - 120		10/17/19 22:25	1
Toluene-d8 (Surr)	99		80 - 120		10/17/19 22:25	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		10/17/19 22:25	1
4-Bromofluorobenzene (Surr)	93		80 - 120		10/17/19 22:25	1
Dibromofluoromethane (Surr)	101		80 - 120		10/17/19 22:25	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Client Sample ID: MW-24-W-190927

Lab Sample ID: 580-89647-5

Date Collected: 09/27/19 13:30

Matrix: Water

Date Received: 09/28/19 09:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	H	2.0	0.44	ug/L			10/17/19 22:51	1
Benzene	ND	H	3.0	0.53	ug/L			10/17/19 22:51	1
EDC	ND	H	2.0	0.53	ug/L			10/17/19 22:51	1
Toluene	ND	H	2.0	0.39	ug/L			10/17/19 22:51	1
Ethylbenzene	ND	H	3.0	0.50	ug/L			10/17/19 22:51	1
m-Xylene & p-Xylene	ND	H	3.0	0.75	ug/L			10/17/19 22:51	1
o-Xylene	ND	H	2.0	0.39	ug/L			10/17/19 22:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	101		80 - 120		10/17/19 22:51	1
Toluene-d8 (Surr)	105		80 - 120		10/17/19 22:51	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		10/17/19 22:51	1
4-Bromofluorobenzene (Surr)	91		80 - 120		10/17/19 22:51	1
Dibromofluoromethane (Surr)	98		80 - 120		10/17/19 22:51	1

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-314535/7
Matrix: Water
Analysis Batch: 314535

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			10/17/19 16:56	1
Benzene	ND		3.0	0.53	ug/L			10/17/19 16:56	1
EDC	ND		2.0	0.53	ug/L			10/17/19 16:56	1
Toluene	ND		2.0	0.39	ug/L			10/17/19 16:56	1
Ethylbenzene	ND		3.0	0.50	ug/L			10/17/19 16:56	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			10/17/19 16:56	1
o-Xylene	ND		2.0	0.39	ug/L			10/17/19 16:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 120		10/17/19 16:56	1
Toluene-d8 (Surr)	101		80 - 120		10/17/19 16:56	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 126		10/17/19 16:56	1
4-Bromofluorobenzene (Surr)	93		80 - 120		10/17/19 16:56	1
Dibromofluoromethane (Surr)	101		80 - 120		10/17/19 16:56	1

Lab Sample ID: LCS 580-314535/4
Matrix: Water
Analysis Batch: 314535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	10.0	9.93		ug/L		99	72 - 130
Benzene	10.0	9.85		ug/L		98	75 - 121
EDC	10.0	9.50		ug/L		95	76 - 131
Toluene	10.0	9.86		ug/L		99	80 - 120
Ethylbenzene	10.0	9.90		ug/L		99	80 - 120
m-Xylene & p-Xylene	10.0	9.44		ug/L		94	80 - 120
o-Xylene	10.0	9.80		ug/L		98	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	95		80 - 120
Toluene-d8 (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 126
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120

Lab Sample ID: LCSD 580-314535/5
Matrix: Water
Analysis Batch: 314535

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	10.0	9.73		ug/L		97	72 - 130	2	18
Benzene	10.0	9.63		ug/L		96	75 - 121	2	14
EDC	10.0	9.79		ug/L		98	76 - 131	3	18
Toluene	10.0	9.65		ug/L		96	80 - 120	2	19
Ethylbenzene	10.0	9.66		ug/L		97	80 - 120	3	14
m-Xylene & p-Xylene	10.0	9.04		ug/L		90	80 - 120	4	14
o-Xylene	10.0	9.46		ug/L		95	80 - 120	4	16

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-314535/5

Matrix: Water

Analysis Batch: 314535

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	101		80 - 120
Toluene-d8 (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Client Sample ID: MW-20-W-190927

Date Collected: 09/27/19 12:05

Date Received: 09/28/19 09:25

Lab Sample ID: 580-89647-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	314535	10/17/19 21:09	W1T	TAL SEA

Client Sample ID: MW-21-W-190927

Date Collected: 09/27/19 13:00

Date Received: 09/28/19 09:25

Lab Sample ID: 580-89647-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	314535	10/17/19 21:34	W1T	TAL SEA

Client Sample ID: MW-22-W-190927

Date Collected: 09/27/19 15:00

Date Received: 09/28/19 09:25

Lab Sample ID: 580-89647-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	314535	10/17/19 22:00	W1T	TAL SEA

Client Sample ID: MW-23-W-190927

Date Collected: 09/27/19 16:00

Date Received: 09/28/19 09:25

Lab Sample ID: 580-89647-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	314535	10/17/19 22:25	W1T	TAL SEA

Client Sample ID: MW-24-W-190927

Date Collected: 09/27/19 13:30

Date Received: 09/28/19 09:25

Lab Sample ID: 580-89647-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	314535	10/17/19 22:51	W1T	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-05-19

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Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility #90169, Bellingh

Job ID: 580-89647-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89647-1	MW-20-W-190927	Water	09/27/19 12:05	09/28/19 09:25	
580-89647-2	MW-21-W-190927	Water	09/27/19 13:00	09/28/19 09:25	
580-89647-3	MW-22-W-190927	Water	09/27/19 15:00	09/28/19 09:25	
580-89647-4	MW-23-W-190927	Water	09/27/19 16:00	09/28/19 09:25	
580-89647-5	MW-24-W-190927	Water	09/27/19 13:30	09/28/19 09:25	

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~~TestAmerica~~
 Client: Winn-Dixie Supermarket Arcadis Client Contact: Christopher dotson Date: 9/27/2019 Chain of Custody Number: 38535

Address: 1100 Olive way suite 800 Telephone Number (Area Code)/Fax Number: 503-724-1240 Lab Number: _____ Page _____ of _____

City: Birmingham State: WA Zip Code: 98101 Sampler: Daniel Sly Gilbert Lab Contact: Elaine Walker Analysis (Attach list if more space is needed)

Project Name and Location (State): Birmingham WA Billing Contact: _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix							Containers & Preservatives							Special Instructions/ Conditions of Receipt						
			Air	Aqueous	Sec.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2	NaOH	Lead 6010	Dis 109d 610	8270 CAP WPH		9011 EDB	NWTFB DX	NWTFB GX			
MW-20	9/27/19	1205												X	X	X	X	X					Low volume
MW-21	9/27	1300												X	X	X	X	X					collected for
MW-22	9/27	1500												X	X	X	X	X					MW-23. Tried
MW-23	9/27	1600												X	X	X	X	X					to collect as much
MW-24	9/27	1330												X	X	X	X	X					as possible to
TRP blank																							meet minimum
																							requirements,
																							Questions? call
																							Dan 330-314-7995

Cooler: Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Sample Disposal: Disposal By Lab Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other Standard QC Requirements (Specify)

1. Relinquished By: Daniel Sly Gilbert Date: 9/28 Time: 9:25 1. Received By: Kevin Hobbs Date: 9-28-19 Time: 0925

2. Relinquished By: _____ Date: _____ Time: _____ 2. Received By: _____ Date: _____ Time: _____

Therm. ID: AI Cor: 3.9 Unc: 40 Cooler Desc: LB FedEX: _____ Packing: Box UPS: _____ Cust. Seal: Yes No Lab Cour: _____ Blue Ice: Wet Dry, None Other: CP 3. Received By: _____ Date: _____ Time: _____



Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-89647-2

Login Number: 89647

List Number: 1

Creator: Gall, Brandon A

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-90847-1

Client Project/Site: Former Chevron Facility 90619, Bellingha

For:

ARCADIS U.S. Inc
111 SW Columbia Street
Suite 670
Portland, Oregon 97201

Attn: Christopher Dotson

Kristine D. Allen

Authorized for release by:
11/30/2019 12:33:40 PM

Kristine Allen, Manager of Project Management
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Designee for

Elaine Walker, Project Manager II
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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Job ID: 580-90847-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-90847-1

Comments

No additional comments.

Receipt

The samples were received on 11/15/2019 3:54 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.3° C and 3.6° C.

Receipt Exceptions

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). It was logged in with analyses assigned.

GC/MS VOA

Method 8260C: Surrogate recovery for the following samples were outside the upper control limit: MW-21-W-191114 (580-90847-2) and MW-24-W-191114 (580-90847-5). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with 317820 recovered high and outside the control limits for Ethylene Dibromide and 1,2-Dibromopropane on one column. Results are confirmed on both columns and reported from the passing column. The following samples are impacted: MW-20-W-191114 (580-90847-1), MW-21-W-191114 (580-90847-2), MW-22-W-191114 (580-90847-3), MW-23-W-191114 (580-90847-4), MW-24-W-191114 (580-90847-5), DUP-1-W-191114 (580-90847-6), (CCV 580-317712/1-A) and (CCV 580-317712/2-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-20-W-191114

Lab Sample ID: 580-90847-1

Date Collected: 11/14/19 12:15

Matrix: Water

Date Received: 11/15/19 15:54

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			11/18/19 22:42	1
EDC	ND		2.0	0.53	ug/L			11/18/19 22:42	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/18/19 22:42	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/18/19 22:42	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/18/19 22:42	1
o-Xylene	ND		2.0	0.39	ug/L			11/18/19 22:42	1
Toluene	ND		2.0	0.39	ug/L			11/18/19 22:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	91		80 - 120		11/18/19 22:42	1
Toluene-d8 (Surr)	107		80 - 120		11/18/19 22:42	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		11/18/19 22:42	1
4-Bromofluorobenzene (Surr)	91		80 - 120		11/18/19 22:42	1
Dibromofluoromethane (Surr)	95		80 - 120		11/18/19 22:42	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.096	0.018	ug/L		11/19/19 09:17	11/21/19 19:03	1
2-Methylnaphthalene	ND		0.19	0.037	ug/L		11/19/19 09:17	11/21/19 19:03	1
Benzo[a]anthracene	ND		0.048	0.013	ug/L		11/19/19 09:17	11/21/19 19:03	1
Benzo[a]pyrene	ND		0.096	0.011	ug/L		11/19/19 09:17	11/21/19 19:03	1
Benzo[b]fluoranthene	ND		0.048	0.011	ug/L		11/19/19 09:17	11/21/19 19:03	1
Benzo[k]fluoranthene	ND		0.048	0.011	ug/L		11/19/19 09:17	11/21/19 19:03	1
Chrysene	ND		0.096	0.015	ug/L		11/19/19 09:17	11/21/19 19:03	1
Dibenz(a,h)anthracene	ND		0.096	0.025	ug/L		11/19/19 09:17	11/21/19 19:03	1
Indeno[1,2,3-cd]pyrene	ND		0.048	0.013	ug/L		11/19/19 09:17	11/21/19 19:03	1
Naphthalene	ND		0.096	0.030	ug/L		11/19/19 09:17	11/21/19 19:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	55		53 - 120	11/19/19 09:17	11/21/19 19:03	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		50 - 150		11/18/19 15:39	1
Trifluorotoluene (Surr)	112		50 - 150		11/18/19 15:39	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0082	0.0016	ug/L		11/26/19 11:18	11/27/19 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	109		60 - 140	11/26/19 11:18	11/27/19 13:51	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.068	mg/L		11/25/19 10:14	11/25/19 19:37	1
Motor Oil (>C24-C36)	ND		0.37	0.10	mg/L		11/25/19 10:14	11/25/19 19:37	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-20-W-191114

Lab Sample ID: 580-90847-1

Date Collected: 11/14/19 12:15

Matrix: Water

Date Received: 11/15/19 15:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	67		50 - 150	11/25/19 10:14	11/25/19 19:37	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/22/19 11:23	11/25/19 15:48	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/25/19 08:45	11/25/19 17:42	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-21-W-191114

Lab Sample ID: 580-90847-2

Date Collected: 11/14/19 13:05

Matrix: Water

Date Received: 11/15/19 15:54

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			11/18/19 23:06	1
EDC	ND		2.0	0.53	ug/L			11/18/19 23:06	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/18/19 23:06	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/18/19 23:06	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/18/19 23:06	1
o-Xylene	ND		2.0	0.39	ug/L			11/18/19 23:06	1
Toluene	ND		2.0	0.39	ug/L			11/18/19 23:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	92		80 - 120		11/18/19 23:06	1
Toluene-d8 (Surr)	122	X	80 - 120		11/18/19 23:06	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		11/18/19 23:06	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/18/19 23:06	1
Dibromofluoromethane (Surr)	100		80 - 120		11/18/19 23:06	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.020	ug/L		11/19/19 09:17	11/21/19 19:27	1
2-Methylnaphthalene	ND		0.21	0.042	ug/L		11/19/19 09:17	11/21/19 19:27	1
Benzo[a]anthracene	ND		0.054	0.015	ug/L		11/19/19 09:17	11/21/19 19:27	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		11/19/19 09:17	11/21/19 19:27	1
Benzo[b]fluoranthene	ND		0.054	0.012	ug/L		11/19/19 09:17	11/21/19 19:27	1
Benzo[k]fluoranthene	ND		0.054	0.013	ug/L		11/19/19 09:17	11/21/19 19:27	1
Chrysene	ND		0.11	0.017	ug/L		11/19/19 09:17	11/21/19 19:27	1
Dibenz(a,h)anthracene	ND		0.11	0.028	ug/L		11/19/19 09:17	11/21/19 19:27	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.015	ug/L		11/19/19 09:17	11/21/19 19:27	1
Naphthalene	ND		0.11	0.033	ug/L		11/19/19 09:17	11/21/19 19:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	96		53 - 120	11/19/19 09:17	11/21/19 19:27	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 16:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		11/18/19 16:03	1
Trifluorotoluene (Surr)	101		50 - 150		11/18/19 16:03	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0084	0.0017	ug/L		11/26/19 11:19	11/27/19 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	116		60 - 140	11/26/19 11:19	11/27/19 14:07	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.074	mg/L		11/18/19 09:18	11/19/19 22:13	1

