PES Environmental, Inc.
Engineering & Environmental Services

A Report Prepared for:
Lake Stevens GRF2, LLC
c/o: Gerrity Group, LLC
973 Lomas Santa Fe Drive
Solana Beach, California

CLEANUP ACTION PLAN
FORMER LAKE STEVENS CLEANERS
LAKE STEVENS MARKETPLACE SHOPPING CENTER
LAKE STEVENS, WASHINGTON

Site Identification Number: FS 11757
Cleanup Site ID Number: 13076

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LIST OF ACRONYMS AND ABBREVIATIONS

APS	Applied Professional Services, Inc.
bgs	Below Ground Surface
BTOC	Below Top of Casing
COPC	Contaminant of Potential Concern
Cis-1,2DCE	cis-1,2,-Dichloroethene
COC	Contaminant of Concern
CAP	Cleanup Action Plan
CFC-12	dichlorodifluoromethane
CSM	Conceptual Site Model
CUL	Cleanup Level
DCU	Dry Cleaning Unit
DO	Dissolved Oxygen
Ecology	State of Washington Department of Ecology
EDR	Environmental Data Resources
EPA	United States Environmental Protection Agency
ESC	ESC Lab Sciences
ESN	ESN Northwest Environmental Services
Fremont	Fremont Analytical Services, Inc.
FS	Feasibility Study
GPR	Ground Penetrating Radar
HVOCs	Halogenated Volatile Organic Compounds
mg/kg	Milligrams Per Kilogram
ml/min	Milliliters Per Minute
MTCA	Model Toxics Control Act
NAVD88	North American Vertical Datum of 1988
NTU	Nephelometric Turbidity Units
ORP	Oxidation-Reduction Potential
PCE	Tetrachloroethene
PES	PES Environmental, Inc.
PID	Photo-ionization Detector
ppm	Parts Per Million

PQL	Practical Quantitation Limit
SIM	Select Ion Monitoring
RI	Remedial Investigation
TCE	Trichloroethene
TEE	Terrestrial Ecological Evaluation
$\mu g/m^3$	Micrograms Per Cubic Meter
µg/L	Micrograms Per Liter
VC	Vinyl Chloride
VCP	Voluntary Cleanup Program
VOA	Volatile Organic Analysis
VOCs	Volatile Organic Compounds
WAC	Washington Administrative Code

1.0 INTRODUCTION

This Cleanup Action Plan (CAP) has been prepared on behalf of Lake Stevens GRF2, LLC (Gerrity) for the Site located at 303 91st Avenue Northeast, Lake Stevens, Washington (Property; Plate 1).

1.1 Definition of "Site"

For the purpose of this CAP, the word "Site" will refer to an area where contamination released at the Property is located, consistent with the definition of "site" or "facility" in the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA, Chapter 173-340 of the Washington Administrative Code [WAC]). The word "Property" will refer to the area within the property boundary (Plates 2 and 3).

1.2 Purpose

The objective of this CAP is to present a summary of previous environmental investigations and cleanup actions and provide the details of the proposed cleanup action and confirmation monitoring. The CAP is intended to provide sufficient information to determine whether existing conditions at the Site have been adequately characterized and to determine whether the proposed cleanup action will comply with the requirements of a remedy under WAC 173-340-360. This CAP will be submitted to Ecology for review under Ecology's Voluntary Cleanup Program (VCP) with a request for Ecology's opinion that the actions described meet the substantive requirements contained in MTCA and its implementing regulations for characterizing and addressing the contamination at the Site.

1.3 Contact Information

The primary points of contact related to the Site include:

- **Property Owner:** Lake Stevens GRF2, LLC
- **Environmental Consultant:** PES Environmental, Inc.
- **Ecology Site Manager:** Unassigned

1.4 Report Organization

The CAP is organized into 9 sections as follows:

Section 1 – Introduction: Defines the Site, describes the purpose of the CAP, provides contact information, and presents the organization of this report.

Section 2 – Site Background: Provides a summary of the Site location, history and operations, and Site regulatory history.

Section 3 – Environmental Setting: Summarizes the hydrology and geology of the Site and the surrounding region.

Section 4 – Site Investigations and Previous Cleanup Actions: Describes the previous investigations conducted at the Site, the evaluation of remedial alternatives, and the selected interim cleanup actions by the previous owner. This section also describes the additional investigations conducted by the current property owner.

Section 5 – Conceptual Site Model: Provides a summary of the potential sources, transport mechanisms, exposure media and pathways, and receptors of contamination.

Section 6 – Nature and Extent of Contamination: Presents the cleanup levels and describes the nature and extent of soil, groundwater, and vapor contamination.

Section 7 – Description of Selected Remedy: Describes the selected remedy.

Section 8 – Reporting and Schedule: Provides a description of the reports to be produced during the cleanup action and a schedule for implementation and reporting of cleanup action.

Section 9 – References: Lists the sources of information referenced in the document.

2.0 SITE BACKGROUND

This section summarizes the Site location and description and presents the regulatory history of the Site.

2.1 Site Location and Description

The Property is located within a mixed use commercial/retail/residential neighborhood, located in the West Lake Stevens area of the City of Lake Stevens, Snohomish County, Washington. The Property encompasses approximately 9.46 acres in the southwest quarter (SW¼) of the northeast quarter (NE¼) of Section 13 (S13), Township 29 North (T29N), Range 5 East (R5E). The City of Lake Stevens identifies zoning at the Property as "539 Other Retail Trade NEC". The surrounding area is primarily a mix of residential and commercial/retail use. The Property is comprised of Parcels 1 (0.75 acres), Parcel 3 (8.37 acres), and Parcel 5 (0.34 acres).

As shown on Plate 2, the Property includes two areas within the Lake Stevens Marketplace Shopping Center, consisting of retail stores, restaurants, professional businesses surrounded by associated paved parking areas and landscaping. Three commercial structures are present on the Property.

According to the United States Geological Survey (USGS) *Lake Stevens 7.5-minute Series Topographic Map* dated 2014 (photorevised 1968), the site is situated at an elevation of approximately 360 feet above mean sea level. The Property is located on relatively level ground, the general topography of the subject site decreases in elevation from east to west across the Property's parking lot towards 91st Avenue Northeast, and decreases in slightly elevation from south to north of the Property.

2.2 Site Background, History, and Use

The Property was mostly undeveloped with few rural residential properties from the 1940s to the early 1970s. The Property was bisected by 4th Street Northeast until 1993 when the shopping center was constructed. During the 1970s a septic tank service business (Tandem Service Corporation [Tandem]) operated in the northeast corner of the Property in the general vicinity of the northern portion of the north multi-tenant building. Since the construction of the shopping center in 1993, no significant changes have occurred to the buildings at the Property.

Since the shopping center was constructed, uses of the Site include a variety of commercial businesses, including a hardware store, restaurants, an animal hospital, a paint store, financial services, and general retail stores. Gerrity does not plan any substantive changes in the uses of the property. Lake Stevens Cleaners reportedly began operations in Suite #302 when the shopping center opened in 1993 and used chlorinated solvent-based cleaning solutions throughout their operations, ending in 2015 (Plates 3 and 4).

2.3 Regulatory History

The first environmental investigation of the Property was conducted in 2013 by the previous owner of the property, and a report of release was reported to Ecology on November 9, 2015 by Galloway Environmental, Inc. (Galloway, 2015a), the prior owner's environmental consultant.

Three environmental reports were submitted to Ecology with the release report including a *Focused Phase II Environmental Site Assessment* (Galloway, 2014), a *Remedial Investigation/Feasibility Study* (RI/FS; Galloway, 2015b), and an *Environmental Cleanup Report* (Galloway, 2015c). The Site was not entered into Ecology's VCP at that time, and a Request for an Opinion from Ecology was not made. Ecology assigned Facility and Site Identification Number "FS 11757" and Cleanup Site ID Number 13076 to the Site.

3.0 ENVIRONMENTAL SETTING

This section summarizes the regional and local geology and hydrogeological conditions at the Site. Site-specific geological and hydrogeological information is available from subsurface investigations related to the former Lake Stevens Cleaners.

3.1 Physical Setting

The Property is located in the Puget Sound Lowland, a topographic low between the Cascade Range and the Olympic Mountains. Alluvial valleys and plains, and glacially formed or modified hills and ridges dominate the lowland. The Property is in the south-central portion of the Getchell plateau, an uplands located immediately east of the Marysville Trough,

3.2 Climate

Air masses originating over the Pacific Ocean strongly affect the climate of the Puget Sound Lowland, with generally overcast, cool, damp, and mild weather during the autumn, winter, and spring, and relatively warm and dry weather during the summer. The annual precipitation ranges from about 30 to over 60 inches in the lowland. The average annual precipitation in the Lake Stevens area is about 38 inches, with 74 percent of it falling between October and April.

3.3 Regional and Site Geology

3.3.1 Regional Geology

The property lies in the north-central Puget Sound Lowland ("lowland"), as defined by Jones (1999). The Puget Sound Lowland is bordered by the Fraser River and the Canadian border on the north, the Cascade Range to the east, and the Olympic Mountains to the west. It is characterized by thick accumulations of unconsolidated deposits laid on top of Tertiary age (over 2 million years old) and older bedrock. Jones (1999) reports the thickness of the unconsolidated deposits near the property to be approximately 450 feet and the closest fault trace to be the inactive Mount Vernon Fault, located over 3 miles northeast of the property.

Repeated deposition and erosion during a series of continental and alpine glaciations have shaped the topographic features in the lowland (Vaccaro, 1998; Jones, 1999). The property sits in the south-central portion of the Getchell Plateau, which is bordered by the Snohomish and South Fork Stillaguamish River Valleys to the southwest and northeast, respectively, the Marysville Trough on the west, and the Pilchuck River to the southeast. The plateau and adjacent lowlands are thought to have been formed during the last glacial advance of the Puget Lobe of the Cordilleran ice sheet, which advanced from and retreated to British Columbia between approximately 18,000 and 13,000 years ago (Jones, 1999).

Five main types of unconsolidated geologic deposits associated with the advancing and retreating glaciers have been identified and mapped on the Getchell Plateau (Minard, 1985a,b; Jones, 1999). These include alluvium, recessional outwash, glacial till, advance outwash deposits, and transitional beds or interglacial floodplain deposits:

- The youngest deposits within the plateau are alluvium (Qal) which consists primarily of stream-laid stratified silt, sand, and gravel with lesser amount of floodplain fine sand, silt, and clay. The alluvium deposits are locally augmented by colluvium (slope debris) along parts of their boundaries with valley slopes. The distribution of alluvium within the plateau is discontinuous and variable due to the localized nature of the stream courses and recent deposition of the unit;

- Recessional outwash (Qvr), which is locally absent from the property, represents aerially small deposits within the plateau, mostly consisting of well-drained, stratified outwash sand and gravel deposited by melt water from the stagnant and receding glacier;

- Glacial till (Qvt) mantles much of the upland areas of the Getchell Plateau, including the area around the Site. As the glacier advanced over the outwash and underlying materials, it mixed, redeposited, and compacted the overridden materials, producing the concrete-like lodgement till. The till consists of very dense, compact, non-sorted mixtures of clay, silt, sand, pebbles, cobbles and boulders;

- Underlying the till throughout the plateau are advance outwash deposits (Qva). As the ice advanced southward, meltwater at the base of the glacial front transported sediment in braided streams, which built broad outwash plains in front of the glacier. The advance outwash deposits consist primarily of fine to coarse sand and gravel, with localized silt and fine sand lenses; and

- The oldest non-bedrock unit within the area consists of transitional beds (Qtb, also referred to as interglacial floodplain deposits). Transitional beds underlie the advance outwash deposits and were deposited before the last glacial advance. The transitional beds generally consist of thin-bedded clay and silt and fine-grained sand, which were deposited in ponded water and low-energy stream channels away from glacial activity.

3.3.2 Site Geology

The geologic materials encountered during drilling and installation of the borings and monitoring wells at the Property included angular rocks, gravel, sand, silty sand with gravel, silty sand, silt with sand, and silt. Angular rocks were found in three borings (MW-4 through MW-6) between the bottom of the asphalt and a maximum depth of 3.5 feet bgs, while the fine to coarse gravel and sand (encountered in MW-1, MW-2, TW-1, and TW-7) were found between the bottom of the asphalt and a maximum depth of 5 feet bgs. These materials appear to be fill added during site development. Brown to orange-brown silty sand found in the upper 5 feet of most borings is interpreted to be alluvium. The predominant lithology encountered during drilling was dense to very dense, silty sand with varying amount of gravel. The material appears to be consistent with the glacial till mapped in the area. It was encountered in all borings at depth, with the deepest occurrence at the bottom of MW-5 (at 40.5 feet bgs). The brown silt with sand encountered between depths of 6 and 10 feet bgs was also interpreted to be glacial till. Appendix A provides the logs for the monitoring wells and borings drilled at the Property. Plate 5 presents the cross section locations, Plate 6 presents a geologic cross section aligned east-west on the south side of the Ace Hardware Garden Center, and Plate 7 presents the geologic cross section aligned northwest-southeast on the northern and eastern sides of the former dry cleaner suite. As shown

on Plate 6, site utilities were placed in the upper portion of the unit interpreted to be glacial till, indicating that in certain locations at the Property, the till may have been reworked.

3.4 Regional and Site Hydrogeology

3.4.1 Regional Hydrogeology

The principal aquifer beneath the Getchell Plateau is the advance outwash unit. Locally, the alluvium and recessional outwash units function as aquifers. The primary aquitards (effective barriers to vertical groundwater movement) beneath the plateau include the glacial till and transitional beds units. The advance outwash aquifer, which is confined over much of its extent by the glacial till aquitard, is up to approximately 170 feet thick, with an average of thickness of 70 feet (Kirtland, 2006). The average hydraulic conductivity for the advance outwash aquifer is 80 feet/day, with a median depth to water of 53 feet below ground surface (bgs; Kirtland, 2006). Depth to water in the advance outwash aquifer near the Site is over 120 feet (Kirtland, 2006; Krazen & Associates, 2003), with groundwater perched seasonally in the upper 10 feet of the glacial till. Topography largely determines the groundwater flow within the advance outwash aquifer. Kirtland (2006) provides generalized groundwater contours indicating groundwater flow in the regional advance outwash aquifer approximately to the south near the Site.

Although limited groundwater resources have been documented in both the alluvium and recessional outwash aquifers, neither is used for widespread production. Groundwater wells within the alluvium aquifer are generally shallow (less than 30 feet deep) and are prone to seasonal drying. Groundwater within the recessional outwash generally exists as discontinuous perched aquifers, which limits widespread use (Kirtland, 2006).

Six water wells are located within a 1-mile search radius of the Site per the Environmental Data Resources (EDR) report (PES, 2016a). None of the wells are identified as public drinking supply wells, and none of the wells are located within or adjacent to the Property. One well was located less than 0.25 miles southwest of the Property. The well was reported with a depth of 66 feet bgs, and a 1992 water level measurement of 59 feet bgs. The EDR Report map is included in Appendix B.

A search of the Ecology well log database for water wells did not identify any drinking water wells within a one-mile radius of the Property.

The Ecology well log database for the portions of the T29N R5E S13 that includes the Property contains resource protection logs associated with wells located on the Property, and soil boring and vapor sampling logs associated with the Site. No other significant information regarding onsite or nearby wells was identified, and no specific information regarding groundwater quality, flow direction or velocity was available in the Ecology well database.

3.4.2 Site Hydrogeology

The construction details for wells installed on the Site are summarized in Table 1 and presented on Plates 6 and 7. Shallow groundwater is located at depths ranging from approximately 2 to 10 feet (Table 2). Groundwater monitoring data indicates that shallow (perched) groundwater has generally been documented to flow to the northwest, with some measurements suggesting a

potentially northerly or even northeasterly flow direction in the vicinity of the former dry cleaners. A recent groundwater contour map indicates a northwestern flow direction (Plate 8).

4.0 SITE INVESTIGATIONS AND PREVIOUS CLEANUP ACTIONS

This section provides a summary of environmental investigations and cleanup actions conducted at the Site.

4.1 Previous Investigation and Cleanup Activities

4.1.1 Remedial Investigation Activities

The first environmental investigation of the Lake Stevens Cleaners operation occurred in October 2013, with the installation of four shallow soil borings and the collection of soil and soil vapor samples (ADR, 2013). The four borings (B-1 to B-4) were advanced within and adjacent to the dry cleaners suite. Borings were located next to the dry cleaning unit (DCU), near the boiler room drain, in the location of a former DCU, and outside the back door. The borings were drilled by ESN Northwest Environmental Services (ESN) using a direct push drill rig. Discrete soil samples were collected at a depth of 4 feet bgs with a "large bore" sampler containing an acrylic tubing liner. The soil samples were collected using 40-ml TerraCore samplers. The soil vapor samples were collected from temporary 5-foot deep soil vapor probes constructed with a 1-inch long soil vapor sampling probe attached to ¼-inch outside diameter polyethylene tubing installed near the bottom of each soil borehole. A sand pack extended 6-inches above and below the probe tip and the borehole was sealed with hydrated granular bentonite. The probes were allowed to equilibrate for at least 2 hours prior to sample collection. One-liter of air was purged from each probe prior to sample collection using a 1-liter Tedlar bag attached to a vacuum sampling box. The samples were collected in 1-liter Tedlar bags.

The soil and vapor samples were submitted to OnSite Environmental, Inc. (OnSite) for analysis of halogenated volatile organic compounds (HVOCs) by United States Environmental Protection Agency (EPA) Method 8260. Tetrachloroethene (PCE) was detected above the applicable MTCA Method A cleanup level (CUL) in the soil samples collected from B-1, B-2, and B-4 and in soil vapor above the applicable screening level in the vapor sample collected from B-3.

Subsequent investigations were conducted by Galloway in 2014 and 2015, which included installing four direct-push borings (P-1 to P-4) and collecting soil and water samples in October 2014 (Galloway, 2014) and the installation of four shallow groundwater monitoring wells (MW-1 to MW-4) and the collection of soil and water samples in January 2015 (Galloway, 2015b). Soil borings P-1 to P-4 were advanced by Cascade Drilling Co. (Cascade) using a truck-mounted direct push drill rig. Two 20-foot borings (P-1 and P-2) were drilled west and north of the dry cleaning suite, one 10-foot boring (P-3) was drilled in the parking area east of the dry cleaning suite, and one 12-foot boring (P-4) was drilled in the asphalt area south of the adjoining Rite Aid, south of the dry cleaning suite. Continuous soil samples were collected using 1 ½-inch diameter, 5-foot long samplers.

Monitoring wells MW-1 through MW-4 were installed by Cascade using a hollow stem auger drill rig. Continuous soil samples were collected from the ground surface to the maximum depths ranging from 13 to 15 feet bgs. The wells were constructed from two-inch diameter 0.010-inch slotted schedule 40 PVC screen with 2-inch diameter solid PVC risers. The well construction details are provided in Appendix A. Galloway developed and sampled the wells

using dedicated, disposable PVC bailers. Three to five well casing volumes of water were purged from each well as part of well development, and field parameters were monitored and recorded.

The soil samples were collected following EPA Method 5035A guidelines. The soil and water samples were submitted to OnSite for analysis of HVOCs using EPA Method 8260. The soil, groundwater, and soil vapor analytical results are summarized in Tables 3, 4, and 5, respectively, and the sampling locations are shown on Plate 5. The laboratory analytical reports were provided to Ecology with the original report submittals. The primary findings were as follows:

- The PCE concentration in soil vapor collected behind the dry cleaners suite was 30,000 µg/m^3, exceeding the then current screening level of 4,200 µg/m^3;
- Soil with PCE concentrations of up to 0.140 mg/kg were found in soil beneath the then existing DCU along the southern side of the tenant suite, above the MTCA Method A CUL of 0.050 milligrams per kilogram (mg/kg);
- Samples collected from the landscape area behind the tenant suite contained concentrations of PCE in both soil and groundwater above their respective CULs. PCE in soil was found at 0.065 mg/kg, and groundwater from a temporary well contained PCE at 31 micrograms per liter (µg/L), above the MTCA Method A CUL of 5 µg/L; and
- A sample of shallow groundwater collected from a monitoring well located north of the tenant suite (MW-2) contained PCE at concentrations of 450 µg/L.

Galloway concluded that the PCE had entered the subsurface at two locations: beneath the DCU and in the landscaped area out the back door of the tenant suite.

The following constituents were also detected in soil, groundwater, and vapor samples collected during these investigations:

- Trichloroethene (TCE) was detected in the water sample collected from P-3 at a concentration of 0.78 µg/L, significantly below the MTCA Method A CUL of 5 µg/L;
- TCE was detected in the soil samples collected from B-3 and B-4 at concentrations up to 0.0078 mg/kg, significantly below the CUL of 0.03 mg/kg;
- Cis-1,2-dichloroethene (Cis-1,2-DCE) was detected in the soil sample collected from B-3 at a concentration of 0.011 mg/kg, significantly below the CUL of 160 mg/kg;
- Chloroform was detected in the water sample collected from P3 at a concentration of 1.5 µg/L, significantly below the MTCA Method B CUL of 80 µg/L;
- Dichlorodifluoromethane (CFC-12 or Freon 12) was detected in the water samples collected from MW-3, MW-4, and P3 at concentrations up to 3.5 µg/L, significantly below the MTCA Method B CUL of 1,600 µg/L; and
- Dichlorodifluoromethane (CFC-12 or Freon 12) was detected in the soil sample collected from MW-3 at a concentration of 0.0035 mg/kg, significantly below the MTCA Method B CUL of 16,600 mg/kg.

Galloway presented the results and evaluated remedial actions in the RI/FS report.

4.1.2 Previous Cleanup Actions

The RI/FS presented the remedial action objectives to: (1) remove the impacted soil from the "source areas(s)" to minimize the potential for the continued migration of the contaminants of concern (COCs); and (2) to treat and/or monitor contaminants levels in groundwater in the vicinity of the Site to ensure that contaminant concentrations meet the MTCA Method A cleanup levels at the Points of Compliance (throughout the Site). Remedial action options and applicable technologies were presented in the RI/FS. The following four remedial alternatives were evaluated in the RI/FS:

- Alternative 1 – No action;
- Alternative 2 – Soil excavation with off-site disposal and groundwater monitoring;
- Alternative 3 – Soil excavation with off-site disposal, *in situ* biotreatment, and groundwater monitoring; and
- Alternative 4 – Soil excavation with off-site disposal, *in situ* biotreatment, air sparging, vapor extraction, and groundwater monitoring.

The four alternatives were evaluated based on the following criteria:

- Technical feasibility;
- Protection of human health and the environment;
- Long-term effectiveness;
- Permanent toxicity and mobility reduction;
- Compliance with regulatory requirements; and
- Cost.

A summary of the evaluation was presented in Table 7-1 of the RI/FS and is included in Appendix B. The selected remedy was soil excavation and disposal, *in situ* biotreatment, and groundwater monitoring (Alternative 3).

Galloway initiated cleanup actions during March and April 2015, which are documented in the *Environmental Cleanup Report* (Galloway, 2015c). These actions included:

- Excavation and disposal of approximately 43 tons of PCE-impacted soil from the landscaped area behind the tenant suite. Confirmation soil samples collected at the limits of the excavation were either non-detect or contained below-CUL concentrations of PCE and TCE (Plate 4);
- Excavation and disposal of approximately 20 tons of PCE-impacted soil from inside the tenant suite beneath the former DCU. Confirmation soil samples collected at the limits of the excavation were either non-detect or contained below-CUL concentrations of PCE and TCE; and
- *In situ* treatment beneath the floor of the former dry cleaners suite. A total of 10 pounds of "CL-Out" (a freeze-dried microbial culture) and chemical oxidation products (potassium permanganate) were injected into temporary borings.

The soil excavation confirmation sampling locations are presented in Appendix B and the results are summarized in Table 3 and on Plate 4. After these cleanup actions were conducted,

Galloway collected an additional round of groundwater samples from the four shallow monitoring wells and also collected confirmation soil vapor samples from within the backfilled excavation area beneath the slab inside the tenant suite. PCE was detected in monitoring well MW-2 at 110 µg/L, above the CUL. PCE was not detected in the two soil vapor samples (LS-VI1 and LS-VI2) above the method reporting limit of 1,000 µg per cubic meter (µg/m^3), although the detection limit was above the current screening level of 321 µg/m^3. Although not discussed in Galloway's report, lab data for the same two soil vapor samples also had concentrations of CFC-12 at 50,000 µg/m^3 and 32,000 µg/m^3, respectively. The soil vapor screening level for dichlorodifluoromethane is 1,520 µg/m^3. The post-cleanup groundwater and soil vapor results are summarized in the *Environmental Cleanup Report* (Galloway, 2015c) and presented in Tables 4 and 5, respectively.

Galloway conducted additional rounds of groundwater monitoring of wells MW-1 through MW-4 in July and October 2015 and in January and April of 2016 (Galloway, 2015d, 2015e, 2016a, and 2016b). PCE was detected only in well MW-2 during these monitoring events, at concentrations of 320 µg/L, 370 µg/L, 100, and 71 µg/L, respectively. CFC-12 continued to be detected in MW-3 and MW-4 at concentrations up to 3.7µg/L, below the CUL. The PCE results are summarized in Table 4.

Summary and Conclusions

The soil, groundwater PCE concentrations, and soil vapor analytical results are summarized in Tables 3, 4, and 5, respectively. Galloway concluded the following (Galloway, 2015c):

- The results of the soil sampling at the limits of the removal excavations, and soil sampling in the groundwater monitoring well borings, indicated that the HVOC impacts to soil had been adequately removed to comply with MTCA Method A CULs for unrestricted land use;
- The results of the groundwater sampling confirmed that HVOC concentrations in groundwater collected from one of the wells exceeded the then allowable MTCA CUL in one well (MW-2). This well is situated directly downgradient of the landscaped area north of the facility – the HVOCs were not detected in water collected from the remaining three wells; and
- The results of the air gas sampling beneath the floor of the suite confirmed that the HVOC impacts to the subfloor had been adequately removed in compliance with Ecology's Vapor Intrusion Guidance Screening Levels.

Galloway re-evaluated the following pathways following the cleanup actions:

- Product to groundwater and surface water;
- Soil to groundwater;
- Soil particulate to air;
- Soil direct contact; and
- Terrestrial ecological evaluation.

Based on their evaluation, only the soil to groundwater pathway was considered a concern, and continued monitoring was to be performed to track the contaminant concentrations in the wells. Galloway concluded that the remedial investigations and actions were sufficient to protect human health and the environment provided that continued groundwater monitoring confirms HVOC concentrations meet the CULs in all of the wells for at least four consecutive quarters of monitoring (Galloway, 2015c).

4.2 Current Remedial Investigation Activities

Prior to and after Gerrity acquired the Property in June 2016, PES conducted additional site characterization activities that were conducted based on a review of the previous investigation and cleanup actions (summarized in Section 4.1). These additional investigation activities were conducted to evaluate the extent of the shallow groundwater contamination, confirm the groundwater flow direction, evaluate subsurface utilities as potential preferential pathways, evaluate vapor intrusion, and to evaluate deeper groundwater conditions. The results are summarized in Tables 1 through 8 and the sampling locations are presented on Plate 5.

PES conducted a data quality review of the investigation chemistry data consistent with EPA data review guidelines (EPA, 2008). Data completeness, holding times, laboratory instrument calibrations, surrogate recoveries, matrix spike and matrix spike duplicates, laboratory control samples, quantitation limits, method blanks, and trip blanks were reviewed. PES assigned the following data qualifiers, as needed:

- J qualifier: result is an estimate based on laboratory quality control results.

No data were rejected based on the data validation review, and PES judged all of the data acceptable for use. The laboratory analytical reports and data validation memoranda are included in Appendix C and the groundwater field sampling data sheets are included in Appendix D.

4.2.1 Limited Phase II Investigation – March 2016

Prior to Gerrity's acquisition of the Property, PES conducted a limited Phase II investigation (PES, 2016b) on March 17 and 18, 2016 to evaluate conditions within the former dry cleaners suite. As part of the investigation, indoor air, sub-slab soil gas, and soil samples were collected inside the former dry cleaning tenant space to further evaluate vapor intrusion risks. In addition, soil and groundwater samples were collected from exterior locations northeast of the former dry cleaners suite (TW-1 and TW-2) to evaluate groundwater and soil conditions in the area potentially downgradient of the former dry cleaners operation. Finally, subsurface utilities associated with the former dry cleaning tenant space were evaluated to assess the potential for the sanitary sewer to be a release mechanism or preferential contaminant migration pathway for residual chlorinated solvents in the subsurface.

4.2.1.1 Field Procedures

Indoor Air Sampling. PES collected one indoor air sample (IA-031716) from within the former dry cleaners suite and one ambient outdoor air sample (OA-031716) on the northeast corner of the roof of the former dry cleaners building, located upwind of the suite. Sampling procedures

and methods were performed consistent with Ecology's *"Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action"* (Ecology's VI Guidance, October 2009). The samples were collected in 6-liter summa canisters over an 8-hour time period on March 17, 2016. The air samples were submitted to ESC Lab Sciences (ESC), of Mt Juliet, Tennessee, a Washington State accredited analytical laboratory, for analysis of VOCs using EPA Method TO-15 with selective ion monitoring (TO-15-SIM).

Sub-Slab Soil Gas Sampling. Three soil gas samples (SV-1, SV-2, and SV-3) were collected on March 18, 2016, at locations shown on the attached Plate 4. A small hole was drilled through the concrete slab using a rotohammer drill bit and Teflon tubing was installed through the hole into the soil beneath the slab. The annular space between the sample tubing and concrete was filled with sand, dry bentonite, and sealed at the top with hydrated bentonite. Upon sealing of the surface entry points, the sampling train was connected. A shut-in test was performed to check the sampling train for leaks, and a helium leak test was performed to check for surface air infiltration below the slab. Air was purged from the sampling train prior to sample collection. The sub-slab samples (SV1-031816, SV2-031816, and SV3-031816) were collected in 6-Liter summa canisters with flow regulators set to fill at a rate of 200 milliliters per minute (ml/min). The soil gas samples were submitted to ESC for analysis of VOCs using EPA Method TO-15-SIM.

Utility Location. On March 17, 2016, under subcontract to PES, Applied Professional Services, Inc. (APS), of North Bend, Washington, located the subsurface utilities around the planned drilling locations. APS used radio frequency and Ground Penetrating Radar (GPR) locating equipment to locate conductible utilities in the suite and north and west of the building around the planned drilling locations. On March 18, 2016, APS used a video camera to locate and document the integrity of the sanitary sewer pipeline within the former dry cleaners suite and west to the parking lot.

Soil Borings and Temporary Well Installations. Soil borings TW-1 and TW-2 were installed with a limited access direct-push drill rig northeast of the former dry cleaners building on March 17, 2016; soil borings SV-1 through SV-3 were installed with a hand-auger within the former dry cleaners suite on March 18, 2016. The direct-push borings were installed by ESN. The boring locations are shown on Plates 4 and 5.

The hand-auger borings SV-1 through SV-3 first required concrete coring through the 6-inch thick floor slab within the suite, and the direct-push borings were installed within a grassy/vegetated area. Soil samples from the full bore depth of TW-1 and TW-2 were collected during drilling using 4-foot-long core barrels lined with new acetate sleeves. In all locations, the borings were advanced to the maximum depth possible (6 to 9 feet deep for TW-1 and TW-2 and 2 to 2.5 feet for SV-1 through SV-3). PES observed the soil samples for lithologic characterization and field-screened the soil cores for VOCs with a photo-ionization detector (PID). One sample was collected from each boring for analysis of VOCs using EPA Method 8260. Soil samples were collected using syringe samplers, consistent with the EPA Method 5035 protocols, and placed in laboratory-provided bottles preserved with methanol or sodium bisulfate. Additional sample volume was collected in unpreserved glass soil sample jars for analysis of soil moisture content. Sample bottles were sealed, labeled, and placed in coolers on ice and shipped under chain-of-custody seal to ESC.

Temporary wells were installed in TW-1 and TW-2. TW-1 was constructed with nominal ¾-inch-diameter, flush-threaded Schedule 40 PVC and a 5-foot-long well screen (from 4 to 9 feet bgs) and TW-2 was constructed with a ¾-inch-diameter pre-pack well screen (from 1 to 6 feet bgs). The temporary well construction details are summarized in Table 1. The annular space around TW-1's well screen was backfilled with sand. The temporary wells were allowed to stabilize for a minimum of one hour prior to purging and sampling. Approximately three pore volumes of water was purged from TW-1 and a sample was collected using low-flow sampling methods (TW-1-W). A peristaltic pump was used to purge and sample the water at a rate less than 100 millimeters per minute (ml/min). Minimal purging was possible in TW-2, due to the very low re-charge rate, and the sample was effectively a grab sample (TW-2-W). New disposable polyethylene tubing (silicon tubing at the pump head) was used, with the sample intakes located at approximately 8 and 6 feet bgs in TW-1 and TW-2, respectively. PES monitored field parameters (pH, temperature, specific conductance, dissolved oxygen [DO], and oxidation-reduction potential [ORP]) during well purging in TW-1.