Motor Oil (>C24-C36)	0.11	J	0.40	0.11	mg/L		11/18/19 09:18	11/19/19 22:13	1
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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-21-W-191114

Lab Sample ID: 580-90847-2

Date Collected: 11/14/19 13:05

Matrix: Water

Date Received: 11/15/19 15:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	64		50 - 150	11/18/19 09:18	11/19/19 22:13	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/22/19 11:23	11/25/19 16:14	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/25/19 08:45	11/25/19 18:07	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-22-W-191114

Lab Sample ID: 580-90847-3

Date Collected: 11/14/19 11:30

Matrix: Water

Date Received: 11/15/19 15:54

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			11/18/19 23:31	1
EDC	ND		2.0	0.53	ug/L			11/18/19 23:31	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/18/19 23:31	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/18/19 23:31	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/18/19 23:31	1
o-Xylene	ND		2.0	0.39	ug/L			11/18/19 23:31	1
Toluene	ND		2.0	0.39	ug/L			11/18/19 23:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	96		80 - 120		11/18/19 23:31	1
Toluene-d8 (Surr)	106		80 - 120		11/18/19 23:31	1
1,2-Dichloroethane-d4 (Surr)	95		80 - 126		11/18/19 23:31	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/18/19 23:31	1
Dibromofluoromethane (Surr)	97		80 - 120		11/18/19 23:31	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.020	ug/L		11/19/19 09:17	11/21/19 19:52	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		11/19/19 09:17	11/21/19 19:52	1
Benzo[a]anthracene	ND		0.053	0.015	ug/L		11/19/19 09:17	11/21/19 19:52	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		11/19/19 09:17	11/21/19 19:52	1
Benzo[b]fluoranthene	ND		0.053	0.012	ug/L		11/19/19 09:17	11/21/19 19:52	1
Benzo[k]fluoranthene	ND		0.053	0.013	ug/L		11/19/19 09:17	11/21/19 19:52	1
Chrysene	ND		0.11	0.017	ug/L		11/19/19 09:17	11/21/19 19:52	1
Dibenz(a,h)anthracene	ND		0.11	0.028	ug/L		11/19/19 09:17	11/21/19 19:52	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.015	ug/L		11/19/19 09:17	11/21/19 19:52	1
Naphthalene	ND		0.11	0.033	ug/L		11/19/19 09:17	11/21/19 19:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	87		53 - 120	11/19/19 09:17	11/21/19 19:52	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		50 - 150		11/18/19 16:28	1
Trifluorotoluene (Surr)	102		50 - 150		11/18/19 16:28	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0083	0.0017	ug/L		11/26/19 11:19	11/27/19 14:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	115		60 - 140	11/26/19 11:19	11/27/19 14:23	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.072	mg/L		11/18/19 09:18	11/19/19 22:35	1

Motor Oil (>C24-C36)	0.12	J	0.39	0.11	mg/L		11/18/19 09:18	11/19/19 22:35	1
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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-22-W-191114

Lab Sample ID: 580-90847-3

Date Collected: 11/14/19 11:30

Matrix: Water

Date Received: 11/15/19 15:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	66		50 - 150	11/18/19 09:18	11/19/19 22:35	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/22/19 11:23	11/25/19 16:17	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/25/19 08:45	11/25/19 18:10	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-23-W-191114

Lab Sample ID: 580-90847-4

Date Collected: 11/14/19 14:05

Matrix: Water

Date Received: 11/15/19 15:54

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			11/18/19 23:57	1
EDC	ND		2.0	0.53	ug/L			11/18/19 23:57	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/18/19 23:57	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/18/19 23:57	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/18/19 23:57	1
o-Xylene	ND		2.0	0.39	ug/L			11/18/19 23:57	1
Toluene	ND		2.0	0.39	ug/L			11/18/19 23:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	82		80 - 120		11/18/19 23:57	1
Toluene-d8 (Surr)	106		80 - 120		11/18/19 23:57	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		11/18/19 23:57	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/18/19 23:57	1
Dibromofluoromethane (Surr)	98		80 - 120		11/18/19 23:57	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.019	ug/L		11/19/19 09:17	11/21/19 20:16	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		11/19/19 09:17	11/21/19 20:16	1
Benzo[a]anthracene	ND		0.051	0.014	ug/L		11/19/19 09:17	11/21/19 20:16	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		11/19/19 09:17	11/21/19 20:16	1
Benzo[b]fluoranthene	ND		0.051	0.011	ug/L		11/19/19 09:17	11/21/19 20:16	1
Benzo[k]fluoranthene	ND		0.051	0.012	ug/L		11/19/19 09:17	11/21/19 20:16	1
Chrysene	ND		0.10	0.016	ug/L		11/19/19 09:17	11/21/19 20:16	1
Dibenz(a,h)anthracene	ND		0.10	0.026	ug/L		11/19/19 09:17	11/21/19 20:16	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.014	ug/L		11/19/19 09:17	11/21/19 20:16	1
Naphthalene	ND		0.10	0.031	ug/L		11/19/19 09:17	11/21/19 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	94		53 - 120	11/19/19 09:17	11/21/19 20:16	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 17:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		50 - 150		11/18/19 17:15	1
Trifluorotoluene (Surr)	101		50 - 150		11/18/19 17:15	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0083	0.0017	ug/L		11/26/19 11:19	11/27/19 14:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	126		60 - 140	11/26/19 11:19	11/27/19 14:39	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.14	0.085	mg/L		11/18/19 09:18	11/19/19 22:58	1

Motor Oil (>C24-C36)	0.14	J	0.46	0.13	mg/L		11/18/19 09:18	11/19/19 22:58	1
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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-23-W-191114

Lab Sample ID: 580-90847-4

Date Collected: 11/14/19 14:05

Matrix: Water

Date Received: 11/15/19 15:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	68		50 - 150	11/18/19 09:18	11/19/19 22:58	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/22/19 11:23	11/25/19 16:20	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/25/19 08:45	11/25/19 18:14	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-24-W-191114

Lab Sample ID: 580-90847-5

Date Collected: 11/14/19 13:20

Matrix: Water

Date Received: 11/15/19 15:54

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			11/19/19 00:23	1
EDC	ND		2.0	0.53	ug/L			11/19/19 00:23	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/19/19 00:23	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/19/19 00:23	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/19/19 00:23	1
o-Xylene	ND		2.0	0.39	ug/L			11/19/19 00:23	1
Toluene	ND		2.0	0.39	ug/L			11/19/19 00:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	93		80 - 120		11/19/19 00:23	1
Toluene-d8 (Surr)	122	X	80 - 120		11/19/19 00:23	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 126		11/19/19 00:23	1
4-Bromofluorobenzene (Surr)	84		80 - 120		11/19/19 00:23	1
Dibromofluoromethane (Surr)	96		80 - 120		11/19/19 00:23	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.019	ug/L		11/19/19 09:17	11/21/19 20:40	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		11/19/19 09:17	11/21/19 20:40	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		11/19/19 09:17	11/21/19 20:40	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		11/19/19 09:17	11/21/19 20:40	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		11/19/19 09:17	11/21/19 20:40	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		11/19/19 09:17	11/21/19 20:40	1
Chrysene	ND		0.10	0.016	ug/L		11/19/19 09:17	11/21/19 20:40	1
Dibenz(a,h)anthracene	ND		0.10	0.026	ug/L		11/19/19 09:17	11/21/19 20:40	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		11/19/19 09:17	11/21/19 20:40	1
Naphthalene	ND		0.10	0.031	ug/L		11/19/19 09:17	11/21/19 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		53 - 120	11/19/19 09:17	11/21/19 20:40	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		50 - 150		11/18/19 17:39	1
Trifluorotoluene (Surr)	101		50 - 150		11/18/19 17:39	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0083	0.0017	ug/L		11/26/19 11:19	11/27/19 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	114		60 - 140	11/26/19 11:19	11/27/19 14:55	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		11/18/19 09:18	11/19/19 23:20	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		11/18/19 09:18	11/19/19 23:20	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-24-W-191114

Lab Sample ID: 580-90847-5

Date Collected: 11/14/19 13:20

Matrix: Water

Date Received: 11/15/19 15:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	54		50 - 150	11/18/19 09:18	11/19/19 23:20	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/22/19 11:23	11/25/19 16:23	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/25/19 08:45	11/25/19 18:17	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: DUP-1-W-191114

Lab Sample ID: 580-90847-6

Date Collected: 11/14/19 00:01

Matrix: Water

Date Received: 11/15/19 15:54

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			11/19/19 00:49	1
EDC	ND		2.0	0.53	ug/L			11/19/19 00:49	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/19/19 00:49	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/19/19 00:49	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/19/19 00:49	1
o-Xylene	ND		2.0	0.39	ug/L			11/19/19 00:49	1
Toluene	ND		2.0	0.39	ug/L			11/19/19 00:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	92		80 - 120		11/19/19 00:49	1
Toluene-d8 (Surr)	108		80 - 120		11/19/19 00:49	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 126		11/19/19 00:49	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/19/19 00:49	1
Dibromofluoromethane (Surr)	95		80 - 120		11/19/19 00:49	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.021	ug/L		11/19/19 09:17	11/21/19 21:04	1
2-Methylnaphthalene	ND		0.23	0.044	ug/L		11/19/19 09:17	11/21/19 21:04	1
Benzo[a]anthracene	ND		0.056	0.016	ug/L		11/19/19 09:17	11/21/19 21:04	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		11/19/19 09:17	11/21/19 21:04	1
Benzo[b]fluoranthene	ND		0.056	0.012	ug/L		11/19/19 09:17	11/21/19 21:04	1
Benzo[k]fluoranthene	ND		0.056	0.014	ug/L		11/19/19 09:17	11/21/19 21:04	1
Chrysene	ND		0.11	0.018	ug/L		11/19/19 09:17	11/21/19 21:04	1
Dibenz(a,h)anthracene	ND		0.11	0.029	ug/L		11/19/19 09:17	11/21/19 21:04	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.016	ug/L		11/19/19 09:17	11/21/19 21:04	1
Naphthalene	ND		0.11	0.035	ug/L		11/19/19 09:17	11/21/19 21:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	85		53 - 120	11/19/19 09:17	11/21/19 21:04	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		11/18/19 18:04	1
Trifluorotoluene (Surr)	99		50 - 150		11/18/19 18:04	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0083	0.0017	ug/L		11/26/19 11:19	11/27/19 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	107		60 - 140	11/26/19 11:19	11/27/19 15:10	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13	0.075	mg/L		11/18/19 09:18	11/19/19 23:42	1
Motor Oil (>C24-C36)	ND		0.40	0.11	mg/L		11/18/19 09:18	11/19/19 23:42	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: DUP-1-W-191114

Lab Sample ID: 580-90847-6

Date Collected: 11/14/19 00:01

Matrix: Water

Date Received: 11/15/19 15:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	51		50 - 150	11/18/19 09:18	11/19/19 23:42	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/22/19 11:23	11/25/19 16:27	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/25/19 08:45	11/25/19 18:20	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: TRIP BLANK-W-191114

Lab Sample ID: 580-90847-7

Date Collected: 11/14/19 00:01

Matrix: Water

Date Received: 11/15/19 15:54

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/18/19 19:20	1
Benzene	ND		3.0	0.53	ug/L			11/18/19 19:20	1
EDC	ND		2.0	0.53	ug/L			11/18/19 19:20	1
Toluene	ND		2.0	0.39	ug/L			11/18/19 19:20	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/18/19 19:20	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/18/19 19:20	1
o-Xylene	ND		2.0	0.39	ug/L			11/18/19 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	91		80 - 120		11/18/19 19:20	1
Toluene-d8 (Surr)	106		80 - 120		11/18/19 19:20	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		11/18/19 19:20	1
4-Bromofluorobenzene (Surr)	91		80 - 120		11/18/19 19:20	1
Dibromofluoromethane (Surr)	94		80 - 120		11/18/19 19:20	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150		11/18/19 14:27	1
Trifluorotoluene (Surr)	100		50 - 150		11/18/19 14:27	1

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-317090/7

Matrix: Water

Analysis Batch: 317090

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		3.0	0.53	ug/L			11/18/19 17:38	1
EDC	ND		2.0	0.53	ug/L			11/18/19 17:38	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/18/19 17:38	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/18/19 17:38	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/18/19 17:38	1
o-Xylene	ND		2.0	0.39	ug/L			11/18/19 17:38	1
Toluene	ND		2.0	0.39	ug/L			11/18/19 17:38	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Trifluorotoluene (Surr)	84		80 - 120		11/18/19 17:38	1
Toluene-d8 (Surr)	98		80 - 120		11/18/19 17:38	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 126		11/18/19 17:38	1
4-Bromofluorobenzene (Surr)	89		80 - 120		11/18/19 17:38	1
Dibromofluoromethane (Surr)	95		80 - 120		11/18/19 17:38	1

Lab Sample ID: LCS 580-317090/4

Matrix: Water

Analysis Batch: 317090

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	10.0	9.96		ug/L		100	75 - 121
EDC	10.0	9.40		ug/L		94	76 - 131
Ethylbenzene	10.0	10.7		ug/L		107	80 - 120
Methyl tert-butyl ether	10.0	9.70		ug/L		97	72 - 130
m-Xylene & p-Xylene	10.0	9.87		ug/L		99	80 - 120
o-Xylene	10.0	9.48		ug/L		95	80 - 120
Toluene	10.0	11.0		ug/L		110	80 - 120

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	86		80 - 120
Toluene-d8 (Surr)	106		80 - 120
1,2-Dichloroethane-d4 (Surr)	96		80 - 126
4-Bromofluorobenzene (Surr)	89		80 - 120
Dibromofluoromethane (Surr)	91		80 - 120

Lab Sample ID: LCSD 580-317090/5

Matrix: Water

Analysis Batch: 317090

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
Benzene	10.0	10.6		ug/L		106	75 - 121	6	14
EDC	10.0	9.58		ug/L		96	76 - 131	2	18
Ethylbenzene	10.0	11.0		ug/L		110	80 - 120	3	14
Methyl tert-butyl ether	10.0	10.7		ug/L		107	72 - 130	10	18
m-Xylene & p-Xylene	10.0	10.3		ug/L		103	80 - 120	4	14
o-Xylene	10.0	10.8		ug/L		108	80 - 120	13	16
Toluene	10.0	11.4		ug/L		114	80 - 120	4	19

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-317090/5

Matrix: Water

Analysis Batch: 317090

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	98		80 - 120
Toluene-d8 (Surr)	110		80 - 120
1,2-Dichloroethane-d4 (Surr)	102		80 - 126
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-317124/1-A

Matrix: Water

Analysis Batch: 317352

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 317124

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1-Methylnaphthalene	ND		0.10	0.019	ug/L		11/19/19 09:17	11/21/19 13:11	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		11/19/19 09:17	11/21/19 13:11	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		11/19/19 09:17	11/21/19 13:11	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		11/19/19 09:17	11/21/19 13:11	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		11/19/19 09:17	11/21/19 13:11	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		11/19/19 09:17	11/21/19 13:11	1
Chrysene	ND		0.10	0.016	ug/L		11/19/19 09:17	11/21/19 13:11	1
Dibenz(a,h)anthracene	ND		0.10	0.026	ug/L		11/19/19 09:17	11/21/19 13:11	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		11/19/19 09:17	11/21/19 13:11	1
Naphthalene	ND		0.10	0.031	ug/L		11/19/19 09:17	11/21/19 13:11	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	110		53 - 120	11/19/19 09:17	11/21/19 13:11	1

Lab Sample ID: LCS 580-317124/2-A

Matrix: Water

Analysis Batch: 317352

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 317124

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1-Methylnaphthalene	4.00	3.42		ug/L		85	35 - 120
2-Methylnaphthalene	4.00	3.44		ug/L		86	33 - 120
Benzo[a]anthracene	4.00	4.30		ug/L		108	61 - 129
Benzo[a]pyrene	4.00	4.29		ug/L		107	56 - 130
Benzo[b]fluoranthene	4.00	4.39		ug/L		110	53 - 133
Benzo[k]fluoranthene	4.00	4.21		ug/L		105	51 - 132
Chrysene	4.00	4.18		ug/L		104	47 - 126
Dibenz(a,h)anthracene	4.00	4.18		ug/L		104	60 - 133
Indeno[1,2,3-cd]pyrene	4.00	4.40		ug/L		110	56 - 135
Naphthalene	4.00	3.45		ug/L		86	36 - 120

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	105		53 - 120

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-317124/3-A
Matrix: Water
Analysis Batch: 317352

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 317124

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	4.00	3.45		ug/L		86	35 - 120	1	34
2-Methylnaphthalene	4.00	3.48		ug/L		87	33 - 120	1	30
Benzo[a]anthracene	4.00	4.29		ug/L		107	61 - 129	0	31
Benzo[a]pyrene	4.00	4.28		ug/L		107	56 - 130	0	27
Benzo[b]fluoranthene	4.00	4.41		ug/L		110	53 - 133	0	25
Benzo[k]fluoranthene	4.00	4.14		ug/L		104	51 - 132	2	25
Chrysene	4.00	4.14		ug/L		103	47 - 126	1	23
Dibenz(a,h)anthracene	4.00	4.15		ug/L		104	60 - 133	1	25
Indeno[1,2,3-cd]pyrene	4.00	4.39		ug/L		110	56 - 135	0	24
Naphthalene	4.00	3.46		ug/L		86	36 - 120	0	27

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	105		53 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-317044/7
Matrix: Water
Analysis Batch: 317044

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			11/18/19 12:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150		11/18/19 12:51	1
Trifluorotoluene (Surr)	100		50 - 150		11/18/19 12:51	1

Lab Sample ID: LCS 580-317044/8
Matrix: Water
Analysis Batch: 317044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.955		mg/L		95	79 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		50 - 150
Trifluorotoluene (Surr)	96		50 - 150

Lab Sample ID: LCSD 580-317044/9
Matrix: Water
Analysis Batch: 317044

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.976		mg/L		98	79 - 120	2	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		50 - 150

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-317044/9

Matrix: Water

Analysis Batch: 317044

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	102		50 - 150

Method: 8011 - EDB (1,2-Dibromometano)

Lab Sample ID: MB 580-317712/3-A

Matrix: Water

Analysis Batch: 317820

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 317712

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		11/26/19 11:18	11/27/19 12:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	111		60 - 140	11/26/19 11:18	11/27/19 12:46	1

Lab Sample ID: LCS 580-317712/4-A

Matrix: Water

Analysis Batch: 317820

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 317712

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0571	0.0650		ug/L		114	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dibromopropane	106		60 - 140

Lab Sample ID: LCSD 580-317712/5-A

Matrix: Water

Analysis Batch: 317820

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 317712

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Ethylene Dibromide	0.0571	0.0667		ug/L		117	60 - 140	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dibromopropane	114		60 - 140

Lab Sample ID: LLCS 580-317712/6-A

Matrix: Water

Analysis Batch: 317820

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 317712

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.0114	0.0118		ug/L		103	60 - 140

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
1,2-Dibromopropane	107		60 - 140

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-317025/1-A

Matrix: Water

Analysis Batch: 317223

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 317025

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		11/18/19 09:17	11/19/19 18:07	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		11/18/19 09:17	11/19/19 18:07	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	78		50 - 150			11/18/19 09:17	11/19/19 18:07	1	

Lab Sample ID: LCS 580-317025/2-A

Matrix: Water

Analysis Batch: 317223

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 317025

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	2.00	1.66		mg/L		83	50 - 120
Motor Oil (>C24-C36)	2.00	1.77		mg/L		89	64 - 120
Surrogate	LCS	LCS	Limits			%Rec	
	%Recovery	Qualifier					
<i>o</i> -Terphenyl	87		50 - 150				

Lab Sample ID: LCSD 580-317025/3-A

Matrix: Water

Analysis Batch: 317223

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 317025

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	2.00	1.77		mg/L		88	50 - 120	6	26
Motor Oil (>C24-C36)	2.00	1.84		mg/L		92	64 - 120	4	24
Surrogate	LCSD	LCSD	Limits			%Rec			
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	94		50 - 150						

Lab Sample ID: MB 580-317600/1-A

Matrix: Water

Analysis Batch: 317647

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 317600

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		11/25/19 10:14	11/25/19 18:10	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		11/25/19 10:14	11/25/19 18:10	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	73		50 - 150			11/25/19 10:14	11/25/19 18:10	1	

Lab Sample ID: LCS 580-317600/2-A

Matrix: Water

Analysis Batch: 317647

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 317600

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	2.00	1.83		mg/L		91	50 - 120
Motor Oil (>C24-C36)	2.00	1.93		mg/L		97	64 - 120

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-317600/2-A
 Matrix: Water
 Analysis Batch: 317647

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 317600

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	103		50 - 150

Lab Sample ID: LCSD 580-317600/3-A
 Matrix: Water
 Analysis Batch: 317647

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 317600

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
#2 Diesel (C10-C24)	2.00	1.83		mg/L		91	50 - 120	0	26
Motor Oil (>C24-C36)	2.00	1.91		mg/L		95	64 - 120	1	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	96		50 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 580-317479/22-A
 Matrix: Water
 Analysis Batch: 317667

Client Sample ID: Method Blank
 Prep Type: Total Recoverable
 Prep Batch: 317479

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/22/19 11:23	11/25/19 15:39	1

Lab Sample ID: LCS 580-317479/23-A
 Matrix: Water
 Analysis Batch: 317667

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 317479

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.960		mg/L		96	80 - 120

Lab Sample ID: LCSD 580-317479/24-A
 Matrix: Water
 Analysis Batch: 317667

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total Recoverable
 Prep Batch: 317479

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1.00	0.952		mg/L		95	80 - 120	1	20

Lab Sample ID: 580-90847-1 MS
 Matrix: Water
 Analysis Batch: 317667

Client Sample ID: MW-20-W-191114
 Prep Type: Total Recoverable
 Prep Batch: 317479

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1.00	0.992		mg/L		99	75 - 125

Lab Sample ID: 580-90847-1 MSD
 Matrix: Water
 Analysis Batch: 317667

Client Sample ID: MW-20-W-191114
 Prep Type: Total Recoverable
 Prep Batch: 317479

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	ND		1.00	0.950		mg/L		95	75 - 125	4	20

Eurofins TestAmerica, Seattle

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 580-90847-1 DU
Matrix: Water
Analysis Batch: 317667

Client Sample ID: MW-20-W-191114
Prep Type: Total Recoverable
Prep Batch: 317479

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		mg/L		NC	20

Lab Sample ID: MB 580-317567/21-A
Matrix: Water
Analysis Batch: 317667

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 317567

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		11/25/19 08:45	11/25/19 17:33	1

Lab Sample ID: LCS 580-317567/22-A
Matrix: Water
Analysis Batch: 317667

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 317567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCSD 580-317567/23-A
Matrix: Water
Analysis Batch: 317667

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 317567

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1.00	1.02		mg/L		102	80 - 120	1	20

Lab Sample ID: 580-90847-1 MS
Matrix: Water
Analysis Batch: 317667

Client Sample ID: MW-20-W-191114
Prep Type: Dissolved
Prep Batch: 317567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1.00	0.958		mg/L		96	75 - 125

Lab Sample ID: 580-90847-1 MSD
Matrix: Water
Analysis Batch: 317667

Client Sample ID: MW-20-W-191114
Prep Type: Dissolved
Prep Batch: 317567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	ND		1.00	1.02		mg/L		102	75 - 125	6	20

Lab Sample ID: 580-90847-1 DU
Matrix: Water
Analysis Batch: 317667

Client Sample ID: MW-20-W-191114
Prep Type: Dissolved
Prep Batch: 317567

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		mg/L		NC	20

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-20-W-191114

Lab Sample ID: 580-90847-1

Date Collected: 11/14/19 12:15

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	317090	11/18/19 22:42	TL1	TAL SEA
Total/NA	Prep	3510C			317124	11/19/19 09:17	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	317425	11/21/19 19:03	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	317044	11/18/19 15:39	DCV	TAL SEA
Total/NA	Prep	8011			317712	11/26/19 11:18	FCG	TAL SEA
Total/NA	Analysis	8011		1	317820	11/27/19 13:51	CJ	TAL SEA
Total/NA	Prep	3510C			317600	11/25/19 10:14	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317647	11/25/19 19:37	JCM	TAL SEA
Dissolved	Prep	3005A			317567	11/25/19 08:45	JCP	TAL SEA
Dissolved	Analysis	6010C		1	317667	11/25/19 17:42	T1H	TAL SEA
Total Recoverable	Prep	3005A			317479	11/22/19 11:23	ART	TAL SEA
Total Recoverable	Analysis	6010C		1	317667	11/25/19 15:48	T1H	TAL SEA

Client Sample ID: MW-21-W-191114

Lab Sample ID: 580-90847-2

Date Collected: 11/14/19 13:05

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	317090	11/18/19 23:06	TL1	TAL SEA
Total/NA	Prep	3510C			317124	11/19/19 09:17	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	317425	11/21/19 19:27	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	317044	11/18/19 16:03	DCV	TAL SEA
Total/NA	Prep	8011			317712	11/26/19 11:19	FCG	TAL SEA
Total/NA	Analysis	8011		1	317820	11/27/19 14:07	CJ	TAL SEA
Total/NA	Prep	3510C			317025	11/18/19 09:18	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317223	11/19/19 22:13	JCM	TAL SEA
Dissolved	Prep	3005A			317567	11/25/19 08:45	JCP	TAL SEA
Dissolved	Analysis	6010C		1	317667	11/25/19 18:07	T1H	TAL SEA
Total Recoverable	Prep	3005A			317479	11/22/19 11:23	ART	TAL SEA
Total Recoverable	Analysis	6010C		1	317667	11/25/19 16:14	T1H	TAL SEA

Client Sample ID: MW-22-W-191114

Lab Sample ID: 580-90847-3

Date Collected: 11/14/19 11:30

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	317090	11/18/19 23:31	TL1	TAL SEA
Total/NA	Prep	3510C			317124	11/19/19 09:17	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	317425	11/21/19 19:52	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	317044	11/18/19 16:28	DCV	TAL SEA
Total/NA	Prep	8011			317712	11/26/19 11:19	FCG	TAL SEA
Total/NA	Analysis	8011		1	317820	11/27/19 14:23	CJ	TAL SEA
Total/NA	Prep	3510C			317025	11/18/19 09:18	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317223	11/19/19 22:35	JCM	TAL SEA

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Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: MW-22-W-191114

Lab Sample ID: 580-90847-3

Date Collected: 11/14/19 11:30

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			317567	11/25/19 08:45	JCP	TAL SEA
Dissolved	Analysis	6010C		1	317667	11/25/19 18:10	T1H	TAL SEA
Total Recoverable	Prep	3005A			317479	11/22/19 11:23	ART	TAL SEA
Total Recoverable	Analysis	6010C		1	317667	11/25/19 16:17	T1H	TAL SEA