Groundwater samples were collected from the discharge end of the peristaltic pump tubing. The same pump rate used at the end of well purging was used during sample collection. The volatile organic analysis (VOA) vials were filled by allowing the sample water to pour down the inside of the sample bottles without splashing directly onto the base. All sample containers were prepared and provided by the project laboratory. Following water sample collection, the sample containers were labeled for identification and immediately placed in insulated coolers containing ice. The coolers containing the samples were then delivered under chain-of-custody protocol to the laboratory.

After the temporary well was sampled, the borings were abandoned by filling the boring with bentonite as the PVC was extracted, consistent with Chapter 173-160 WAC. The top of the abandoned borings within the former dry cleaners suite were completed with concrete. The groundwater samples were submitted to the laboratory for analysis of VOCs by EPA Method 8260.

The boring logs are included in Appendix A.

4.2.1.2 Results

Sanitary Sewer. The sanitary sewer line was scoped beginning at a cleanout located in the former boiler room in the southeastern portion of the dry cleaners suite, as shown on the attached Plate 4. The sanitary line runs north/south and is constructed of 3-inch diameter ABS piping. The sanitary line connects into 6-inch diameter piping within the bathroom, where it makes several turns before running west until it leaves the front of the suite. In the parking lot, it continues for several feet and bends northwest, changing material to polyvinyl chloride (PVC). A floor drain west of the bathroom near one of the former dry cleaning unit runs east and tees into the previously described 3-inch diameter sanitary line in the bathroom. The depth of the line within the back portion of the suite is approximately 2.5 to 3 feet bgs. The line slopes down to approximately 5 feet 7 inches toward the front of the suite and slopes to approximately 6 feet within the parking lot in front of the suite. A section of the pipe dips down (a belly) west of the bathroom. No obvious breaks or joint failures were observed with the video inspection.

A review of Galloway's water elevations in monitoring well MW-1, located immediately west of the former dry cleaners suite indicate depth to water ranges from 6.5 to 10.3 feet below the top of the well casing. This indicates that the sanitary sewer line and backfill within the suite likely does not intersect with the shallow perched water table until under the parking lot, northwest of the suite.

Sub-Slab and Indoor Air. The sub-slab soil gas sample results are summarized in Table 5. A total of eight VOCs (benzene, carbon tetrachloride, chloroform, 1,4-dichlorobenzene, cis-1,2-DCE, ethylbenzene, PCE, and TCE) were detected in the sub-slab soil gas samples, generally at low levels. PCE was detected at elevated concentrations up to 1,170 $\mu g/m^3$. The concentrations were above Ecology's Method B sub-slab screening levels in samples SV-2 and SV-3.

The results of the indoor and ambient air sampling are summarized in Table 6. A total of five VOCs were detected in the indoor air sample, four of which (benzene, carbon tetrachloride, chloromethane, and toluene) were detected at similar concentrations in the ambient (background) sample. The other VOC (PCE) was not detected in the ambient air sample. As indicated in Table 6, all of these VOC compounds are well below their associated indoor air CULs.

Lithology and Hydrogeology Results. The soil types observed during drilling to the maximum drilled depth of 9 feet bgs consisted of gravel, silty sand, silt with sand, sand, and sand with gravel. TW-1 and TW-2 were terminated when refusal was met (9 and 6 feet bgs, respectively). Wet soil was observed at depths of 3 and 5.5 feet bgs in TW-1 and TW-2, respectively, and perched on a very dense silty sand unit. Of note, the ground surface of TW-1 is at a lower elevation than TW-2. Very little water accumulated in the temporary well installed in TW-2 after being allowed to sit for two hours. Depth to water measurements in TW-1 and TW-2 at the time of purging and sampling were 3.05 and 4.2 feet bgs, respectively.

Field Screening Results. Field PID measurements of the retrieved soil samples were typically less than 20 parts per million (ppm). Field PID measurements and observations are included on the attached boring logs.

Soil Matrix Results. Table 3 and Plates 4 and 5 summarize the soil analytical results. PCE was the only VOC detected and was detected at concentrations up to 0.00573 mg/kg in the three interior shallow soil samples (SV1-1.5, SV2-1, and SV3-1.5). These concentrations are significantly below the MTCA Method A CUL of 0.05 mg/kg. VOCs were not detected in the two exterior boring soil samples (TW-1-8 and TW-2-6).

Groundwater Results. Field parameters are summarized in Table 7 and Tables 4 and 8 summarize the PCE and other VOC water analytical results, respectively. VOCs were not detected in the two groundwater samples collected from temporary wells TW-1 and TW-2.

4.2.1.3 Conclusions

Based on the results of this investigation, PES concluded the following (PES, 2016b):

- PCE was detected in all three of the sub-slab soil gas samples collected from beneath the suite, and in two of the three at concentrations above conservative screening levels; however, as noted below, the PCE in the subslab vapors did not result in an exceedance of the risk-based indoor air CUL. PCE was also detected in shallow soil samples collected from beneath the slab at concentrations well below its risk-based CUL;

- The measured concentration of PCE in indoor air was well below its risk-based CUL; PCE was not detected in the ambient (outdoor) air sample. Other VOCs detected in indoor air were at concentrations similar to those found in the ambient air sample and below their respective risk-based CULs;

- No VOCs were detected in either of the water or soil samples collected at the two locations along the eastern property boundary, indicating that the shallow perched groundwater contamination does not appear to extend to the northeast; and

- The sanitary sewer beneath the former dry cleaning suite appeared to be constructed of solvent-welded ABS pipe. The video survey did not identify any obvious issues with the integrity of the sanitary sewer pipe. The pipe appears to be at a depth that would indicate that the pipe trench is not a preferential migration pathway.

4.2.2 Limited Phase II Investigation – July 2016

Subsequent to Gerrity's acquisition of the Property, PES evaluated vapor intrusion within the suite north of the former dry cleaners suite (occupied by Boeing Employee Credit Union [BECU]) by collecting one indoor air sample and one ambient outdoor air sample. PES evaluated the possibility of preferential migration pathways and the possibility of the sanitary sewer as a release mechanism by surveying the depth and orientation of utilities downgradient of the former dry cleaners suite using push-rod transmitters and video camera inspections. Additionally, PES advanced five soil borings (TW-3 through TW-7) and installed four temporary wells (TW-4 through TW-7), collecting three groundwater samples and five soil samples (one from each boring location).

Following evaluation of the utility survey and temporary well data, PES installed one deep monitoring well (MW-5) and two shallow monitoring wells (MW-6 and MW-7) and collected three soil samples. PES monitored the new wells concurrent with four existing wells, collecting seven groundwater samples and measuring water levels. The purpose of this well installation and sampling was to evaluate groundwater downgradient of MW-2, to evaluate the effectiveness of till at the Site as an aquitard, and to evaluate shallow groundwater immediately behind the former dry cleaners suite (PES, 2016c). The investigation locations are shown on Plate 5.

4.2.2.1 Field Procedures

Indoor Air Sampling. PES collected one indoor air sample (Indoor-070716) from within the adjacent suite north of the former dry cleaners suite and one ambient outdoor air sample (Ambient-070716) on the northeast corner of the roof of the former cleaners building, upwind of the suite's heating, ventilating, and air conditioning system. Sampling procedures and methods were performed consistent with Ecology's guidance (Ecology, 2009). The samples were collected over an 8-hour time period on July 7, 2016. The air samples were submitted to Fremont Analytical (Fremont), of Seattle, Washington, a Washington State accredited analytical laboratory, for analysis of VOCs using EPA Method TO-15-SIM.

Utility Location. On July 1, 2016, APS located subsurface utilities around the former dry cleaners suite and planned drilling locations. APS conducted a radio-frequency locate for private utilities, identified the utility alignments with GPR, and performed sewer insert locates and inspections of the sanitary sewer and storm sewer lines; public utilities were marked by one-call services.

On July 1, 2016, PES subcontracted Lanktree Land Surveying, Inc. (Lanktree), of Auburn, Washington surveyed utility lines, vault alignments and rim/invert elevations, existing monitoring well locations and elevations, and surface elevations in the surrounding parking and driveways. The features were surveyed relative to the Washington State Plane System North Zone (NAD 83) for the horizontal locations and the North American Vertical Datum of 1988 (NAVD 88) for vertical locations.

Groundwater. Groundwater depths were measured on July 1, 2016 in monitoring wells MW-1, MW-2, MW-3, and MW-4. PES used an electronic water level probe to measure the depth to water from the top of the PVC well casing. Groundwater depths were measured in several rounds at approximately 30-minute intervals until depth measurements stabilized within 0.02 feet. The probe was decontaminated with a distilled water rinse between wells.

Groundwater depths were also measured, using the same procedures, on July 26, 2016 following the installation of MW-5, MW-6, and MW-7. PES measured groundwater depths in monitoring wells MW-1 through MW-7.

Soil Borings and Temporary Well Installations. Soil borings TW-3, TW-3a, TW-4, TW-5, TW-6, and TW-7 were installed with a truck-mounted direct-push drill rig north of the former cleaners building on July 7, 2016. The direct-push borings were installed by PES's subcontractor ESN. Refusal was reached in TW-3 because a rock was encountered; TW-3a was advanced approximately one foot from TW-3. The boring locations are shown on Plate 5.

The soil borings were cleared for utilities by ESN using an air-knife and vacuum combination to depths between 2 and 5.5 feet bgs. Soil samples were collected using a hand-auger at 3 feet bgs. Soil samples below the utility-cleared depth were collected during drilling using 5-foot-long core barrels lined with new acetate sleeves. In all locations, the borings were advanced to the maximum depth possible (10 to 15 feet bgs). PES observed the soil samples for lithologic characterization and field-screened the soil cores for VOCs with a PID. One sample was collected from each boring for analysis of VOCs using EPA Method 8260. Soil samples were

collected using syringe samplers, consistent with EPA Method 5035 protocols, and placed in laboratory-provided bottles preserved with methanol. Additional sample volume was collected in unpreserved glass soil sample jars for analysis of soil moisture content. Sample bottles were sealed, labeled, and placed in coolers on ice for transport under chain-of-custody protocol to Fremont.

Temporary wells were installed in borings TW-3a, TW-5, TW-6, and TW-7. Drill rig tooling became stuck in boring TW-4 during installation of the temporary well screen. Upon removal of the tooling, the boring collapsed, preventing groundwater sampling at that location. The temporary wells were constructed with nominal ¾-inch-diameter, flush-threaded Schedule 40 PVC and a 5-foot-long well screen with 0.020-inch wide slots installed in the bottom 5 feet of each boring. The annular space around the temporary well screens was backfilled with sand. Due to the low infiltration of water into the wells, the temporary wells were allowed to accumulate water for a minimum of 12 hours prior to purging and sampling. Temporary well TW-7, located immediately behind the former dry cleaners suite in the exterior excavation, did not accumulate any water overnight, and could not be sampled. In the remaining three wells, a peristaltic pump was used to purge and sample the water at a rate less than 100 ml/min. Minimal purging was possible due to the very low re-charge rate, and the samples were effectively grab samples. New disposable polyethylene tubing (silicon tubing at the pump head) was used, with the sample intakes located at between 10 and 14 feet bgs.

Groundwater samples were collected from the discharge end of the peristaltic pump tubing. The same pumping rate used at the end of well purging was used during sample collection. The VOA vials were filled by allowing the sample water to pour down the inside of the sample bottles without splashing directly onto the base. All sample containers were prepared and provided by the laboratory. Following water sample collection, the sample containers were labeled for identification and immediately placed in insulated coolers containing ice. Sample bottles were sealed, labeled, and placed in coolers on ice for transport under chain-of-custody protocol to Fremont. The groundwater samples were submitted to the laboratory for analysis of VOCs by EPA Method 8260.

After the temporary well was sampled, the borings were abandoned by removing the casing and filling the boring with bentonite (hydrated with potable water above the water level in the boring), consistent with Chapter 173-160 WAC. The top of the abandoned borings were completed with concrete.

The boring logs are provided in Appendix A, and the temporary well completion details are summarized in Table 1.

Deep Well Installation. Monitoring well MW-5 was installed with a truck-mounted hollow stem-auger drill rig north of the former cleaners building on July 20, 2016. The well was installed by PES's subcontractor Cascade Drilling, L.P. (Cascade). The well location is shown on Plate 3.

The soil boring was cleared for utilities by Cascade using an air-knife and vacuum combination to a depth of 5 feet bgs. Given the proximity of monitoring well MW-5 to shallow well MW-2 where elevated concentrations of PCE had been detected, a step-casing technique was used

during drilling of the deeper monitoring well boring to reduce the potential for the shallow PCE contamination to be dragged down into the depth range of the deeper well screen. Nominal 10-inch inner diameter (i.d.) hollow-stem augers were used to advance the boring to 25 feet bgs. Because no water was observed in the boring and the sampled soil did not appear wet, the 10-inch i.d. augers were left from 0 to 25 feet bgs, and 4-inch i.d. hollow-stem augers were used to drill to 40 feet bgs.

Soil samples were collected using a hand-auger at 3 feet bgs, during clearing. Soil samples below the utility-cleared depth were collected at 2.5-foot intervals during drilling using 3-inch-diameter split-spoon samplers, which were decontaminated between samples. PES observed the soil samples for lithologic characterization and field-screened the soil cores for VOCs with a PID. One sample was collected from the boring for analysis of VOCs using EPA Method 8260. The soil sample was collected using a syringe sampler consistent with the EPA Method 5035 protocols and placed in laboratory-provided bottles preserved with methanol. Additional sample volume was collected in unpreserved glass soil sample jars for analysis of soil moisture content. Sample bottles were sealed, labeled, and placed in coolers on ice and transported under chain-of-custody protocol to Fremont.

Monitoring well MW-5 was screened between 30 and 40 feet bgs. The well was constructed of nominal 2-inch-diameter, flush-threaded Schedule 40 PVC and well screens with 0.010-inch wide slots. The annular space around the well screen was backfilled with Cemex 10x20 Silica Sand as the augers were removed from the boring. The annular space above the filter pack was filled with bentonite chips (hydrated with potable water above the water level in the boring) as the augers were removed from the boring. A steel monument was installed on top of the well. The monument was secured in place by a concrete collar poured slightly raised from the ground surface to prevent stormwater infiltration into the monument. An expansion cap with rubber-gasket was placed in the top opening of the PVC casing to prevent surface water leakage into the casing.

The deep well log is provided in Appendix A, and the well completion details are summarized in Table 1.

Shallow Well Installation. Monitoring wells MW-6 and MW-7 were installed with a truck-mounted hollow stem-auger drill rig north of the former cleaners building on July 21, 2016. The wells were installed by PES's subcontractor Cascade. The well locations are shown on Plate 3.

The soil borings were cleared for utilities by Cascade using an air-knife and vacuum combination to between 3 and 5 feet bgs. Monitoring wells MW-6 and MW-7 were advanced to 15 feet bgs. Soil samples were collected using a hand-auger at 3 feet bgs during clearing. Soil samples below the utility-cleared depth were collected at 2.5-foot intervals using split-spoon samplers during drilling. The samplers were decontaminated between samples. PES observed the soil samples for lithologic characterization and field-screened the soil cores for VOCs with a PID. One sample was collected from each boring for analysis of VOCs using EPA Method 8260. Soil samples were collected using syringe samplers, consistent with the EPA Method 5035 protocols, and placed in laboratory-provided bottles preserved with methanol. Additional sample volume was collected in unpreserved glass soil sample jars for analysis of soil moisture content. Sample

bottles were sealed, labeled, and placed in coolers on ice for transport under chain-of-custody protocol to Fremont.

Wells MW-6 and MW-7 were screened between 5 and 15 feet bgs. The wells were constructed of nominal 2-inch-diameter, flush-threaded Schedule 40 PVC and well screens with 0.010-inch wide slots. The annular space around the well screens was backfilled with Cemex 10x20 Silica Sand as the augers were removed from the borings. The annular space above the filter pack was filled with bentonite chips (hydrated with potable water above the water level in the boring) as the augers were removed from the boring. Steel monuments were installed on top of each well. The monuments were secured in place by concrete collars poured slightly raised from the ground surface to prevent stormwater infiltration into the monument. An expansion cap with rubber-gasket was placed in the top opening of the PVC casing to prevent surface water leakage into the casing.

The shallow well logs are also provided in Appendix A, and the well completion details are summarized in Table 1.

Well Development. PES developed wells MW-5, MW-6, and MW-7 on July 25, 2016 to remove solids accumulated within each well and filter pack. To develop the wells, PES used a submersible or peristaltic pump and a stainless steel bailer to alternately surge, bail, and pump the wells. Because of the low recharge rate of the wells, they were developed until they pumped dry. During development, PES removed approximately 7 gallons of water from MW-5, 3 gallons of water from MW-6, and 3 gallons of water from MW-7. PES measured turbidity during well development, with final field turbidity measurements of greater than 1,000 nephelometric turbidity units (NTUs). During sampling, groundwater collected from MW-6 and MW-7 was clear and groundwater collected from MW-5 was slightly turbid.

Groundwater Sampling. PES collected groundwater samples from monitoring wells MW-1 through MW-7 on July 26, 2016. The samples were collected using low-flow sampling methods. A peristaltic pump was used to purge and sample groundwater from each well. New disposable polyethylene tubing (silicon tubing at the pump head) was used, with the sample intake at the midpoint of each well screen. PES monitored pumping rates and field parameters (pH, temperature, specific conductance, DO, and ORP) during well purging. Each well was purged at approximately 50 to 80 ml/min until the field parameters were stable.

Upon completion of purging of each well, a groundwater sample was collected from the discharge end of the peristaltic pump tubing. The same pumping rate used at the end of well purging was used during sample collection. The VOA vials were filled by allowing the sample water to pour down the inside of the sample bottles without splashing directly onto the base. All sample containers were prepared and provided by the laboratory. Following water sample collection, the sample containers were labeled for identification and immediately placed in insulated coolers containing ice. The coolers containing the samples were then delivered under chain-of-custody protocol to Fremont.

Groundwater sampling forms are included in Appendix D.

4.2.2.2 Results

Subsurface Utilities. The utility corridor in the driveway north of MW-2 contains a natural gas pipeline, electric power and telecommunication lines, a sanitary sewer, and a storm drain. These utilities are oriented east-west along the driveway. The natural gas, power, and telecommunication lines are assumed to be buried within the upper 5 feet of the subsurface and would likely not intersect the groundwater table.

The sanitary sewer and storm drain pipelines were inspected using a video camera between manholes and catch basins to track their alignment, measure their depth, and assess their conditions. The storm drain is composed of 24-inch diameter corrugated metal and slopes downward to the east. The interior of the storm drain is located approximately 9 feet bgs near MW-6 and approximately 7 feet bgs near MW-7 (note: ground surface elevation at MW-7 is approximately 2 feet lower in elevation than MW-6). The sanitary sewer line is composed of 8-inch diameter PVC and slopes downward to the west. The interior of the sanitary sewer is located approximately 12 feet bgs near MW-6 and approximately 9 feet bgs near MW-7. The groundwater depths measured on July 26, 2016 were 9.31 feet below the top of the well casing in MW-6 and 7.58 feet below the top of the well casing in MW-7. These groundwater depths are expected to be shallower than the utility trench depths. Both utility lines appeared to be in good condition, and no infiltration of groundwater into the pipes was apparent. Standing water was observed in the eastern portion of the storm drain. It had not rained in the area for several days and the source of the standing water is unclear.

The location and alignment of the storm drain and sanitary sewer lines are shown on Plate 5. A cross section showing groundwater and utility line depths is presented on Plate 6.

Lithology and Hydrogeology Results. The soil types observed during drilling to the maximum drilled depth of 40.5 feet bgs consisted of gravel, silty sand, silty sand with gravel, and silt with sand. Borings TW-3 to TW-7 were terminated when refusal was met (9 to 15 feet bgs). Silty sand was encountered below the ground surface to 5 feet bgs, except in borings TW-4, TW-5, MW-5, MW-6, and TW-7. Borings TW-4, TW-5, MW-5, and MW-6 contained coarse angular rock fill beneath a vacated roadway (4th Street NE), and TW-7 contained pea gravel used as backfill following the exterior excavation described in Section 4.1. Where encountered, these fills were present up to 5 feet bgs. Very dense, till-like silty sand, and silty sand with gravel was generally encountered from 3 to 5 feet bgs to the maximum drilled depth of 40.5 feet bgs.

The stabilized depth to water measured in the deep well (MW-5) was approximately 20 feet below top of casting (btoc). The stabilized depth to water measured in the shallow wells ranged from approximately 4.5 to 9.5 feet btoc (surface elevation varies across the Site). Groundwater flow appeared to be north-northwest, with flow curving toward MW-6 and MW-7.

Groundwater depths and elevations are presented in Table 2.

Field Screening Results. Field PID measurements of the retrieved soil samples were typically less than 20 ppm. PID measurements of soil from 5 to 10 feet bgs were slightly higher (50 to 100 ppm) in MW-5 and MW-6. No unusual odors were noted, and no evidence of non-aqueous

phase liquid or discoloration was observed in the soil samples retrieved during drilling. Field PID measurements and observations are included on the attached boring logs.

Soil Matrix Results. VOCs were only detected above the practical quantitation limits (PQLs) in two of the eight samples submitted for VOC analysis during the investigation. PCE was the only VOC detected and was detected at concentrations of 0.681 mg/kg in the sample collected at 7.5 feet bgs in MW-5 and 0.112 mg/kg in the sample collected at 8 feet bgs in SB-5. These concentrations are above Ecology's MTCA Method A CUL for soil of 0.050 mg/kg. Given the sample from MW-5 was collected below the seasonal high water table and the groundwater PCE concentrations in the adjacent shallow well MW-2, it is likely that the detected concentration is due to the presence of contaminated groundwater. The sample from SB-5 was collected from beneath the area behind the former dry cleaners suite that underwent excavation and removal of soil containing concentrations of PCE above the MTCA Method A CUL. It is likely that the detected concentration in SB-5 is due to the same release that contaminated the nearby soil.

Table 3 and Plate 5 summarize the soil analytical results.

Groundwater Results. VOCs were detected above the PQL in 7 of the 10 samples collected for this investigation. Concentrations of PCE were measured at 128 and 43.5 µg/L in water samples collected from MW-2 and MW-7, respectively. These concentrations are above the MTCA Method A CUL for groundwater of 5 µg/L. PCE was also detected in the water sample collected from MW-6 at a concentration of 1.68 µg/L.

Other VOCs detected included low levels of CFC-12 in the groundwater samples collected from MW-3 and MW-4 (consistent with previous results), chloroform at a concentration of 1.88 µg/L in the groundwater sample collected from MW-5, significantly below the CUL of 80 µg/L, and ethylbenzene and total xylenes at concentrations of 1.36 and 8.76 µg/L, respectively, in the water sample collected from temporary well TW-6, significantly below the MTCA Method A CULs of 70 and 1,000 µg/L, respectively.

Table 7 summarizes groundwater sample field parameters. Table 4 summarizes the PCE groundwater analytical results, and PCE concentrations in groundwater are presented on Plate 8. Additional VOCs detected in the groundwater samples are summarized in Table 8.

Indoor Air. A total of eight VOCs were detected above their PQLs in the indoor air sample from the credit union tenant suite, all of which were detected at similar concentrations in the ambient outdoor (background) sample. Corrected for ambient air concentrations, all of these VOC compounds are below their associated MTCA indoor air CULs.

Table 6 summarizes the results of the indoor and ambient air sampling.

4.2.2.3 Conclusions

Based on the sampling conducted around the former dry cleaners suite in July 2016, the following conclusions were made (PES, 2016c):

- The measured concentration of PCE in indoor air in the suite adjacent to the former cleaner tenant space were well below risk-based CUL, and PCE was detected at similar

concentrations in the indoor and ambient outdoor air samples. Other VOCs detected in indoor air were also found at concentrations similar to those found in the ambient air sample, and corrected concentrations were below their respective risk-based CULs. Vapor intrusion exposure in the building suite immediately downgradient of the former dry cleaners suite does not appear to be a concern.

- PCE was detected at concentrations above the MTCA Method A CUL in soil samples collected from behind the former cleaners suite beneath the previous excavation and north of the building suites. PCE impacts to soil north of the building is likely due to contaminated groundwater at that location. PCE impacts to soil behind the former dry cleaners suite is likely residual contamination associated with the release that prompted removal of impacted soil by Galloway in that area.

- Very dense silty sands encountered below approximately 5 feet bgs to the maximum depth of drilling are consistent with glacial till deposits. PCE was not detected at concentrations above the PQL in the groundwater sample collected from the deep well (MW-5) adjacent to MW-2. It appears that the glacial till effectively limits downward migration of contaminants.

- Groundwater flow direction continues to be to the north-northwest, consistent with previous results.

- PCE was detected above the PQL in groundwater samples collected from three monitoring wells (MW-2, MW-6, and MW-7). PCE was detected at concentrations above the MTCA Method A CUL for groundwater in samples collected from MW-2 and MW-7. PCE concentrations in the groundwater sample collected from MW-2 were greater than the April 2016 sample, but were within the range of previously measured concentrations.

4.2.3 Additional Groundwater Sampling – October 2016

PES conducted a groundwater sampling event on October 18, 2016 (PES, 2016d) and collected groundwater samples from monitoring wells MW-1 through MW-7. PCE was not detected at or above the PQL in the samples collected from MW-1, MW-3, MW-4, MW-5, and MW-6. Concentrations of PCE were measured at 214 and 10.6 µg/L in water samples collected from MW-2 and MW-7, respectively. These concentrations are above the MTCA Method A CUL of 5 µg/L for groundwater. The PCE concentration in MW-2 is within the range of concentrations detected during the quarterly sampling conducted in 2015 and 2016. The PCE concentration in MW-7 is significantly lower than the July 26, 2016 result of 43.5 µg/L (the initial sample from this well). Other VOCs detected include low levels of CFC-12 in MW-3 and methylene chloride in the sample collected from MW-5 at a concentration of 1.34 µg/L, below the MTCA Method A CUL of 5.0 µg/L.

Table 4 summarizes the PCE groundwater analytical results. Plate 8 shows the PCE concentrations as well as the groundwater contours and flow direction. Other VOCs detected in groundwater are summarized in Table 8.

4.2.4 Additional Groundwater Sampling – January 2017

PES conducted a groundwater sampling event on January 19, 2017 (PES, 2017) and collected groundwater samples from monitoring wells MW-1 through MW-7. PCE was not detected at or above the PQL in the samples collected from MW-1, MW-3, MW-4, and MW-5. Concentrations of PCE were measured at 114, 1.44, and 126 µg/L in water samples collected from MW-2, MW-6, and MW-7, respectively. The concentrations in MW-2 and MW-7 are above the MTCA Method A CUL of 5 µg/L for groundwater. The PCE concentration in MW-2 is within the range of concentrations detected during the quarterly sampling conducted in 2015 and 2016, and may be exhibiting a decreasing trend. The PCE concentration in MW-7 is greater than the July and October 2016 results.

Table 4 summarizes the PCE groundwater analytical results. Plate 9 shows the PCE concentrations in groundwater as well as the groundwater contours and flow direction. A graph showing the PCE concentrations in MW-2 versus time is shown on Plate 10. Other VOCs detected in groundwater are summarized in Table 8.

5.0 CONCEPTUAL SITE MODEL

A Conceptual Site Model (CSM) was originally presented in the RI/FS prepared by Galloway. An updated CSM is presented in this section. The CSM identifies potential or suspected sources of hazardous substances, types of contaminants, potentially contaminated media, and actual or potential exposure pathways and receptors. The CSM is presented on Plate 11.

5.1 Sources and Transport Mechanisms

5.1.1 Contaminant Sources

The primary sources of contamination are: (1) spills and releases of PCE-containing liquids from the former dry cleaning operations, primarily in the vicinity of the DCU, and (2) the presumed release of PCE-contaminated waste to the landscaped area outside the back door of the dry cleaning suite. Both contaminant sources were at the ground surface. Contaminants include PCE with only very limited amounts of PCE-degradation products present (e.g., TCE, cis-1,2-DCE).

5.1.2 Contaminant Fate and Transport Mechanisms

The potential fate and transport mechanisms currently applicable to the Site include:

- Adsorption of PCE to soil;
- Biodegradation or abiotic degradation of PCE in the subsurface;
- Migration of PCE-containing liquids through the soil and into the shallow groundwater;
- Leaching of contaminants in the shallow soils to shallow groundwater;
- Volatilization of contaminants from soil; and
- Volatilization of contaminants from shallow groundwater.

5.2 Exposure Pathways and Receptors

Based on the previous investigation results, the following potentially complete exposure pathways and receptors were identified.

5.2.1 Soil

The Site is currently covered with pavement or buildings. There is the potential that human receptors (site workers) could be exposed to contaminants present in the soil via direct contact (and potential incidental ingestion) during subsurface construction activities. Human exposure to the soil is a potentially complete current and future exposure pathway.

Ecological exposure to the soil does not appear to be a complete exposure pathway. Given the buildings and pavement covering the soil and the commercial/industrial use of the property and surrounding area, terrestrial ecological exposure to the soil is unlikely. Consistent with

WAC 173-340-7490, PES performed a simplified terrestrial ecological evaluation (TEE) and indicated that the site does not have a substantial potential for posing a threat of significant adverse effects to terrestrial ecological receptors, as the total area of soil contamination is less than 350 square feet (Appendix E).

The indoor air sampling indicates that the soil to indoor air pathway is not a concern.

5.2.2 Groundwater

There are no active water supply wells located on or within one-mile of the Property. Therefore, there is no potential for ingestion of contaminated groundwater from potable uses of groundwater. The potential for transport of contaminated groundwater to a deeper aquifer used by the wells is low based on the groundwater monitoring results from the deeper well MW-5.

Consistent with the requirements of WAC 173-340-720(2) related to the definition of potable groundwater, the shallow groundwater beneath the Property is determined to be non-potable. Shallow groundwater at the Property does not currently serve as a drinking water source (WAC 173-340-720(2)(a)), and the glacial till, which extends to at least 40.5 feet deep, is of low permeability, with a very low likelihood that a water well completed in the unit would be able to achieve the minimum flow rate for potable groundwater (0.5 gallons per minute; WAC 173-340-720(2)(b)(i)). Therefore, ingestion of groundwater is not a current or potential future exposure pathway.

Similar to soil, there is the potential that human receptors (site workers) could be exposed to contaminants present in shallow groundwater soil via direct contact (and potential incidental ingestion) during subsurface construction activities. Therefore, human exposure to shallow groundwater is a potentially complete current and future exposure pathway.

The indoor air sampling indicates that there is not a potential that indoor workers in an occupational setting could be exposed to the volatile COCs through inhalation of vapors originating from contaminated groundwater beneath the building. Due to the limited extent of groundwater with COCs above the SLs, this pathway is also considered incomplete off of the property.

5.2.3 Summary of Exposure Pathways and Receptors

The current complete, but minor, exposure pathways include:

- Exposure to site workers through direct contact with contaminated soil during site maintenance activities that disturb the existing structures or pavement (i.e., soil excavation); and
- Exposure to site workers through direct contact and incidental ingestion with contaminated shallow groundwater during site maintenance activities (including utility maintenance and repair) that disturb the existing structures or pavement to a depth sufficient to encounter groundwater (i.e., soil excavation).

6.0 NATURE AND EXTENT OF CONTAMINATION

This section presents a summary of the Site soil, groundwater, vapor, and indoor air data following the previous investigation and cleanup actions and presents an update to the summaries presented in the RI/FS and the Cleanup Report. The primary COC identified for the Site is PCE due to its presence above cleanup levels in soil and groundwater. PCE and CFC-12 are also considered COCs in sub-slab soil gas due to their detections above their respective screening levels.

6.1 Cleanup Levels

The soil and groundwater cleanup levels selected in the RI/FS (MTCA Method A CULs for unrestricted land uses) are still appropriate for the Site and are summarized below for the COCs. The sub-slab soil gas screening levels are summarized below as well:

6.1.1 Soil Cleanup Levels

- PCE - 0.05 mg/kg

6.1.2 Groundwater Cleanup Levels

- PCE - 5 µg/L

6.1.3 Soil Gas Screening Levels

- PCE - 321 $\mu g/m^3$
- CFC-12 - 1,520 $\mu g/m^3$

6.2 Soil Quality

Following the soil removal activities, the primary sources of PCE contamination and the majority of soil exceeding CULs has been removed from the Site. Two soil samples collected during the 2016 investigations contained residual PCE concentrations above the CUL (Plate 5). The soil sample collected from MW-5 at 8 feet bgs contained PCE at a concentration of 0.681 mg/kg and TW-7 at 8 feet bgs contained PCE at a concentration of 0.112 mg/kg. TW-7 was located in the area of the previous remedial soil excavation and the residual PCE is likely limited in extent. The PCE impacts to soil north of the building near MW-5 are likely due to contaminated groundwater at that location.

6.3 Groundwater Quality

Shallow groundwater downgradient of the former dry cleaners (MW-2 and MW-7) contains PCE above the CUL. PCE was detected below the CUL in MW-6 and non-detect in wells to the east, west, and southeast of the former cleaners suite. Deeper groundwater has not been shown to be impacted, based on the results from deep well MW-5.

The concentrations in both MW-2 and MW-7 appear to vary seasonally. As shown on Plate 10, the concentrations in MW-2 appear to be trending downward, potentially showing the effects of the source area treatment implemented in 2015. At MW-7, there have only been three quarterly sampling events and due to the apparent seasonal variations, it is not yet clear whether a trend is present. Based on these results, and pending the results of additional rounds of quarterly monitoring (see Section 7 for details), the extent of shallow groundwater contamination has been adequately delineated. If the additional monitoring indicates that PCE concentrations at MW-7 are rising or do not appear to be trending towards reaching the CUL, additional investigation downgradient of MW-7 may be appropriate.

6.4 Sub-Slab Soil Gas

Sub-slab soil gas concentrations beneath the former cleaners contain PCE and CFC-12 above their respective screening levels, however the indoor air samples collected in both the former cleaners suite and the adjacent suite to the north did not contain VOC concentrations above applicable CULs.

7.0 DESCRIPTION OF SELECTED REMEDY

This section describes the previously completed interim cleanup actions and well as the cleanup action that will be implemented to address the remaining area of groundwater contamination identified in Section 5.3.

7.1 Site Description

The Site originally consisted of contaminated soil beneath the concrete slab of the former cleaners and in the landscaped area behind the facility and contaminated shallow groundwater east (behind) and north of the facility. Following the source area cleanup actions implemented by the previous owner, the Site consists of residual PCE concentrations in shallow groundwater located downgradient of the former cleaners, and residual PCE in soil behind and north of the former cleaners.

7.2 Description of the Cleanup Action

Previous cleanup actions included excavating contaminated soils beneath the former cleaners suite (in the vicinity of B-1 and B-2) and in the landscaped area behind the former dry cleaners suite (in the vicinity of B-4) and injecting a microbial bioremediation product into the subsurface beneath the floor of the former dry cleaners suite. Approximately 43 tons of soil was excavated from the landscaped area and eight confirmation soil samples collected at the limits of the excavation were either non-detect or contained below-CUL concentrations of PCE and TCE. Approximately 20 tons of soil was excavated from beneath the former DCU and five confirmation soil samples collected at the limits of the excavation were either non-detect or contained below-CUL concentrations of PCE. In addition, a total of 10 pounds of "CL-Out" (a freeze-dried microbial culture) and chemical oxidation products (potassium permanganate) were injected into four temporary borings to facilitate additional source reduction in the saturated zone beneath the former cleaners.

As evidenced by the downward trending PCE concentrations at MW-2, it appears that the previous source removal activities are having a positive impact on PCE concentrations in shallow groundwater downgradient of the former cleaners. Furthermore, based on the indoor air sampling results which show PCE and all other COCs to be below CULs, the source removal actions appear to have mitigated the potential risk to building occupants via the vapor intrusion pathway.

In order to confirm that the downward trend in PCE concentrations in groundwater at MW-2 continues, and also document the effects of the source treatment further downgradient at MW-7, continued quarterly groundwater monitoring will be conducted as described below.

Groundwater Monitoring Network. The groundwater monitoring well locations are shown Plate 3 and include the monitoring wells with previous detections of PCE (MW-2, MW-6, and MW-7) as well as deep well MW-5 (to be sampled until four consecutive quarters of results below CULs are obtained).

Groundwater Sampling Parameters. The constituents include:

- Halogenated VOCs using EPA Method 8260B

Groundwater Sampling Procedures. Groundwater sampling will be performed using low-flow methodologies and in general accordance with EPA recommended low-flow sampling procedures. Field parameters to be measured during groundwater monitoring include: depth to water, temperature, pH, conductivity, dissolved oxygen, oxidation-reduction potential, and the volume purged.

Sampling Schedule. Groundwater monitoring and sampling will be conducted quarterly.

7.3 Restoration Timeframe

As described above, it appears that the previous source removal actions have: (1) reduced PCE concentrations downgradient of the former cleaners and (2) mitigated the indoor air risk via the vapor intrusion pathway. The ongoing monitoring proposed as part of the cleanup action will document these trends going forward, but at this time it is difficult to accurately predict a restoration timeframe. It is expected that another 1 to 2 years of monitoring may be required.

7.4 Compliance Monitoring

Groundwater monitoring will continue until four consecutive quarters with PCE concentrations below the CUL are achieved. A Sampling and Analysis Plan (SAP) is included in Appendix F and describes the proposed groundwater sampling methods, consistent with the requirements of WAC 173-340-410.

Groundwater samples will be analyzed for VOCs using EPA Method 8260B.

7.5 Schedule for Implementation

Quarterly groundwater monitoring is on-going and the next event is to be conducted in January 2017.

7.6 Institutional/Engineering Controls

If groundwater concentrations remain above the CUL, the applicability of institutional controls, such as a deed restriction limiting groundwater use, should be evaluated.

8.0 REPORTING AND SCHEDULE

The cleanup action will be performed as an independent action under Ecology's VCP. At the completion of the cleanup actions, a Cleanup Action Completion report will be prepared and submitted to Ecology for review and to request an opinion of No Further Action.

8.1 Reporting

8.1.1 Progress Reports

An annual report documenting the quarterly groundwater monitoring and sampling activities will be prepared and submitted to Ecology. The report will include the data tables summarizing the groundwater monitoring and analytical results, laboratory analytical reports and data validation memorandums, groundwater contour maps, and field sampling data sheets.

8.1.2 Completion Report

At the completion of the cleanup action, a draft report will be prepared summarizing the scope of work, field activities, data analyses and evaluation, and conclusions. The Draft Completion Report will include updated groundwater elevation contour maps, presentation and evaluation of the data generated, and conclusions based on the work performed.

Two paper copies and one electronic copy of the Draft Completion Report will be submitted to Ecology for review and comment. Any comments received from Ecology will be addressed, and after approval from Ecology, Gerrity will submit a final Completion Report.

8.2 Schedule

Quarterly groundwater monitoring is on-going. The first annual report will be prepared and submitted to Ecology within four weeks of receiving the fourth quarter 2017 groundwater analytical results.

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TABLES

Table 1
Monitoring Well and Temporary Well Completion Details
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

Well	Ecology Well Tag Number	Date Installed	Northing	Easting	Monitoring Point Elevation	Surface Casing Rim Elevation	Ground Surface Elevation	Boring Depth	Screen Depth	Filter Pack Depth	Bentonite Seal Depth	Surface Concrete Depth
Shallow Monitoring Wells												
MW-1	BID972	1/21/15	1,328,610.23	367,217.30	361.70	361.61	361.34	15	5 - 15	4 - 15	2 - 4	0 -2
MW-2	BID973	1/21/15	1,328,670.40	367,243.65	360.30	360.23	359.92	15	5 - 15	4 - 15	2 - 4	0 -2
MW-3	BID975	1/27/15	1,328,767.24	367,203.55	357.30	357.28	356.98	13	3 - 13	2 - 13	1 - 2	0 - 1
MW-4	BID974	1/27/15	1,328,773.93	367,126.15	358.00	357.84	357.65	13	3 - 13	2 - 13	1 - 2	0 - 1
MW-6	BJY108	7/21/16	1,328,642.41	367,271.85	361.20	361.21	360.77	15.5	5 - 15	4 - 15.5	2 - 4	0 - 2
MW-7	BJY109	7/21/16	1,328,690.20	367,269.54	359.30	359.34	358.94	15.5	5 - 15	4 - 15.5	2 - 4	0 - 2
Deep Monitoring Well												
MW-5	BJY107	7/20/16	1,328,677.95	367,242.22	360.00	360.03	359.67	40.5	30 - 40	29 - 40.5	4 - 29	0 - 4
Temporary Monitoring Wells												
TW-1	–	3/17/16	–	–	–	–	–	9	4 - 9	3 - 9	–	–
TW-2	–	3/17/16	–	–	–	–	–	6	1 - 6	1 - 6	–	–
TW-3/SB-1	–	7/7/16	–	–	–	–	–	11	6 - 11	6 - 11	–	–
TW-5/SB-3	–	7/7/16	–	–	–	–	–	14	9 - 14	8 - 14	–	–
TW-6/SB-4	–	7/7/16	–	–	–	–	–	10.5	4.5 - 10.5	3.5 - 14.5	–	–
TW-7/SB-5	–	7/7/16	–	–	–	–	–	10	5 - 10	4 - 10	–	–

Notes:

1. Northing/Easting in feet relative to the WA State Plane System North Zone (NAD 83)
2. Elevations in feet relative to the North American Vertical Datum (NAVD 88)
3. All depths shown in feet below ground surface
4. Monitoring point = top of the PVC well casing; all wells completed flush with grade
5. Surveyed locations = north side of completion or the ground surface to the north of completion
6. – = not available or not applicable

Table 2
Groundwater Elevations
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

Location	Date	Time	Depth to Water	Monitoring Point Elevation	Water Elevation
Shallow Monitoring Wells					
MW-1	01/31/15	-	7.45	361.34	353.89
	04/29/15	-	7.73	361.34	353.61
	07/21/15	-	9.81	361.34	351.53
	10/06/15	-	10.26	361.34	351.08
	01/21/16	-	6.58	361.34	354.76
	04/08/16	-	7.90	361.34	353.44
	07/01/16	8:23	8.90	361.34	352.44
	07/26/16	6:42	9.35	361.34	351.99
	10/18/16	8:16	9.15	361.34	352.19
	01/19/17	8:26	7.94	361.34	353.40
MW-2	01/31/15	-	6.14	359.92	353.78
	04/29/15	-	6.48	359.92	353.44
	07/21/15	-	8.70	359.92	351.22
	10/06/15	-	9.04	359.92	350.88
	01/21/16	-	5.91	359.92	354.01
	04/08/16	-	7.01	359.92	352.91
	07/01/16	8:24	8.15	359.92	351.77
	07/26/16	6:45	8.44	359.92	351.48
	10/18/16	8:26	7.44	359.92	352.48
	01/19/17	8:35	6.88	359.92	353.04
MW-3	01/31/15	-	2.25	356.98	354.73
	04/29/15	-	2.51	356.98	354.47
	07/21/15	-	5.71	356.98	351.27
	10/06/15	-	4.99	356.98	351.99
	01/21/16	-	2.62	356.98	354.36
	04/08/16	-	3.15	356.98	353.83
	07/01/16	8:26	4.21	356.98	352.77
	07/26/16	9:00	4.81	356.98	352.17
	10/18/16	8:20	3.09	356.98	353.89
	01/19/17	8:28	1.78	356.98	355.20
MW-4	01/31/15	-	2.10	357.65	355.55
	04/29/15	-	2.46	357.65	355.19
	07/21/15	-	5.64	357.65	352.01
	10/06/15	-	4.83	357.65	352.82
	01/21/16	-	3.10	357.65	354.55
	04/08/16	-	3.16	357.65	354.49
	07/01/16	10:01	3.55	357.65	354.10
	07/26/16	6:50	4.54	357.65	353.11
	10/18/16	9:31	2.34	357.65	355.31
	01/19/17	8:29	1.21	357.65	356.44

Table 2
Groundwater Elevations
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

Location	Date	Time	Depth to Water	Monitoring Point Elevation	Water Elevation
MW-6	07/26/16	6:43	9.31	360.77	351.46
	10/18/16	8:24	8.63	360.77	352.14
	01/19/17	8:34	8.58	360.77	352.19
MW-7	07/26/16	6:47	7.58	358.94	351.36
	10/18/16	8:28	6.81	358.94	352.13
	01/19/17	8:33	6.74	358.94	352.20
Deep monitoring Well					
MW-5	07/26/16	6:46	20.68	360.00	339.32
	10/18/16	9:26	20.67	360.00	339.33
	01/19/17	8:31	18.92	360.00	341.08

Notes:

1. Data collected prior to 7/1/16 provided by Galloway Environmental, Inc.
2. Elevations in feet relative to the North American Vertical Datum (NAVD 88)
3. All depths shown in feet below monitoring point
4. Monitoring point elevation = top of the north side of the PVC casing (wells)

Table 3
Summary of Soil Analytical Results
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

Sample ID	Sample Location	Date Sampled	Sample Depth (feet bgs)	Detected Volatile Organic Compounds (mg/kg)			
				PCE	TCE	cis-1,2-DCE	CFC-12
Soil Borings (Galloway Environmental, Inc.)							
B-1 @ 4' *	B-1	10/21/13	4	**0.087**	0.0012 U	0.0012 U	0.0012 U
B-2 @ 4' *	B-2	10/21/13	4	**0.14**	0.0011 U	0.0011 U	0.0011 U
B-3 @ 4'	B-3	10/21/13	4	0.0013 U	**0.0078**	**0.011**	0.0013 U
B-4 @ 4' *	B-4	10/21/13	4	**0.065**	**0.0019**	0.00079 U	0.00079 U
P-1 @ 18'	P-1	10/28/14	18	0.00080 U	0.00080 U	0.00080 U	0.0020 U
P-2 @ 20'	P-2	10/28/14	20	**0.025**	0.00087 U	0.00087 U	0.0022 U
P-3 @ 4'	P-3	10/28/14	4	0.0010 U	0.0010 U	0.0010 U	0.0025 U
P-4 @ 7'	P-4	10/28/14	7	0.0011 U	0.0011 U	0.0011 U	0.0027 U
MW1@8'	MW-1	1/22/15	8	0.00089 U	0.00089 U	0.00089 U	0.00089 U
MW2@8'	MW-2	1/22/15	8	**0.0082**	0.00088 U	0.00088 U	0.00088 U
MW3@8'	MW-3	1/22/15	8	0.00078 U	0.00078 U	0.00078 U	**0.0035**
MW4@8'	MW-4	1/22/15	8	0.00082 U	0.00082 U	0.00082 U	0.00082 U
Soil Excavation Confirmation Samples (Galloway Environmental, Inc.)							
EXC-1	EXC-1	4/9/15	7	**0.026**	**0.0012**	0.0011 U	0.0011 U
EXC-2	EXC-2	4/9/15	6	**0.028**	0.00094 U	0.00094 U	0.00094 U
EXC-3	EXC-3	4/9/15	1.5	**0.0024**	0.00097 U	0.00097 U	0.00097 U
EXC-4	EXC-4	4/9/15	6	**0.010**	0.0011 U	0.0011 U	0.0011 U
EXC-5	EXC-5	4/9/15	6	**0.012**	0.00083 U	0.00083 U	0.00083 U
EXC-6	EXC-6	4/9/15	6	**0.0064**	0.00085 U	0.00085 U	0.00085 U
EXC-7	EXC-7	4/9/15	7	**0.012**	0.0013 U	0.0013 U	0.0013 U
EXC-8	EXC-8	4/9/15	7	**0.011**	0.00079 U	0.00079 U	0.00079 U
EXC-E	EXC-E	4/23/15	5	0.0015 U	0.0015 U	0.0015 U	0.0015 U
EXC-W	EXC-W	4/23/15	5	**0.0065**	0.0014 U	0.0014 U	0.0014 U
EXC-S	EXC-S	4/23/15	5	**0.0041**	0.0016 U	0.0016 U	0.0016 U
EXC-N	EXC-N	4/23/15	5	0.00087 U	0.00087 U	0.00087 U	0.00087 U
EXC-BOT	EXC-BOT	4/23/15	6	**0.0030**	0.0010 U	0.0010 U	0.0010 U
Soil Borings (PES Environmental, Inc.)							
SV-1-1.5	SV-1	3/18/16	2	**0.00167**	0.00107 U	0.00107 U	0.00534 U
SV-2-1	SV-2	3/18/16	1	**0.00573**	0.00109 U	0.00109 U	0.00545 U
SV-3-1.5	SV-3	3/18/16	2	**0.00442**	0.00106 U	0.00106 U	0.00529 U
TW-1	TW-1	3/17/16	8	0.00111 U	0.00111 U	0.00111 U	0.00553 U
TW-2	TW-2	3/17/16	6	0.00115 U	0.00115 U	0.00115 U	0.00573 U
SB-1a-8	TW-3a	7/7/16	8	0.0208 U	0.0208 U	0.0208 U	0.0623 U
SB-2-6	TW-4	7/7/16	6	0.0210 U	0.0210 U	0.0210 U	0.0629 U
SB-3-7	TW-5	7/7/16	7	0.0197 U	0.0197 U	0.0197 U	0.0592 U
SB-4-7	TW-6	7/7/16	7	0.0224 U	0.0224 U	0.0224 U	0.0673 U
SB-5-8	TW-7	7/7/16	8	**0.112**	0.0206 U	0.0206 U	0.0617 U
MW-5-7.5	MW-5	7/20/16	8	**0.681**	0.0268 U	0.0268 U	0.0803 U
MW-6-5	MW-6	7/21/16	5	0.0235 U	0.0235 U	0.0235 U	0.0705 U
MW-7-5	MW-7	7/21/16	5	0.0268 U	0.0268 U	0.0268 U	0.0804 U
Method A/B Unrestricted CUL				0.05	0.03	160	16,000

Notes:

1. bgs = below ground surface
2. U = result is less than the laboratory detection limit [laboratory practical quantitation limit (PQL)].
3. mg/kg = miilligrams per killogram
4. MTCA Method A/B soil cleanup levels (CULs for unrestricted land use, shown for screening purposes) is from the Ecology CLARC searchable database (researched August 2016)
5. Bold indicates that the compound was detected above the PQL, and shading indicates the concentration exceeds the MTCA Method A CUL
6. Samples were analyzed using USEPA Method 8260C.
7. PCE = tetrachloroethene
8. TCE = trichloroethene
9. cis-1,2-DCE = cis-1,2-dichloroethene
10. CFC-12 = dichlorodifluoromethane (Freon-12)

* = this sample location was excavated

Table 4

Groundwater Analytical Results - PCE
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington

Well ID	Date Sampled	Tetrachloroethene (micrograms per liter)	
Shallow Monitoring Wells			
MW-1	01/31/15	0.20	U
	04/29/15	0.20	U
	07/21/15	0.20	U
	10/06/15	0.20	U
	01/21/16	0.20	U
	04/08/16	0.20	U
	07/26/16	1.00	U
	10/18/16	1.00	U
MW-2	01/31/15	**450**	
	04/29/15	**110**	
	07/21/15	**320**	
	10/06/15	**370**	
	01/21/16	**100**	
	04/08/16	**71**	
	07/26/16	**128**	
	10/18/16	**214**	
MW-3	01/31/15	0.20	U
	04/29/15	0.20	U
	07/21/15	0.20	U
	10/06/15	0.20	U
	01/21/16	0.20	U
	04/08/16	0.20	U
	07/26/16	1.00	U
	10/18/16	1.00	U
MW-4	01/31/15	0.20	U
	04/29/15	0.20	U
	07/21/15	0.20	U
	10/06/15	0.20	U
	01/21/16	0.20	U
	04/08/16	0.20	U
	07/26/16	1.00	U
	10/18/16	1.00	U
MW-6	07/26/16	**1.68**	
	10/18/16	1.00	U
MW-7	07/26/16	**43.5**	
	10/18/16	**10.6**	

Table 4

Groundwater Analytical Results - PCE
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington

Well ID	Date Sampled	Tetrachloroethene (micrograms per liter)	
Deeper Monitoring Well			
MW-5	07/26/16	1.00	U
	10/18/16	1.00	U
Temporary Monitoring Wells			
P1	10/28/14	0.20	U
P2	10/28/14	**40**	
P3	10/28/14	**31**	
P4	10/28/14	0.20	U
TW-1	03/17/16	1.00	U
TW-2	03/17/16	1.00	U
TW-3	07/08/16	1.00	U
TW-5	07/08/16	1.00	U
TW-6	07/08/16	1.00	U
MTCA Method A		5.0	

Notes:

1. Data collected prior to 7/1/16 provided by Galloway Environmental, Inc. TW-1 and TW-2 Data and data collected on/after 7/8/16 by PES Environmental, Inc.
2. U = result is less than the practical quantitation limit (PQL)
3. PCE = tetrachloroethene
4. Bold indicates compound detected above the PQL
5. Shading indicates the concentration exceeds the MTCA Method A cleanup level
6. See Table 8 for additional VOCs detected for samples collected by PES.

Table 5
Summary of Detected VOCs in Sub-Slab Soil Gas
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

Compound	B1 @ 5' * 10/21/13 (µg/m^3)	B2 @ 5' * 10/21/13 (µg/m^3)	B3 @ 5' * 10/21/13 (µg/m^3)	B4 @ 5' * 10/21/13 (µg/m^3)	LS-VI 1 05/05/15 (µg/m^3)	LS-VI 2 05/05/15 (µg/m^3)	SV1-031816 03/18/16 (µg/m^3)	SV2-031816 03/18/16 (µg/m^3)	SV3-031816 03/18/16 (µg/m^3)	Sub-Slab Screening Level (µg/m^3)
Benzene	NA	NA	NA	NA	NA	NA	**0.241 B**	**0.294 B**	**2.02**	10.7
Carbon Tetrachloride	7,000 U	7,000 U	7,000 U	7,000 U	7,000 U	7,000 U	**0.429**	**0.429**	**0.391**	13.9
Chloroform	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**0.314**	**1.22**	**3.15**	3.62
1,4-Dichlorobenzene	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**0.379**	**0.413**	**0.756**	7.58
cis-1,2-Dichloroethene	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	0.0793 U	**0.336**	**0.821**	NL
Dichlorodifluoromethane	1,000 U	1,000 U	1,000 U	1,000 U	**50,000**	**32,000**	NA	NA	NA	1,520
Ethylbenzene	NA	NA	NA	NA	NA	NA	**0.819**	**1.54**	52.0 U	15,200
Tetrachloroethene	1,000 U	1,000 U	**3,800**	**30,000**	1,000 U	1,000 U	**75.0**	**515**	**1,170**	321
Trichloroethene	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	**1.36**	**4.43**	42.9 U	12.3

Notes:

1. All results reported in micrograms per cubic meter (µg/m^3)
2. Detected VOCs are summarized in this table; see laboratory analytical report for entire VOC analytical results.
3. Analyses for volatile ogranic compounds (VOCs) using EPA 8260C (10/21/13 and 5/5/15 samples; data provided by Galloway Environmental, Inc.) and USEPA Method TO-15-SIM (3/18/16 samples).
4. * = The 10/21/13 samples were collected prior to the cleanup actions.
5. Detected results shown in **bold**.
6. U = not detected at or above the concentration shown; B = Analyte detected in the associated method blank.
7. Sub-slab screening levels (Method B) obtained from Ecology's CLARC database, August 2015.
8. Concentrations greater than the sub-slab soil vapor screening level are **shaded.**
9. NL = Not listed; NA = Not analyzed

Table 6
Summary of Select VOCs in Indoor Air
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

Constituent	Indoor Air IA-031716 3/17/2016 8-hour (µg/m^3)	Ambient Air OA-031716 3/17/2016 8-hour (µg/m^3)	Indoor Air Corrected for Ambient 3/17/2016 8-hour (µg/m^3)	Indoor Air Indoor-070716 7/7/2016 8-hour (µg/m^3)	Ambient Air Ambient-070716 7/7/2016 8-hour (µg/m^3)	Indoor Air Corrected for Ambient 7/7/2016 8-hour (µg/m^3)	Method B Indoor Air Cleanup Level (µg/m3)
Benzene	**0.831**	**0.859**	NC	**0.511**	**0.319**	**0.192**	0.321
Carbon Tetrachloride	**0.454**	**0.440**	**0.014**	**0.503**	**0.503**	0.000	0.417
Chloromethane	**1.14**	**1.27**	NC	0.826 U	0.826 U	NC	41.1
Ethylbenzene	**0.380**	**0.404**	NC	**2.56**	**2.43**	**0.13**	457
m,p-Xylene	NA	NA	NC	**2.08**	**1.91**	**0.17**	45.7
o-Xylene	NA	NA	NC	**2.30**	**2.17**	**0.13**	45.7
Toluene	NA	NA	NC	**3.32**	**2.26**	**1.06**	2,290
Dichlorodiflouromethane	NA	NA	NC	1.48 U	1.48 U	NC	45.7
Methlyene Chloride	NA	NA	NC	**0.764**	**0.695**	**0.07**	250
Trichloroethene	0.107 U	0.107 U	NC	0.0914 U	0.0914 U	NC	0.370
Tetrachloroethene	**1.04**	0.136 U	**1.04**	**1.09**	**0.95**	**0.14**	9.62

Notes:

1. All results in µg/m^3 (micrograms per cubic meter).
2. Selected VOCs are summarized in this table; see laboratory analytical report for entire VOC analytical results.
3. Volatile Organic Compound (VOC) analysis by EPA Method TO-15-SIM.
4. Detected results shown in **bold**.
5. U = not detected at or above the concentration shown.
6. NA = not analyzed.
7. Method B cleanup levels obtained from Ecology's CLARC database, August 2016.
8. Measured indoor air concentrations corrected for ambient air concentrations consistent Ecology's Draft Vapor Intrusion Guidance, 2009.
9. NC = Not calculable. Indicates measured indoor air concentration less than ambient air concentrations.

Table 7
Groundwater Sample Field Parameters
Lake Stevens MarketplaceShopping Center
Lake Stevens, Washington

Sample	Date Collected	Approximate Sample Depth	pH	Specific Conductance (µS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	ORP (mv)
Shallow Monitoring Wells							
MW-1	7/26/16	12	6.14	508.3	17.9	2.33	144.5
	10/18/16	10	6.02	213	14.7	1.09	64.3
	1/19/17	10	7.65	850	10.2	1.87	22.3
MW-2	7/26/16	12	6.45	378.2	19.6	1.74	156.7
	10/18/16	10	5.96	379.8	14.7	2.96	106.2
	1/19/17	10	7.27	421.3	9.4	NA	18.6
MW-3	7/26/16	10	6.90	211.5	21.0	3.20	129.6
	10/18/16	10	6.30	190.6	14.4	3.81	110.4
	1/19/17	8	6.84	223.0	8.1	2.49	47
MW-4	7/26/16	10	6.57	203.4	19.7	3.05	157.6
	10/18/16	10	6.27	136.4	14.8	1.03	113.2
	1/19/17	8	7.78	363.2	8.2	NA	36.3
MW-6	7/26/16	12	6.88	676.0	17.4	6.16	143.0
	10/18/16	10	6.11	649.0	14.0	2.56	71.7
	1/19/17	10	8.66	583.9	7.5	NA	31.8
MW-7	7/26/16	12	7.36	373.8	18.1	5.69	135.2
	10/18/16	10	6.00	250.9	13.8	1.96	85.7
	1/19/17	10	8.96	344.8	8.6	NA	27.0
Deeper Monitoring Well							
MW-5	7/26/16	35	9.68	485.1	19.1	1.05	162.7
	10/18/16	35	6.82	203.3	14.2	1.07	96.6
	1/19/17	35	7.70	216.2	10.4	NA	-4.1

Notes:

1. Sample depths relative to ground surface
2. µS/cm = micro-Siemens per centimeter
3. ºC = degrees Celsius
4. mg/L = milligrams per liter
5. mv = millivolts
6. ORP = oxidation-reduction potential
7. NA = not available

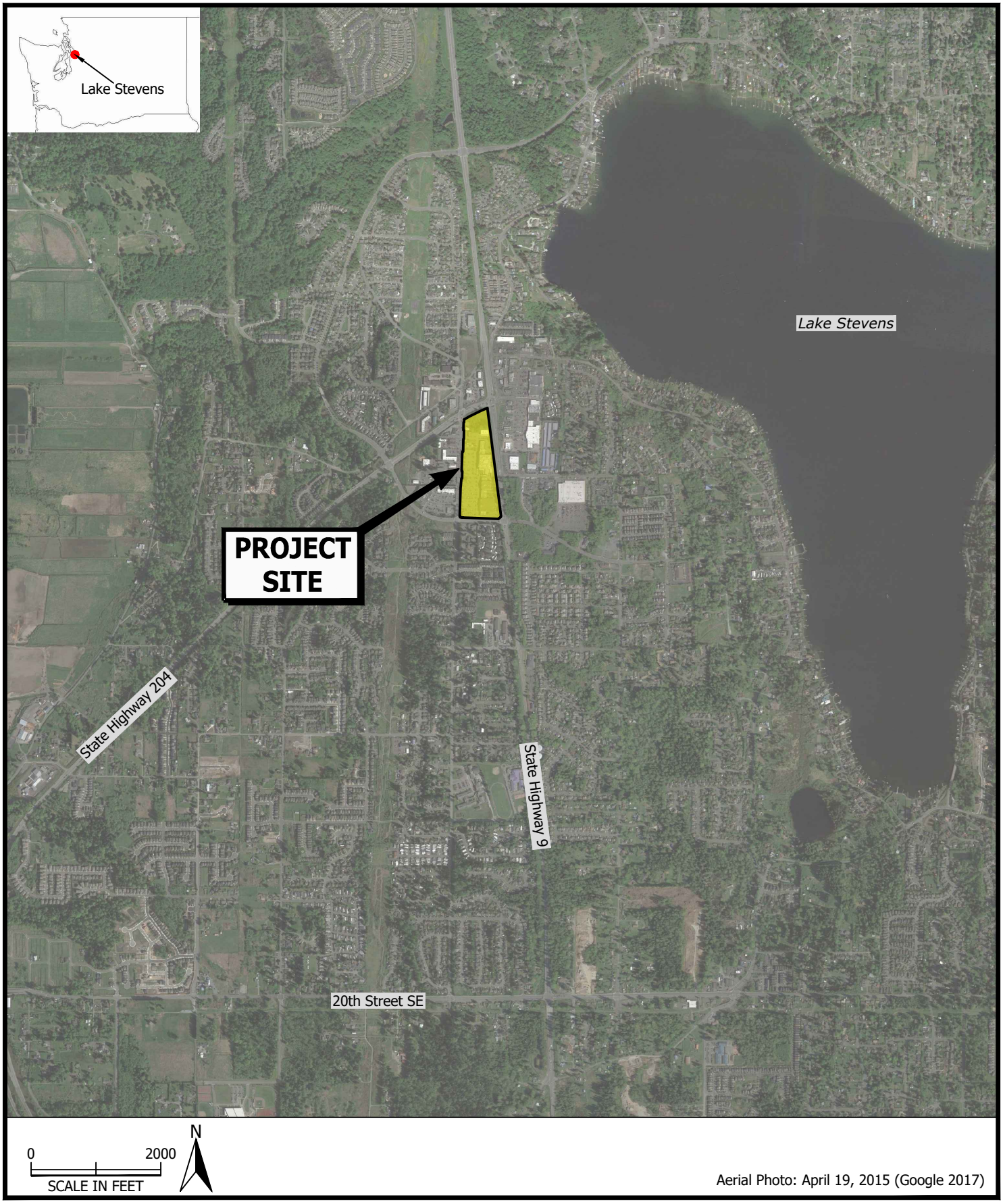
Table 8
Groundwater Analytical Results - Other VOCs
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

Well ID	Date Sampled	Ethylbenzene (µg/L)		Total Xylenes (µg/L)		Chloroform (µg/L)		CFC-12 (µg/L)		Methylene Chloride (µg/L)	
Shallow Monitoring Wells											
MW-1	07/26/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	10/18/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	01/19/17	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
MW-2	07/26/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	10/18/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	01/19/17	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
MW-3	07/26/16	1.00	U	1.00	U	1.00	U	**14.7**		1.00	U
	10/18/16	1.00	U	1.00	U	1.00	U	**16.6**		1.00	U
	01/19/17	1.00	U	1.00	U	1.00	U	**2.95**		1.00	U
MW-4	07/26/16	1.00	U	1.00	U	1.00	U	**1.13**		1.00	U
	10/18/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	01/19/17	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
MW-6	07/26/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	10/18/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	01/19/17	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
MW-7	07/26/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	10/18/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
	01/19/17	1.00	U	1.00	U	**1.04**		1.00	U	1.00	U
Deeper Monitoring Well											
MW-5	07/26/16	1.00	U	1.00	U	**1.88**		1.00	U	1.00	U
	10/18/16	1.00	U	1.00	U	1.00	U	1.00	U	**1.34**	
	01/19/17	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Temporary Monitoring Wells											
TW-1	03/17/16	1.00	U	3.00	U	5.00	U	5.00	U	5.00	U
TW-2	03/17/16	1.00	U	3.00	U	5.00	U	5.00	U	5.00	U
TW-3	07/08/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
TW-5	07/08/16	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
TW-6	07/08/16	**1.36**		**8.76**		1.00	U	1.00	U	1.00	U
MTCA Method A/B		70		1,000		80		1,600		5.0	

Notes:

1. µg/L = micrograms per liter
2. U = result is less than the practical quantitation limit (PQL).
3. CFC-12 = dichlorodifluoromethane (Freon-12).
4. MTCA Method B groundwater cleanup levels (CUL) obtained from Ecology's CLARC in August 2015.
5. **Bold i**ndicates compound detected above the PQL.