Client Sample ID: MW-23-W-191114

Lab Sample ID: 580-90847-4

Date Collected: 11/14/19 14:05

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	317090	11/18/19 23:57	TL1	TAL SEA
Total/NA	Prep	3510C			317124	11/19/19 09:17	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	317425	11/21/19 20:16	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	317044	11/18/19 17:15	DCV	TAL SEA
Total/NA	Prep	8011			317712	11/26/19 11:19	FCG	TAL SEA
Total/NA	Analysis	8011		1	317820	11/27/19 14:39	CJ	TAL SEA
Total/NA	Prep	3510C			317025	11/18/19 09:18	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317223	11/19/19 22:58	JCM	TAL SEA
Dissolved	Prep	3005A			317567	11/25/19 08:45	JCP	TAL SEA
Dissolved	Analysis	6010C		1	317667	11/25/19 18:14	T1H	TAL SEA
Total Recoverable	Prep	3005A			317479	11/22/19 11:23	ART	TAL SEA
Total Recoverable	Analysis	6010C		1	317667	11/25/19 16:20	T1H	TAL SEA

Client Sample ID: MW-24-W-191114

Lab Sample ID: 580-90847-5

Date Collected: 11/14/19 13:20

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	317090	11/19/19 00:23	TL1	TAL SEA
Total/NA	Prep	3510C			317124	11/19/19 09:17	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	317425	11/21/19 20:40	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	317044	11/18/19 17:39	DCV	TAL SEA
Total/NA	Prep	8011			317712	11/26/19 11:19	FCG	TAL SEA
Total/NA	Analysis	8011		1	317820	11/27/19 14:55	CJ	TAL SEA
Total/NA	Prep	3510C			317025	11/18/19 09:18	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317223	11/19/19 23:20	JCM	TAL SEA
Dissolved	Prep	3005A			317567	11/25/19 08:45	JCP	TAL SEA
Dissolved	Analysis	6010C		1	317667	11/25/19 18:17	T1H	TAL SEA
Total Recoverable	Prep	3005A			317479	11/22/19 11:23	ART	TAL SEA
Total Recoverable	Analysis	6010C		1	317667	11/25/19 16:23	T1H	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Client Sample ID: DUP-1-W-191114

Lab Sample ID: 580-90847-6

Date Collected: 11/14/19 00:01

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	317090	11/19/19 00:49	TL1	TAL SEA
Total/NA	Prep	3510C			317124	11/19/19 09:17	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	317425	11/21/19 21:04	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	317044	11/18/19 18:04	DCV	TAL SEA
Total/NA	Prep	8011			317712	11/26/19 11:19	FCG	TAL SEA
Total/NA	Analysis	8011		1	317820	11/27/19 15:10	CJ	TAL SEA
Total/NA	Prep	3510C			317025	11/18/19 09:18	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317223	11/19/19 23:42	JCM	TAL SEA
Dissolved	Prep	3005A			317567	11/25/19 08:45	JCP	TAL SEA
Dissolved	Analysis	6010C		1	317667	11/25/19 18:20	T1H	TAL SEA
Total Recoverable	Prep	3005A			317479	11/22/19 11:23	ART	TAL SEA
Total Recoverable	Analysis	6010C		1	317667	11/25/19 16:27	T1H	TAL SEA

Client Sample ID: TRIP BLANK-W-191114

Lab Sample ID: 580-90847-7

Date Collected: 11/14/19 00:01

Matrix: Water

Date Received: 11/15/19 15:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	317090	11/18/19 19:20	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	317044	11/18/19 14:27	DCV	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-05-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Lead



Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-90847-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-90847-1	MW-20-W-191114	Water	11/14/19 12:15	11/15/19 15:54	
580-90847-2	MW-21-W-191114	Water	11/14/19 13:05	11/15/19 15:54	
580-90847-3	MW-22-W-191114	Water	11/14/19 11:30	11/15/19 15:54	
580-90847-4	MW-23-W-191114	Water	11/14/19 14:05	11/15/19 15:54	
580-90847-5	MW-24-W-191114	Water	11/14/19 13:20	11/15/19 15:54	
580-90847-6	DUP-1-W-191114	Water	11/14/19 00:01	11/15/19 15:54	
580-90847-7	TRIP BLANK-W-191114	Water	11/14/19 00:01	11/15/19 15:54	

Chain of Custody Record

Client Information		Sampler: <u>Trevor Bryant</u>		Lab PM: Walker, Elaine M		Carrier Tracking No(s):		COC No: 580-36561-11735.1			
Client Contact: Christopher Dotson		Phone: <u>859 3334115</u>		E-Mail: elaine.walker@testamericainc.com				Page: Page 1 of 1			
Company: ARCADIS U.S. Inc		Address: 111 SW Columbia Street Suite 670 City: Portland State, Zip: OR, 97201 Phone: Email: christopher.dotson@arcadis-us.com Project Name: Former Chevron Facility #90150, Bellingham Site:		Due Date Requested:		Analysis Requested		Job #:			
TAT Requested (days): <u>Standard</u>		PO #: 30012307		WO #: 90619		Project #: 58013666		SSOW#:			
Preservation Codes:		Field Filtered Sample (Yes or No)		Perform Methods (Yes or No)		8270D_SIM - (MOD) cPAHs		8070C - Template for building analytic list			
A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		NMTPH_Dx - Northwest - DR/DRRO		8260C_NMTPH_GX - STEAM/DE/EDC		8011 - (MOD) EDB and DBCP Only		6010C - total lead	
Other:		Total Number of containers:		Special Instructions/Note:							
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/soil, B=tissue, A=air)			
						Preservation Code:		X			
MW-20		11/14/19		1215		G		Water			
MW-21		11/14/19		1305		G		Water			
MW-22		11/14/19		1130		G		Water			
MW-23		11/14/19		1405		G		Water			
MW-24		11/14/19		1320		G		Water			
MW-DUP-1		11/14/19		-		G		Water			
Therm. ID: <u>1R6</u> Cor: <u>2.3</u> ° Unc: <u>1.8</u> °		Cooler Dsc: <u>Sub</u>		FedEx:		Packing: <u>Sub</u>		UPS:			
Cust. Seal: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>		Blue Ice: Wet, Dry, None		Lab Cour: <u>PC</u>		Other:		Therm. ID: <u>A2</u> Cor: <u>3.6</u> ° Unc: <u>4.3</u> °			
Cooler Dsc:		FedEx:		Packing:		UPS:		Lab Cour: <u>PC</u>			
Blue Ice: Wet, Dry, None		Lab Cour: <u>PC</u>		Other:				580-90847 Chain of Custody			
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B			
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client			
Empty Kit Relinquished by: <u>Daniel Sly Gilbert</u>		Date: <u>11-15-19 13:43</u>		Company: <u>ARCADIS</u>		Received by: <u>[Signature]</u>		Date/Time: <u>11/15/19 13:44</u>			
Relinquished by: <u>Matthew Widenman, Matt</u>		Date/Time: <u>11-15-19 14:52</u>		Company: <u>Courier</u>		Received by: <u>[Signature]</u>		Date/Time: <u>11-15-19 15:54</u>			
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:							

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-90847-1

Login Number: 90847

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: Vallelunga, Diana L

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-92029-1

Client Project/Site: Former Chevron Facility 90619, Bellingha

For:

ARCADIS U.S. Inc
111 SW Columbia Street
Suite 670
Portland, Oregon 97201

Attn: Christopher Dotson

M. Elaine Walker

Authorized for release by:
1/22/2020 2:11:00 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Job ID: 580-92029-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative 580-92029-1

Receipt

Six samples were received on 1/9/2020 11:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.8° C and 5.0° C.

Receipt Exceptions

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA

Method NWTPH-Gx: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-320607 recovered outside control limits for the following analytes: Gasoline Range Organics - NWTPH-G. Recoveries were 94% and 107% for Gasoline Range Organics - NWTPH-G.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-20-W-200108

Lab Sample ID: 580-92029-1

Date Collected: 01/08/20 11:54

Matrix: Water

Date Received: 01/09/20 11:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			01/13/20 15:11	1
Benzene	ND		3.0	0.53	ug/L			01/13/20 15:11	1
EDC	ND		2.0	0.53	ug/L			01/13/20 15:11	1
Toluene	ND		2.0	0.39	ug/L			01/13/20 15:11	1
Ethylbenzene	ND		3.0	0.50	ug/L			01/13/20 15:11	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			01/13/20 15:11	1
o-Xylene	ND		2.0	0.39	ug/L			01/13/20 15:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		01/13/20 15:11	1
Toluene-d8 (Surr)	105		80 - 120		01/13/20 15:11	1
1,2-Dichloroethane-d4 (Surr)	93		80 - 126		01/13/20 15:11	1
4-Bromofluorobenzene (Surr)	100		80 - 120		01/13/20 15:11	1
Dibromofluoromethane (Surr)	95		80 - 120		01/13/20 15:11	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.020	ug/L		01/15/20 15:15	01/16/20 18:03	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		01/15/20 15:15	01/16/20 18:03	1
Benzo[a]anthracene	ND		0.052	0.015	ug/L		01/15/20 15:15	01/16/20 18:03	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		01/15/20 15:15	01/16/20 18:03	1
Benzo[b]fluoranthene	ND		0.052	0.011	ug/L		01/15/20 15:15	01/16/20 18:03	1
Benzo[k]fluoranthene	ND		0.052	0.013	ug/L		01/15/20 15:15	01/16/20 18:03	1
Chrysene	ND		0.10	0.017	ug/L		01/15/20 15:15	01/16/20 18:03	1
Dibenz(a,h)anthracene	ND		0.10	0.027	ug/L		01/15/20 15:15	01/16/20 18:03	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.015	ug/L		01/15/20 15:15	01/16/20 18:03	1
Naphthalene	ND		0.10	0.032	ug/L		01/15/20 15:15	01/16/20 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	53		53 - 120	01/15/20 15:15	01/16/20 18:03	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	*	0.25	0.10	mg/L			01/14/20 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		01/14/20 18:09	1
Trifluorotoluene (Surr)	92		50 - 150		01/14/20 18:09	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 16:48	1
1,2-Dibromo-3-Chloropropane	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	104		60 - 140	01/16/20 10:54	01/21/20 16:48	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		01/13/20 12:14	01/15/20 00:40	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		01/13/20 12:14	01/15/20 00:40	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-20-W-200108

Lab Sample ID: 580-92029-1

Date Collected: 01/08/20 11:54

Matrix: Water

Date Received: 01/09/20 11:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	72		50 - 150	01/13/20 12:14	01/15/20 00:40	1

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/15/20 13:19	01/16/20 14:42	1

Method: 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/17/20 08:04	01/17/20 14:57	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-21-W-200108

Lab Sample ID: 580-92029-2

Date Collected: 01/08/20 11:30

Matrix: Water

Date Received: 01/09/20 11:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			01/13/20 15:37	1
Benzene	ND		3.0	0.53	ug/L			01/13/20 15:37	1
EDC	ND		2.0	0.53	ug/L			01/13/20 15:37	1
Toluene	ND		2.0	0.39	ug/L			01/13/20 15:37	1
Ethylbenzene	ND		3.0	0.50	ug/L			01/13/20 15:37	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			01/13/20 15:37	1
o-Xylene	ND		2.0	0.39	ug/L			01/13/20 15:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	104		80 - 120					01/13/20 15:37	1
Toluene-d8 (Surr)	105		80 - 120					01/13/20 15:37	1
1,2-Dichloroethane-d4 (Surr)	93		80 - 126					01/13/20 15:37	1
4-Bromofluorobenzene (Surr)	98		80 - 120					01/13/20 15:37	1
Dibromofluoromethane (Surr)	94		80 - 120					01/13/20 15:37	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.020	ug/L		01/15/20 15:15	01/16/20 18:30	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		01/15/20 15:15	01/16/20 18:30	1
Benzo[a]anthracene	ND		0.052	0.015	ug/L		01/15/20 15:15	01/16/20 18:30	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		01/15/20 15:15	01/16/20 18:30	1
Benzo[b]fluoranthene	ND		0.052	0.011	ug/L		01/15/20 15:15	01/16/20 18:30	1
Benzo[k]fluoranthene	ND		0.052	0.013	ug/L		01/15/20 15:15	01/16/20 18:30	1
Chrysene	ND		0.10	0.017	ug/L		01/15/20 15:15	01/16/20 18:30	1
Dibenz(a,h)anthracene	ND		0.10	0.027	ug/L		01/15/20 15:15	01/16/20 18:30	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.015	ug/L		01/15/20 15:15	01/16/20 18:30	1
Naphthalene	ND		0.10	0.032	ug/L		01/15/20 15:15	01/16/20 18:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	56		53 - 120				01/15/20 15:15	01/16/20 18:30	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			01/13/20 15:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		50 - 150					01/13/20 15:49	1
Trifluorotoluene (Surr)	94		50 - 150					01/13/20 15:49	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 17:11	1
1,2-Dibromo-3-Chloropropane	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 17:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	117		60 - 140				01/16/20 10:54	01/21/20 17:11	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.13	0.074	mg/L		01/13/20 12:14	01/15/20 01:02	1
Motor Oil (>C24-C36)	ND		0.40	0.11	mg/L		01/13/20 12:14	01/15/20 01:02	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-21-W-200108

Lab Sample ID: 580-92029-2

Date Collected: 01/08/20 11:30

Matrix: Water

Date Received: 01/09/20 11:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	73		50 - 150	01/13/20 12:14	01/15/20 01:02	1

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/15/20 13:19	01/16/20 15:07	1

Method: 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/17/20 08:04	01/17/20 15:22	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-22-W-200108