ILLUSTRATIONS



Aerial Photo: April 19, 2015 (Google 2017)

PES Environmental, Inc.
Engineering & Environmental Services

Site Location
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
1

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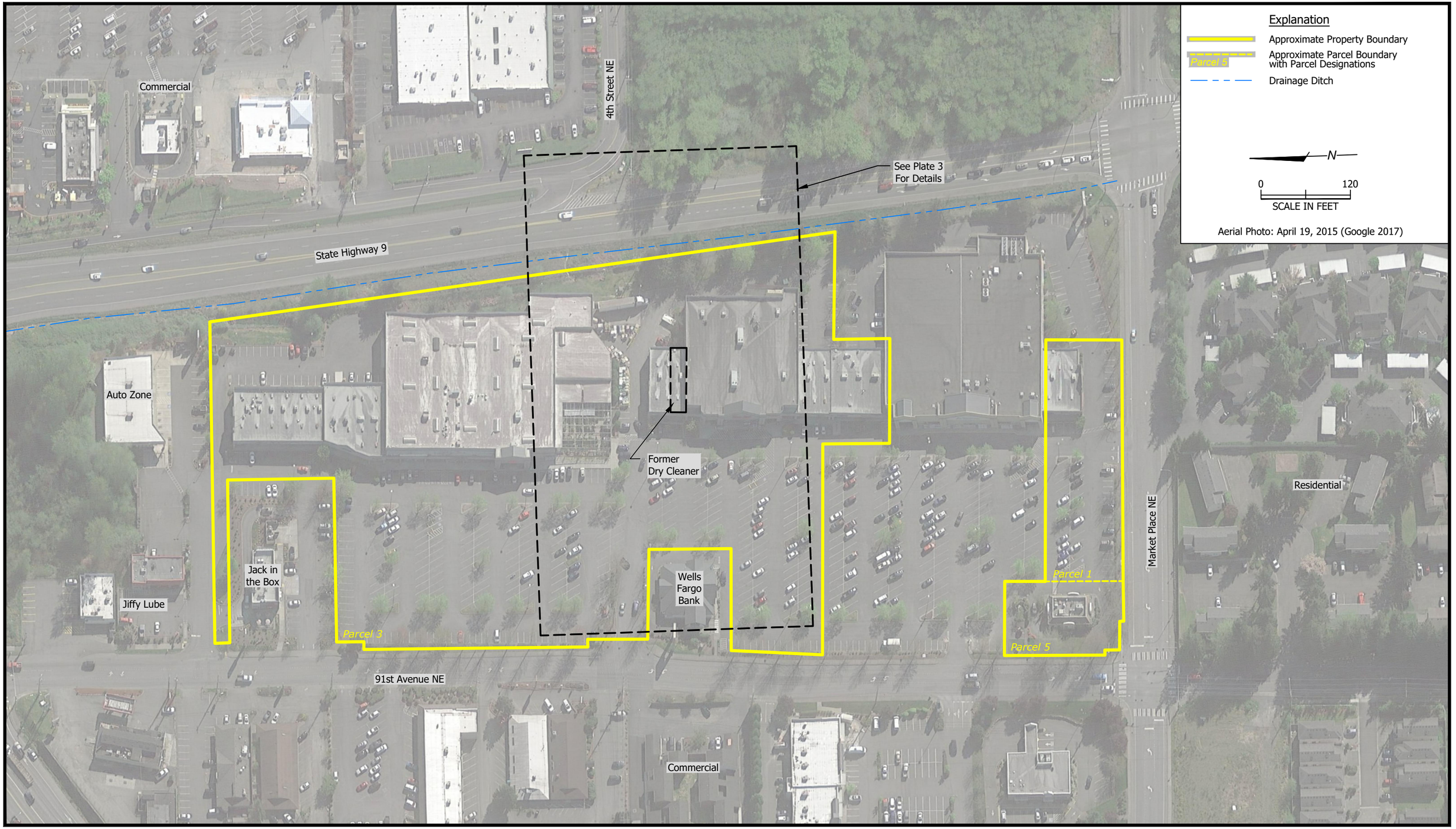

PES Environmental, Inc.
Engineering & Environmental Services

Site Vicinity
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
2

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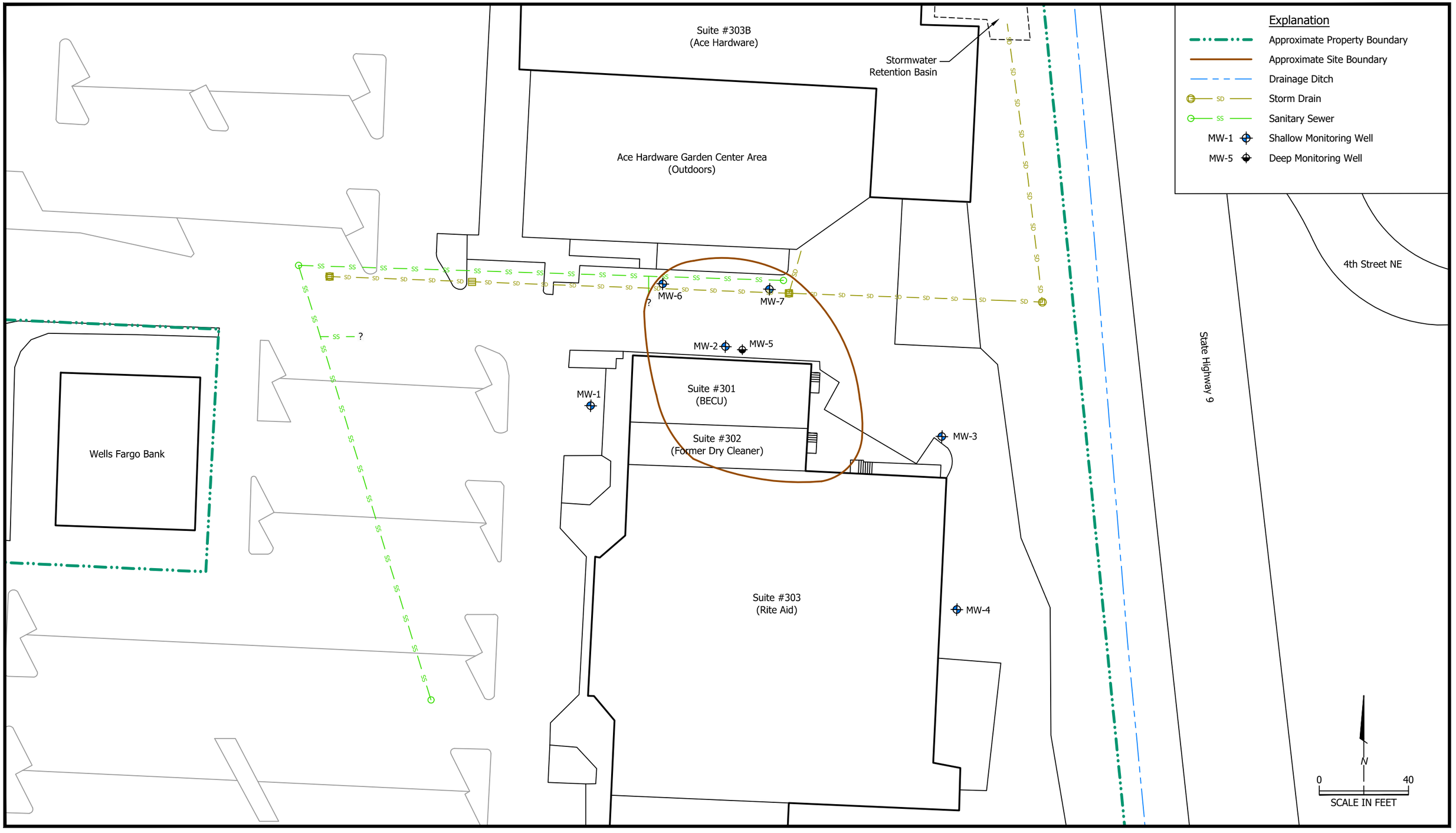

PES Environmental, Inc.
Engineering & Environmental Services

Site Plan
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
3

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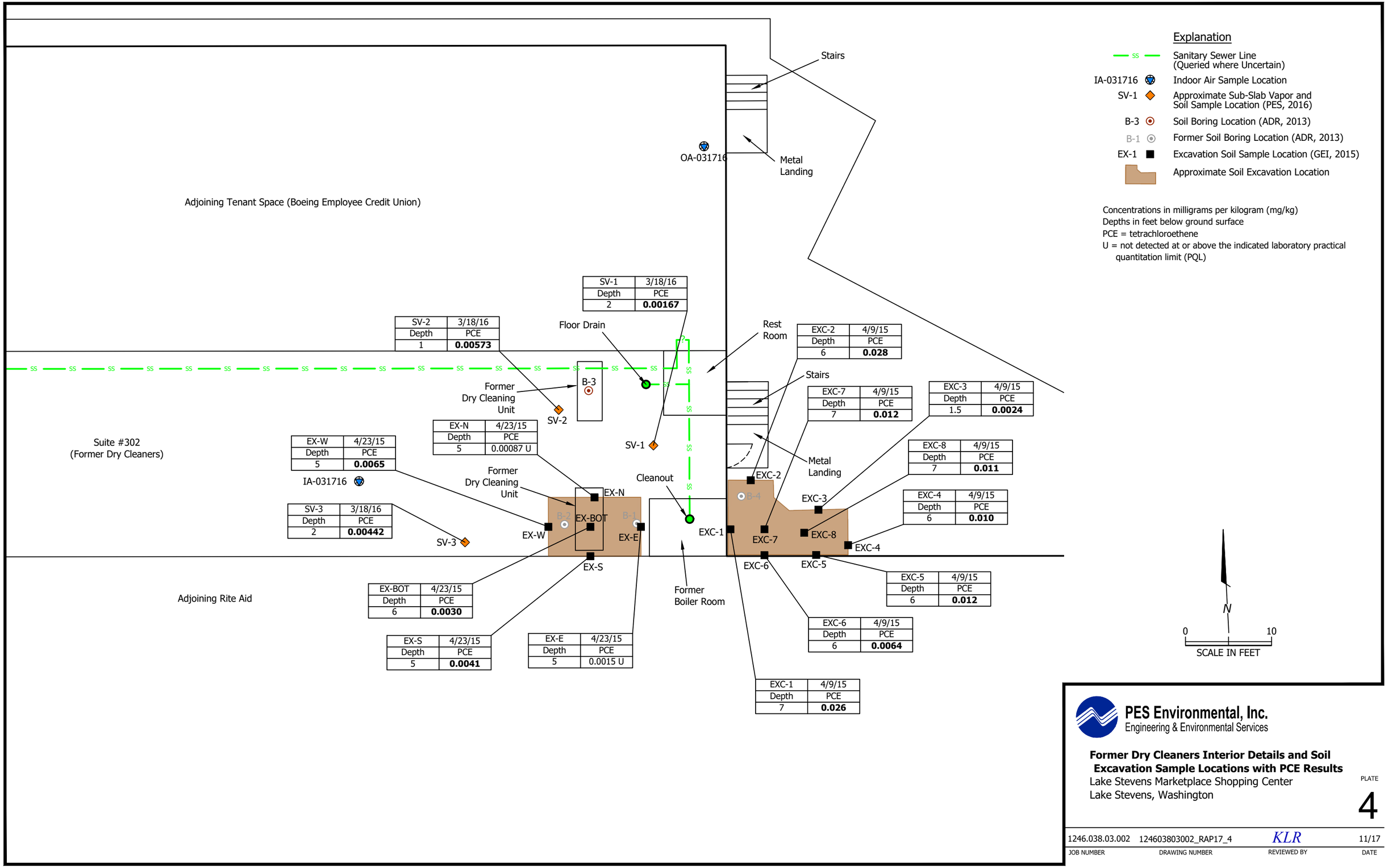

SV-1	3/18/16
Depth	PCE
2	**0.00167**

SV-2	3/18/16
Depth	PCE
1	**0.00573**

EX-W	4/23/15
Depth	PCE
5	**0.0065**

EX-N	4/23/15
Depth	PCE
5	0.00087 U

SV-3	3/18/16
Depth	PCE
2	**0.00442**

EX-BOT	4/23/15
Depth	PCE
6	**0.0030**

EX-S	4/23/15
Depth	PCE
5	**0.0041**

EX-E	4/23/15
Depth	PCE
5	0.0015 U

EXC-1	4/9/15
Depth	PCE
7	**0.026**

EXC-2	4/9/15
Depth	PCE
6	**0.028**

EXC-3	4/9/15
Depth	PCE
1.5	**0.0024**

EXC-4	4/9/15
Depth	PCE
6	**0.010**

EXC-5	4/9/15
Depth	PCE
6	**0.012**

EXC-6	4/9/15
Depth	PCE
6	**0.0064**

EXC-7	4/9/15
Depth	PCE
7	**0.012**

EXC-8	4/9/15
Depth	PCE
7	**0.011**

PES Environmental, Inc.
Engineering & Environmental Services

Former Dry Cleaners Interior Details and Soil Excavation Sample Locations with PCE Results
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE 4

1246.038.03.002	124603803002_RAP17_4	KLR	11/17
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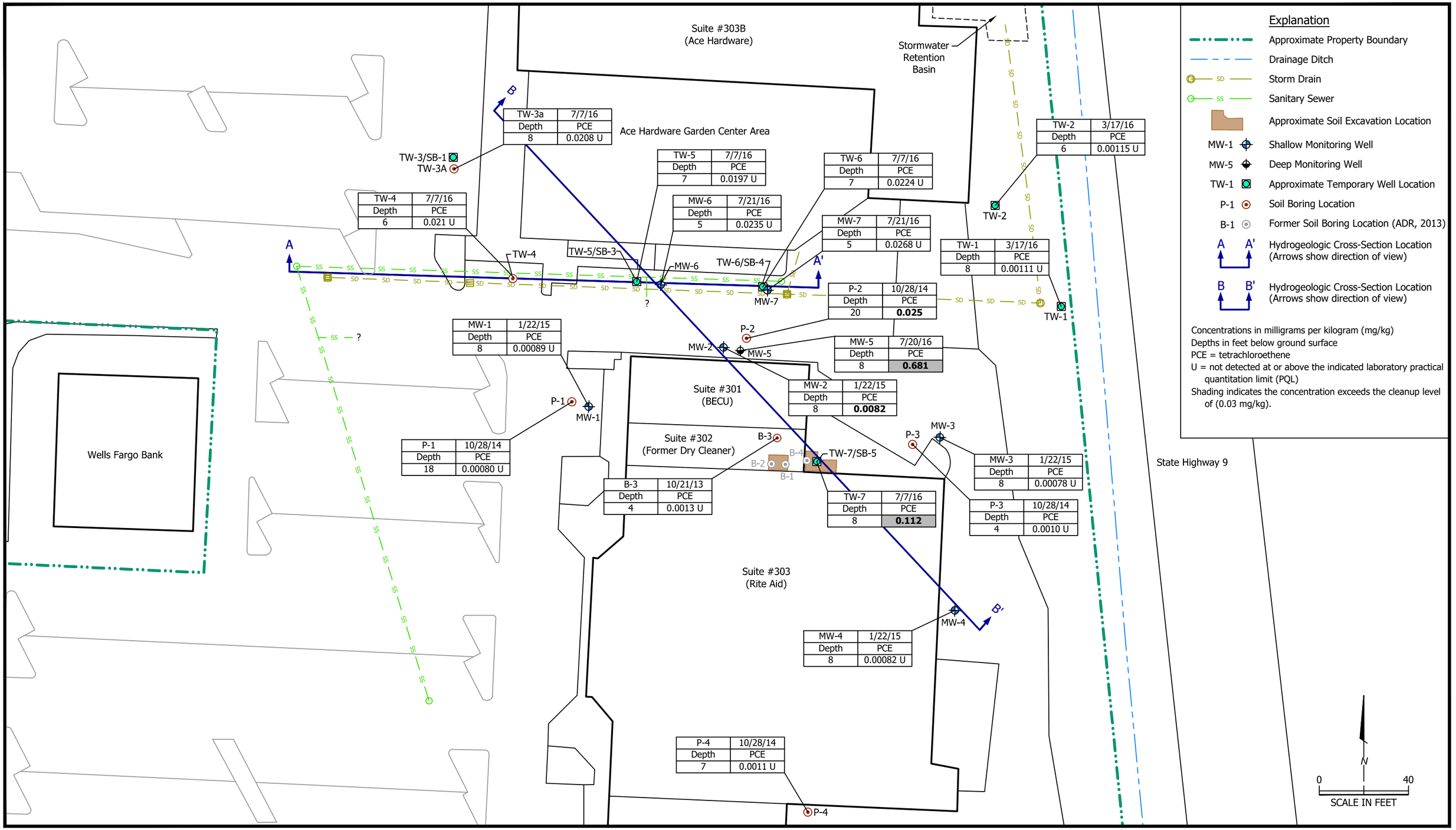

Explanation

- Approximate Property Boundary
- Drainage Ditch
- Storm Drain
- Sanitary Sewer
- Approximate Soil Excavation Location
- MW-1 — Shallow Monitoring Well
- MW-5 — Deep Monitoring Well
- TW-1 — Approximate Temporary Well Location
- P-1 — Soil Boring Location
- B-1 — Former Soil Boring Location (ADR, 2013)
- A A' — Hydrogeologic Cross-Section Location (Arrows show direction of view)
- B B' — Hydrogeologic Cross-Section Location (Arrows show direction of view)

Concentrations in milligrams per kilogram (mg/kg)
Depths in feet below ground surface
PCE = tetrachloroethene
U = not detected at or above the indicated laboratory practical quantitation limit (PQL)
Shading indicates the concentration exceeds the cleanup level of (0.03 mg/kg).

PES Environmental, Inc.
Engineering & Environmental Services

Boring and Well Location Map and Soil PCE Results
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE 5

1246.038.03.002	124603803002_RAP17_5	KLR	11/17
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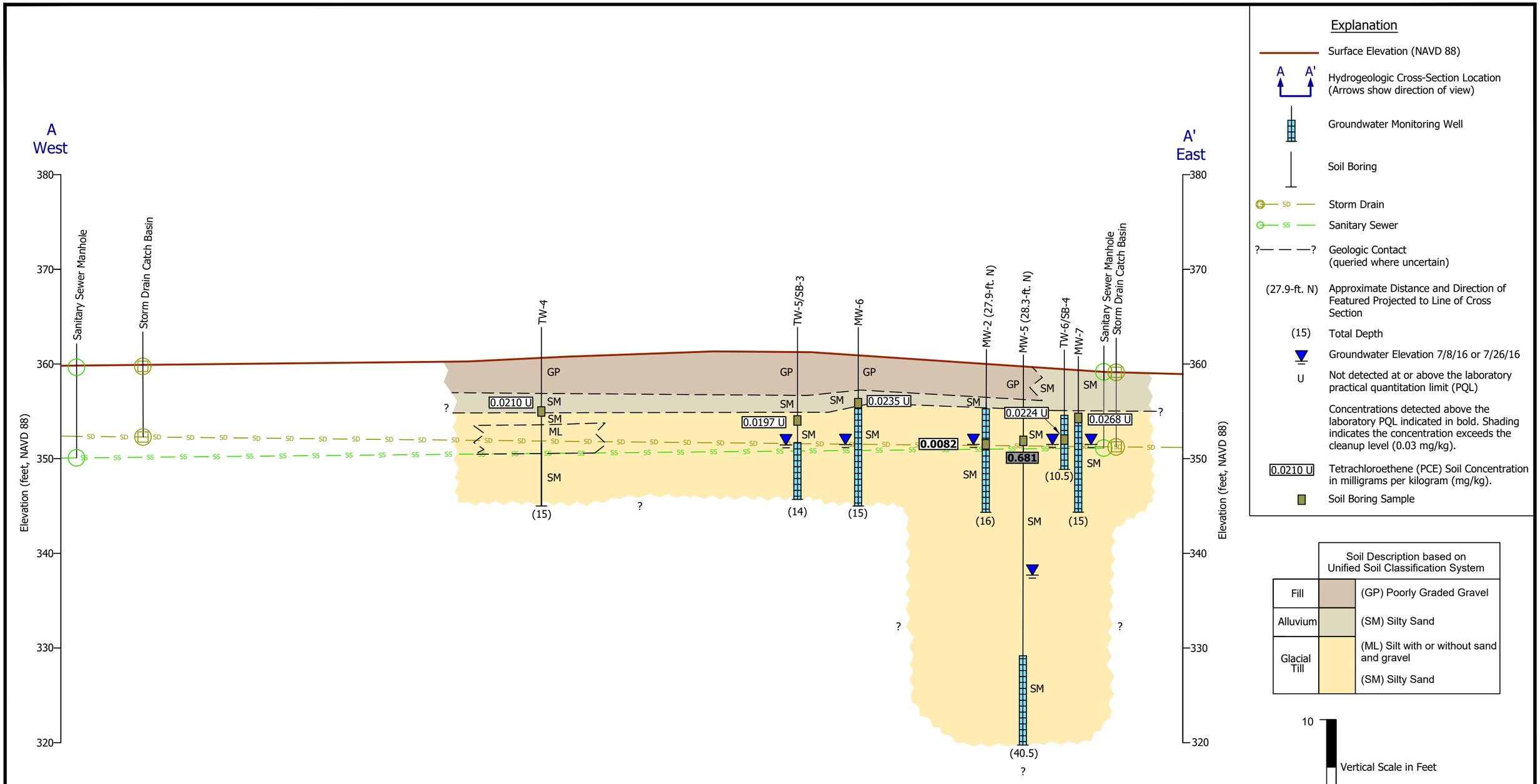


Explanation

- Surface Elevation (NAVD 88)
- A A' — Hydrogeologic Cross-Section Location (Arrows show direction of view)
- Groundwater Monitoring Well
- Soil Boring
- SD — Storm Drain
- SS — Sanitary Sewer
- ? — ? — Geologic Contact (queried where uncertain)
- (27.9-ft. N) — Approximate Distance and Direction of Featured Projected to Line of Cross Section
- (15) — Total Depth
- Groundwater Elevation 7/8/16 or 7/26/16
- U — Not detected at or above the laboratory practical quantitation limit (PQL)
- Concentrations detected above the laboratory PQL indicated in bold. Shading indicates the concentration exceeds the cleanup level (0.03 mg/kg).
- 0.0210 U — Tetrachloroethene (PCE) Soil Concentration in milligrams per kilogram (mg/kg).
- Soil Boring Sample

Soil Description based on Unified Soil Classification System		
Fill		(GP) Poorly Graded Gravel
Alluvium		(SM) Silty Sand
Glacial Till		(ML) Silt with or without sand and gravel
		(SM) Silty Sand

10 — Vertical Scale in Feet

0 — 20 — Horizontal Scale in Feet

Vertical Exaggeration 2:1

PES Environmental, Inc.
Engineering & Environmental Services

Cross Section A-A'
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE 6

1246.038.03.002	124603803002_ESA_R6	KLR	11/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

B
Northwest

B'
Southeast

Elevation (feet, NAVD 88)

380
370
360
350
340
330
320
310

Ace Hardware Garden Center Area

Suite #301 (BECU)

Suite #302
(Former Dry Cleaner)

Suite #303 (Rite Aid)

TW-5/SB-3 (8-ft. SW)
MW-6
MW-2
MW-5 (5-ft. NE)
TW-7/SB-5
MW-4

GP
SM
Fill
Alluvium
Glacial Till

0.0197 U
0.0235 U
0.0082
0.681
0.112
0.00082 U

(14)
(15.5)
(15)
(40.5)
(10)
(13)

?

Explanation

- Existing Building Location
- Approximate Ground Surface Elevation
- ? – — — – ? Geologic Contact (queried where uncertain)
- Groundwater elevation 7/8/16 or 7/26/16
- B B' Hydrogeologic Cross-Section Location (Arrows show direction of view)
- Groundwater Monitoring Well
- (5-ft. NE) Approximate distance and direction of feature projected to the line of cross section
- (14) Total depth

- U Not detected at or above the laboratory practical quantitation limit (PQL)
- Concentrations detected above the laboratory PQL indicated in bold. Shading indicates the concentration exceeds the cleanup level (0.03 mg/kg).
- Soil Boring Sample
- Approximate Soil Excavation Area
- 0.0197 U Tetrachloroethene (PCE) Soil Concentration in milligrams per kilogram (mg/kg).

		Lithologic Description based on Unified Soil Classification System
Fill		(GP) Poorly Graded Gravel
Alluvium		(SM) Silty Sand
Glacial Till		(SM) Silty Sand

10
0
Vertical Scale in Feet

0 20
Horizontal Scale in Feet

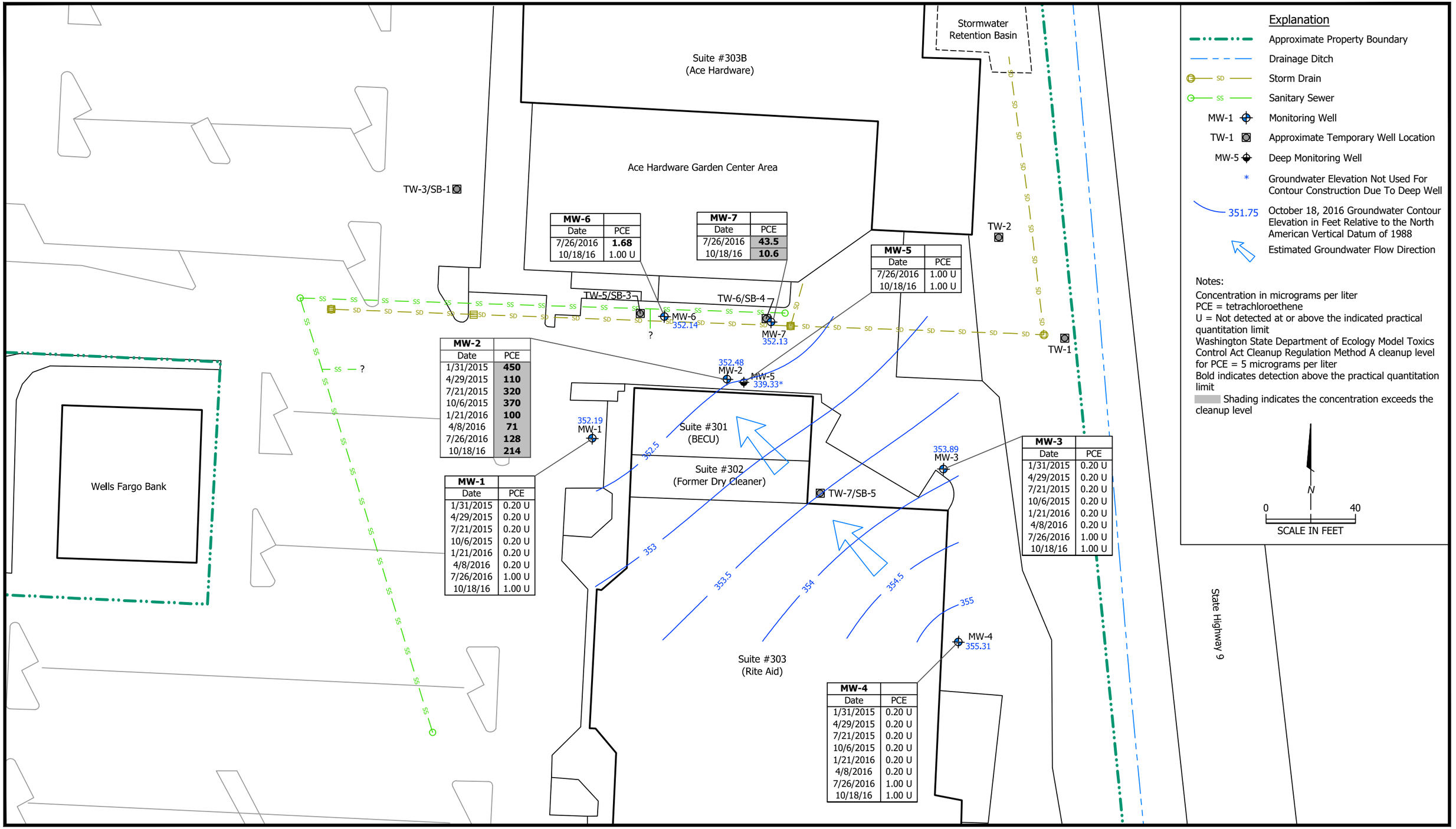
Vertical Exaggeration 2:1

PES Environmental, Inc.
Engineering & Environmental Services

Cross Section B-B'
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
7

1246.038.03.004	124603803004_XSEC_7_	*KLR*	11/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



MW-6	
Date	PCE
7/26/2016	**1.68**
10/18/16	1.00 U

MW-7	
Date	PCE
7/26/2016	**43.5**
10/18/16	**10.6**

MW-5	
Date	PCE
7/26/2016	1.00 U
10/18/16	1.00 U

MW-2	
Date	PCE
1/31/2015	**450**
4/29/2015	**110**
7/21/2015	**320**
10/6/2015	**370**
1/21/2016	**100**
4/8/2016	**71**
7/26/2016	**128**
10/18/16	**214**

MW-1	
Date	PCE
1/31/2015	0.20 U
4/29/2015	0.20 U
7/21/2015	0.20 U
10/6/2015	0.20 U
1/21/2016	0.20 U
4/8/2016	0.20 U
7/26/2016	1.00 U
10/18/16	1.00 U

MW-3	
Date	PCE
1/31/2015	0.20 U
4/29/2015	0.20 U
7/21/2015	0.20 U
10/6/2015	0.20 U
1/21/2016	0.20 U
4/8/2016	0.20 U
7/26/2016	1.00 U
10/18/16	1.00 U

MW-4	
Date	PCE
1/31/2015	0.20 U
4/29/2015	0.20 U
7/21/2015	0.20 U
10/6/2015	0.20 U
1/21/2016	0.20 U
4/8/2016	0.20 U
7/26/2016	1.00 U
10/18/16	1.00 U

Explanation

- Approximate Property Boundary
- Drainage Ditch
- SD — Storm Drain
- SS — Sanitary Sewer
- MW-1 — Monitoring Well
- TW-1 — Approximate Temporary Well Location
- MW-5 — Deep Monitoring Well
- * Groundwater Elevation Not Used For Contour Construction Due To Deep Well
- 351.75 — October 18, 2016 Groundwater Contour Elevation in Feet Relative to the North American Vertical Datum of 1988
- Estimated Groundwater Flow Direction

Notes:

Concentration in micrograms per liter
PCE = tetrachloroethene
U = Not detected at or above the indicated practical quantitation limit
Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation Method A cleanup level for PCE = 5 micrograms per liter
Bold indicates detection above the practical quantitation limit
Shading indicates the concentration exceeds the cleanup level

N

0 40

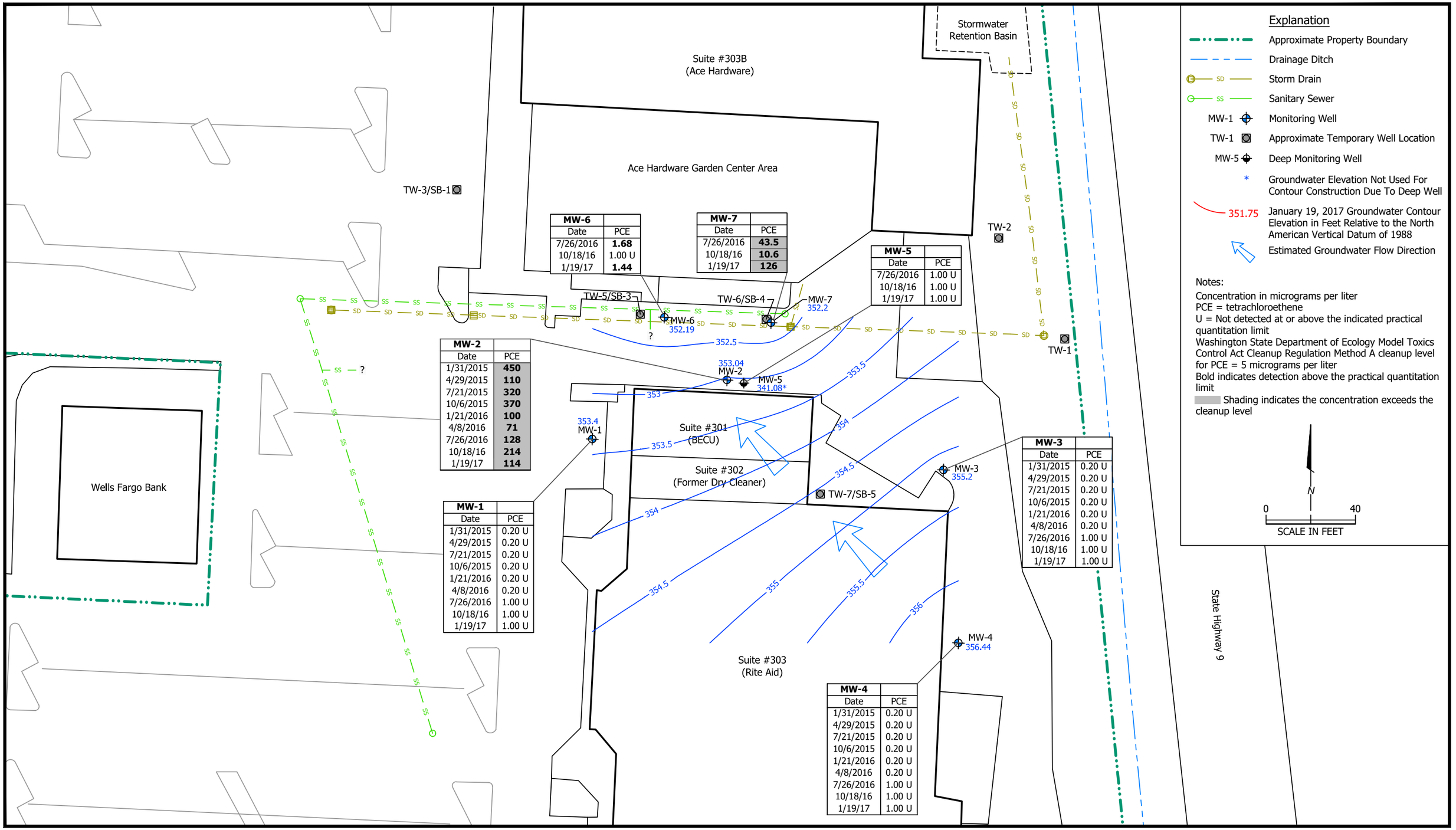
SCALE IN FEET

PES Environmental, Inc.
Engineering & Environmental Services

PCE Concentrations and Groundwater Contour Map - October 2016
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE 8

1246.038.03.002	124603803002_RAP17_8	KLR	11/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



MW-6	
Date	PCE
7/26/2016	**1.68**
10/18/16	1.00 U
1/19/17	**1.44**

MW-7	
Date	PCE
7/26/2016	**43.5**
10/18/16	**10.6**
1/19/17	**126**

MW-5	
Date	PCE
7/26/2016	1.00 U
10/18/16	1.00 U
1/19/17	1.00 U

MW-2	
Date	PCE
1/31/2015	**450**
4/29/2015	**110**
7/21/2015	**320**
10/6/2015	**370**
1/21/2016	**100**
4/8/2016	**71**
7/26/2016	**128**
10/18/16	**214**
1/19/17	**114**

MW-1	
Date	PCE
1/31/2015	0.20 U
4/29/2015	0.20 U
7/21/2015	0.20 U
10/6/2015	0.20 U
1/21/2016	0.20 U
4/8/2016	0.20 U
7/26/2016	1.00 U
10/18/16	1.00 U
1/19/17	1.00 U

MW-3	
Date	PCE
1/31/2015	0.20 U
4/29/2015	0.20 U
7/21/2015	0.20 U
10/6/2015	0.20 U
1/21/2016	0.20 U
4/8/2016	0.20 U
7/26/2016	1.00 U
10/18/16	1.00 U
1/19/17	1.00 U

MW-4	
Date	PCE
1/31/2015	0.20 U
4/29/2015	0.20 U
7/21/2015	0.20 U
10/6/2015	0.20 U
1/21/2016	0.20 U
4/8/2016	0.20 U
7/26/2016	1.00 U
10/18/16	1.00 U
1/19/17	1.00 U

Explanation

- Approximate Property Boundary
- Drainage Ditch
- SD — Storm Drain
- SS — Sanitary Sewer
- MW-1 — Monitoring Well
- TW-1 — Approximate Temporary Well Location
- MW-5 — Deep Monitoring Well
- * Groundwater Elevation Not Used For Contour Construction Due To Deep Well
- 351.75 — January 19, 2017 Groundwater Contour Elevation in Feet Relative to the North American Vertical Datum of 1988
- Estimated Groundwater Flow Direction

Notes:

Concentration in micrograms per liter
PCE = tetrachloroethene
U = Not detected at or above the indicated practical quantitation limit
Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation Method A cleanup level for PCE = 5 micrograms per liter
Bold indicates detection above the practical quantitation limit
Shading indicates the concentration exceeds the cleanup level

N

0 40

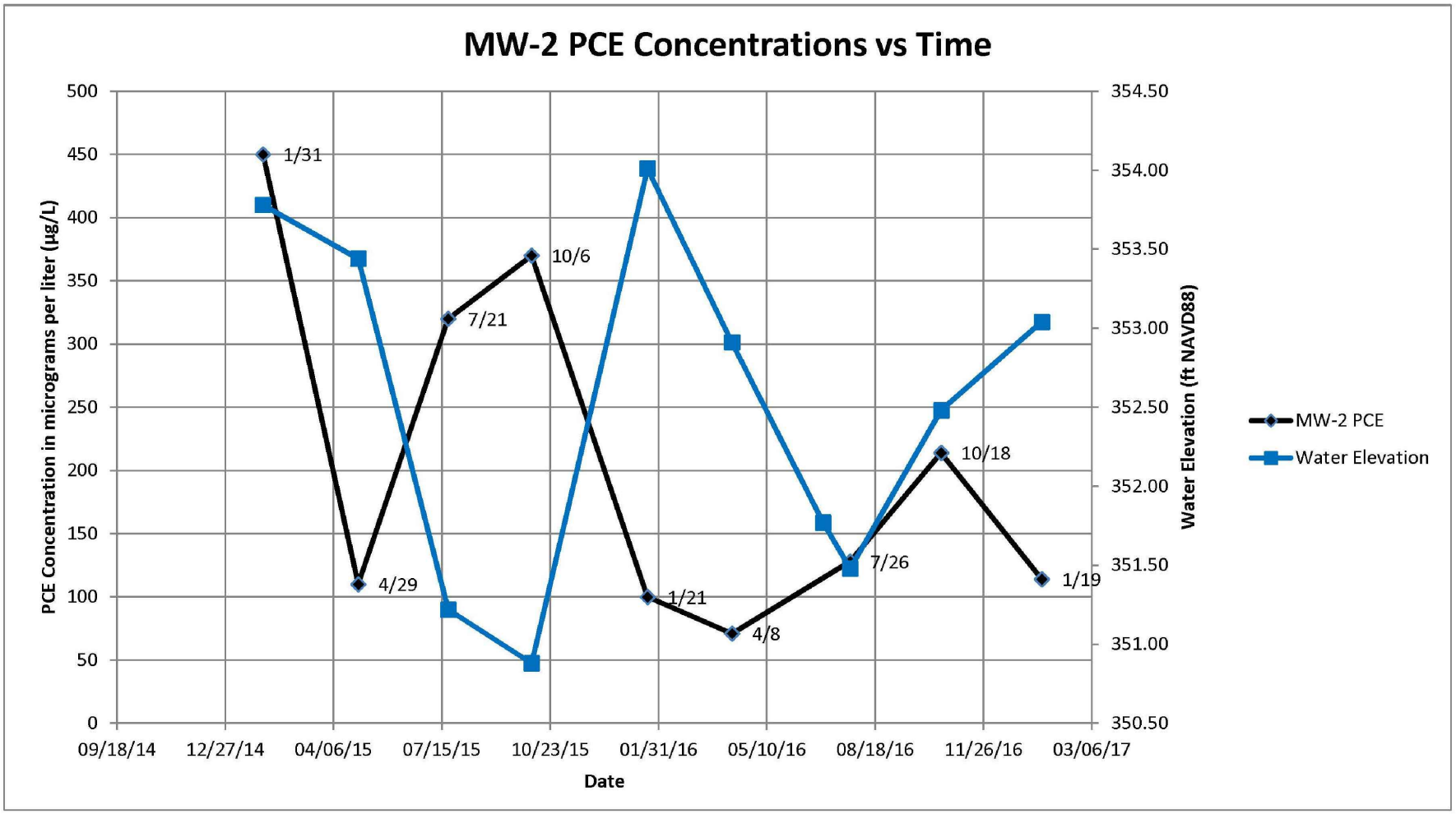
SCALE IN FEET

PES Environmental, Inc.
Engineering & Environmental Services

PCE Concentrations and Groundwater Contour Map - January 2017
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE 9

1246.038.03.002	124603803002_RAP17_9	KLR	11/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

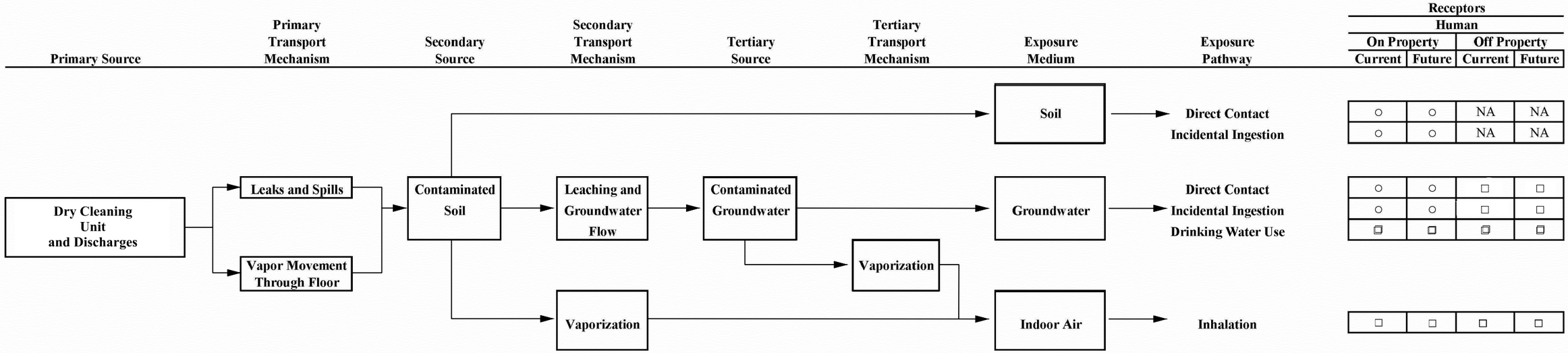


PES Environmental, Inc.
Engineering & Environmental Services

MW-2 PCE Concentrations vs Time
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
10

1246.038.03.002	124603803002_RAP17_10-11	KLR	11/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Legend

NA	Not applicable
●	Complete exposure pathway
○	Complete but minor exposure pathway
□	Incomplete exposure pathway

PES Environmental, Inc.
Engineering & Environmental Services

Conceptual Site Model
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
11

1246.038.03.002	124603803002_RAP17_10-11	*KLR*	11/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

APPENDIX A

Boring Logs

ADR Environmental Group, Inc.

Log of Soil Boring: B-1	Vapor Monitoring Device: PID
Location: Lake Stevens Cleaners 303 - 91st Avenue Everett, Washington	Drilling Time / Start: Date 10/21/13
	Finish Drilling: 10/21/13 Finish Well:
Project Number: WWFC 01-13-258-WA (A)	Water Depth (Date): NA
Drilling Company: ESN Northwest	Casing Elevation:
Drilled By:	Completion Depth: 5'
Drilling Method: DP	Logged By:
Sampling Method: Large Bore	Checked By: G. Galloway

Depth In Feet	Sample Interval	Soil Description	Graphic Log	USCS Classification	Boring Construction	Blows / 6 in.	Inches Driven	Inches Recovered	Comments	Sample Number	Field OVM/OVA Reading (PPM)
0		Concrete Surface									
1-3		SAND-Light Brown, course grained, moist, medium dense.		SP							
4		SILTY SAND-Orange Brown, fine grained, moist, medium dense.		SM					No Odor	1	0
5		T.D. @ 5'							Soil Vapor Sample @ 5'		
6-35											

WWFC-259-B1 11-28-13 PYM

ADR Environmental Group, Inc.

Log of Soil Boring: B-2	Vapor Monitoring Device: PID
Location: Lake Stevens Cleaners 303 - 91st Avenue Everett, Washington	Drilling Start: Time / Date: 10/21/13
	Finish Drilling: 10/21/13 Finish Well:
Project Number: WWFC 01-13-258-WA (A)	Water Depth (Date): NA
Drilling Company: ESN Northwest	Casing Elevation:
Drilled By:	Completion Depth: 5'
Drilling Method: DP	Logged By:
Sampling Method: Large Bore	Checked By: G. Galloway

Depth In Feet	Sample Interval	Soil Description	Graphic Log	USCS Classification	Boring Construction	Blows / 6 in.	Inches Driven	Inches Recovered	Comments	Sample Number	Field OVM/OVA Reading (PPM)
		Concrete Surface									
0		SAND-Light Brown, course grained, moist, medium dense.		SP							
4		SILTY SAND-Orange Brown, fine grained, moist, medium dense.		SM					No Odor	1	0
5		T.D. @ 5'							Soil Vapor Sample @ 5'		

WWFC-259-B2 11-28-13 PYM

ADR Environmental Group, Inc.

Log of Soil Boring: B-3	Vapor Monitoring Device: PID
Location: Lake Stevens Cleaners 303 - 91st Avenue Everett, Washington	Drilling Start: Time / Date: 10/21/13
	Finish Drilling: 10/21/13 Finish Well:
Project Number: WWFC 01-13-258-WA (A)	Water Depth (Date): NA
Drilling Company: ESN Northwest	Casing Elevation:
Drilled By:	Completion Depth: 5'
Drilling Method: DP	Logged By:
Sampling Method: Large Bore	Checked By: G. Galloway

Depth In Feet	Sample Interval	Soil Description	Graphic Log	USCS Classification	Boring Construction	Blows / 6 in.	Inches Driven	Inches Recovered	Comments	Sample Number	Field OVM/OVA Reading (PPM)
		Concrete Surface									
0		SAND-Light Brown, course grained, moist, medium dense.		SP							
4		SILTY SAND-Orange Brown, fine grained, moist, medium dense.		SM					No Odor	1	0
5		T.D. @ 5'							Soil Vapor Sample @ 5'		

WWFC-259-B3 11-28-13 PYM

ADR Environmental Group, Inc.

Log of Soil Boring: B-4	Vapor Monitoring Device: PID
Location: Lake Stevens Cleaners 303 - 91st Avenue Everett, Washington	Drilling Time / Start: Date: 10/21/13 Finish Drilling: 10/21/13 Finish Well:
Project Number: WWFC 01-13-258-WA (A)	Water Depth (Date): NA
Drilling Company: ESN Northwest Drilled By: Drilling Method: DP Sampling Method: Large Bore	Casing Elevation: Completion Depth: 5' Logged By: Checked By: G. Galloway

Depth In Feet	Sample Interval	Soil Description	Graphic Log	USCS Classification	Boring Construction	Blows / 6 in.	Inches Driven	Inches Recovered	Comments	Sample Number	Field OVM/OVA Reading (PPM)
		Asphalt Surface									
0		SAND-Reddish Brown, course grained, moist, medium dense.		SP							
4		SAND-Mottled Orange & Gray, medium grained, moist, medium dense.		SP					No Odor	1	0
5		T.D. @ 5'							Soil Vapor Sample @ 5'		

WWFC-259-B4 11-28-13 PYM

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 34040 **SOIL BORING LOG** Sheet 1 of 4

Project Name Lake Stevens Cleaners Boring No. P-1 Date & Time Started 10/27/2014
Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 1-1
Drilling Contractor Cascade Drilling Co. Drilling Method GeoProbe Total Depth 20'
Client Powers & Therrien Sample Retrieval Method Liner Diameter, Wt., Drop
Site Manager Gary Galloway Logged By Gary Galloway Max Depth 20'
Closure Method Bentonite Water Depth 7' Date & Time Completed 10/27/2014

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	**DESCRIPTION**
							Asphalt 0 to 0.25 feet bgs
							0.25' to 0.75' - Brown, fine to course grained sand, damp, medium dense (md), no odors or stains
							0.75' to 2' - Light gray,, course grained sand, damp, dense pieces of broken concrete, no odors, etc.
5							2' to 5' - Brown, medium to course grained sand, damp, dense pieces of broken concrete, no odors, etc.
			0.0				5' to 7' - Till - Grayish tan, silty to fine grained sand, damp, dense
							7' to 7.5' - Grayish tan with black, well-rounded gravel & pebbles (10%), wet
							7.5' to 17' - Tan, fine grained silty sand, dense, damp, no odors, etc.
10							17' to 20' - Gray, fine grained sand, wet, dense, no odors or stains
			0.0				
							Collect soil and water samples from 18', PID = 0.0
							NOTE: Water appears to be seeping into hole from approx. 7' bgs
15							
			0.0				
20							

Signature Gary Galloway **Date October 27, 2014**

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 34040 **SOIL BORING LOG** Sheet 2 of 4

Project Name Lake Stevens Cleaners Boring No. P-2 Date & Time Started 10/27/2014
Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 1-1
Drilling Contractor Cascade Drilling Co. Drilling Method GeoProbe Total Depth 20'
Client Powers & Therrien Sample Retrieval Method Liner Diameter, Wt., Drop
Site Manager Gary Galloway Logged By Gary Galloway Max Depth 20'
Closure Method Bentonite Water Depth 8' Date & Time Completed 10/27/2014

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	**DESCRIPTION**
							Asphalt 0 to 0.25 feet bgs
							0.25' to 1' - Brown, crushed rock (base), damp, dense
			0.0				1' to 3.5' - Dark brown, fine to med. grained sand, damp, md
							3.5' to 5' - Dark brown, fine to med. grained sand, damp, dense
							pieces of broken concrete, no odors, etc.
5							5' to 7.5'- Till - Dark brown, medium to course grained sand,
							damp, no odors, etc.
			0.0				7.5' to 8.2' - Till - Grayish brown, fine grained sand, moist to wet,
							dense Grayish tan with black, well-rounded gravel & pebbles
			0.0				8.2' to 17' - Gray, fine grained silty sand, very dense, (10%), damp
10							
			0.0				
							Collect soil and water samples from 20', PID = 0.0
							NOTE: Water appears to be seeping into hole from approx.
15			0.0				8' bgs
			0.0				
20							

Signature Gary Galloway **Date October 27, 2014**

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 34040 **SOIL BORING LOG** Sheet 3 of 4

Project Name Lake Stevens Cleaners Boring No. P-3 Date & Time Started 10/27/2014
Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 1-1
Drilling Contractor Cascade Drilling Co. Drilling Method GeoProbe Total Depth 10'
Client Powers & Therrien Sample Retrieval Method Liner Diameter, Wt., Drop
Site Manager Gary Galloway Logged By Gary Galloway Max Depth 10'
Closure Method Bentonite Water Depth 4.5' Date & Time Completed 10/27/2014

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	**DESCRIPTION**
							Asphalt 0 to 0.25 feet bgs
							0.25' to 1' - Dark brown, top soil damp, medium dense (md)
			0.0				1' to 4' - Tan, fine grained silty sand, moist at bottom, md, no
							odors or stains
			5.6				4' to 5' - Dark brown, fine to med. grained sand, damp, dense.
5							5' to 10'- Till - Tan to light brown, fine grained silty sand, water at
							4.5' bgs,, no odors, etc.
			1.2				
			0.0				
10			0.0				
							Collect soil and water samples from 4', PID = 0.0
15							
20							

Signature Gary Galloway **Date October 27, 2014**

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 34040 **SOIL BORING LOG** Sheet 4 of 4

Project Name Lake Stevens Cleaners Boring No. P-4 Date & Time Started 10/27/2014
Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 1-1
Drilling Contractor Cascade Drilling Co. Drilling Method GeoProbe Total Depth 12'
Client Powers & Therrien Sample Retrieval Method Liner Diameter, Wt., Drop
Site Manager Gary Galloway Logged By Gary Galloway Max Depth 12'
Closure Method Bentonite Water Depth no water Date & Time Completed 10/27/2014

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	**DESCRIPTION**
							Asphalt 0 to 0.25 feet bgs
							0.25' to 1.25' - Grayish brown, crushed rock (base), dense, damp
			0.0				1.25' to 4' - Greenish gray, fine to course grained sand, damp, no
							odors or stains
			0.0				4' to 5' - Dark brown, fine to med. grained sand (top soil), damp,
5							medium dense to dense
			0.0				5' to 7.5'- Till - Tan to light brown, fine grained silty sand, damp
							very dense, no odors or stains
			0.0				7.5' to 12' - Tan, fine grained silty sand, damp, very dense, no
							odors or stains, minor water seeping from approximately 7'
							below the ground surface (not enough water to sample)
10			0.0				
							Collect soil and water samples from 7', PID = 0.0
15							
20							

Signature Gary Galloway **Date October 27, 2014**

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 35003

SOIL BORING LOG

Sheet 1 of 4

Project Name Lake Stevens Cleaners Boring No. MW-1 Date & Time Started 1/21/2015

Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 3-1

Drilling Contractor Cascade Drilling Co. Drilling Method Hollow Stem Au Total Depth 15'

Client Lake Stevens Marketplace Sample Retrieval Method Spl Spoon Diameter, Wt., Drop

Site Manager Gary Galloway Logged By Gary Galloway Max Depth 15'

Closure Method GW Wells Water Depth 7' Date & Time Completed January 21, 2015

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	DESCRIPTION
							Asphalt 0 to 0.25 feet bgs
							0.25' to 0.75' - Brown, fine to course grained sand, damp, medium dense (md), no odors or stains
							0.75' to 2' - Light gray,, course grained sand, damp, dense pieces of broken concrete, no odors, etc.
5							2' to 5' - Brown, medium to course grained sand, damp, dense pieces of broken concrete, no odors, etc.
			0.0				5' to 7' - Till - Grayish tan, silty to fine grained sand, damp, dense
							7' to 7.5' - Grayish tan with black, well-rounded gravel & pebbles (10%), wet
							7.5' to 15' - Tan, fine grained silty sand, dense, damp, no odors, etc.
10							
			0.0				
							Collect soil sample at 8'
							NOTE: Water appears to be seeping into hole from approx. 7'
15			0.0				
			0.0				
20							

Signature Mary McCaney **Date** January 21, 2015

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 35003 **SOIL BORING LOG** Sheet 2 of 4

Project Name Lake Stevens Cleaners Boring No. MW-2 Date & Time Started 1/21/2015
Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 3-1
Drilling Contractor Cascade Drilling Co. Drilling Method Hollow Stem Au Total Depth 15'
Client Lake Stevens Marketplace Sample Retrieval Method Spl Spoon Diameter, Wt., Drop
Site Manager Gary Galloway Logged By Gary Galloway Max Depth 15'
Closure Method GW Wells Water Depth 6.5" Date & Time Completed January 21, 2015

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	DESCRIPTION
							Asphalt 0 to 0.25 feet bgs
							0.25' to 0.75' - Brown, fine to course grained sand, damp, medium dense (md), no odors or stains
							0.75' to 2' - Light gray,, course grained sand, damp, dense pieces of broken concrete, no odors, etc.
5							2' to 5' - Brown, medium to course grained sand, damp, dense pieces of broken concrete, no odors, etc.
			0.0				5' to 7' - Till - Grayish tan, silty to fine grained sand, damp, dense
							7' to 7.5' - Grayish tan with black, well-rounded gravel & pebbles (10%), wet
							7.5' to 15' - Tan, fine grained silty sand, dense, damp, no odors, etc.
10							
			0.0				
							Collect soil sample at 8'
							NOTE: Water appears to be seeping into hole from approx. 6.5'
15			0.0				
20							

Signature Gary M. Galloway **Date** January 21, 2015

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 34040 **SOIL BORING LOG** Sheet 3 of 4

Project Name Lake Stevens Cleaners Boring No. MW-3 Date & Time Started 1/27/2015
Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 3-1
Drilling Contractor Cascade Drilling Co. Drilling Method HSA Total Depth 13'
Client LS Marketplace LLC Sample Retrieval Method Split spoon Diameter, Wt., Drop
Site Manager Gary Galloway Logged By Gary Galloway Max Depth 13'
Closure Method Bentonite Water Depth 3' Date & Time Completed 1/27/2015

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	DESCRIPTION
							Asphalt 0 to 0.25 feet bgs
							0.25' to 1' - Dark brown, top soil damp, medium dense (md)
			0.0				1' to 4' - Tan, fine grained silty sand, moist at bottom, md, no odors or stains
			5.6				4' to 5' - Dark brown, fine to med. grained sand, damp, dense.
5							5' to 10'- Till - Tan to light brown, fine grained silty sand, water at 4.5' bgs,, no odors, etc.
			1.2				
			0.0				
10			0.0				
							Collect soil 8', PID = 0.0
15							
20							

Signature Mary McGalloway Date January 27, 2015

GALLOWAY ENVIRONMENTAL, INC., 3102-220th PL SE, Sammamish, WA 98075, phone (425) 688-8852

Project No. 34040 **SOIL BORING LOG** Sheet 4 of 4

Project Name Lake Stevens Cleaners Boring No. MW-4 Date & Time Started 1/27/2014
Project Location 303 91st Ave NE, Lake Stevens Boring Location See Figure 3-1
Drilling Contractor Cascade Drilling Co. Drilling Method GeoProbe Total Depth 15'
Client Powers & Therrien Sample Retrieval Method Split spoon Diameter, Wt., Drop
Site Manager Gary Galloway Logged By Gary Galloway Max Depth 15'
Closure Method GW monitor well Water Depth 3' Date & Time Completed 1/27/2015

Depth (feet)	Sample No.	Blows per 6"	PID/OVA(ppm)	Sheen	Odor	Discolored	DESCRIPTION
							Asphalt 0 to 0.25 feet bgs
							0.25' to 1.25' - Grayish brown, crushed rock (base), dense, damp
			0.0				1.25' to 4' - Greenish gray, fine to course grained sand, damp, no odors or stains
			0.0				4' to 5' - Dark brown, fine to med. grained sand (top soil), damp, medium dense to dense
5							
			0.0				5' to 7.5'- Till - Tan to light brown, fine grained silty sand, damp very dense, no odors or stains
			0.0				7.5' to 12' - Tan, fine grained silty sand, damp, very dense, no odors or stains, minor water seeping from approximately 7' below the ground surface (not enough water to sample)
10			0.0				
							Collect soil sample from 8', PID = 0.0
15							
20							

Signature Mary McCanny Date January 27, 2015

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LOG OF BORING: MW-5

Well Completion	PID (PPM)	Sample ID	Blow Count	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
						0		Asphalt (4 inches thick)
Concrete								angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 5 feet bgs)
						2		at 1 feet bgs: black geotextile fabric
								ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, (cleared with air-knife to 5 feeet bgs)
						4		BROWN SILTY SAND (SM), moist, very dense, fine to coarse, little fines, few to some subrounded to rounded gravel up to 3-inch diameter
	14.3		50/6	6		6		
	68.3	MW-5-7.5	40 50/6	11		8		
	13.6		50/6	6		10		
	10.3		50/6	6		12		
Bentonite						14		
2" Sch. 40 PVC Casing	7.5		50/6	6		16		
	5.5		50/6	6		18		
	3.4		50/6	6		20		
	1.6		50/6	6		22		
						24		

Project: Lake Stevens Phase II
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Notes:

Total Drilled Depth: 40.5 feet
Diameter of Boring: 14 and 8 inches
Drill Date: 7/20/16
Drilled By: Cascade Drilling, L.P.
Drill Method: Hollow Stem Auger

Well Completion	PID (PPM)	Sample ID	Blow Count	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	2.1		50/6	6		26		GRAY SILTY SAND (SM), moist, fine to medium, some fines, few to little subangular to subrounded gravel up to 3-inch diameter
Bentonite	15.8		50/6	5		28		
	3.2		50/6	6		30		
						32		at 32 feet bgs: higher moisture content
	2.6		50/6	6		34		
10x20 Silica Sand								
0.010-inch Sch. 40 PVC Screen	1.3		50/6	6		36		at 35 feet bgs: wet, little fines
								at 37.5 feet bgs: moist
	2.3		50/6	6		38		
End Cap	1.6		50/6	6		40		
						42		MONITORING WELL COMPLETION DETAILS: Bottom of boring at 40.5 feet. Well Completion Details: Well constructed with 2-inch i.d. Schedule 40 PVC pipe and 0.010-inch machine slotted screen with a 4-inch threaded endcap. Total Well Depth: 40.5 feet Well Sump/Endcap: 40.2 to 40.5 feet Well Screen: 30.2 to 40.2 feet Well Blank: 0.3 to 30.2 feet Filter Pack: 29 to 40.5 feet (10x20 silica sand) Well Seal: 3 to 29 feet (hydrated bentonite chips) Surface Seal: 0 to 3 feet (concrete) Well Monument: Flush with grade steel monument Washington Department of Ecology Well Tag Number: BJY 107 Note: 10 inch i.d. auger drilled to 25 feet, and 4 inch i.d. auger advanced to bottom of boring
						44		
						46		
						48		
						50		

Project: Lake Stevens Phase II
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Notes:

Total Drilled Depth: 40.5 feet
Diameter of Boring: 14 and 8 inches
Drill Date: 7/20/16
Drilled By: Cascade Drilling, L.P.
Drill Method: Hollow Stem Auger

PES Environmental, Inc.
Engineering & Environmental Services

LOG OF BORING: MW-6

Well Completion	PID (PPM)	Sample ID	Blow Count	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete						0		Asphalt (4 inches thick)
								Angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 4.5 feet bgs)
2" Sch. 40 PVC Casing						2		
Bentonite								at 3.5 feet bgs: black geotextile fabric
						4		ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, abundant mottling, (cleared with air-knife to 4.5 feet bgs)
	60.5	MW-6-5	7 13 14	14		6		BROWN SILTY SAND (SM), moist, medium dense, fine to medium, some fines, few subrounded to rounded gravel to 2.5-inch diameter, occasional orange staining
	48.7		17 50/6	12		8		at 7.5 feet bgs: very dense, no staining
10x20 Silica Sand	53.2		50/6	6		10		at 10 feet bgs: rare orange staining on gravel surfaces
0.010-inch Sch. 40 PVC Screen	7.6		50/6	6		12		
						14		
End Cap	5.0		50/6	6		16		MONITORING WELL COMPLETION DETAILS: Bottom of boring at 15.5 feet. Well Completion Details: Well constructed with 2-inch i.d. Schedule 40 PVC pipe and 0.010-inch machine slotted screen with a 4-inch threaded endcap. Total Well Depth: 15.5 feet Well Sump/Endcap: 15.2 to 15.5 feet Well Screen: 5.2 to 15.2 feet Well Blank: 0.3 to 5.2 feet Filter Pack: 4 to 15.5 feet (10x20 silica sand) Well Seal: 3 to 4 feet (hydrated bentonite chips) Surface Seal: 0 to 3 feet (concrete) Well Monument: Flush with grade steel monument Washington Department of Ecology Well Tag Number: BJY 108
						18		
						20		
						22		
						24		

Project: Lake Stevens Phase II
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Notes:

Total Drilled Depth: 15.5 feet
Diameter of Boring: 9 inches
Drill Date: 7/21/16
Drilled By: Cascade Drilling, L.P.
Drill Method: Hollow Stem Auger

PES Environmental, Inc.
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LOG OF BORING: MW-7

Well Completion	PID (PPM)	Sample ID	Blow Count	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete; 2" Sch. 40 PVC Casing; Bentonite						0		Asphalt (4 inches thick)
						2		ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, abundant mottling, (cleared with air-knife to 5 feet bgs)
						4		
	0.8	MW-7-5	13 13 17	16		6		BROWN SILTY SAND (SM), moist, dense, fine to medium, some fines, few up to little subrounded to rounded gravel to 2-inch diameter
	0.2		30 50/6	12		8		at 7.5 feet bgs: very dense, no staining, fine to coarse
10x20 Silica Sand; 0.010-inch Sch. 40 PVC Screen	0.5		50/6	6		10		at 10 feet bgs: rare orange staining, rare rootlets
	0.7		30 30 25	14		12		at 12.5 feet bgs: moist to wet, no rootlets
						14		
End Cap	0.5		50/6	6		16		MONITORING WELL COMPLETION DETAILS: Bottom of boring at 15.5 feet. Well Completion Details: Well constructed with 2-inch i.d. Schedule 40 PVC pipe and 0.010-inch machine slotted screen with a 4-inch threaded endcap. Total Well Depth: 15.5 feet Well Sump/Endcap: 15.2 to 15.5 feet Well Screen: 5.2 to 15.2 feet Well Blank: 0.3 to 5.2 feet Filter Pack: 4 to 15.5 feet (10x20 silica sand) Well Seal: 3 to 4 feet (hydrated bentonite chips) Surface Seal: 0 to 3 feet (concrete) Well Monument: Flush with grade steel monument Washington Department of Ecology Well Tag Number: BJY 109
						18		
						20		
						22		
						24		

Project: Lake Stevens Phase II
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Notes:

Total Drilled Depth: 15.5 feet
Diameter of Boring: 9 inches
Drill Date: 7/21/16
Drilled By: Cascade Drilling, L.P.
Drill Method: Hollow Stem Auger

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LOG OF BORING: TW-1

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		Grass and topsoil (2 inches)
		0.0		36			BROWN GRAVEL (GP), moist, fine to coarse angular gravel up to 2-inch diameter, few fine to coarse sand, trace fines, (FILL; soil logged with hand auger to 3 feet bgs)
		0.2					at 3 feet bgs: wet
				0			BROWN SILTY SAND (SM), moist to wet, very dense, fine to medium, little fines, trace coarse subrounded gravel up to 1.75-inch diameter
Bentonite					5		
		12.8		26			
	TW-1-8	20.6					
		10.9					
							Bottom of boring at 9 feet (refusal)
					10		Temporary Well: 3/4" Sch. 40 PVC screen from 4 to 9 feet bgs with 2x20 colorado silica sand annular fill from 3 to 9 feet bgs Water Sample: TW-1-W collected at 1425 Boring abandoned with hydrated bentonite chips
					15		

Project:	Lake Stevens Due Dilligence	Total Boring Depth:	9 feet
Project Number:	1246.038.02.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	3/17/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest,
Sample Method:	Direct Push	Drill Method:	Direct Push

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LOG OF BORING: TW-2

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		BROWN SILT WITH SAND (ML), moist, little fine to medium sand, abundant roots, organic odor, (top soil)
				30			BROWN SILTY SAND (SM), moist, fine to medium, some fines, trace fine to coarse subrounded gravel up to 0.5-inch diameter, (soil logged from hand auger to 2.5 feet bgs)
Bentonite		4.6		30			BROWN-ORANGE SILT WITH SAND (ML), moist, very dense, little fine to coarse sand, non-plastic fines, abundant orange staining
		3.2					
		4.2			5		
		4.0		12			
	TW-2-6	4.8					BROWN SILTY SAND (SM), wet, very dense, fine to coarse, some fines
							Bottom of boring at 6 feet (refusal)
							Temporary Well: 3/4" Sch. 40 PVC pre-pack screen from 1 to 6 feet bgs Water Sample: TW-2-W collected at 1515 Boring abandoned with hydrated bentonite chips
					10		
					15		