Lab Sample ID: 580-92029-3

Date Collected: 01/08/20 13:30

Matrix: Water

Date Received: 01/09/20 11:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			01/13/20 16:02	1
Benzene	ND		3.0	0.53	ug/L			01/13/20 16:02	1
EDC	ND		2.0	0.53	ug/L			01/13/20 16:02	1
Toluene	ND		2.0	0.39	ug/L			01/13/20 16:02	1
Ethylbenzene	ND		3.0	0.50	ug/L			01/13/20 16:02	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			01/13/20 16:02	1
o-Xylene	ND		2.0	0.39	ug/L			01/13/20 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120		01/13/20 16:02	1
Toluene-d8 (Surr)	104		80 - 120		01/13/20 16:02	1
1,2-Dichloroethane-d4 (Surr)	92		80 - 126		01/13/20 16:02	1
4-Bromofluorobenzene (Surr)	98		80 - 120		01/13/20 16:02	1
Dibromofluoromethane (Surr)	95		80 - 120		01/13/20 16:02	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.021	ug/L		01/15/20 15:15	01/16/20 18:56	1
2-Methylnaphthalene	ND		0.22	0.043	ug/L		01/15/20 15:15	01/16/20 18:56	1
Benzo[a]anthracene	ND		0.055	0.015	ug/L		01/15/20 15:15	01/16/20 18:56	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		01/15/20 15:15	01/16/20 18:56	1
Benzo[b]fluoranthene	ND		0.055	0.012	ug/L		01/15/20 15:15	01/16/20 18:56	1
Benzo[k]fluoranthene	ND		0.055	0.013	ug/L		01/15/20 15:15	01/16/20 18:56	1
Chrysene	ND		0.11	0.018	ug/L		01/15/20 15:15	01/16/20 18:56	1
Dibenz(a,h)anthracene	ND		0.11	0.029	ug/L		01/15/20 15:15	01/16/20 18:56	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.015	ug/L		01/15/20 15:15	01/16/20 18:56	1
Naphthalene	ND		0.11	0.034	ug/L		01/15/20 15:15	01/16/20 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	60		53 - 120	01/15/20 15:15	01/16/20 18:56	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			01/13/20 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150		01/13/20 16:37	1
Trifluorotoluene (Surr)	96		50 - 150		01/13/20 16:37	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 17:26	1
1,2-Dibromo-3-Chloropropane	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	112		60 - 140	01/16/20 10:54	01/21/20 17:26	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		01/13/20 12:14	01/15/20 01:23	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		01/13/20 12:14	01/15/20 01:23	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-22-W-200108

Lab Sample ID: 580-92029-3

Date Collected: 01/08/20 13:30

Matrix: Water

Date Received: 01/09/20 11:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	73		50 - 150	01/13/20 12:14	01/15/20 01:23	1

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/15/20 13:19	01/16/20 15:10	1

Method: 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/17/20 08:04	01/17/20 15:26	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-23-W-200108

Lab Sample ID: 580-92029-4

Date Collected: 01/08/20 13:45

Matrix: Water

Date Received: 01/09/20 11:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			01/13/20 16:27	1
Benzene	ND		3.0	0.53	ug/L			01/13/20 16:27	1
EDC	ND		2.0	0.53	ug/L			01/13/20 16:27	1
Toluene	0.47	J	2.0	0.39	ug/L			01/13/20 16:27	1
Ethylbenzene	ND		3.0	0.50	ug/L			01/13/20 16:27	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			01/13/20 16:27	1
o-Xylene	ND		2.0	0.39	ug/L			01/13/20 16:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 120					01/13/20 16:27	1
Toluene-d8 (Surr)	104		80 - 120					01/13/20 16:27	1
1,2-Dichloroethane-d4 (Surr)	94		80 - 126					01/13/20 16:27	1
4-Bromofluorobenzene (Surr)	100		80 - 120					01/13/20 16:27	1
Dibromofluoromethane (Surr)	98		80 - 120					01/13/20 16:27	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.021	ug/L		01/15/20 15:15	01/16/20 19:22	1
2-Methylnaphthalene	ND		0.22	0.043	ug/L		01/15/20 15:15	01/16/20 19:22	1
Benzo[a]anthracene	ND		0.054	0.015	ug/L		01/15/20 15:15	01/16/20 19:22	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		01/15/20 15:15	01/16/20 19:22	1
Benzo[b]fluoranthene	ND		0.054	0.012	ug/L		01/15/20 15:15	01/16/20 19:22	1
Benzo[k]fluoranthene	ND		0.054	0.013	ug/L		01/15/20 15:15	01/16/20 19:22	1
Chrysene	ND		0.11	0.017	ug/L		01/15/20 15:15	01/16/20 19:22	1
Dibenz(a,h)anthracene	ND		0.11	0.028	ug/L		01/15/20 15:15	01/16/20 19:22	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.015	ug/L		01/15/20 15:15	01/16/20 19:22	1
Naphthalene	ND		0.11	0.034	ug/L		01/15/20 15:15	01/16/20 19:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	58		53 - 120				01/15/20 15:15	01/16/20 19:22	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			01/13/20 17:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150					01/13/20 17:01	1
Trifluorotoluene (Surr)	89		50 - 150					01/13/20 17:01	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		01/16/20 10:54	01/21/20 17:42	1
1,2-Dibromo-3-Chloropropane	ND		0.0099	0.0020	ug/L		01/16/20 10:54	01/21/20 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	127		60 - 140				01/16/20 10:54	01/21/20 17:42	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.068	mg/L		01/13/20 12:14	01/15/20 01:44	1
Motor Oil (>C24-C36)	ND		0.37	0.10	mg/L		01/13/20 12:14	01/15/20 01:44	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-23-W-200108

Lab Sample ID: 580-92029-4

Date Collected: 01/08/20 13:45

Matrix: Water

Date Received: 01/09/20 11:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	68		50 - 150	01/13/20 12:14	01/15/20 01:44	1

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/15/20 13:19	01/16/20 15:13	1

Method: 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/17/20 08:04	01/17/20 15:29	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-24-W-200108

Lab Sample ID: 580-92029-5

Date Collected: 01/08/20 12:55

Matrix: Water

Date Received: 01/09/20 11:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			01/13/20 16:52	1
Benzene	ND		3.0	0.53	ug/L			01/13/20 16:52	1
EDC	ND		2.0	0.53	ug/L			01/13/20 16:52	1
Toluene	ND		2.0	0.39	ug/L			01/13/20 16:52	1
Ethylbenzene	ND		3.0	0.50	ug/L			01/13/20 16:52	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			01/13/20 16:52	1
o-Xylene	ND		2.0	0.39	ug/L			01/13/20 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120		01/13/20 16:52	1
Toluene-d8 (Surr)	105		80 - 120		01/13/20 16:52	1
1,2-Dichloroethane-d4 (Surr)	93		80 - 126		01/13/20 16:52	1
4-Bromofluorobenzene (Surr)	100		80 - 120		01/13/20 16:52	1
Dibromofluoromethane (Surr)	97		80 - 120		01/13/20 16:52	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.10	0.020	ug/L		01/15/20 15:15	01/16/20 19:48	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		01/15/20 15:15	01/16/20 19:48	1
Benzo[a]anthracene	ND		0.052	0.015	ug/L		01/15/20 15:15	01/16/20 19:48	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		01/15/20 15:15	01/16/20 19:48	1
Benzo[b]fluoranthene	ND		0.052	0.011	ug/L		01/15/20 15:15	01/16/20 19:48	1
Benzo[k]fluoranthene	ND		0.052	0.013	ug/L		01/15/20 15:15	01/16/20 19:48	1
Chrysene	ND		0.10	0.017	ug/L		01/15/20 15:15	01/16/20 19:48	1
Dibenz(a,h)anthracene	ND		0.10	0.027	ug/L		01/15/20 15:15	01/16/20 19:48	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.015	ug/L		01/15/20 15:15	01/16/20 19:48	1
Naphthalene	ND		0.10	0.032	ug/L		01/15/20 15:15	01/16/20 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	55		53 - 120	01/15/20 15:15	01/16/20 19:48	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			01/13/20 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		50 - 150		01/13/20 17:26	1
Trifluorotoluene (Surr)	96		50 - 150		01/13/20 17:26	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0099	0.0020	ug/L		01/16/20 10:54	01/21/20 17:58	1
1,2-Dibromo-3-Chloropropane	ND		0.0099	0.0020	ug/L		01/16/20 10:54	01/21/20 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	115		60 - 140	01/16/20 10:54	01/21/20 17:58	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.068	mg/L		01/13/20 12:14	01/15/20 02:05	1
Motor Oil (>C24-C36)	ND		0.37	0.10	mg/L		01/13/20 12:14	01/15/20 02:05	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-24-W-200108

Lab Sample ID: 580-92029-5

Date Collected: 01/08/20 12:55

Matrix: Water

Date Received: 01/09/20 11:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	70		50 - 150	01/13/20 12:14	01/15/20 02:05	1

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/15/20 13:19	01/16/20 15:16	1

Method: 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/17/20 08:04	01/17/20 15:32	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: Dup-1-W-200108

Lab Sample ID: 580-92029-6

Date Collected: 01/08/20 00:01

Matrix: Water

Date Received: 01/09/20 11:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			01/13/20 17:17	1
Benzene	ND		3.0	0.53	ug/L			01/13/20 17:17	1
EDC	ND		2.0	0.53	ug/L			01/13/20 17:17	1
Toluene	ND		2.0	0.39	ug/L			01/13/20 17:17	1
Ethylbenzene	ND		3.0	0.50	ug/L			01/13/20 17:17	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			01/13/20 17:17	1
o-Xylene	ND		2.0	0.39	ug/L			01/13/20 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 120		01/13/20 17:17	1
Toluene-d8 (Surr)	105		80 - 120		01/13/20 17:17	1
1,2-Dichloroethane-d4 (Surr)	92		80 - 126		01/13/20 17:17	1
4-Bromofluorobenzene (Surr)	98		80 - 120		01/13/20 17:17	1
Dibromofluoromethane (Surr)	96		80 - 120		01/13/20 17:17	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.11	0.022	ug/L		01/15/20 15:15	01/16/20 20:14	1
2-Methylnaphthalene	ND		0.23	0.045	ug/L		01/15/20 15:15	01/16/20 20:14	1
Benzo[a]anthracene	ND		0.057	0.016	ug/L		01/15/20 15:15	01/16/20 20:14	1
Benzo[a]pyrene	ND		0.11	0.013	ug/L		01/15/20 15:15	01/16/20 20:14	1
Benzo[b]fluoranthene	ND		0.057	0.013	ug/L		01/15/20 15:15	01/16/20 20:14	1
Benzo[k]fluoranthene	ND		0.057	0.014	ug/L		01/15/20 15:15	01/16/20 20:14	1
Chrysene	ND		0.11	0.018	ug/L		01/15/20 15:15	01/16/20 20:14	1
Dibenz(a,h)anthracene	ND		0.11	0.030	ug/L		01/15/20 15:15	01/16/20 20:14	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.016	ug/L		01/15/20 15:15	01/16/20 20:14	1
Naphthalene	ND		0.11	0.035	ug/L		01/15/20 15:15	01/16/20 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	54		53 - 120	01/15/20 15:15	01/16/20 20:14	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			01/13/20 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150		01/13/20 17:50	1
Trifluorotoluene (Surr)	103		50 - 150		01/13/20 17:50	1

Method: 8011 - EDB (1,2-Dibromometano)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.011	0.0021	ug/L		01/16/20 10:54	01/21/20 18:30	1
1,2-Dibromo-3-Chloropropane	ND		0.011	0.0021	ug/L		01/16/20 10:54	01/21/20 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	102		60 - 140	01/16/20 10:54	01/21/20 18:30	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.068	mg/L		01/13/20 12:14	01/15/20 02:27	1
Motor Oil (>C24-C36)	ND		0.36	0.10	mg/L		01/13/20 12:14	01/15/20 02:27	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: Dup-1-W-200108

Lab Sample ID: 580-92029-6

Date Collected: 01/08/20 00:01

Matrix: Water

Date Received: 01/09/20 11:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	75		50 - 150	01/13/20 12:14	01/15/20 02:27	1

Method: 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/15/20 13:19	01/16/20 15:20	1

Method: 6010D - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/17/20 08:04	01/17/20 15:35	1

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-320504/6
Matrix: Water
Analysis Batch: 320504

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			01/13/20 13:00	1
Benzene	ND		3.0	0.53	ug/L			01/13/20 13:00	1
EDC	ND		2.0	0.53	ug/L			01/13/20 13:00	1
Toluene	ND		2.0	0.39	ug/L			01/13/20 13:00	1
Ethylbenzene	ND		3.0	0.50	ug/L			01/13/20 13:00	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			01/13/20 13:00	1
o-Xylene	ND		2.0	0.39	ug/L			01/13/20 13:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 120		01/13/20 13:00	1
Toluene-d8 (Surr)	104		80 - 120		01/13/20 13:00	1
1,2-Dichloroethane-d4 (Surr)	94		80 - 126		01/13/20 13:00	1
4-Bromofluorobenzene (Surr)	101		80 - 120		01/13/20 13:00	1
Dibromofluoromethane (Surr)	96		80 - 120		01/13/20 13:00	1

Lab Sample ID: LCS 580-320504/3
Matrix: Water
Analysis Batch: 320504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	10.0	9.99		ug/L		100	72 - 130
Benzene	10.0	10.2		ug/L		102	75 - 121
EDC	10.0	9.26		ug/L		93	76 - 131
Toluene	10.0	10.2		ug/L		102	80 - 120
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
m-Xylene & p-Xylene	10.0	10.1		ug/L		101	80 - 120
o-Xylene	10.0	10.0		ug/L		100	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	103		80 - 120
Toluene-d8 (Surr)	106		80 - 120
1,2-Dichloroethane-d4 (Surr)	92		80 - 126
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120

Lab Sample ID: LCSD 580-320504/4
Matrix: Water
Analysis Batch: 320504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	10.0	10.3		ug/L		103	72 - 130	3	18
Benzene	10.0	10.2		ug/L		102	75 - 121	0	14
EDC	10.0	9.16		ug/L		92	76 - 131	1	18
Toluene	10.0	9.96		ug/L		100	80 - 120	3	19
Ethylbenzene	10.0	10.0		ug/L		100	80 - 120	1	14
m-Xylene & p-Xylene	10.0	9.95		ug/L		100	80 - 120	1	14
o-Xylene	10.0	9.96		ug/L		100	80 - 120	1	16