Project:	Lake Stevens Due Dilligence	Total Boring Depth:	6 feet
Project Number:	1246.038.02.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	3/17/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest,
Sample Method:	Direct Push	Drill Method:	Direct Push

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LOG OF BORING: TW-3

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		Asphalt (4 inches thick)
		0.7					BROWN SILTY SAND (SM), moist, fine to coarse, little fines, trace subangular gravel up to 1-inch diameter, (cleared with air-knife to 5.5 feet bgs)
					5		
Bentonite		1.2		34			BROWN SILTY SAND (SM), moist, dense to very dense, fine to medium, little fines, few angular to subrounded gravel up to 1-inch diameter, rare orange staining
		0.8					
		0.5					
		0.0		30	10		
		0.0					
							Bottom of boring at 11.5 feet (refusal)
							Boring abandoned with hydrated bentonite chips
					15		
					20		
					25		

Project:	Lake Stevens Phase II	Total Boring Depth:	11.5 feet
Project Number:	1246.038.03.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	7/7/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest, Inc.
Sample Method:	Direct Push	Drill Method:	Direct Push

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LOG OF BORING: TW-3a

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		Asphalt (4 inches thick)
		0.0		37			DARK GRAY SILT (ML), moist, few angular to round gravel up to 0.5-inch diameter, few fine to coarse sand, abundant orange staining at 1 foot bgs: color change to brown, gravel percentage decreases and sand percentage increases
		0.0					BROWN SILTY SAND (SM), moist, dense to very dense, fine to medium, little fines, few angular to subrounded gravel up to 1-inch diameter, rare orange staining
		0.0		26	5		
	SB-1a-8	0.0					at 9 feet bgs: percentage of fines and sand size vary over 6-inch thick horizons
		0.0		36	10		
							Bottom of boring at 11 feet (refusal) Temporary Well: 3/4" Sch. 40 PVC 0.020-inch screen from 6 to 11 feet bgs 10x20 Colorado Silica Sand from 6 to 11 feet bgs No water at time of drilling; Water level at 6.58 feet bgs after 12 hours Water Sample: TW-3-070816 collected 7/8/16 at 0610 Boring abandoned with hydrated bentonite chips
					15		
					20		
					25		

Project:	Lake Stevens Phase II	Total Boring Depth:	11 feet
Project Number:	1246.038.03.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	7/7/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest, Inc.
Sample Method:	Direct Push	Drill Method:	Direct Push

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LOG OF BORING: TW-4

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		Asphalt (4 inches thick)
							Angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 4.5 feet bgs)
							at 2.5 feet bgs: black geotextile fabric
		0.0					ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, abundant mottling, (cleared with air-knife to 4.5 feet bgs)
				6	5		BROWN SILTY SAND (SM), moist, fine to medium, little fines, few angular to subrounded gravel up to 1-inch diameter
	SB-2-6	1.6					BROWN SILT WITH SAND (ML), moist to wet, little fine to medium sand, abundant orange staining along partings, increasing percentage of fines with depth, trace gravel up to 0.25-inch diameter
Bentonite				36			
		0.1					
					10		BROWN SILTY SAND (SM), moist, very dense, fine to medium, little fines, few subrounded to rounded gravel up to 0.75-inch diameter, occasional horizons up to 6 inches thick with varying percentage of fines and sand size, occasional horizons up to 1 inch thick of orange mottling along bedding
		0.0					
		0.0		60			
		0.0					
					15		Bottom of boring at 15 feet (refusal)
							Boring abandoned with hydrated bentonite chips
					20		
					25		

Project:	Lake Stevens Phase II	Total Boring Depth:	15 feet
Project Number:	1246.038.03.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	7/7/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest, Inc.
Sample Method:	Direct Push	Drill Method:	Direct Push

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LOG OF BORING: TW-5

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		Asphalt (4 inches thick)
							Angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 4.5 feet bgs)
							at 0.75 feet bgs: black geotextile fabric
		0.0					at 3.5 feet bgs: black geotextile fabric
				6	5		ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, abundant mottling, (cleared with air-knife to 4.5 feet bgs)
Bentonite	SB-3-7	0.0					
				40			BROWN SILTY SAND (SM), moist, dense to very dense, fine to medium, little fines, few angular to subrounded gravel up to 1-inch diameter, rare orange staining
		0.1			10		
		0.0		48			
		0.0					
		0.0					
					15		Bottom of boring at 14 feet (refusal)
							Temporary Well: 3/4" Sch. 40 PVC 0.020-inch screen from 9 to 14 feet bgs 10x20 Colorado Silica Sand from 9 to 14 feet bgs No water at time of drilling; Water level at 9.80 feet bgs after 12 hours Water Sample: TW-5-070816 collected 7/8/16 at 0630 Boring abandoned with hydrated bentonite chips
					20		
					25		

Project:	Lake Stevens Phase II	Total Boring Depth:	14 feet
Project Number:	1246.038.03.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	7/7/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest, Inc.
Sample Method:	Direct Push	Drill Method:	Direct Push

PES Environmental, Inc.
Engineering & Environmental Services

LOG OF BORING: TW-6

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		Asphalt (4 inches thick)
		0.0					ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, abundant mottling, (cleared with air-knife to 5 feet bgs)
Bentonite					5		BROWN SILTY SAND (SM), moist, dense to very dense, fine to medium, little fines, few subangular to subrounded gravel up to 0.75-inch diameter, percentage of fines and sand size vary over 3- to 4-inch intervals
	SB-4-7	0.0		32			
		0.0					
		0.0		6	10		Bottom of boring at 10.5 feet (refusal) Temporary Well: 3/4" Sch. 40 PVC 0.020-inch screen from 5.5 to 10.5 feet bgs 10x20 Colorado Silica Sand from 5.5 to 10.5 feet bgs No water at time of drilling; Water level at 7.82 feet bgs after 12 hours Water Sample: TW-6-070816 collected 7/8/16 at 0645 Boring abandoned with hydrated bentonite chips
					15		
					20		
					25		

Project:	Lake Stevens Phase II	Total Boring Depth:	10.5 feet
Project Number:	1246.038.03.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	7/7/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest, Inc.
Sample Method:	Direct Push	Drill Method:	Direct Push

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LOG OF BORING: TW-7

Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
					0		DARK BROWN SILTY SAND (SM), moist, fine to medium, little fines, trace subrounded gravel up to 0.5-inch diameter, (landscaping soil; cleared with air-knife to 2 feet bgs)
							pea gravel, (excavation backfill)
		0.0		12			
Bentonite					5		BROWN SILTY SAND (SM), moist, dense to very dense, fine to medium, little fines, few subangular to subrounded gravel up to 0.75-inch diameter
	SB-5-8	0.4		50			
		0.6					
		0.0			10		Bottom of boring at 10 feet (refusal) Temporary Well: 3/4" Sch. 40 PVC 0.020-inch screen from 5 to 10 feet bgs 10x20 Colorado Silica Sand from 5 to 10 feet bgs No water sample was collected Boring abandoned with hydrated bentonite chips
					15		
					20		
					25		

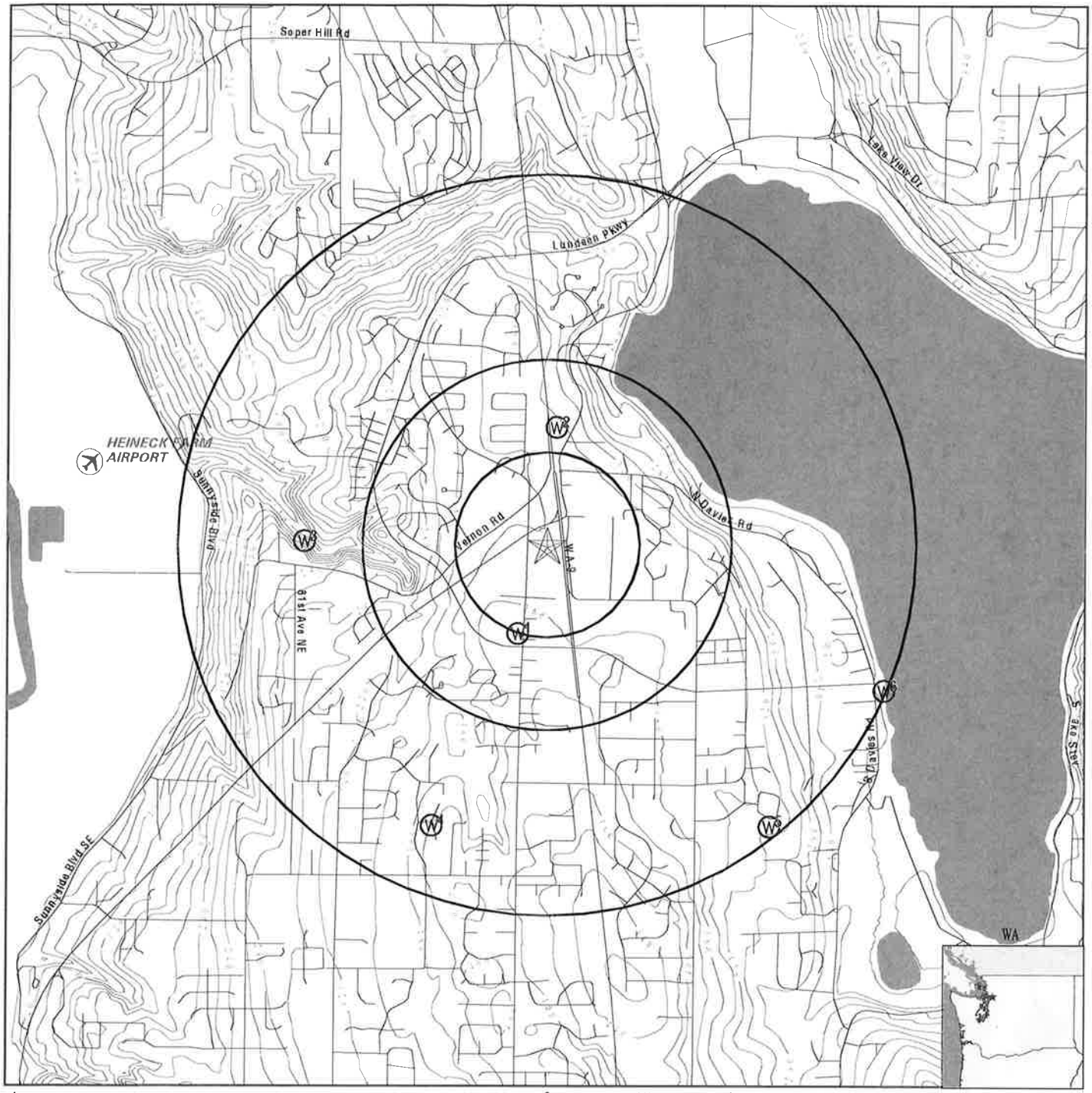
Project:	Lake Stevens Phase II	Total Boring Depth:	10 feet
Project Number:	1246.038.03.001	Diameter of Boring:	2.25 inches
Site Location:	Lake Stevens, WA	Date Drilled:	7/7/16
Logged By:	Chris DeBoer	Drilled By:	ESN Northwest, Inc.
Sample Method:	Direct Push	Drill Method:	Direct Push

APPENDIX B

Previous Consultant Tables, Figures, and EDRs

FIGURE 4-1 — POST EXCAVATION SOIL AND VAPOR SAMPLE MAP
Lake Stevens Cleaners Environmental Cleanup Report
Source: Google Maps 2013, GEI Project #35002

PHYSICAL SETTING SOURCE MAP - 4786492.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- (GI) Indeterminate Groundwater Flow at Location
- (GV) Groundwater Flow Varies at Location
- (HD) Closest Hydrogeological Data

SITE NAME: Parcels 00493400300207 and 00493400300208 ADDRESS: 511 91st Avenue NE Lake Stevens WA 98258 LAT/LONG: 48.001896 / 122.10706	CLIENT: PES Environmental CONTACT: Russell Stolsen INQUIRY #: 4786492.2s DATE: November 21, 2016 1:48 pm

7.0 SUMMARY OF REMEDIAL ALTERNATIVES EVALUATION

A summary of the costs, advantages and disadvantages for each alternative is presented in Table 7-1. These costs are based on certain assumptions and are specific to the site and the remedial alternative

TABLE 7-1 SUMMARY OF REMEDIAL ALTERNATIVES

Remedial Alternative	**Estimated Total Costs**	**Advantages**	**Disadvantages**
1) No Action	Not applicable	-Low costs -No cleanup time required	-Long-term liability -Does not meet regulatory requirements
2) Off-site disposal of source area soils	$75,000 (includes long-term groundwater monitoring)	-May meet regulatory requirements, but does not treat the impacted groundwater	-Least-cost alternative - May not achieve cleanup levels in groundwater an acceptable time frame -Potential long-term liability at an additional site
3) Off-site disposal of source area soils, bioremediation, and chemical oxidation	$100,000 (includes groundwater monitoring)	-Meets regulatory requirements -Permanent reduction in toxicity -Reduced long-term liability	-Will achieve cleanup goals at the site in a limited amount of time
4) Off-site disposal of source area soils, vapor extraction, air sparging, bioremediation, and chemical oxidation	$200,000 (includes groundwater monitoring)	-Meets regulatory requirements -Permanent reduction in toxicity -Reduced long-term liability	-Will achieve cleanup goals at the site in a minimum of time Air sparging and vapor extraction may not be necessary at this site due to the limited volume of impacted media.

7.1 PROPOSED REMEDIAL ALTERNATIVE DISCUSSION

Based on our comparison of potential remedial options, we proposed to use Remedial Alternative Number 3 — Excavation of accessible impacted soils, insitu chemical

APPENDIX C

Laboratory Analytical Reports and Data Validation Memorandum

ANALYTICAL REPORT

March 22, 2016

PES Environmental, Inc.- WA

Sample Delivery Group:	L824454
Samples Received:	03/19/2016
Project Number:	
Description:	
Site:	LAKE STEVENS
Report To:	Chris DeBoer 1215 Fourth Ave., Suite 1350 Seattle, WA 98161

Entire Report Reviewed By:

Jarred Willis
Technical Service Representative

[1]Cp: Cover Page 1

[2]Tc: Table of Contents 2

[3]Ss: Sample Summary 3

[4]Cn: Case Narrative 5

[5]Sr: Sample Results 6

SV1-031816 L824454-01 6

SV2-031816 L824454-02 7

SV3-031816 L824454-03 8

TW-1-8 L824454-04 9

TW-2-6 L824454-05 11

SV1-1.5 L824454-06 13

SV2-1 L824454-07 15

SV3-1.5 L824454-08 17

TW-1-W L824454-09 19

TW-2-W L824454-10 21

TRIP BLANK L824454-11 23

IA-031716 L824454-12 25

OA-031716 L824454-13 26

[6]Qc: Quality Control Summary 27

Total Solids by Method 2540 G-2011 27

Volatile Organic Compounds (MS) by Method TO-15 29

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SV1-031816 L824454-01 Air

Collected by: CJD | Collected date/time: 03/18/16 09:37 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG857955	1	03/21/16 12:18	03/21/16 12:18	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG857955	20	03/21/16 19:23	03/21/16 19:23	SNH

SV2-031816 L824454-02 Air

Collected by: CJD | Collected date/time: 03/18/16 09:50 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG857955	1	03/21/16 12:59	03/21/16 12:59	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG857955	200	03/21/16 19:58	03/21/16 19:58	SNH

SV3-031816 L824454-03 Air

Collected by: CJD | Collected date/time: 03/18/16 10:10 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG857955	1	03/21/16 13:40	03/21/16 13:40	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG857955	400	03/21/16 20:35	03/21/16 20:35	SNH

TW-1-8 L824454-04 Solid

Collected by: CJD | Collected date/time: 03/17/16 12:10 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG858087	1	03/21/16 15:27	03/21/16 15:36	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858268	1	03/22/16 02:48	03/22/16 08:59	ACG

TW-2-6 L824454-05 Solid

Collected by: CJD | Collected date/time: 03/17/16 13:10 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG857989	1	03/21/16 11:42	03/21/16 11:50	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857902	1	03/21/16 13:21	03/22/16 00:29	JAH

SV1-1.5 L824454-06 Solid

Collected by: CJD | Collected date/time: 03/18/16 12:05 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG857989	1	03/21/16 11:42	03/21/16 11:50	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857902	1	03/21/16 13:21	03/22/16 01:53	JAH

SV2-1 L824454-07 Solid

Collected by: CJD | Collected date/time: 03/18/16 12:30 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG857989	1	03/21/16 11:42	03/21/16 11:50	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857902	1	03/21/16 13:21	03/22/16 02:13	JAH

SV3-1.5 L824454-08 Solid

Collected by: CJD | Collected date/time: 03/18/16 13:10 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG857989	1	03/21/16 11:42	03/21/16 11:50	MEL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857902	1	03/21/16 13:21	03/22/16 03:41	JAH

TW-1-W L824454-09 GW

Collected by: CJD | Collected date/time: 03/17/16 14:25 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858242	1	03/22/16 07:10	03/22/16 07:10	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858383	1	03/22/16 13:41	03/22/16 13:41	JHH

TW-2-W L824454-10 GW

Collected by: CJD | Collected date/time: 03/17/16 15:15 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858242	1	03/22/16 07:30	03/22/16 07:30	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858383	1	03/22/16 14:02	03/22/16 14:02	JHH

TRIP BLANK L824454-11 GW

Collected by: CJD | Collected date/time: 03/17/16 00:00 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858242	1	03/22/16 06:51	03/22/16 06:51	DWR
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858383	1	03/22/16 12:59	03/22/16 12:59	JHH

IA-031716 L824454-12 Air

Collected by: CJD | Collected date/time: 03/17/16 17:30 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG857955	1	03/21/16 18:46	03/21/16 18:46	SNH

OA-031716 L824454-13 Air

Collected by: CJD | Collected date/time: 03/17/16 17:37 | Received date/time: 03/19/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG857955	1	03/21/16 15:04	03/21/16 15:04	SNH

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jarred Willis
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.0200	0.0639	0.0755	0.241	B	1	WG857955
Carbon tetrachloride	56-23-5	154	0.0200	0.126	0.0681	0.429		1	WG857955
Chloroethane	75-00-3	64.50	0.0400	0.106	ND	ND		1	WG857955
Chloroform	67-66-3	119	0.0200	0.0973	0.0645	0.314		1	WG857955
Chloromethane	74-87-3	50.50	0.0300	0.0620	ND	ND		1	WG857955
1,2-Dibromoethane	106-93-4	188	0.0200	0.154	ND	ND		1	WG857955
1,4-Dichlorobenzene	106-46-7	147	0.0200	0.120	0.0630	0.379		1	WG857955
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG857955
1,1-Dichloroethene	75-35-4	96.90	0.0200	0.0793	ND	ND		1	WG857955
cis-1,2-Dichloroethene	156-59-2	96.90	0.0200	0.0793	ND	ND		1	WG857955
trans-1,2-Dichloroethene	156-60-5	96.90	0.0200	0.0793	ND	ND		1	WG857955
1,2-Dichloropropane	78-87-5	113	0.0300	0.139	ND	ND		1	WG857955
cis-1,3-Dichloropropene	10061-01-5	111	0.0200	0.0908	ND	ND		1	WG857955
trans-1,3-Dichloropropene	10061-02-6	111	0.0300	0.136	ND	ND		1	WG857955
Ethylbenzene	100-41-4	106	0.0300	0.130	0.189	0.819		1	WG857955
1,1,2,2-Tetrachloroethane	79-34-5	168	0.0200	0.137	ND	ND		1	WG857955
Tetrachloroethylene	127-18-4	166	0.400	2.72	11.0	75.0		20	WG857955
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	ND	ND		1	WG857955
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG857955
Trichloroethylene	79-01-6	131	0.0200	0.107	0.254	1.36		1	WG857955
Vinyl chloride	75-01-4	62.50	0.0200	0.0511	ND	ND		1	WG857955
Vinyl acetate	108-05-4	86.10	0.0200	0.0704	ND	ND		1	WG857955
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*107*				WG857955

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.0200	0.0639	0.0920	0.294	B	1	WG857955
Carbon tetrachloride	56-23-5	154	0.0200	0.126	0.0682	0.429		1	WG857955
Chloroethane	75-00-3	64.50	0.0400	0.106	ND	ND		1	WG857955
Chloroform	67-66-3	119	0.0200	0.0973	0.250	1.22		1	WG857955
Chloromethane	74-87-3	50.50	0.0300	0.0620	ND	ND		1	WG857955
1,2-Dibromoethane	106-93-4	188	0.0200	0.154	ND	ND		1	WG857955
1,4-Dichlorobenzene	106-46-7	147	0.0200	0.120	0.0688	0.413		1	WG857955
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG857955
1,1-Dichloroethene	75-35-4	96.90	0.0200	0.0793	ND	ND		1	WG857955
cis-1,2-Dichloroethene	156-59-2	96.90	0.0200	0.0793	0.0847	0.336		1	WG857955
trans-1,2-Dichloroethene	156-60-5	96.90	0.0200	0.0793	ND	ND		1	WG857955
1,2-Dichloropropane	78-87-5	113	0.0300	0.139	ND	ND		1	WG857955
cis-1,3-Dichloropropene	10061-01-5	111	0.0200	0.0908	ND	ND		1	WG857955
trans-1,3-Dichloropropene	10061-02-6	111	0.0300	0.136	ND	ND		1	WG857955
Ethylbenzene	100-41-4	106	0.0300	0.130	0.356	1.54		1	WG857955
1,1,2,2-Tetrachloroethane	79-34-5	168	0.0200	0.137	ND	ND		1	WG857955
Tetrachloroethylene	127-18-4	166	4.00	27.2	75.8	515		200	WG857955
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	ND	ND		1	WG857955
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG857955
Trichloroethylene	79-01-6	131	0.0200	0.107	0.827	4.43		1	WG857955
Vinyl chloride	75-01-4	62.50	0.0200	0.0511	ND	ND		1	WG857955
Vinyl acetate	108-05-4	86.10	0.0200	0.0704	ND	ND		1	WG857955
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*109*				WG857955

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.0200	0.0639	0.634	2.02		1	WG857955
Carbon tetrachloride	56-23-5	154	0.0200	0.126	0.0621	0.391		1	WG857955
Chloroethane	75-00-3	64.50	0.0400	0.106	ND	ND		1	WG857955
Chloroform	67-66-3	119	0.0200	0.0973	0.647	3.15		1	WG857955
Chloromethane	74-87-3	50.50	0.0300	0.0620	ND	ND		1	WG857955
1,2-Dibromoethane	106-93-4	188	0.0200	0.154	ND	ND		1	WG857955
1,4-Dichlorobenzene	106-46-7	147	0.0200	0.120	0.126	0.756		1	WG857955
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG857955
1,1-Dichloroethene	75-35-4	96.90	0.0200	0.0793	ND	ND		1	WG857955
cis-1,2-Dichloroethene	156-59-2	96.90	0.0200	0.0793	0.207	0.821		1	WG857955
trans-1,2-Dichloroethene	156-60-5	96.90	0.0200	0.0793	ND	ND		1	WG857955
1,2-Dichloropropane	78-87-5	113	0.0300	0.139	ND	ND		1	WG857955
cis-1,3-Dichloropropene	10061-01-5	111	0.0200	0.0908	ND	ND		1	WG857955
trans-1,3-Dichloropropene	10061-02-6	111	0.0300	0.136	ND	ND		1	WG857955
Ethylbenzene	100-41-4	106	12.0	52.0	ND	ND		400	WG857955
1,1,2,2-Tetrachloroethane	79-34-5	168	0.0200	0.137	ND	ND		1	WG857955
Tetrachloroethylene	127-18-4	166	8.00	54.3	173	1170		400	WG857955
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	ND	ND		1	WG857955
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG857955
Trichloroethylene	79-01-6	131	8.00	42.9	ND	ND		400	WG857955
Vinyl chloride	75-01-4	62.50	0.0200	0.0511	ND	ND		1	WG857955
Vinyl acetate	108-05-4	86.10	0.0200	0.0704	ND	ND		1	WG857955
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*110*				WG857955

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.4		1	03/21/2016 15:36	WG858087

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0553	1	03/22/2016 08:59	WG858268
Acrylonitrile	ND		0.0111	1	03/22/2016 08:59	WG858268
Benzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Bromobenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Bromodichloromethane	ND		0.00111	1	03/22/2016 08:59	WG858268
Bromoform	ND		0.00111	1	03/22/2016 08:59	WG858268
Bromomethane	ND		0.00553	1	03/22/2016 08:59	WG858268
n-Butylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
sec-Butylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
tert-Butylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Carbon tetrachloride	ND		0.00111	1	03/22/2016 08:59	WG858268
Chlorobenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Chlorodibromomethane	ND		0.00111	1	03/22/2016 08:59	WG858268
Chloroethane	ND		0.00553	1	03/22/2016 08:59	WG858268
2-Chloroethyl vinyl ether	ND		0.0553	1	03/22/2016 08:59	WG858268
Chloroform	ND		0.00553	1	03/22/2016 08:59	WG858268
Chloromethane	ND		0.00277	1	03/22/2016 08:59	WG858268
2-Chlorotoluene	ND		0.00111	1	03/22/2016 08:59	WG858268
4-Chlorotoluene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,2-Dibromo-3-Chloropropane	ND		0.00553	1	03/22/2016 08:59	WG858268
1,2-Dibromoethane	ND		0.00111	1	03/22/2016 08:59	WG858268
Dibromomethane	ND		0.00111	1	03/22/2016 08:59	WG858268
1,2-Dichlorobenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,3-Dichlorobenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,4-Dichlorobenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Dichlorodifluoromethane	ND		0.00553	1	03/22/2016 08:59	WG858268
1,1-Dichloroethane	ND		0.00111	1	03/22/2016 08:59	WG858268
1,2-Dichloroethane	ND		0.00111	1	03/22/2016 08:59	WG858268
1,1-Dichloroethene	ND		0.00111	1	03/22/2016 08:59	WG858268
cis-1,2-Dichloroethene	ND		0.00111	1	03/22/2016 08:59	WG858268
trans-1,2-Dichloroethene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,2-Dichloropropane	ND		0.00111	1	03/22/2016 08:59	WG858268
1,1-Dichloropropene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,3-Dichloropropane	ND		0.00111	1	03/22/2016 08:59	WG858268
cis-1,3-Dichloropropene	ND		0.00111	1	03/22/2016 08:59	WG858268
trans-1,3-Dichloropropene	ND		0.00111	1	03/22/2016 08:59	WG858268
2,2-Dichloropropane	ND		0.00111	1	03/22/2016 08:59	WG858268
Di-isopropyl ether	ND		0.00111	1	03/22/2016 08:59	WG858268
Ethylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Hexachloro-1,3-butadiene	ND		0.00111	1	03/22/2016 08:59	WG858268
Isopropylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
p-Isopropyltoluene	ND		0.00111	1	03/22/2016 08:59	WG858268
2-Butanone (MEK)	ND		0.0111	1	03/22/2016 08:59	WG858268
Methylene Chloride	ND		0.00553	1	03/22/2016 08:59	WG858268
4-Methyl-2-pentanone (MIBK)	ND		0.0111	1	03/22/2016 08:59	WG858268
Methyl tert-butyl ether	ND		0.00111	1	03/22/2016 08:59	WG858268
Naphthalene	ND		0.00553	1	03/22/2016 08:59	WG858268
n-Propylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Styrene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,1,1,2-Tetrachloroethane	ND		0.00111	1	03/22/2016 08:59	WG858268

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00111	1	03/22/2016 08:59	WG858268
1,1,2-Trichlorotrifluoroethane	ND		0.00111	1	03/22/2016 08:59	WG858268
Tetrachloroethene	ND		0.00111	1	03/22/2016 08:59	WG858268
Toluene	ND		0.00553	1	03/22/2016 08:59	WG858268
1,2,3-Trichlorobenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,2,4-Trichlorobenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,1,1-Trichloroethane	ND		0.00111	1	03/22/2016 08:59	WG858268
1,1,2-Trichloroethane	ND		0.00111	1	03/22/2016 08:59	WG858268
Trichloroethene	ND		0.00111	1	03/22/2016 08:59	WG858268
Trichlorofluoromethane	ND		0.00553	1	03/22/2016 08:59	WG858268
1,2,3-Trichloropropane	ND		0.00277	1	03/22/2016 08:59	WG858268
1,2,4-Trimethylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
1,2,3-Trimethylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Vinyl chloride	ND		0.00111	1	03/22/2016 08:59	WG858268
1,3,5-Trimethylbenzene	ND		0.00111	1	03/22/2016 08:59	WG858268
Xylenes, Total	ND		0.00332	1	03/22/2016 08:59	WG858268
(S) Toluene-d8	*102*		*88.7-115*		*03/22/2016 08:59*	WG858268
(S) Dibromofluoromethane	*112*		*76.3-123*		*03/22/2016 08:59*	WG858268
(S) 4-Bromofluorobenzene	*97.8*		*69.7-129*		*03/22/2016 08:59*	WG858268

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.2		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0573	1	03/22/2016 00:29	WG857902
Acrylonitrile	ND		0.0115	1	03/22/2016 00:29	WG857902
Benzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromodichloromethane	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromoform	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromomethane	ND		0.00573	1	03/22/2016 00:29	WG857902
n-Butylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
sec-Butylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
tert-Butylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Carbon tetrachloride	ND		0.00115	1	03/22/2016 00:29	WG857902
Chlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Chlorodibromomethane	ND		0.00115	1	03/22/2016 00:29	WG857902
Chloroethane	ND		0.00573	1	03/22/2016 00:29	WG857902
2-Chloroethyl vinyl ether	ND		0.0573	1	03/22/2016 00:29	WG857902
Chloroform	ND		0.00573	1	03/22/2016 00:29	WG857902
Chloromethane	ND		0.00287	1	03/22/2016 00:29	WG857902
2-Chlorotoluene	ND		0.00115	1	03/22/2016 00:29	WG857902
4-Chlorotoluene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00573	1	03/22/2016 00:29	WG857902
1,2-Dibromoethane	ND		0.00115	1	03/22/2016 00:29	WG857902
Dibromomethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,3-Dichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,4-Dichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Dichlorodifluoromethane	ND		0.00573	1	03/22/2016 00:29	WG857902
1,1-Dichloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dichloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1-Dichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
cis-1,2-Dichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
trans-1,2-Dichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dichloropropane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1-Dichloropropene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,3-Dichloropropane	ND		0.00115	1	03/22/2016 00:29	WG857902
cis-1,3-Dichloropropene	ND		0.00115	1	03/22/2016 00:29	WG857902
trans-1,3-Dichloropropene	ND		0.00115	1	03/22/2016 00:29	WG857902
2,2-Dichloropropane	ND		0.00115	1	03/22/2016 00:29	WG857902
Di-isopropyl ether	ND		0.00115	1	03/22/2016 00:29	WG857902
Ethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Hexachloro-1,3-butadiene	ND		0.00115	1	03/22/2016 00:29	WG857902
Isopropylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
p-Isopropyltoluene	ND		0.00115	1	03/22/2016 00:29	WG857902
2-Butanone (MEK)	ND		0.0115	1	03/22/2016 00:29	WG857902
Methylene Chloride	ND		0.00573	1	03/22/2016 00:29	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0115	1	03/22/2016 00:29	WG857902
Methyl tert-butyl ether	ND		0.00115	1	03/22/2016 00:29	WG857902
Naphthalene	ND		0.00573	1	03/22/2016 00:29	WG857902
n-Propylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Styrene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND	J4	0.00115	1	03/22/2016 00:29	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00115	1	03/22/2016 00:29	WG857902
Tetrachloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
Toluene	ND		0.00573	1	03/22/2016 00:29	WG857902
1,2,3-Trichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2,4-Trichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1,1-Trichloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1,2-Trichloroethane	ND	J4	0.00115	1	03/22/2016 00:29	WG857902
Trichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
Trichlorofluoromethane	ND		0.00573	1	03/22/2016 00:29	WG857902
1,2,3-Trichloropropane	ND		0.00287	1	03/22/2016 00:29	WG857902
1,2,4-Trimethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2,3-Trimethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Vinyl chloride	ND		0.00115	1	03/22/2016 00:29	WG857902
1,3,5-Trimethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Xylenes, Total	ND		0.00344	1	03/22/2016 00:29	WG857902
(S) Toluene-d8	*102*		*88.7-115*		*03/22/2016 00:29*	WG857902
(S) Dibromofluoromethane	*104*		*76.3-123*		*03/22/2016 00:29*	WG857902
(S) 4-Bromofluorobenzene	*91.4*		*69.7-129*		*03/22/2016 00:29*	WG857902