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-320504/4
Matrix: Water
Analysis Batch: 320504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	103		80 - 120
Toluene-d8 (Surr)	105		80 - 120
1,2-Dichloroethane-d4 (Surr)	93		80 - 126
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	98		80 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-320735/1-A
Matrix: Water
Analysis Batch: 320800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320735

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1-Methylnaphthalene	ND		0.10	0.019	ug/L		01/15/20 15:15	01/16/20 12:22	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		01/15/20 15:15	01/16/20 12:22	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		01/15/20 15:15	01/16/20 12:22	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		01/15/20 15:15	01/16/20 12:22	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		01/15/20 15:15	01/16/20 12:22	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		01/15/20 15:15	01/16/20 12:22	1
Chrysene	ND		0.10	0.016	ug/L		01/15/20 15:15	01/16/20 12:22	1
Dibenz(a,h)anthracene	ND		0.10	0.026	ug/L		01/15/20 15:15	01/16/20 12:22	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		01/15/20 15:15	01/16/20 12:22	1
Naphthalene	ND		0.10	0.031	ug/L		01/15/20 15:15	01/16/20 12:22	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	57		53 - 120	01/15/20 15:15	01/16/20 12:22	1

Lab Sample ID: LCS 580-320735/2-A
Matrix: Water
Analysis Batch: 320800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320735

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
1-Methylnaphthalene	4.00	2.43		ug/L		61	35 - 120
2-Methylnaphthalene	4.00	3.19		ug/L		80	33 - 120
Benzo[a]anthracene	4.00	2.65		ug/L		66	61 - 129
Benzo[a]pyrene	4.00	2.43		ug/L		61	56 - 130
Benzo[b]fluoranthene	4.00	2.48		ug/L		62	53 - 133
Benzo[k]fluoranthene	4.00	2.21		ug/L		55	51 - 132
Chrysene	4.00	2.41		ug/L		60	47 - 126
Dibenz(a,h)anthracene	4.00	2.59		ug/L		65	60 - 133
Indeno[1,2,3-cd]pyrene	4.00	2.72		ug/L		68	56 - 135
Naphthalene	4.00	2.38		ug/L		59	36 - 120

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	56		53 - 120

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-320735/3-A
Matrix: Water
Analysis Batch: 320800

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 320735

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	4.00	2.41		ug/L		60	35 - 120	1	34
2-Methylnaphthalene	4.00	3.17		ug/L		79	33 - 120	1	30
Benzo[a]anthracene	4.00	2.71		ug/L		68	61 - 129	2	31
Benzo[a]pyrene	4.00	2.50		ug/L		63	56 - 130	3	27
Benzo[b]fluoranthene	4.00	2.59		ug/L		65	53 - 133	4	25
Benzo[k]fluoranthene	4.00	2.15		ug/L		54	51 - 132	3	25
Chrysene	4.00	2.41		ug/L		60	47 - 126	0	23
Dibenz(a,h)anthracene	4.00	2.69		ug/L		67	60 - 133	3	25
Indeno[1,2,3-cd]pyrene	4.00	2.86		ug/L		71	56 - 135	5	24
Naphthalene	4.00	2.37		ug/L		59	36 - 120	0	27

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	57		53 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-320480/7
Matrix: Water
Analysis Batch: 320480

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25	0.10	mg/L			01/13/20 12:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		50 - 150		01/13/20 12:11	1
Trifluorotoluene (Surr)	84		50 - 150		01/13/20 12:11	1

Lab Sample ID: LCS 580-320480/8
Matrix: Water
Analysis Batch: 320480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.959		mg/L		96	79 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		50 - 150
Trifluorotoluene (Surr)	99		50 - 150

Lab Sample ID: LCSD 580-320480/9
Matrix: Water
Analysis Batch: 320480

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.940		mg/L		94	79 - 120	2	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		50 - 150

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-320480/9
Matrix: Water
Analysis Batch: 320480

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Trifluorotoluene (Surr)	97		50 - 150

Lab Sample ID: MB 580-320607/7
Matrix: Water
Analysis Batch: 320607

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline	ND		0.25	0.10	mg/L			01/14/20 13:40	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	100		50 - 150		01/14/20 13:40	1
Trifluorotoluene (Surr)	93		50 - 150		01/14/20 13:40	1

Lab Sample ID: LCS 580-320607/8
Matrix: Water
Analysis Batch: 320607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Gasoline	1.00	1.07		mg/L		107	79 - 120

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	123		50 - 150
Trifluorotoluene (Surr)	100		50 - 150

Lab Sample ID: LCSD 580-320607/9
Matrix: Water
Analysis Batch: 320607

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline	1.00	0.941	*	mg/L		94	79 - 120	13	10

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	102		50 - 150
Trifluorotoluene (Surr)	103		50 - 150

Method: 8011 - EDB (1,2-Dibromometano)

Lab Sample ID: MB 580-320804/3-A
Matrix: Water
Analysis Batch: 321092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320804

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethylene Dibromide	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 15:28	1
1,2-Dibromo-3-Chloropropane	ND		0.010	0.0020	ug/L		01/16/20 10:54	01/21/20 15:28	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dibromopropane	111		60 - 140	01/16/20 10:54	01/21/20 15:28	1

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Method: 8011 - EDB (1,2-Dibromometano) (Continued)

Lab Sample ID: LCS 580-320804/4-A
Matrix: Water
Analysis Batch: 321092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320804
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Ethylene Dibromide	0.0571	0.0641		ug/L		112	60 - 140
1,2-Dibromo-3-Chloropropane	0.0571	0.0597		ug/L		104	60 - 140
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dibromopropane	99		60 - 140				

Lab Sample ID: LCSD 580-320804/5-A
Matrix: Water
Analysis Batch: 321092

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 320804
%Rec.
RPD

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ethylene Dibromide	0.0571	0.0695		ug/L		122	60 - 140	8	20
1,2-Dibromo-3-Chloropropane	0.0571	0.0625		ug/L		109	60 - 140	5	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,2-Dibromopropane	104		60 - 140						

Lab Sample ID: LLCS 580-320804/6-A
Matrix: Water
Analysis Batch: 321092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320804
%Rec.

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	Limits
Ethylene Dibromide	0.0114	0.0137		ug/L		119	60 - 140
1,2-Dibromo-3-Chloropropane	0.0114	0.0130		ug/L		114	60 - 140
Surrogate	%Recovery	LLCS Qualifier	Limits				
1,2-Dibromopropane	101		60 - 140				

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-320519/1-A
Matrix: Water
Analysis Batch: 320656

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		01/13/20 12:14	01/14/20 20:04	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		01/13/20 12:14	01/14/20 20:04	1
Surrogate	%Recovery	MB Qualifier	Limits						
o-Terphenyl	78		50 - 150						
							Prepared	Analyzed	Dil Fac
							01/13/20 12:14	01/14/20 20:04	1

Lab Sample ID: LCS 580-320519/2-A
Matrix: Water
Analysis Batch: 320656

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320519
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	2.00	1.42		mg/L		71	50 - 120
Motor Oil (>C24-C36)	2.00	1.74		mg/L		87	64 - 120

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	72		50 - 150

Lab Sample ID: LCSD 580-320519/3-A
Matrix: Water
Analysis Batch: 320656

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 320519

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	2.00	1.57		mg/L		79	50 - 120	10	26
Motor Oil (>C24-C36)	2.00	1.87		mg/L		93	64 - 120	7	24

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	79		50 - 150

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 580-320719/17-A
Matrix: Water
Analysis Batch: 320881

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 320719

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/15/20 13:21	01/16/20 14:33	1

Lab Sample ID: LCS 580-320719/18-A
Matrix: Water
Analysis Batch: 320881

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 320719

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	1.00	0.896		mg/L		90	80 - 120

Lab Sample ID: LCSD 580-320719/19-A
Matrix: Water
Analysis Batch: 320881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 320719

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	1.00	0.925		mg/L		92	80 - 120	3	20

Lab Sample ID: 580-92029-1 MS
Matrix: Water
Analysis Batch: 320881

Client Sample ID: MW-20-W-200108
Prep Type: Total Recoverable
Prep Batch: 320719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	ND		1.00	0.937		mg/L		94	80 - 120

Lab Sample ID: 580-92029-1 MSD
Matrix: Water
Analysis Batch: 320881

Client Sample ID: MW-20-W-200108
Prep Type: Total Recoverable
Prep Batch: 320719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	ND		1.00	0.884		mg/L		88	80 - 120	6	20

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 580-92029-1 DU
Matrix: Water
Analysis Batch: 320881

Client Sample ID: MW-20-W-200108
Prep Type: Total Recoverable
Prep Batch: 320719

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		mg/L		NC	20

Lab Sample ID: MB 580-320843/12-A
Matrix: Water
Analysis Batch: 321028

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 320843

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.030	0.0027	mg/L		01/17/20 08:04	01/17/20 14:48	1

Lab Sample ID: LCS 580-320843/13-A
Matrix: Water
Analysis Batch: 321028

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 320843

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	1.00	0.887		mg/L		89	80 - 120

Lab Sample ID: LCSD 580-320843/14-A
Matrix: Water
Analysis Batch: 321028

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 320843

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	1.00	0.886		mg/L		89	80 - 120	0	20

Lab Sample ID: 580-92029-1 MS
Matrix: Water
Analysis Batch: 321028

Client Sample ID: MW-20-W-200108
Prep Type: Dissolved
Prep Batch: 320843

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	ND		1.00	0.890		mg/L		89	80 - 120

Lab Sample ID: 580-92029-1 MSD
Matrix: Water
Analysis Batch: 321028

Client Sample ID: MW-20-W-200108
Prep Type: Dissolved
Prep Batch: 320843

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	ND		1.00	0.928		mg/L		93	80 - 120	4	20

Lab Sample ID: 580-92029-1 DU
Matrix: Water
Analysis Batch: 321028

Client Sample ID: MW-20-W-200108
Prep Type: Dissolved
Prep Batch: 320843

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		mg/L		NC	20

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-20-W-200108

Lab Sample ID: 580-92029-1

Date Collected: 01/08/20 11:54

Matrix: Water

Date Received: 01/09/20 11:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	320504	01/13/20 15:11	TL1	TAL SEA
Total/NA	Prep	3510C			320735	01/15/20 15:15	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	320800	01/16/20 18:03	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	320607	01/14/20 18:09	DCV	TAL SEA
Total/NA	Prep	8011			320804	01/16/20 10:54	FCG	TAL SEA
Total/NA	Analysis	8011		1	321092	01/21/20 16:48	W1T	TAL SEA
Total/NA	Prep	3510C			320519	01/13/20 12:14	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	320656	01/15/20 00:40	W1T	TAL SEA
Dissolved	Prep	3005A			320843	01/17/20 08:04	A1B	TAL SEA
Dissolved	Analysis	6010D		1	321028	01/17/20 14:57	T1H	TAL SEA
Total Recoverable	Prep	3005A			320719	01/15/20 13:19	A1B	TAL SEA
Total Recoverable	Analysis	6010D		1	320881	01/16/20 14:42	T1H	TAL SEA

Client Sample ID: MW-21-W-200108

Lab Sample ID: 580-92029-2

Date Collected: 01/08/20 11:30

Matrix: Water

Date Received: 01/09/20 11:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	320504	01/13/20 15:37	TL1	TAL SEA
Total/NA	Prep	3510C			320735	01/15/20 15:15	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	320800	01/16/20 18:30	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	320480	01/13/20 15:49	CJ	TAL SEA
Total/NA	Prep	8011			320804	01/16/20 10:54	FCG	TAL SEA
Total/NA	Analysis	8011		1	321092	01/21/20 17:11	W1T	TAL SEA
Total/NA	Prep	3510C			320519	01/13/20 12:14	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	320656	01/15/20 01:02	W1T	TAL SEA
Dissolved	Prep	3005A			320843	01/17/20 08:04	A1B	TAL SEA
Dissolved	Analysis	6010D		1	321028	01/17/20 15:22	T1H	TAL SEA
Total Recoverable	Prep	3005A			320719	01/15/20 13:19	A1B	TAL SEA
Total Recoverable	Analysis	6010D		1	320881	01/16/20 15:07	T1H	TAL SEA

Client Sample ID: MW-22-W-200108

Lab Sample ID: 580-92029-3

Date Collected: 01/08/20 13:30

Matrix: Water

Date Received: 01/09/20 11:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	320504	01/13/20 16:02	TL1	TAL SEA
Total/NA	Prep	3510C			320735	01/15/20 15:15	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	320800	01/16/20 18:56	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	320480	01/13/20 16:37	CJ	TAL SEA
Total/NA	Prep	8011			320804	01/16/20 10:54	FCG	TAL SEA
Total/NA	Analysis	8011		1	321092	01/21/20 17:26	W1T	TAL SEA
Total/NA	Prep	3510C			320519	01/13/20 12:14	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	320656	01/15/20 01:23	W1T	TAL SEA

Eurofins TestAmerica, Seattle

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: MW-22-W-200108

Lab Sample ID: 580-92029-3

Date Collected: 01/08/20 13:30

Matrix: Water

Date Received: 01/09/20 11:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			320843	01/17/20 08:04	A1B	TAL SEA
Dissolved	Analysis	6010D		1	321028	01/17/20 15:26	T1H	TAL SEA
Total Recoverable	Prep	3005A			320719	01/15/20 13:19	A1B	TAL SEA
Total Recoverable	Analysis	6010D		1	320881	01/16/20 15:10	T1H	TAL SEA

Client Sample ID: MW-23-W-200108

Lab Sample ID: 580-92029-4

Date Collected: 01/08/20 13:45

Matrix: Water

Date Received: 01/09/20 11:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	320504	01/13/20 16:27	TL1	TAL SEA
Total/NA	Prep	3510C			320735	01/15/20 15:15	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	320800	01/16/20 19:22	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	320480	01/13/20 17:01	CJ	TAL SEA
Total/NA	Prep	8011			320804	01/16/20 10:54	FCG	TAL SEA
Total/NA	Analysis	8011		1	321092	01/21/20 17:42	W1T	TAL SEA
Total/NA	Prep	3510C			320519	01/13/20 12:14	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	320656	01/15/20 01:44	W1T	TAL SEA
Dissolved	Prep	3005A			320843	01/17/20 08:04	A1B	TAL SEA
Dissolved	Analysis	6010D		1	321028	01/17/20 15:29	T1H	TAL SEA
Total Recoverable	Prep	3005A			320719	01/15/20 13:19	A1B	TAL SEA
Total Recoverable	Analysis	6010D		1	320881	01/16/20 15:13	T1H	TAL SEA

Client Sample ID: MW-24-W-200108

Lab Sample ID: 580-92029-5

Date Collected: 01/08/20 12:55

Matrix: Water

Date Received: 01/09/20 11:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	320504	01/13/20 16:52	TL1	TAL SEA
Total/NA	Prep	3510C			320735	01/15/20 15:15	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	320800	01/16/20 19:48	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	320480	01/13/20 17:26	CJ	TAL SEA
Total/NA	Prep	8011			320804	01/16/20 10:54	FCG	TAL SEA
Total/NA	Analysis	8011		1	321092	01/21/20 17:58	W1T	TAL SEA
Total/NA	Prep	3510C			320519	01/13/20 12:14	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	320656	01/15/20 02:05	W1T	TAL SEA
Dissolved	Prep	3005A			320843	01/17/20 08:04	A1B	TAL SEA
Dissolved	Analysis	6010D		1	321028	01/17/20 15:32	T1H	TAL SEA
Total Recoverable	Prep	3005A			320719	01/15/20 13:19	A1B	TAL SEA
Total Recoverable	Analysis	6010D		1	320881	01/16/20 15:16	T1H	TAL SEA

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Client Sample ID: Dup-1-W-200108

Lab Sample ID: 580-92029-6

Date Collected: 01/08/20 00:01

Matrix: Water

Date Received: 01/09/20 11:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	320504	01/13/20 17:17	TL1	TAL SEA
Total/NA	Prep	3510C			320735	01/15/20 15:15	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	320800	01/16/20 20:14	T1W	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	320480	01/13/20 17:50	CJ	TAL SEA
Total/NA	Prep	8011			320804	01/16/20 10:54	FCG	TAL SEA
Total/NA	Analysis	8011		1	321092	01/21/20 18:30	W1T	TAL SEA
Total/NA	Prep	3510C			320519	01/13/20 12:14	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	320656	01/15/20 02:27	W1T	TAL SEA
Dissolved	Prep	3005A			320843	01/17/20 08:04	A1B	TAL SEA
Dissolved	Analysis	6010D		1	321028	01/17/20 15:35	T1H	TAL SEA
Total Recoverable	Prep	3005A			320719	01/15/20 13:19	A1B	TAL SEA
Total Recoverable	Analysis	6010D		1	320881	01/16/20 15:20	T1H	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310



Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	WA100007	11-05-20

1

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11

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Former Chevron Facility 90619, Bellingha

Job ID: 580-92029-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-92029-1	MW-20-W-200108	Water	01/08/20 11:54	01/09/20 11:25	
580-92029-2	MW-21-W-200108	Water	01/08/20 11:30	01/09/20 11:25	
580-92029-3	MW-22-W-200108	Water	01/08/20 13:30	01/09/20 11:25	
580-92029-4	MW-23-W-200108	Water	01/08/20 13:45	01/09/20 11:25	
580-92029-5	MW-24-W-200108	Water	01/08/20 12:55	01/09/20 11:25	
580-92029-6	Dup-1-W-200108	Water	01/08/20 00:01	01/09/20 11:25	

Eurofins TestAmerica, Seattle

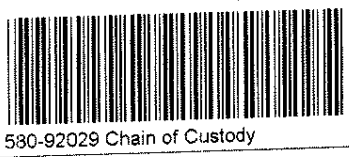
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax: 253-922-5047

Chain of Custody Record



Environment Testing
TestAmerica

Client Information		Sampler: <u>Trevor Bryant</u>		Lab PM: <u>Walker, Elaine M</u>		Carrier Tracking No(s):		COC No: <u>580-37191-11735.1</u>					
Client Contact: <u>Christopher Dotson</u>		Phone: <u>859 333 4115</u>		E-Mail: <u>elaine.walker@testamericainc.com</u>				Page: <u>Page 1 of 1</u>					
Company: <u>ARCADIS U.S. Inc</u>		Due Date Requested:		Analysis Requested Field Filtered Sample (Yes or No) <u>Filtered</u> Perform MS/MS (Yes or No) 8270D_SIM - (MOD) gPAHs 6010C - Template for building analyte list: <u>total lea</u> NWTPH_Dx - Northwest - DROIRRO 8260C_NWTPH_Gx - STE X, MTBE, EDC 8011 - (MOD) EDB and DBCP Only 6010C - MISS <u>leached field</u>		Job #:		Preservation C A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlo H - Ascorbic I - Ice J - DI Water K - EDTA L - EDA V - MCAA W - pH 4-5 Z - other (specify) Other:					
Address: <u>111 SW Columbia Street Suite 670</u>		TAT Requested (days): <u>Standard</u>				Total Number of Containers				Special Instructions/Note:			
City: <u>Portland</u>		PO #: <u>30012307</u>											
State, Zip: <u>OR, 97201</u>		WO #: <u>90619</u>											
Phone:		Project #: <u>58013666</u>											
Email: <u>christopher.dotson@arcadis-us.com</u>		SSOW#:											
Project Name: <u>Former Chevron Facility #00163, Bellingham</u>													
Site: <u>90619 Bellingham</u>													
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	N	D	A	A	R	D	Total Number of Containers	Special Instructions/Note:
MW-20	11/8/20	1130	G	Water		X	X	X	X	X	X	4	
MW-21	11/8/20	1130	G	Water		X	X	X	X	X	X	4	
MW-22	11/8/20	1330	G	Water		X	X	X	X	X	X	4	
MW-23	11/8/20	1345	G	Water		X	X	X	X	X	X	4	
MW-24	11/8/20	1255	G	Water		X	X	X	X	X	X	4	
DUP-1	11/8/20	-	G	Water		X	X	X	X	X	X	4	
Therm. ID: <u>1R6</u> Cor: <u>5.0</u> ° Unc: <u>4.6</u> ° Cooler Dsc: <u>LG Blue</u> Packing: <u>buD</u> FedEx: _____ Cust. Seal: Yes <u>No</u> Lab Cour: _____ Blue Ice: <u>Wet</u> Dry, None Other: _____					Therm. ID: <u>1R6</u> Cor: <u>1.8</u> ° Unc: <u>1.4</u> ° Cooler Dsc: <u>LG Blue</u> FedEx: _____ Packing: <u>buD</u> UPS: _____ Cust. Seal: Yes <u>No</u> Lab Cour: <u>X</u> Blue Ice: <u>Wet</u> Dry, None Other: _____								
Possible Hazard: <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months								
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:								
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:							
Relinquished by: <u>Daniel Sly Gilbert</u>		Date/Time: <u>1-09-2020 11:25</u>		Company: <u>ARCADIS</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1-9-20 11:25</u>		Company:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:									



Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-92029-1

Login Number: 92029

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: Hobbs, Kenneth F

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received Trip Blank(s) not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



APPENDIX F

Soil Vapor Sampling Event Field Notes



Soil Vapor Sampling Log - Canister

Project Name/Location 90619 Bolling Ave
 Project No. AGATMOBH.0619
 Field Staff GCF + KF

Page 1/1
 Date 4/17/19
 Weather Partly cloudy
 Wind Direction /

Sample Information					Shut-In Test				Purge					Sample Collection					Purge Volume Field Screening					
Date	Sample Name	Location	Canister ID / Size	Flow Controller / Regulator ID	Start Shut-In Test	Initial Pressure (inHg)	Stop Shut-In Test	Final Pressure (inHg)	Purge Volume (ml)	Purge Duration (min, sec)	Purge Start Time	Purge End Time	He Detected (ppm)	Start Sampling Time	Initial Vacuum (in-HG)	End Sampling Time	Final Vacuum (in-HG)	He Shroud Start (%)	He Shroud End (%)	PID	Equipment Used: <u>Lantec GEM 5000</u>			
																				VOC (ppm)	CH4 (%)	O2 (%)	CO2 (%)	LEL (%)
<u>4/17</u>	<u>EB-20190417</u>	<u>EB</u>	<u>3671/1L</u>	<u>855/200 ml/min</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>1358</u>	<u>30</u>	<u>1400</u>	<u>5</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
	<u>SVP-20190417</u>	<u>SVP-1</u>	<u>3674/1L</u>	<u>150/200 ml/min</u>	<u>1437</u>	<u>11</u>	<u>1438</u>	<u>11</u>	<u>1500</u>	<u>7:30</u>	<u>1442</u>	<u>1449</u>	<u>0</u>	<u>1452</u>	<u>30</u>	<u>1457</u>	<u>5</u>	<u>20</u>	<u>20</u>	<u>102</u>	<u>0.0</u>	<u>20.7</u>	<u>0.5</u>	<u>---</u>
	<u>DUP-1-20190417</u>	<u>↓</u>	<u>4181/1L</u>	<u>117/200 ml/min</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>30</u>	<u>↓</u>	<u>↓</u>	<u>20</u>	<u>20</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>---</u>
	<u>Ambient-20190417</u>	<u>Ambient</u>	<u>2296/1L</u>	<u>243/200 ml/min</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>1444</u>	<u>30</u>	<u>1448</u>	<u>5</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

NOTES: Equipment blank EB-20190417 collected through sample train material / Stainless steel valves, Joints etc) with lab provided Nitrogen.
Air purged from SVP-1 captured into a Tedlar bag and screened for Helium.
UHP Helium introduced into stream (Plastic shuting) covering sample point, train and canisters prior to purging and sampling process.
Helium concentration kept at ~20% during this process.
SVP-4 collected Helium at the same time as DUP-1, Summa canisters connected to sample train through stainless steel T.

Measure VOCs after sample process w/ PPB PID
Measure fixed gases after sample process w/ Lanter GEM 5000

Signature [Handwritten Signature]

APPENDIX G

Soil Vapor Laboratory Analytical Reports and Chain-of-Custody Documentation



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

May 10, 2019

Grayson Fish, Project Manager
Arcadis
1100 Olive Way, Suite 800
Seattle, WA 98101

Dear Mr Fish:

Included are the results from the testing of material submitted on April 18, 2019 from the 90619, F&BI 904355 project. There are 16 pages included in this report.

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: Chris Dotson
ACD0510R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 18, 2019 by Friedman & Bruya, Inc. from the Arcadis 90619 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Arcadis</u>
904355 -01	EB-20190417
904355 -02	SVP-1-20190417
904355 -03	DUP-1-20190417
904355 -04	Ambient-20190417

Samples SVP-1-20190417 and DUP-1-20190417 were sent to Fremont Analytical for oxygen, carbon dioxide, and methane analysis. The report is enclosed.

There was no material detected in APH EC9-10 aromatics range or in the helium quality assurance sample or the associated duplicate sample, therefore the calculation of the relative percent difference is not applicable. The data were qualified accordingly.

Non-petroleum compounds were identified and subtracted from the aliphatic air phase hydrocarbon (APH) ranges EC5-8 and EC9-12 in the samples.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	EB-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-01 1/1.6
Date Analyzed:	04/23/19	Data File:	042228.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	107	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	93
APH EC9-12 aliphatics	68
APH EC9-10 aromatics	<40

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SVP-1-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-02 1/1.6
Date Analyzed:	04/23/19	Data File:	042229.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	120
APH EC9-12 aliphatics	410
APH EC9-10 aromatics	<40

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	DUP-1-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-03 1/1.5
Date Analyzed:	04/23/19	Data File:	042230.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	107	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	140
APH EC9-12 aliphatics	420
APH EC9-10 aromatics	<37

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Ambient-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-04 1/1.6
Date Analyzed:	04/23/19	Data File:	042231.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<74
APH EC9-12 aliphatics	<56
APH EC9-10 aromatics	<40

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Arcadis
Date Received:	Not Applicable	Project:	90619, F&BI 904355
Date Collected:	Not Applicable	Lab ID:	09-0768 mb
Date Analyzed:	04/22/19	Data File:	042213.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	EB-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-01 1/1.6
Date Analyzed:	04/23/19	Data File:	042228.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<2.9	<0.8
Benzene	<0.51	<0.16
Toluene	0.74	0.20
Ethylbenzene	<0.69	<0.16
m,p-Xylene	<1.4	<0.32
o-Xylene	<0.69	<0.16
Naphthalene	<0.42	<0.08

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SVP-1-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-02 1/1.6
Date Analyzed:	04/23/19	Data File:	042229.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<2.9	<0.8
Benzene	<0.51	<0.16
Toluene	3.5	0.94
Ethylbenzene	<0.69	<0.16
m,p-Xylene	<1.4	<0.32
o-Xylene	1.3	0.29
Naphthalene	<0.42	<0.08

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	DUP-1-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-03 1/1.5
Date Analyzed:	04/23/19	Data File:	042230.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<2.7	<0.75
Benzene	<0.48	<0.15
Toluene	2.4	0.63
Ethylbenzene	<0.65	<0.15
m,p-Xylene	<1.3	<0.3
o-Xylene	1.1	0.26
Naphthalene	<0.39	<0.075

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Ambient-20190417	Client:	Arcadis
Date Received:	04/18/19	Project:	90619, F&BI 904355
Date Collected:	04/17/19	Lab ID:	904355-04 1/1.6
Date Analyzed:	04/23/19	Data File:	042231.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<2.9	<0.8
Benzene	<0.51	<0.16
Toluene	0.89	0.24
Ethylbenzene	<0.69	<0.16
m,p-Xylene	<1.4	<0.32
o-Xylene	<0.69	<0.16
Naphthalene	<0.42	<0.08