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.6		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0534	1	03/22/2016 01:53	WG857902
Acrylonitrile	ND		0.0107	1	03/22/2016 01:53	WG857902
Benzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromodichloromethane	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromoform	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromomethane	ND		0.00534	1	03/22/2016 01:53	WG857902
n-Butylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
sec-Butylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
tert-Butylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Carbon tetrachloride	ND		0.00107	1	03/22/2016 01:53	WG857902
Chlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Chlorodibromomethane	ND		0.00107	1	03/22/2016 01:53	WG857902
Chloroethane	ND		0.00534	1	03/22/2016 01:53	WG857902
2-Chloroethyl vinyl ether	ND		0.0534	1	03/22/2016 01:53	WG857902
Chloroform	ND		0.00534	1	03/22/2016 01:53	WG857902
Chloromethane	ND		0.00267	1	03/22/2016 01:53	WG857902
2-Chlorotoluene	ND		0.00107	1	03/22/2016 01:53	WG857902
4-Chlorotoluene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00534	1	03/22/2016 01:53	WG857902
1,2-Dibromoethane	ND		0.00107	1	03/22/2016 01:53	WG857902
Dibromomethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,3-Dichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,4-Dichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Dichlorodifluoromethane	ND		0.00534	1	03/22/2016 01:53	WG857902
1,1-Dichloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dichloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1-Dichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
cis-1,2-Dichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
trans-1,2-Dichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dichloropropane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1-Dichloropropene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,3-Dichloropropane	ND		0.00107	1	03/22/2016 01:53	WG857902
cis-1,3-Dichloropropene	ND		0.00107	1	03/22/2016 01:53	WG857902
trans-1,3-Dichloropropene	ND		0.00107	1	03/22/2016 01:53	WG857902
2,2-Dichloropropane	ND		0.00107	1	03/22/2016 01:53	WG857902
Di-isopropyl ether	ND		0.00107	1	03/22/2016 01:53	WG857902
Ethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Hexachloro-1,3-butadiene	ND		0.00107	1	03/22/2016 01:53	WG857902
Isopropylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
p-Isopropyltoluene	ND		0.00107	1	03/22/2016 01:53	WG857902
2-Butanone (MEK)	ND		0.0107	1	03/22/2016 01:53	WG857902
Methylene Chloride	ND		0.00534	1	03/22/2016 01:53	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0107	1	03/22/2016 01:53	WG857902
Methyl tert-butyl ether	ND		0.00107	1	03/22/2016 01:53	WG857902
Naphthalene	ND		0.00534	1	03/22/2016 01:53	WG857902
n-Propylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Styrene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND	J4	0.00107	1	03/22/2016 01:53	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00107	1	03/22/2016 01:53	WG857902
Tetrachloroethene	0.00167		0.00107	1	03/22/2016 01:53	WG857902
Toluene	ND		0.00534	1	03/22/2016 01:53	WG857902
1,2,3-Trichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2,4-Trichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1,1-Trichloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1,2-Trichloroethane	ND	J4	0.00107	1	03/22/2016 01:53	WG857902
Trichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
Trichlorofluoromethane	ND		0.00534	1	03/22/2016 01:53	WG857902
1,2,3-Trichloropropane	ND		0.00267	1	03/22/2016 01:53	WG857902
1,2,4-Trimethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2,3-Trimethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Vinyl chloride	ND		0.00107	1	03/22/2016 01:53	WG857902
1,3,5-Trimethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Xylenes, Total	ND		0.00321	1	03/22/2016 01:53	WG857902
(S) Toluene-d8	*103*		*88.7-115*		*03/22/2016 01:53*	WG857902
(S) Dibromofluoromethane	*105*		*76.3-123*		*03/22/2016 01:53*	WG857902
(S) 4-Bromofluorobenzene	*89.9*		*69.7-129*		*03/22/2016 01:53*	WG857902

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.8		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0545	1	03/22/2016 02:13	WG857902
Acrylonitrile	ND		0.0109	1	03/22/2016 02:13	WG857902
Benzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromodichloromethane	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromoform	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromomethane	ND		0.00545	1	03/22/2016 02:13	WG857902
n-Butylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
sec-Butylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
tert-Butylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Carbon tetrachloride	ND		0.00109	1	03/22/2016 02:13	WG857902
Chlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Chlorodibromomethane	ND		0.00109	1	03/22/2016 02:13	WG857902
Chloroethane	ND		0.00545	1	03/22/2016 02:13	WG857902
2-Chloroethyl vinyl ether	ND		0.0545	1	03/22/2016 02:13	WG857902
Chloroform	ND		0.00545	1	03/22/2016 02:13	WG857902
Chloromethane	ND		0.00272	1	03/22/2016 02:13	WG857902
2-Chlorotoluene	ND		0.00109	1	03/22/2016 02:13	WG857902
4-Chlorotoluene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00545	1	03/22/2016 02:13	WG857902
1,2-Dibromoethane	ND		0.00109	1	03/22/2016 02:13	WG857902
Dibromomethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,3-Dichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,4-Dichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Dichlorodifluoromethane	ND		0.00545	1	03/22/2016 02:13	WG857902
1,1-Dichloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dichloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1-Dichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
cis-1,2-Dichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
trans-1,2-Dichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dichloropropane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1-Dichloropropene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,3-Dichloropropane	ND		0.00109	1	03/22/2016 02:13	WG857902
cis-1,3-Dichloropropene	ND		0.00109	1	03/22/2016 02:13	WG857902
trans-1,3-Dichloropropene	ND		0.00109	1	03/22/2016 02:13	WG857902
2,2-Dichloropropane	ND		0.00109	1	03/22/2016 02:13	WG857902
Di-isopropyl ether	ND		0.00109	1	03/22/2016 02:13	WG857902
Ethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Hexachloro-1,3-butadiene	ND		0.00109	1	03/22/2016 02:13	WG857902
Isopropylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
p-Isopropyltoluene	ND		0.00109	1	03/22/2016 02:13	WG857902
2-Butanone (MEK)	ND		0.0109	1	03/22/2016 02:13	WG857902
Methylene Chloride	ND		0.00545	1	03/22/2016 02:13	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0109	1	03/22/2016 02:13	WG857902
Methyl tert-butyl ether	ND		0.00109	1	03/22/2016 02:13	WG857902
Naphthalene	ND		0.00545	1	03/22/2016 02:13	WG857902
n-Propylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Styrene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND	J4	0.00109	1	03/22/2016 02:13	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00109	1	03/22/2016 02:13	WG857902
Tetrachloroethene	0.00573		0.00109	1	03/22/2016 02:13	WG857902
Toluene	ND		0.00545	1	03/22/2016 02:13	WG857902
1,2,3-Trichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2,4-Trichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1,1-Trichloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1,2-Trichloroethane	ND	J4	0.00109	1	03/22/2016 02:13	WG857902
Trichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
Trichlorofluoromethane	ND		0.00545	1	03/22/2016 02:13	WG857902
1,2,3-Trichloropropane	ND		0.00272	1	03/22/2016 02:13	WG857902
1,2,4-Trimethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2,3-Trimethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Vinyl chloride	ND		0.00109	1	03/22/2016 02:13	WG857902
1,3,5-Trimethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Xylenes, Total	ND		0.00327	1	03/22/2016 02:13	WG857902
(S) Toluene-d8	*103*		*88.7-115*		*03/22/2016 02:13*	WG857902
(S) Dibromofluoromethane	*104*		*76.3-123*		*03/22/2016 02:13*	WG857902
(S) 4-Bromofluorobenzene	*90.4*		*69.7-129*		*03/22/2016 02:13*	WG857902

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.5		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0529	1	03/22/2016 03:41	WG857902
Acrylonitrile	ND		0.0106	1	03/22/2016 03:41	WG857902
Benzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromodichloromethane	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromoform	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromomethane	ND		0.00529	1	03/22/2016 03:41	WG857902
n-Butylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
sec-Butylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
tert-Butylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Carbon tetrachloride	ND		0.00106	1	03/22/2016 03:41	WG857902
Chlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Chlorodibromomethane	ND		0.00106	1	03/22/2016 03:41	WG857902
Chloroethane	ND		0.00529	1	03/22/2016 03:41	WG857902
2-Chloroethyl vinyl ether	ND		0.0529	1	03/22/2016 03:41	WG857902
Chloroform	ND		0.00529	1	03/22/2016 03:41	WG857902
Chloromethane	ND		0.00264	1	03/22/2016 03:41	WG857902
2-Chlorotoluene	ND		0.00106	1	03/22/2016 03:41	WG857902
4-Chlorotoluene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00529	1	03/22/2016 03:41	WG857902
1,2-Dibromoethane	ND		0.00106	1	03/22/2016 03:41	WG857902
Dibromomethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,3-Dichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,4-Dichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Dichlorodifluoromethane	ND		0.00529	1	03/22/2016 03:41	WG857902
1,1-Dichloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dichloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1-Dichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
cis-1,2-Dichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
trans-1,2-Dichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dichloropropane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1-Dichloropropene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,3-Dichloropropane	ND		0.00106	1	03/22/2016 03:41	WG857902
cis-1,3-Dichloropropene	ND		0.00106	1	03/22/2016 03:41	WG857902
trans-1,3-Dichloropropene	ND		0.00106	1	03/22/2016 03:41	WG857902
2,2-Dichloropropane	ND		0.00106	1	03/22/2016 03:41	WG857902
Di-isopropyl ether	ND		0.00106	1	03/22/2016 03:41	WG857902
Ethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Hexachloro-1,3-butadiene	ND		0.00106	1	03/22/2016 03:41	WG857902
Isopropylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
p-Isopropyltoluene	ND		0.00106	1	03/22/2016 03:41	WG857902
2-Butanone (MEK)	ND		0.0106	1	03/22/2016 03:41	WG857902
Methylene Chloride	ND		0.00529	1	03/22/2016 03:41	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0106	1	03/22/2016 03:41	WG857902
Methyl tert-butyl ether	ND		0.00106	1	03/22/2016 03:41	WG857902
Naphthalene	ND		0.00529	1	03/22/2016 03:41	WG857902
n-Propylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Styrene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND	J4	0.00106	1	03/22/2016 03:41	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00106	1	03/22/2016 03:41	WG857902
Tetrachloroethene	0.00442		0.00106	1	03/22/2016 03:41	WG857902
Toluene	ND		0.00529	1	03/22/2016 03:41	WG857902
1,2,3-Trichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2,4-Trichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1,1-Trichloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1,2-Trichloroethane	ND	J4	0.00106	1	03/22/2016 03:41	WG857902
Trichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
Trichlorofluoromethane	ND		0.00529	1	03/22/2016 03:41	WG857902
1,2,3-Trichloropropane	ND		0.00264	1	03/22/2016 03:41	WG857902
1,2,4-Trimethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2,3-Trimethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Vinyl chloride	ND		0.00106	1	03/22/2016 03:41	WG857902
1,3,5-Trimethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Xylenes, Total	ND		0.00317	1	03/22/2016 03:41	WG857902
(S) Toluene-d8	*103*		*88.7-115*		*03/22/2016 03:41*	WG857902
(S) Dibromofluoromethane	*106*		*76.3-123*		*03/22/2016 03:41*	WG857902
(S) 4-Bromofluorobenzene	*90.4*		*69.7-129*		*03/22/2016 03:41*	WG857902

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	03/22/2016 07:10	WG858242
Acrolein	ND		50.0	1	03/22/2016 07:10	WG858242
Acrylonitrile	ND		10.0	1	03/22/2016 07:10	WG858242
Benzene	ND		1.00	1	03/22/2016 07:10	WG858242
Bromobenzene	ND		1.00	1	03/22/2016 07:10	WG858242
Bromodichloromethane	ND		1.00	1	03/22/2016 07:10	WG858242
Bromoform	ND		1.00	1	03/22/2016 07:10	WG858242
Bromomethane	ND		5.00	1	03/22/2016 07:10	WG858242
n-Butylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
sec-Butylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
tert-Butylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
Carbon tetrachloride	ND		1.00	1	03/22/2016 07:10	WG858242
Chlorobenzene	ND		1.00	1	03/22/2016 07:10	WG858242
Chlorodibromomethane	ND		1.00	1	03/22/2016 07:10	WG858242
Chloroethane	ND		5.00	1	03/22/2016 07:10	WG858242
2-Chloroethyl vinyl ether	ND		50.0	1	03/22/2016 13:41	WG858383
Chloroform	ND		5.00	1	03/22/2016 07:10	WG858242
Chloromethane	ND		2.50	1	03/22/2016 07:10	WG858242
2-Chlorotoluene	ND		1.00	1	03/22/2016 07:10	WG858242
4-Chlorotoluene	ND		1.00	1	03/22/2016 07:10	WG858242
1,2-Dibromo-3-Chloropropane	ND		5.00	1	03/22/2016 07:10	WG858242
1,2-Dibromoethane	ND		1.00	1	03/22/2016 07:10	WG858242
Dibromomethane	ND		1.00	1	03/22/2016 07:10	WG858242
1,2-Dichlorobenzene	ND		1.00	1	03/22/2016 07:10	WG858242
1,3-Dichlorobenzene	ND		1.00	1	03/22/2016 07:10	WG858242
1,4-Dichlorobenzene	ND		1.00	1	03/22/2016 07:10	WG858242
Dichlorodifluoromethane	ND		5.00	1	03/22/2016 07:10	WG858242
1,1-Dichloroethane	ND		1.00	1	03/22/2016 07:10	WG858242
1,2-Dichloroethane	ND		1.00	1	03/22/2016 07:10	WG858242
1,1-Dichloroethene	ND		1.00	1	03/22/2016 07:10	WG858242
cis-1,2-Dichloroethene	ND		1.00	1	03/22/2016 07:10	WG858242
trans-1,2-Dichloroethene	ND		1.00	1	03/22/2016 07:10	WG858242
1,2-Dichloropropane	ND		1.00	1	03/22/2016 07:10	WG858242
1,1-Dichloropropene	ND		1.00	1	03/22/2016 07:10	WG858242
1,3-Dichloropropane	ND		1.00	1	03/22/2016 07:10	WG858242
cis-1,3-Dichloropropene	ND		1.00	1	03/22/2016 07:10	WG858242
trans-1,3-Dichloropropene	ND		1.00	1	03/22/2016 07:10	WG858242
2,2-Dichloropropane	ND		1.00	1	03/22/2016 07:10	WG858242
Di-isopropyl ether	ND		1.00	1	03/22/2016 07:10	WG858242
Ethylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
Hexachloro-1,3-butadiene	ND		1.00	1	03/22/2016 07:10	WG858242
Isopropylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
p-Isopropyltoluene	ND		1.00	1	03/22/2016 07:10	WG858242
2-Butanone (MEK)	ND		10.0	1	03/22/2016 07:10	WG858242
Methylene Chloride	ND		5.00	1	03/22/2016 07:10	WG858242
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/22/2016 07:10	WG858242
Methyl tert-butyl ether	ND		1.00	1	03/22/2016 07:10	WG858242
Naphthalene	ND		5.00	1	03/22/2016 07:10	WG858242
n-Propylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
Styrene	ND		1.00	1	03/22/2016 07:10	WG858242
1,1,1,2-Tetrachloroethane	ND		1.00	1	03/22/2016 07:10	WG858242
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/22/2016 07:10	WG858242
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/22/2016 07:10	WG858242
Tetrachloroethene	ND		1.00	1	03/22/2016 07:10	WG858242
Toluene	ND		5.00	1	03/22/2016 07:10	WG858242
1,2,3-Trichlorobenzene	ND		1.00	1	03/22/2016 07:10	WG858242

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		1.00	1	03/22/2016 07:10	WG858242
1,1,1-Trichloroethane	ND		1.00	1	03/22/2016 07:10	WG858242
1,1,2-Trichloroethane	ND		1.00	1	03/22/2016 07:10	WG858242
Trichloroethene	ND		1.00	1	03/22/2016 07:10	WG858242
Trichlorofluoromethane	ND		5.00	1	03/22/2016 07:10	WG858242
1,2,3-Trichloropropane	ND		2.50	1	03/22/2016 07:10	WG858242
1,2,4-Trimethylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
1,2,3-Trimethylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
1,3,5-Trimethylbenzene	ND		1.00	1	03/22/2016 07:10	WG858242
Vinyl chloride	ND		1.00	1	03/22/2016 07:10	WG858242
Xylenes, Total	ND		3.00	1	03/22/2016 07:10	WG858242
(S) Toluene-d8	*105*		*90.0-115*		*03/22/2016 07:10*	WG858242
(S) Dibromofluoromethane	*114*		*79.0-121*		*03/22/2016 07:10*	WG858242
(S) 4-Bromofluorobenzene	*100*		*80.1-120*		*03/22/2016 07:10*	WG858242

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	03/22/2016 07:30	WG858242
Acrolein	ND		50.0	1	03/22/2016 07:30	WG858242
Acrylonitrile	ND		10.0	1	03/22/2016 07:30	WG858242
Benzene	ND		1.00	1	03/22/2016 07:30	WG858242
Bromobenzene	ND		1.00	1	03/22/2016 07:30	WG858242
Bromodichloromethane	ND		1.00	1	03/22/2016 07:30	WG858242
Bromoform	ND		1.00	1	03/22/2016 07:30	WG858242
Bromomethane	ND		5.00	1	03/22/2016 07:30	WG858242
n-Butylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
sec-Butylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
tert-Butylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
Carbon tetrachloride	ND		1.00	1	03/22/2016 07:30	WG858242
Chlorobenzene	ND		1.00	1	03/22/2016 07:30	WG858242
Chlorodibromomethane	ND		1.00	1	03/22/2016 07:30	WG858242
Chloroethane	ND		5.00	1	03/22/2016 07:30	WG858242
2-Chloroethyl vinyl ether	ND		50.0	1	03/22/2016 14:02	WG858383
Chloroform	ND		5.00	1	03/22/2016 07:30	WG858242
Chloromethane	ND		2.50	1	03/22/2016 07:30	WG858242
2-Chlorotoluene	ND		1.00	1	03/22/2016 07:30	WG858242
4-Chlorotoluene	ND		1.00	1	03/22/2016 07:30	WG858242
1,2-Dibromo-3-Chloropropane	ND		5.00	1	03/22/2016 07:30	WG858242
1,2-Dibromoethane	ND		1.00	1	03/22/2016 07:30	WG858242
Dibromomethane	ND		1.00	1	03/22/2016 07:30	WG858242
1,2-Dichlorobenzene	ND		1.00	1	03/22/2016 07:30	WG858242
1,3-Dichlorobenzene	ND		1.00	1	03/22/2016 07:30	WG858242
1,4-Dichlorobenzene	ND		1.00	1	03/22/2016 07:30	WG858242
Dichlorodifluoromethane	ND		5.00	1	03/22/2016 07:30	WG858242
1,1-Dichloroethane	ND		1.00	1	03/22/2016 07:30	WG858242
1,2-Dichloroethane	ND		1.00	1	03/22/2016 07:30	WG858242
1,1-Dichloroethene	ND		1.00	1	03/22/2016 07:30	WG858242
cis-1,2-Dichloroethene	ND		1.00	1	03/22/2016 07:30	WG858242
trans-1,2-Dichloroethene	ND		1.00	1	03/22/2016 07:30	WG858242
1,2-Dichloropropane	ND		1.00	1	03/22/2016 07:30	WG858242
1,1-Dichloropropene	ND		1.00	1	03/22/2016 07:30	WG858242
1,3-Dichloropropane	ND		1.00	1	03/22/2016 07:30	WG858242
cis-1,3-Dichloropropene	ND		1.00	1	03/22/2016 07:30	WG858242
trans-1,3-Dichloropropene	ND		1.00	1	03/22/2016 07:30	WG858242
2,2-Dichloropropane	ND		1.00	1	03/22/2016 07:30	WG858242
Di-isopropyl ether	ND		1.00	1	03/22/2016 07:30	WG858242
Ethylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
Hexachloro-1,3-butadiene	ND		1.00	1	03/22/2016 07:30	WG858242
Isopropylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
p-Isopropyltoluene	ND		1.00	1	03/22/2016 07:30	WG858242
2-Butanone (MEK)	ND		10.0	1	03/22/2016 07:30	WG858242
Methylene Chloride	ND		5.00	1	03/22/2016 07:30	WG858242
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/22/2016 07:30	WG858242
Methyl tert-butyl ether	ND		1.00	1	03/22/2016 07:30	WG858242
Naphthalene	ND		5.00	1	03/22/2016 07:30	WG858242
n-Propylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
Styrene	ND		1.00	1	03/22/2016 07:30	WG858242
1,1,1,2-Tetrachloroethane	ND		1.00	1	03/22/2016 07:30	WG858242
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/22/2016 07:30	WG858242
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/22/2016 07:30	WG858242
Tetrachloroethene	ND		1.00	1	03/22/2016 07:30	WG858242
Toluene	ND		5.00	1	03/22/2016 07:30	WG858242
1,2,3-Trichlorobenzene	ND		1.00	1	03/22/2016 07:30	WG858242

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		1.00	1	03/22/2016 07:30	WG858242
1,1,1-Trichloroethane	ND		1.00	1	03/22/2016 07:30	WG858242
1,1,2-Trichloroethane	ND		1.00	1	03/22/2016 07:30	WG858242
Trichloroethene	ND		1.00	1	03/22/2016 07:30	WG858242
Trichlorofluoromethane	ND		5.00	1	03/22/2016 07:30	WG858242
1,2,3-Trichloropropane	ND		2.50	1	03/22/2016 07:30	WG858242
1,2,4-Trimethylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
1,2,3-Trimethylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
1,3,5-Trimethylbenzene	ND		1.00	1	03/22/2016 07:30	WG858242
Vinyl chloride	ND		1.00	1	03/22/2016 07:30	WG858242
Xylenes, Total	ND		3.00	1	03/22/2016 07:30	WG858242
(S) Toluene-d8	*106*		*90.0-115*		*03/22/2016 07:30*	WG858242
(S) Dibromofluoromethane	*113*		*79.0-121*		*03/22/2016 07:30*	WG858242
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*03/22/2016 07:30*	WG858242

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	03/22/2016 06:51	WG858242
Acrolein	ND		50.0	1	03/22/2016 06:51	WG858242
Acrylonitrile	ND		10.0	1	03/22/2016 06:51	WG858242
Benzene	ND		1.00	1	03/22/2016 06:51	WG858242
Bromobenzene	ND		1.00	1	03/22/2016 06:51	WG858242
Bromodichloromethane	ND		1.00	1	03/22/2016 06:51	WG858242
Bromoform	ND		1.00	1	03/22/2016 06:51	WG858242
Bromomethane	ND		5.00	1	03/22/2016 06:51	WG858242
n-Butylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
sec-Butylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
tert-Butylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
Carbon tetrachloride	ND		1.00	1	03/22/2016 06:51	WG858242
Chlorobenzene	ND		1.00	1	03/22/2016 06:51	WG858242
Chlorodibromomethane	ND		1.00	1	03/22/2016 06:51	WG858242
Chloroethane	ND		5.00	1	03/22/2016 06:51	WG858242
2-Chloroethyl vinyl ether	ND		50.0	1	03/22/2016 12:59	WG858383
Chloroform	ND		5.00	1	03/22/2016 06:51	WG858242
Chloromethane	ND		2.50	1	03/22/2016 06:51	WG858242
2-Chlorotoluene	ND		1.00	1	03/22/2016 06:51	WG858242
4-Chlorotoluene	ND		1.00	1	03/22/2016 06:51	WG858242
1,2-Dibromo-3-Chloropropane	ND		5.00	1	03/22/2016 06:51	WG858242
1,2-Dibromoethane	ND		1.00	1	03/22/2016 06:51	WG858242
Dibromomethane	ND		1.00	1	03/22/2016 06:51	WG858242
1,2-Dichlorobenzene	ND		1.00	1	03/22/2016 06:51	WG858242
1,3-Dichlorobenzene	ND		1.00	1	03/22/2016 06:51	WG858242
1,4-Dichlorobenzene	ND		1.00	1	03/22/2016 06:51	WG858242
Dichlorodifluoromethane	ND		5.00	1	03/22/2016 06:51	WG858242
1,1-Dichloroethane	ND		1.00	1	03/22/2016 06:51	WG858242
1,2-Dichloroethane	ND		1.00	1	03/22/2016 06:51	WG858242
1,1-Dichloroethene	ND		1.00	1	03/22/2016 06:51	WG858242
cis-1,2-Dichloroethene	ND		1.00	1	03/22/2016 06:51	WG858242
trans-1,2-Dichloroethene	ND		1.00	1	03/22/2016 06:51	WG858242
1,2-Dichloropropane	ND		1.00	1	03/22/2016 06:51	WG858242
1,1-Dichloropropene	ND		1.00	1	03/22/2016 06:51	WG858242
1,3-Dichloropropane	ND		1.00	1	03/22/2016 06:51	WG858242
cis-1,3-Dichloropropene	ND		1.00	1	03/22/2016 06:51	WG858242
trans-1,3-Dichloropropene	ND		1.00	1	03/22/2016 06:51	WG858242
2,2-Dichloropropane	ND		1.00	1	03/22/2016 06:51	WG858242
Di-isopropyl ether	ND		1.00	1	03/22/2016 06:51	WG858242
Ethylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
Hexachloro-1,3-butadiene	ND		1.00	1	03/22/2016 06:51	WG858242
Isopropylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
p-Isopropyltoluene	ND		1.00	1	03/22/2016 06:51	WG858242
2-Butanone (MEK)	ND		10.0	1	03/22/2016 06:51	WG858242
Methylene Chloride	ND		5.00	1	03/22/2016 06:51	WG858242
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/22/2016 06:51	WG858242
Methyl tert-butyl ether	ND		1.00	1	03/22/2016 06:51	WG858242
Naphthalene	ND		5.00	1	03/22/2016 06:51	WG858242
n-Propylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
Styrene	ND		1.00	1	03/22/2016 06:51	WG858242
1,1,1,2-Tetrachloroethane	ND		1.00	1	03/22/2016 06:51	WG858242
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/22/2016 06:51	WG858242
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/22/2016 06:51	WG858242
Tetrachloroethene	ND		1.00	1	03/22/2016 06:51	WG858242
Toluene	ND		5.00	1	03/22/2016 06:51	WG858242
1,2,3-Trichlorobenzene	ND		1.00	1	03/22/2016 06:51	WG858242

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		1.00	1	03/22/2016 06:51	WG858242
1,1,1-Trichloroethane	ND		1.00	1	03/22/2016 06:51	WG858242
1,1,2-Trichloroethane	ND		1.00	1	03/22/2016 06:51	WG858242
Trichloroethene	ND		1.00	1	03/22/2016 06:51	WG858242
Trichlorofluoromethane	ND		5.00	1	03/22/2016 06:51	WG858242
1,2,3-Trichloropropane	ND		2.50	1	03/22/2016 06:51	WG858242
1,2,4-Trimethylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
1,2,3-Trimethylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
1,3,5-Trimethylbenzene	ND		1.00	1	03/22/2016 06:51	WG858242
Vinyl chloride	ND		1.00	1	03/22/2016 06:51	WG858242
Xylenes, Total	ND		3.00	1	03/22/2016 06:51	WG858242
(S) Toluene-d8	*104*		*90.0-115*		*03/22/2016 06:51*	WG858242
(S) Dibromofluoromethane	*112*		*79.0-121*		*03/22/2016 06:51*	WG858242
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*03/22/2016 06:51*	WG858242

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.0200	0.0639	0.260	0.831		1	WG857955
Carbon tetrachloride	56-23-5	154	0.0200	0.126	0.0721	0.454		1	WG857955
Chloroethane	75-00-3	64.50	0.0400	0.106	ND	ND		1	WG857955
Chloroform	67-66-3	119	0.0200	0.0973	ND	ND		1	WG857955
Chloromethane	74-87-3	50.50	0.0300	0.0620	0.553	1.14		1	WG857955
1,2-Dibromoethane	106-93-4	188	0.0200	0.154	ND	ND		1	WG857955
1,4-Dichlorobenzene	106-46-7	147	0.0200	0.120	ND	ND		1	WG857955
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG857955
1,1-Dichloroethene	75-35-4	96.90	0.0200	0.0793	ND	ND		1	WG857955
cis-1,2-Dichloroethene	156-59-2	96.90	0.0200	0.0793	ND	ND		1	WG857955
trans-1,2-Dichloroethene	156-60-5	96.90	0.0200	0.0793	ND	ND		1	WG857955
1,2-Dichloropropane	78-87-5	113	0.0300	0.139	ND	ND		1	WG857955
cis-1,3-Dichloropropene	10061-01-5	111	0.0200	0.0908	ND	ND		1	WG857955
trans-1,3-Dichloropropene	10061-02-6	111	0.0300	0.136	ND	ND		1	WG857955
Ethylbenzene	100-41-4	106	0.0300	0.130	0.0876	0.380		1	WG857955
1,1,2,2-Tetrachloroethane	79-34-5	168	0.0200	0.137	ND	ND		1	WG857955
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.153	1.04		1	WG857955
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	ND	ND		1	WG857955
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG857955
Trichloroethylene	79-01-6	131	0.0200	0.107	ND	ND		1	WG857955
Vinyl chloride	75-01-4	62.50	0.0200	0.0511	ND	ND		1	WG857955
Vinyl acetate	108-05-4	86.10	0.0200	0.0704	ND	ND		1	WG857955
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*104*				WG857955

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.0200	0.0639	0.269	0.859		1	WG857955
Carbon tetrachloride	56-23-5	154	0.0200	0.126	0.0698	0.440		1	WG857955
Chloroethane	75-00-3	64.50	0.0400	0.106	ND	ND		1	WG857955
Chloroform	67-66-3	119	0.0200	0.0973	ND	ND		1	WG857955
Chloromethane	74-87-3	50.50	0.0300	0.0620	0.617	1.27		1	WG857955
1,2-Dibromoethane	106-93-4	188	0.0200	0.154	ND	ND		1	WG857955
1,4-Dichlorobenzene	106-46-7	147	0.0200	0.120	ND	ND		1	WG857955
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG857955
1,1-Dichloroethene	75-35-4	96.90	0.0200	0.0793	ND	ND		1	WG857955
cis-1,2-Dichloroethene	156-59-2	96.90	0.0200	0.0793	ND	ND		1	WG857955
trans-1,2-Dichloroethene	156-60-5	96.90	0.0200	0.0793	ND	ND		1	WG857955
1,2-Dichloropropane	78-87-5	113	0.0300	0.139	ND	ND		1	WG857955
cis-1,3-Dichloropropene	10061-01-5	111	0.0200	0.0908	ND	ND		1	WG857955
trans-1,3-Dichloropropene	10061-02-6	111	0.0300	0.136	ND	ND		1	WG857955
Ethylbenzene	100-41-4	106	0.0300	0.130	0.0933	0.404		1	WG857955
1,1,2,2-Tetrachloroethane	79-34-5	168	0.0200	0.137	ND	ND		1	WG857955
Tetrachloroethylene	127-18-4	166	0.0200	0.136	ND	ND		1	WG857955
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	ND	ND		1	WG857955
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG857955
Trichloroethylene	79-01-6	131	0.0200	0.107	ND	ND		1	WG857955
Vinyl chloride	75-01-4	62.50	0.0200	0.0511	ND	ND		1	WG857955
Vinyl acetate	108-05-4	86.10	0.0200	0.0704	ND	ND		1	WG857955
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*108*				WG857955

Method Blank (MB)

(MB) 03/21/16 11:50

Analyte	MB Result %	MB Qualifier	MB RDL %
Total Solids	0.000500		

L823954-09 Original Sample (OS) • Duplicate (DUP)

(OS) 03/21/16 11:50 • (DUP) 03/21/16 11:50

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	69.9	69.7	1	0.293		5

Laboratory Control Sample (LCS)

(LCS) 03/21/16 11:50

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) 03/21/16 15:36

Analyte	MB Result	MB Qualifier	MB RDL
	%		%
Total Solids	0.00100		

L824039-35 Original Sample (OS) • Duplicate (DUP)

(OS) 03/21/16 15:36 • (DUP) 03/21/16 15:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	73.8	73.8	1	0.0418		5

Laboratory Control Sample (LCS)

(LCS) 03/21/16 15:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) 03/21/16 11:19