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Arcadis
Date Received:	Not Applicable	Project:	90619, F&BI 904355
Date Collected:	Not Applicable	Lab ID:	09-0768 mb
Date Analyzed:	04/22/19	Data File:	042213.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Methyl t-butyl ether (MTBE)	<1.8	<0.5
Benzene	<0.32	<0.1
Toluene	<0.38	<0.1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/10/19
Date Received: 04/18/19
Project: 90619, F&BI 904355
Date Extracted: 04/30/19
Date Analyzed: 04/30/19

**RESULTS FROM THE ANALYSIS OF AIR SAMPLES
FOR HELIUM USING METHOD ASTM D1946**

Results Reported as % Helium

<u>Sample ID</u> Laboratory ID	<u>Helium</u>
SVP-1-20190417 904355-02	<0.6
DUP-1-20190417 904355-03	<0.6
Method Blank	<0.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/10/19

Date Received: 04/18/19

Project: 90619, F&BI 904355

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 904284-04 1/5.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	2,100	2,100	0
APH EC9-12 aliphatics	ug/m3	510	540	6
APH EC9-10 aromatics	ug/m3	<130	<130	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	45	81	70-130
APH EC9-12 aliphatics	ug/m3	45	106	70-130
APH EC9-10 aromatics	ug/m3	45	100	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/10/19

Date Received: 04/18/19

Project: 90619, F&BI 904355

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ppbv	5	107	70-130
2-Propanol	ppbv	5	114	70-130
Chloroform	ppbv	5	113	70-130
Benzene	ppbv	5	108	70-130
Toluene	ppbv	5	108	70-130
Ethylbenzene	ppbv	5	109	70-130
m,p-Xylene	ppbv	10	108	70-130
o-Xylene	ppbv	5	108	70-130
Naphthalene	ppbv	5	98	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/10/19

Date Received: 04/18/19

Project: 90619, F&BI 904355

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES
FOR HELIUM
USING METHOD ASTM D1946**

Laboratory Code: 904355-03 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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: 904355
Work Order Number: 1905013

May 10, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 3 sample(s) on 5/1/2019 for the analyses presented in the following report.

Major Gases by EPA Method 3C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike C. Ridgeway", written in a cursive style.

Mike Ridgeway
Laboratory Director

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)



CLIENT: Friedman & Bruya
Project: 904355
Work Order: 1905013

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1905013-001	SVP-1-20190417	04/30/2019 4:15 PM	05/01/2019 12:20 PM
1905013-002	DUP-1-20190417	04/30/2019 4:30 PM	05/01/2019 12:20 PM
1905013-003	Ambient-20190417	05/01/2019 11:45 AM	05/01/2019 12:20 PM

CLIENT: Friedman & Bruya

Project: 904355

WorkOrder Narrative:

I. SAMPLE RECEIPT:

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

II. GENERAL REPORTING COMMENTS:

Major gases are reported as % ratio of the Major Gases analyzed (Carbon dioxide, Carbon Monoxide, Methane, Nitrogen, Oxygen and Hydrogen).

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS). The LCS is processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- 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



Client: Friedman & Bruya

Collection Date: 4/30/2019 4:15:00 PM

Project: 904355

Lab ID: 1905013-001

Matrix: Air

Client Sample ID: SVP-1-20190417

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Major Gases by EPA Method 3C

Batch ID: R51260 Analyst: AD

Carbon Dioxide	0.494	0.110	D	%	2.2	5/2/2019 6:41:00 PM
Methane	ND	0.110	D	%	2.2	5/2/2019 6:41:00 PM
Oxygen	24.4	0.110	D	%	2.2	5/2/2019 6:41:00 PM

NOTES:

Canister was pressurized with Nitrogen to obtain sample volume required to analyze Major Gases. The added nitrogen resulted in a 2.2X dilution. Detections of analytes were adjusted accordingly.



Client: Friedman & Bruya

Collection Date: 4/30/2019 4:30:00 PM

Project: 904355

Lab ID: 1905013-002

Matrix: Air

Client Sample ID: DUP-1-20190417

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Major Gases by EPA Method 3C

Batch ID: R51260 Analyst: AD

Carbon Dioxide	0.650	0.105	D	%	2.1	5/2/2019 7:04:00 PM
Methane	ND	0.105	D	%	2.1	5/2/2019 7:04:00 PM
Oxygen	24.7	0.105	D	%	2.1	5/2/2019 7:04:00 PM

NOTES:

Canister was pressurized with Nitrogen to obtain sample volume required to analyze Major Gases. The added nitrogen resulted in a 2.1X dilution. Detections of analytes were adjusted accordingly.



Client: Friedman & Bruya

Collection Date: 5/1/2019 11:45:00 AM

Project: 904355

Lab ID: 1905013-003

Matrix: Air

Client Sample ID: Ambient-20190417

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Major Gases by EPA Method 3C

Batch ID: R51260 Analyst: AD

Carbon Dioxide	ND	0.115	D	%	2.3	5/2/2019 7:30:00 PM
Methane	ND	0.115	D	%	2.3	5/2/2019 7:30:00 PM
Oxygen	30.8	0.115	D	%	2.3	5/2/2019 7:30:00 PM

NOTES:

Canister was pressurized with Nitrogen to obtain sample volume required to analyze Major Gases. The added nitrogen resulted in a 2.3X dilution. Detections of analytes were adjusted accordingly.

Work Order: 1905013
CLIENT: Friedman & Bruya
Project: 904355

QC SUMMARY REPORT
Major Gases by EPA Method 3C

Sample ID: LCS-R51260	SampType: LCS	Units: %	Prep Date: 5/2/2019	RunNo: 51260							
Client ID: LCSW	Batch ID: R51260		Analysis Date: 5/2/2019	SeqNo: 1008657							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	101	0.0500	100.0	0	101	70	130				
Methane	101	0.0500	100.0	0	101	70	130				
Oxygen	95.1	0.0500	100.0	0	95.1	70	130				

Sample ID: 1905012-001AREP	SampType: REP	Units: %	Prep Date: 5/2/2019	RunNo: 51260							
Client ID: BATCH	Batch ID: R51260		Analysis Date: 5/2/2019	SeqNo: 1008650							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Carbon Dioxide	0.904	0.100						0.8950	0.977	30	D
Methane	ND	0.100						0		30	D
Oxygen	20.9	0.100						19.58	6.62	30	D

NOTES:

Canister was pressurized with Nitrogen to obtain sample volume required to analyze Major Gases. The added nitrogen resulted in a 2X dilution. Detections of analytes were adjusted accordingly.

Client Name: **FB**
 Logged by: **Clare Griggs**

Work Order Number: **1905013**
 Date Received: **5/1/2019 12:20:00 PM**

Chain of Custody

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

Log In

3. Coolers are present? Yes No NA
Air Samples
 4. Shipping container/cooler in good condition? Yes No
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes No Not 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

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

1005013

Page # 1 of 1

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

SUBCONTRACTER <u>Fermont</u>	PROJECT NAME/NO. <u>904355</u>
PROJECT NAME/NO. <u>904355</u>	PO # <u>B-246</u>
REMARKS <u>Please Email Results</u>	

TURNOAROUND TIME <input checked="" type="checkbox"/> Standard (2 Weeks) <input type="checkbox"/> RUSH 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	Matrix	# of jars	ANALYSES REQUESTED				Notes	
						Dioxins/Furans	EPH	VPH	O_2, CO_2, CH_4		
SVP-1-20190417		4/30	16:15	air	1				X	2.2	N2 D.F.
DUP-1-20190417		4/30	16:30		1				X	2.1	
Ambient-20190417		5/1	11:45	↑	1				X	2.3	4511

Friedman & Bruya, Inc.
 3012 16th Avenue West
 Seattle, WA 98119-2029
 Ph. (206) 285-8282
 Fax (206) 283-5044

SIGNATURE	PRINT NAME
<u>[Signature]</u>	Michael Erdahl
Relinquished by:	<u>[Signature]</u>
Received by:	<u>[Signature]</u>
COMPANY	DATE
Friedman & Bruya	5/1/19
DATE	TIME
5/1/19	10:11

904355

SAMPLE CHAIN OF CUSTODY

MC 04-18-19

Page # 1 of 1

Report To Arco/Exon F&B, Lakes Division
 Company Arco's

Address 1100 Olive Way, Suite 800

City, State, ZIP Seattle, WA 98101

Phone 425-223-1453 Email gordon.fish@arco.com
Christoper.Atkins@arco.com

SAMPLERS (signature) <u>[Signature]</u>		PO # <u>ASSTWDEH,0619</u>
PROJECT NAME <u>90619</u>	REPORTING LEVEL	INVOICE TO
<input type="checkbox"/> Indoor Air <input checked="" type="checkbox"/> Sub Slab/Soil Gas		<input type="checkbox"/> Deep Soil Gas <input type="checkbox"/> SVE/Grab
ANALYSIS REQUESTED		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH Rush charges authorized by:
TO-15 Full Scan + MTBE TO-15 BTEXN TO-15 cVOCs MA-APK #H pages Helium O ₂ , CO ₂ + CH ₄		SAMPLE DISPOSAL <input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Archive Samples <input type="checkbox"/> Other

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan + MTBE TO-15 BTEXN	TO-15 cVOCs	MA-APK #H pages	Helium	O ₂ , CO ₂ + CH ₄	Notes
EB-20190417	01	3671	255	4/17/19	30	1358	5	1400	X	X	X	X	X	PID = 102 ppb
SVP-1-20190417	02	3674	150	4/17/19	30	1452	5	1457	X	X	X	X	X	
DVP-1-20190417	03	4181	117	4/17/19	30	1452	5	1457	X	X	X	X	X	
Ambient-20190417	04	2296	243	4/17/19	30	1444	5	1448	X	X	X	X	X	

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
<u>[Signature]</u>		<u>Exon Fish</u>		<u>Arco's</u>		4/18/19	1430
Relinquished by:		Received by:		Samples received at:			
<u>[Signature]</u>		<u>[Signature]</u>		<u>20 °C</u>			

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 964355 CLIENT Arcadis INITIALS/DATE: EAB 4/18/19

If custody seals are present on cooler, are they intact? NA YES NO

Cooler/Sample temperature 20 °C

Were samples received on ice/cold packs? YES NO

Was client notified of sample receipt? Over the Counter Picked up by F&BI
 YES NO (explain) Fed/Ex/UPS
 If Yes, name of person contacted _____ Left Message
 Special Instructions from Client _____

Number of days samples have been sitting prior to receipt at laboratory 1 days

Is there a Chain-of-Custody* (COC)? YES NO
 *or other representative documents, letters, and/or shipping memos

Are the samples clearly identified? (explain "no" answer below) YES NO

Is the following information provided on the COC* ? (explain "no" answer below)

Sample ID's	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	# of Containers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Date Sampled	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Relinquished	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Time Sampled	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Requested analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) YES NO

Were appropriate sample containers used? (explain "no" answer below) YES NO

If custody seals are present on samples, are they intact? NA YES NO

Are samples requiring no headspace, headspace free? NA YES NO

Explain "no" items from above (use the back if needed)

Are samples for PCB testing? YES NO

Did samples originate out of the country? (if yes, put in APHIS refrigerator) YES NO

APPENDIX H

Terrestrial Ecological Evaluation Form





Voluntary Cleanup Program

Washington State Department of Ecology Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation>.

Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are documenting an evaluation.

Facility/Site Name: Former Chevron Facility No. 90619

Facility/Site Address: 1205 Washington Street

Facility/Site No: 35363194

VCP Project No.:

Step 2: IDENTIFY EVALUATOR

Please identify below the person who conducted the evaluation and their contact information.

Name: Christopher Dotson

Title: Project Manager

Organization: Arcadis

Mailing address: 111 SW Columbia Street, Suite 670

City: Portland

State: OR

Zip code: 97201

Phone: 503-785-9383

Fax:

E-mail: Christopher.Dotson@arcadis.com

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

- Yes *If you answered "YES," then answer **Question 2**.*
- No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? Check all that apply. Then skip to **Step 4** of this form.

Point of Compliance: WAC 173-340-7491(1)(a)

- All soil contamination is, or will be,* at least 15 feet below the surface.
- All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

- All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

- There is less than 0.25 acres of contiguous# undeveloped± land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.
- For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous# undeveloped± land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

- Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

± "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

"Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

- Yes *If you answered "YES," then answer **Question 2** below.*
- No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

- Yes *If you answered "YES," then answer **Question 3** below.*
- No *If you answered "NO," then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

- Yes *If you answered "YES," then answer **Question 4** below.*
- No *If you answered "NO," then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

- Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*
- Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? Check all that apply. Then skip to **Step 4** of this form.

Exposure Analysis: WAC 173-340-7492(2)(a)

- Area of soil contamination at the Site is not more than 350 square feet.
- Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

- No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

- No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. See WAC 173-340-7493(1)(c).

1. Was there a problem? See WAC 173-340-7493(2).

- Yes *If you answered “YES,” then answer **Question 2** below.*
- No *If you answered “NO,” then identify the reason here and then skip to **Question 5** below:*
- No issues were identified during the problem formulation step.
 - While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? See WAC 173-340-7493(3).

- Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?

Check all that apply. See WAC 173-340-7493(3).

- Literature surveys.
- Soil bioassays.
- Wildlife exposure model.
- Biomarkers.
- Site-specific field studies.
- Weight of evidence.
- Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- Confirmed there was no problem.
- Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology’s approval of both your problem formulation and problem resolution steps?

- Yes If so, please identify the Ecology staff who approved those steps:
- No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: VCP Coordinator 3190 160 th Ave. SE Bellevue, WA 98008-5452	Central Region: Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	Eastern Region: Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call 877-833-6341.

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