Analyte	MB Result ppbv	MB Qualifier	MB RDL ppbv
Benzene	ND		0.0200
Carbon tetrachloride	ND		0.0200
Chloroethane	ND		0.0400
Chloroform	ND		0.0200
Chloromethane	ND		0.0300
1,2-Dibromoethane	ND		0.0200
1,4-Dichlorobenzene	ND		0.0200
1,1-Dichloroethane	ND		0.0200
1,1-Dichloroethene	ND		0.0200
cis-1,2-Dichloroethene	ND		0.0200
trans-1,2-Dichloroethene	ND		0.0200
1,2-Dichloropropane	ND		0.0300
cis-1,3-Dichloropropene	ND		0.0200
trans-1,3-Dichloropropene	ND		0.0300
Ethylbenzene	ND		0.0300
1,1,2,2-Tetrachloroethane	ND		0.0200
Tetrachloroethylene	ND		0.0200
1,1,1-Trichloroethane	ND		0.0200
1,1,2-Trichloroethane	ND		0.0300
Trichloroethylene	ND		0.0200
Vinyl chloride	ND		0.0200
Vinyl acetate	ND		0.0200
(S) 1,4-Bromofluorobenzene	*99.5*		*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/21/16 09:59 • (LCSD) 03/21/16 10:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.500	0.451	0.449	90.2	89.9	70.0-130			0.370	25
Carbon tetrachloride	0.500	0.475	0.466	94.9	93.2	70.0-130			1.85	25
Chloroethane	0.500	0.501	0.444	100	88.7	70.0-130			12.2	25
Chloroform	0.500	0.469	0.456	93.8	91.1	70.0-130			2.91	25
Chloromethane	0.500	0.489	0.483	97.8	96.6	70.0-130			1.24	25
1,2-Dibromoethane	0.500	0.479	0.472	95.8	94.4	70.0-130			1.43	25
1,4-Dichlorobenzene	0.500	0.507	0.484	101	96.8	70.0-130			4.64	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/21/16 09:59 • (LCSD) 03/21/16 10:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1-Dichloroethane	0.500	0.489	0.464	97.7	92.9	70.0-130			5.05	25
1,1-Dichloroethene	0.500	0.513	0.444	103	88.9	70.0-130			14.4	25
cis-1,2-Dichloroethene	0.500	0.478	0.468	95.6	93.6	70.0-130			2.13	25
trans-1,2-Dichloroethene	0.500	0.509	0.453	102	90.6	70.0-130			11.6	25
1,2-Dichloropropane	0.500	0.481	0.473	96.3	94.5	70.0-130			1.81	25
cis-1,3-Dichloropropene	0.500	0.490	0.476	97.9	95.1	70.0-130			2.91	25
trans-1,3-Dichloropropene	0.500	0.493	0.485	98.6	96.9	70.0-130			1.74	25
Ethylbenzene	0.500	0.526	0.519	105	104	70.0-130			1.23	25
1,1,2,2-Tetrachloroethane	0.500	0.464	0.462	92.9	92.4	70.0-130			0.480	25
Tetrachloroethylene	0.500	0.481	0.478	96.2	95.5	70.0-130			0.760	25
1,1,1-Trichloroethane	0.500	0.472	0.464	94.3	92.9	70.0-130			1.54	25
1,1,2-Trichloroethane	0.500	0.477	0.472	95.4	94.5	70.0-130			0.920	25
Trichloroethylene	0.500	0.457	0.458	91.3	91.7	70.0-130			0.370	25
Vinyl chloride	0.500	0.478	0.452	95.7	90.3	70.0-130			5.72	25
Vinyl acetate	0.500	0.519	0.526	104	105	70.0-130			1.21	25
(S) 1,4-Bromofluorobenzene				*105*	*104*	*60.0-140*				

Method Blank (MB)

(MB) 03/21/16 20:05

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Acetone	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromobenzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
n-Butylbenzene	ND		0.00100
sec-Butylbenzene	ND		0.00100
tert-Butylbenzene	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
2-Chloroethyl vinyl ether	ND		0.0500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
2-Chlorotoluene	ND		0.00100
4-Chlorotoluene	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
1,1-Dichloropropene	ND		0.00100
1,3-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100

Method Blank (MB)

(MB) 03/21/16 20:05

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
2,2-Dichloropropane	ND		0.00100
Di-isopropyl ether	ND		0.00100
Ethylbenzene	ND		0.00100
Hexachloro-1,3-butadiene	ND		0.00100
Isopropylbenzene	ND		0.00100
p-Isopropyltoluene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Methyl tert-butyl ether	ND		0.00100
Naphthalene	ND		0.00500
n-Propylbenzene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
1,2,3-Trimethylbenzene	ND		0.00100
1,2,4-Trimethylbenzene	ND		0.00100
1,3,5-Trimethylbenzene	ND		0.00100
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*102*		*88.7-115*
(S) Dibromofluoromethane	*98.4*		*76.3-123*
(S) 4-Bromofluorobenzene	*91.8*		*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/21/16 18:27 • (LCSD) 03/21/16 18:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0755	0.0774	60.4	61.9	25.3-178			2.40	22.9
Acrylonitrile	0.125	0.101	0.100	80.7	80.1	57.8-143			0.780	20
Benzene	0.0250	0.0219	0.0216	87.6	86.5	72.6-120			1.30	20
Bromobenzene	0.0250	0.0204	0.0202	81.4	80.9	80.3-115			0.630	20
Bromodichloromethane	0.0250	0.0204	0.0207	81.7	82.9	75.3-119			1.38	20
Bromoform	0.0250	0.0212	0.0208	84.8	83.4	69.1-135			1.64	20
Bromomethane	0.0250	0.0167	0.0169	66.6	67.5	23.0-191			1.33	20
n-Butylbenzene	0.0250	0.0227	0.0217	90.9	86.6	74.2-134			4.77	20
sec-Butylbenzene	0.0250	0.0225	0.0212	90.1	84.9	77.8-129			6.00	20
tert-Butylbenzene	0.0250	0.0224	0.0216	89.6	86.2	77.2-129			3.90	20
Carbon tetrachloride	0.0250	0.0199	0.0191	79.8	76.6	69.4-129			4.10	20
Chlorobenzene	0.0250	0.0221	0.0216	88.5	86.5	78.9-122			2.29	20
Chlorodibromomethane	0.0250	0.0218	0.0222	87.0	88.8	76.4-126			1.98	20
Chloroethane	0.0250	0.0195	0.0198	78.1	79.1	47.2-147			1.23	20
2-Chloroethyl vinyl ether	0.125	0.121	0.123	96.5	98.6	16.7-162			2.23	23.7
Chloroform	0.0250	0.0211	0.0206	84.3	82.6	73.3-122			2.08	20
Chloromethane	0.0250	0.0210	0.0200	83.9	80.0	53.1-135			4.79	20
2-Chlorotoluene	0.0250	0.0232	0.0225	92.7	90.2	74.6-127			2.79	20
4-Chlorotoluene	0.0250	0.0220	0.0215	87.9	86.2	79.5-123			2.02	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0176	0.0188	70.6	75.2	64.9-131			6.39	20
1,2-Dibromoethane	0.0250	0.0214	0.0217	85.6	87.0	67.2-121			1.53	20
Dibromomethane	0.0250	0.0213	0.0211	85.4	84.2	78.5-117			1.34	20
1,2-Dichlorobenzene	0.0250	0.0228	0.0220	91.1	87.9	83.6-119			3.61	20
1,3-Dichlorobenzene	0.0250	0.0226	0.0221	90.2	88.6	75.9-129			1.88	20
1,4-Dichlorobenzene	0.0250	0.0219	0.0216	87.5	86.3	81.0-115			1.44	20
Dichlorodifluoromethane	0.0250	0.0202	0.0193	80.8	77.2	50.9-139			4.53	20
1,1-Dichloroethane	0.0250	0.0227	0.0221	90.8	88.6	71.7-125			2.48	20
1,2-Dichloroethane	0.0250	0.0203	0.0201	81.1	80.5	67.2-121			0.660	20
1,1-Dichloroethene	0.0250	0.0208	0.0174	83.0	69.6	60.6-133			17.6	20
cis-1,2-Dichloroethene	0.0250	0.0208	0.0204	83.2	81.7	76.1-121			1.92	20
trans-1,2-Dichloroethene	0.0250	0.0205	0.0198	82.1	79.2	70.7-124			3.65	20
1,2-Dichloropropane	0.0250	0.0238	0.0239	95.2	95.6	76.9-123			0.360	20
1,1-Dichloropropene	0.0250	0.0224	0.0219	89.7	87.8	71.2-126			2.21	20
1,3-Dichloropropane	0.0250	0.0232	0.0232	92.7	92.7	80.3-114			0.0500	20
cis-1,3-Dichloropropene	0.0250	0.0220	0.0223	88.2	89.4	77.3-123			1.35	20
trans-1,3-Dichloropropene	0.0250	0.0197	0.0197	78.6	78.8	73.0-127			0.270	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/21/16 18:27 • (LCSD) 03/21/16 18:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0201	0.0202	80.5	80.8	61.9-132			0.280	20
Di-isopropyl ether	0.0250	0.0220	0.0215	87.9	86.2	67.2-131			2.01	20
Ethylbenzene	0.0250	0.0220	0.0214	88.0	85.4	78.6-124			2.98	20
Hexachloro-1,3-butadiene	0.0250	0.0247	0.0233	98.9	93.3	69.2-136			5.80	20
Isopropylbenzene	0.0250	0.0220	0.0211	87.8	84.3	79.4-126			4.06	20
p-Isopropyltoluene	0.0250	0.0233	0.0223	93.4	89.2	75.4-132			4.56	20
2-Butanone (MEK)	0.125	0.0881	0.0892	70.5	71.3	44.5-154			1.16	21.3
Methylene Chloride	0.0250	0.0218	0.0216	87.3	86.4	68.2-119			1.04	20
4-Methyl-2-pentanone (MIBK)	0.125	0.0988	0.101	79.0	81.0	61.1-138			2.50	20
Methyl tert-butyl ether	0.0250	0.0196	0.0192	78.4	77.0	70.2-122			1.81	20
Naphthalene	0.0250	0.0210	0.0204	83.9	81.5	69.9-132			2.94	20
n-Propylbenzene	0.0250	0.0225	0.0218	90.2	87.3	80.2-124			3.24	20
Styrene	0.0250	0.0210	0.0210	83.9	83.8	79.4-124			0.130	20
1,1,1,2-Tetrachloroethane	0.0250	0.0215	0.0211	85.9	84.5	76.7-127			1.61	20
1,1,2,2-Tetrachloroethane	0.0250	0.0191	0.0192	76.4	76.9	78.8-124	J4	J4	0.610	20
Tetrachloroethene	0.0250	0.0213	0.0211	85.3	84.3	71.1-133			1.24	20
Toluene	0.0250	0.0214	0.0215	85.4	86.0	76.7-116			0.680	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0232	0.0185	92.9	73.9	62.6-138		J3	22.8	20
1,2,3-Trichlorobenzene	0.0250	0.0222	0.0218	88.7	87.1	72.5-137			1.83	20
1,2,4-Trichlorobenzene	0.0250	0.0220	0.0213	88.2	85.1	74.0-137			3.53	20
1,1,1-Trichloroethane	0.0250	0.0199	0.0192	79.7	76.7	69.9-127			3.74	20
1,1,2-Trichloroethane	0.0250	0.0199	0.0207	79.7	82.8	81.9-119	J4		3.77	20
Trichloroethene	0.0250	0.0225	0.0219	90.0	87.8	77.2-122			2.48	20
Trichlorofluoromethane	0.0250	0.0185	0.0185	74.1	74.2	51.5-151			0.150	20
1,2,3-Trichloropropane	0.0250	0.0204	0.0212	81.5	84.7	74.0-124			3.85	20
1,2,3-Trimethylbenzene	0.0250	0.0217	0.0207	86.9	82.8	79.4-118			4.84	20
1,2,4-Trimethylbenzene	0.0250	0.0224	0.0212	89.7	84.8	77.1-124			5.59	20
1,3,5-Trimethylbenzene	0.0250	0.0216	0.0209	86.6	83.7	79.0-125			3.37	20
Vinyl chloride	0.0250	0.0210	0.0202	83.9	80.6	58.4-134			3.99	20
Xylenes, Total	0.0750	0.0651	0.0635	86.7	84.6	78.1-123			2.48	20
(S) Toluene-d8				*99.7*	*101*	*88.7-115*				
(S) Dibromofluoromethane				*97.9*	*97.4*	*76.3-123*				
(S) 4-Bromofluorobenzene				*95.4*	*94.4*	*69.7-129*				

L824541-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/22/16 00:10 • (MS) 03/21/16 23:12 • (MSD) 03/21/16 23:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0723	0.0697	0.0544	0.000	0.000	1	5.00-182	J6	J6	24.8	31.5
Acrylonitrile	0.125	ND	0.0945	0.0750	75.6	60.0	1	39.3-152			23.0	27.2
Benzene	0.0250	0.000324	0.0220	0.0211	86.8	83.0	1	47.8-131			4.37	22.8
Bromobenzene	0.0250	ND	0.0186	0.0179	74.4	71.7	1	40.0-130			3.69	27.4
Bromodichloromethane	0.0250	ND	0.0201	0.0199	80.5	79.6	1	50.6-128			1.11	22.8
Bromoform	0.0250	ND	0.0182	0.0181	72.8	72.3	1	43.3-139			0.740	25.9
Bromomethane	0.0250	ND	0.0147	0.0138	58.8	55.2	1	5.00-189			6.22	26.7
n-Butylbenzene	0.0250	ND	0.0231	0.0218	92.3	87.2	1	23.6-146			5.73	39.2
sec-Butylbenzene	0.0250	ND	0.0199	0.0194	79.6	77.6	1	31.0-142			2.56	34.7
tert-Butylbenzene	0.0250	ND	0.0202	0.0198	80.9	79.1	1	36.9-142			2.27	31.7
Carbon tetrachloride	0.0250	ND	0.0192	0.0190	76.9	75.8	1	46.0-140			1.41	27.2
Chlorobenzene	0.0250	ND	0.0212	0.0200	84.8	80.2	1	44.1-134			5.58	25.7
Chlorodibromomethane	0.0250	ND	0.0207	0.0202	82.7	80.6	1	49.7-134			2.57	24
Chloroethane	0.0250	ND	0.0181	0.0187	72.4	74.8	1	5.00-164			3.36	28.4
2-Chloroethyl vinyl ether	0.125	ND	0.113	0.116	90.4	92.9	1	5.00-159			2.68	40
Chloroform	0.0250	ND	0.0214	0.0205	85.7	82.2	1	51.2-133			4.21	22.8
Chloromethane	0.0250	ND	0.0189	0.0179	75.5	71.5	1	31.4-141			5.50	24.6
2-Chlorotoluene	0.0250	ND	0.0212	0.0202	84.7	80.8	1	36.1-137			4.76	28.9
4-Chlorotoluene	0.0250	ND	0.0207	0.0196	82.8	78.3	1	35.4-137			5.53	29.8
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0174	0.0170	69.7	68.2	1	40.4-138			2.23	30.8
1,2-Dibromoethane	0.0250	ND	0.0200	0.0197	80.1	78.8	1	50.2-133			1.58	23.6
Dibromomethane	0.0250	ND	0.0200	0.0208	79.9	83.2	1	52.4-128			4.11	23
1,2-Dichlorobenzene	0.0250	ND	0.0218	0.0209	87.2	83.5	1	34.6-139			4.36	29.9
1,3-Dichlorobenzene	0.0250	ND	0.0191	0.0184	76.2	73.4	1	28.4-142			3.75	31.2
1,4-Dichlorobenzene	0.0250	ND	0.0222	0.0206	88.8	82.3	1	35.0-133			7.59	31.1
Dichlorodifluoromethane	0.0250	ND	0.0173	0.0158	69.1	63.4	1	31.2-144			8.67	30.2
1,1-Dichloroethane	0.0250	ND	0.0232	0.0220	92.8	88.0	1	49.1-136			5.29	22.9
1,2-Dichloroethane	0.0250	ND	0.0204	0.0199	81.5	79.6	1	47.1-129			2.34	22.7
1,1-Dichloroethene	0.0250	ND	0.0205	0.0190	81.8	75.9	1	36.1-142			7.60	25.6
cis-1,2-Dichloroethene	0.0250	ND	0.0206	0.0201	82.4	80.5	1	50.6-133			2.31	23
trans-1,2-Dichloroethene	0.0250	ND	0.0201	0.0188	80.5	75.0	1	43.8-135			7.09	24.8
1,2-Dichloropropane	0.0250	ND	0.0241	0.0232	96.4	93.0	1	50.3-134			3.66	22.7
1,1-Dichloropropene	0.0250	ND	0.0225	0.0212	90.0	84.9	1	43.0-137			5.83	26.4
1,3-Dichloropropane	0.0250	ND	0.0220	0.0219	88.0	87.5	1	51.4-127			0.640	23.1
cis-1,3-Dichloropropene	0.0250	ND	0.0211	0.0207	84.5	82.9	1	48.4-134			1.89	23.6
trans-1,3-Dichloropropene	0.0250	ND	0.0186	0.0184	74.4	73.7	1	46.6-135			0.920	25.3

L824541-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/22/16 00:10 • (MS) 03/21/16 23:12 • (MSD) 03/21/16 23:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	ND	0.0216	0.0221	86.4	88.5	1	45.2-141			2.34	26.8
Di-isopropyl ether	0.0250	ND	0.0220	0.0217	87.9	86.8	1	46.7-140			1.24	23.5
Ethylbenzene	0.0250	ND	0.0215	0.0207	86.0	82.7	1	44.8-135			3.88	26.9
Hexachloro-1,3-butadiene	0.0250	ND	0.0163	0.0156	65.1	62.4	1	10.0-149			4.36	40
Isopropylbenzene	0.0250	ND	0.0207	0.0200	82.6	80.0	1	41.9-139			3.23	29.3
p-Isopropyltoluene	0.0250	ND	0.0204	0.0202	81.7	80.9	1	27.3-146			0.950	35.1
2-Butanone (MEK)	0.125	0.00572	0.0785	0.0774	58.3	57.3	1	23.9-170			1.47	28.3
Methylene Chloride	0.0250	ND	0.0221	0.0209	88.2	83.4	1	46.7-125			5.61	22.2
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.0886	0.0922	70.9	73.8	1	42.4-146			4.01	26.7
Methyl tert-butyl ether	0.0250	ND	0.0189	0.0192	75.6	76.9	1	50.4-131			1.69	24.8
Naphthalene	0.0250	0.000267	0.0124	0.0131	48.4	51.5	1	18.4-145			6.03	34
n-Propylbenzene	0.0250	ND	0.0213	0.0203	85.2	81.1	1	35.2-139			4.93	31.9
Styrene	0.0250	ND	0.0195	0.0185	77.8	74.0	1	39.7-137			5.07	28.2
1,1,1,2-Tetrachloroethane	0.0250	ND	0.0205	0.0197	82.1	79.0	1	48.8-136			3.94	25.5
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0169	0.0170	67.5	68.1	1	45.7-140			0.830	26.4
Tetrachloroethene	0.0250	ND	0.0209	0.0199	83.6	79.5	1	37.7-140			4.98	29.2
Toluene	0.0250	0.000185	0.0230	0.0219	91.4	86.9	1	47.8-127			5.03	24.3
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0214	0.0199	85.7	79.5	1	35.7-146			7.51	28.8
1,2,3-Trichlorobenzene	0.0250	0.000148	0.0127	0.0128	50.4	50.6	1	10.0-150			0.410	38.5
1,2,4-Trichlorobenzene	0.0250	ND	0.0144	0.0150	57.7	60.2	1	10.0-153			4.27	39.3
1,1,1-Trichloroethane	0.0250	ND	0.0197	0.0195	79.0	77.9	1	49.0-138			1.35	25.3
1,1,2-Trichloroethane	0.0250	ND	0.0192	0.0189	76.7	75.8	1	52.3-132			1.17	23.4
Trichloroethene	0.0250	ND	0.0214	0.0208	85.7	83.0	1	48.0-132			3.13	24.8
Trichlorofluoromethane	0.0250	ND	0.0176	0.0176	70.5	70.5	1	12.8-169			0.0300	29.7
1,2,3-Trichloropropane	0.0250	ND	0.0179	0.0180	71.7	72.0	1	44.4-138			0.420	26.3
1,2,3-Trimethylbenzene	0.0250	ND	0.0227	0.0217	90.8	86.7	1	41.0-133			4.54	27.6
1,2,4-Trimethylbenzene	0.0250	ND	0.0202	0.0199	81.0	79.7	1	32.9-139			1.59	30.6
1,3,5-Trimethylbenzene	0.0250	ND	0.0199	0.0194	79.5	77.6	1	37.1-138			2.37	30.6
Vinyl chloride	0.0250	ND	0.0189	0.0181	75.6	72.3	1	32.0-146			4.41	26.3
Xylenes, Total	0.0750	ND	0.0647	0.0615	86.3	82.0	1	42.7-135			5.09	26.6
(S) Toluene-d8					*100*	*101*		*88.7-115*				
(S) Dibromofluoromethane					*99.3*	*98.0*		*76.3-123*				
(S) 4-Bromofluorobenzene					*86.7*	*87.6*		*69.7-129*				

Method Blank (MB)

(MB) 03/22/16 05:31

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Acetone	ND		0.0500
Acrolein	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromobenzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
n-Butylbenzene	ND		0.00100
sec-Butylbenzene	ND		0.00100
tert-Butylbenzene	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
2-Chlorotoluene	ND		0.00100
4-Chlorotoluene	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
1,1-Dichloropropene	ND		0.00100
1,3-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100

Method Blank (MB)

(MB) 03/22/16 05:31

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
2,2-Dichloropropane	ND		0.00100
Di-isopropyl ether	ND		0.00100
Ethylbenzene	ND		0.00100
Hexachloro-1,3-butadiene	ND		0.00100
Isopropylbenzene	ND		0.00100
p-Isopropyltoluene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Methyl tert-butyl ether	ND		0.00100
Naphthalene	ND		0.00500
n-Propylbenzene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
1,2,3-Trimethylbenzene	ND		0.00100
1,2,4-Trimethylbenzene	ND		0.00100
1,3,5-Trimethylbenzene	ND		0.00100
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*104*		*90.0-115*
(S) Dibromofluoromethane	*111*		*79.0-121*
(S) 4-Bromofluorobenzene	*100*		*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/22/16 04:14 • (LCSD) 03/22/16 04:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.126	0.118	100	94.3	28.7-175			6.33	20.9
Acrolein	0.125	0.108	0.105	86.3	83.7	40.4-172			3.06	20
Acrylonitrile	0.125	0.134	0.126	107	101	58.2-145			5.55	20
Benzene	0.0250	0.0251	0.0249	100	99.6	73.0-122			0.750	20
Bromobenzene	0.0250	0.0239	0.0244	95.4	97.5	81.5-115			2.11	20
Bromodichloromethane	0.0250	0.0243	0.0242	97.1	96.7	75.5-121			0.360	20
Bromoform	0.0250	0.0203	0.0199	81.4	79.7	71.5-131			2.11	20
Bromomethane	0.0250	0.0322	0.0326	129	131	22.4-187			1.33	20
n-Butylbenzene	0.0250	0.0260	0.0262	104	105	75.9-134			0.950	20
sec-Butylbenzene	0.0250	0.0215	0.0221	86.1	88.2	80.6-126			2.42	20
tert-Butylbenzene	0.0250	0.0215	0.0219	86.0	87.6	79.3-127			1.90	20
Carbon tetrachloride	0.0250	0.0246	0.0244	98.2	97.7	70.9-129			0.480	20
Chlorobenzene	0.0250	0.0220	0.0224	88.0	89.5	79.7-122			1.70	20
Chlorodibromomethane	0.0250	0.0217	0.0218	86.7	87.3	78.2-124			0.710	20
Chloroethane	0.0250	0.0274	0.0270	110	108	41.2-153			1.51	20
Chloroform	0.0250	0.0260	0.0260	104	104	73.2-125			0.330	20
Chloromethane	0.0250	0.0257	0.0251	103	100	55.8-134			2.47	20
2-Chlorotoluene	0.0250	0.0218	0.0216	87.0	86.6	76.4-125			0.540	20
4-Chlorotoluene	0.0250	0.0235	0.0238	93.8	95.0	81.5-121			1.26	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0218	0.0213	87.3	85.2	64.8-131			2.48	20
1,2-Dibromoethane	0.0250	0.0231	0.0230	92.2	92.2	79.8-122			0.0300	20
Dibromomethane	0.0250	0.0242	0.0240	96.9	95.9	78.8-119			1.03	20
1,2-Dichlorobenzene	0.0250	0.0238	0.0242	95.0	96.7	84.7-118			1.72	20
1,3-Dichlorobenzene	0.0250	0.0209	0.0214	83.7	85.6	77.6-127			2.30	20
1,4-Dichlorobenzene	0.0250	0.0224	0.0228	89.5	91.0	82.2-114			1.66	20
Dichlorodifluoromethane	0.0250	0.0297	0.0292	119	117	56.0-134			1.43	20
1,1-Dichloroethane	0.0250	0.0265	0.0263	106	105	71.7-127			0.650	20
1,2-Dichloroethane	0.0250	0.0280	0.0277	112	111	79.8-122			1.14	20
1,1-Dichloroethene	0.0250	0.0268	0.0265	107	106	59.9-137			1.19	20
cis-1,2-Dichloroethene	0.0250	0.0251	0.0262	100	105	77.3-122			4.30	20
trans-1,2-Dichloroethene	0.0250	0.0245	0.0244	97.9	97.5	72.6-125			0.370	20
1,2-Dichloropropane	0.0250	0.0242	0.0248	96.7	99.2	77.4-125			2.50	20
1,1-Dichloropropene	0.0250	0.0273	0.0272	109	109	72.5-127			0.270	20
1,3-Dichloropropane	0.0250	0.0243	0.0239	97.2	95.6	80.6-115			1.71	20
cis-1,3-Dichloropropene	0.0250	0.0247	0.0249	98.6	99.7	77.7-124			1.06	20
trans-1,3-Dichloropropene	0.0250	0.0245	0.0247	98.1	98.9	73.5-127			0.800	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/22/16 04:14 • (LCSD) 03/22/16 04:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0251	0.0255	101	102	61.3-134			1.45	20
Di-isopropyl ether	0.0250	0.0251	0.0248	100	99.1	65.1-135			1.19	20
Ethylbenzene	0.0250	0.0226	0.0229	90.5	91.5	80.9-121			1.11	20
Hexachloro-1,3-butadiene	0.0250	0.0207	0.0209	82.7	83.6	73.7-133			1.07	20
Isopropylbenzene	0.0250	0.0219	0.0223	87.7	89.1	81.6-124			1.53	20
p-Isopropyltoluene	0.0250	0.0220	0.0224	87.8	89.6	77.6-129			2.04	20
2-Butanone (MEK)	0.125	0.124	0.119	99.3	95.4	46.4-155			4.05	20
Methylene Chloride	0.0250	0.0241	0.0240	96.4	95.8	69.5-120			0.560	20
4-Methyl-2-pentanone (MIBK)	0.125	0.120	0.114	95.9	91.2	63.3-138			5.01	20
Methyl tert-butyl ether	0.0250	0.0260	0.0251	104	101	70.1-125			3.34	20
Naphthalene	0.0250	0.0219	0.0222	87.5	88.9	69.7-134			1.57	20
n-Propylbenzene	0.0250	0.0235	0.0240	94.1	95.8	81.9-122			1.83	20
Styrene	0.0250	0.0225	0.0229	90.2	91.6	79.9-124			1.51	20
1,1,1,2-Tetrachloroethane	0.0250	0.0213	0.0216	85.3	86.3	78.5-125			1.20	20
1,1,2,2-Tetrachloroethane	0.0250	0.0212	0.0208	84.9	83.0	79.3-123			2.20	20
Tetrachloroethene	0.0250	0.0209	0.0212	83.4	84.7	73.5-130			1.53	20
Toluene	0.0250	0.0234	0.0239	93.6	95.5	77.9-116			2.02	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0255	0.0253	102	101	62.0-141			0.540	20
1,2,3-Trichlorobenzene	0.0250	0.0208	0.0212	83.2	84.7	75.7-134			1.75	20
1,2,4-Trichlorobenzene	0.0250	0.0228	0.0229	91.3	91.5	76.1-136			0.250	20
1,1,1-Trichloroethane	0.0250	0.0254	0.0253	102	101	71.1-129			0.330	20
1,1,2-Trichloroethane	0.0250	0.0230	0.0230	92.0	92.0	81.6-120			0.000	20
Trichloroethene	0.0250	0.0222	0.0230	88.7	91.9	79.5-121			3.50	20
Trichlorofluoromethane	0.0250	0.0251	0.0256	100	102	49.1-157			2.05	20
1,2,3-Trichloropropane	0.0250	0.0227	0.0224	90.7	89.7	74.9-124			1.08	20
1,2,3-Trimethylbenzene	0.0250	0.0239	0.0243	95.8	97.4	79.9-118			1.68	20
1,2,4-Trimethylbenzene	0.0250	0.0219	0.0227	87.8	90.7	79.0-122			3.33	20
1,3,5-Trimethylbenzene	0.0250	0.0216	0.0219	86.3	87.7	81.0-123			1.57	20
Vinyl chloride	0.0250	0.0275	0.0269	110	107	61.5-134			2.20	20
Xylenes, Total	0.0750	0.0650	0.0665	86.7	88.6	79.2-122			2.20	20
(S) Toluene-d8				*106*	*107*	*90.0-115*				
(S) Dibromofluoromethane				*113*	*111*	*79.0-121*				
(S) 4-Bromofluorobenzene				*103*	*102*	*80.1-120*				

Method Blank (MB)

(MB) 03/22/16 05:39

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Acetone	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromobenzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
n-Butylbenzene	ND		0.00100
sec-Butylbenzene	ND		0.00100
tert-Butylbenzene	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
2-Chloroethyl vinyl ether	ND		0.0500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
2-Chlorotoluene	ND		0.00100
4-Chlorotoluene	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
1,1-Dichloropropene	ND		0.00100
1,3-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100

Method Blank (MB)

(MB) 03/22/16 05:39

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
2,2-Dichloropropane	ND		0.00100
Di-isopropyl ether	ND		0.00100
Ethylbenzene	ND		0.00100
Hexachloro-1,3-butadiene	ND		0.00100
Isopropylbenzene	ND		0.00100
p-Isopropyltoluene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Methyl tert-butyl ether	ND		0.00100
Naphthalene	ND		0.00500
n-Propylbenzene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
1,2,3-Trimethylbenzene	ND		0.00100
1,2,4-Trimethylbenzene	ND		0.00100
1,3,5-Trimethylbenzene	ND		0.00100
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*104*		*88.7-115*
(S) Dibromofluoromethane	*103*		*76.3-123*
(S) 4-Bromofluorobenzene	*94.6*		*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/22/16 04:07 • (LCSD) 03/22/16 04:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0904	0.0891	72.3	71.3	25.3-178			1.45	22.9
Acrylonitrile	0.125	0.114	0.110	91.1	87.6	57.8-143			3.88	20
Benzene	0.0250	0.0222	0.0223	88.9	89.3	72.6-120			0.420	20
Bromobenzene	0.0250	0.0228	0.0236	91.2	94.4	80.3-115			3.40	20
Bromodichloromethane	0.0250	0.0227	0.0232	91.0	92.7	75.3-119			1.86	20
Bromoform	0.0250	0.0220	0.0227	88.1	90.9	69.1-135			3.15	20
Bromomethane	0.0250	0.0343	0.0359	137	143	23.0-191			4.37	20
n-Butylbenzene	0.0250	0.0236	0.0237	94.2	94.8	74.2-134			0.590	20
sec-Butylbenzene	0.0250	0.0230	0.0236	91.9	94.2	77.8-129			2.52	20
tert-Butylbenzene	0.0250	0.0225	0.0237	89.8	94.9	77.2-129			5.46	20
Carbon tetrachloride	0.0250	0.0224	0.0227	89.6	90.7	69.4-129			1.28	20
Chlorobenzene	0.0250	0.0236	0.0244	94.5	97.5	78.9-122			3.09	20
Chlorodibromomethane	0.0250	0.0239	0.0240	95.5	96.0	76.4-126			0.590	20
Chloroethane	0.0250	0.0298	0.0308	119	123	47.2-147			3.29	20
2-Chloroethyl vinyl ether	0.125	0.141	0.143	113	114	16.7-162			0.850	23.7
Chloroform	0.0250	0.0234	0.0237	93.7	94.9	73.3-122			1.20	20
Chloromethane	0.0250	0.0237	0.0238	94.9	95.4	53.1-135			0.530	20
2-Chlorotoluene	0.0250	0.0217	0.0229	86.7	91.7	74.6-127			5.60	20
4-Chlorotoluene	0.0250	0.0240	0.0237	96.0	94.6	79.5-123			1.42	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0214	0.0208	85.6	83.3	64.9-131			2.68	20
1,2-Dibromoethane	0.0250	0.0237	0.0237	94.7	95.0	67.2-121			0.280	20
Dibromomethane	0.0250	0.0233	0.0240	93.3	95.9	78.5-117			2.75	20
1,2-Dichlorobenzene	0.0250	0.0229	0.0233	91.6	93.1	83.6-119			1.69	20
1,3-Dichlorobenzene	0.0250	0.0223	0.0226	89.0	90.6	75.9-129			1.75	20
1,4-Dichlorobenzene	0.0250	0.0233	0.0230	93.1	92.0	81.0-115			1.13	20
Dichlorodifluoromethane	0.0250	0.0290	0.0284	116	113	50.9-139			2.07	20
1,1-Dichloroethane	0.0250	0.0227	0.0228	90.7	91.3	71.7-125			0.620	20
1,2-Dichloroethane	0.0250	0.0231	0.0234	92.4	93.8	67.2-121			1.49	20
1,1-Dichloroethene	0.0250	0.0271	0.0285	109	114	60.6-133			4.97	20
cis-1,2-Dichloroethene	0.0250	0.0234	0.0240	93.8	95.8	76.1-121			2.17	20
trans-1,2-Dichloroethene	0.0250	0.0240	0.0244	96.0	97.5	70.7-124			1.52	20
1,2-Dichloropropane	0.0250	0.0230	0.0227	92.1	90.8	76.9-123			1.43	20
1,1-Dichloropropene	0.0250	0.0245	0.0245	98.0	98.0	71.2-126			0.0100	20
1,3-Dichloropropane	0.0250	0.0229	0.0230	91.5	91.9	80.3-114			0.480	20
cis-1,3-Dichloropropene	0.0250	0.0238	0.0243	95.1	97.0	77.3-123			2.02	20
trans-1,3-Dichloropropene	0.0250	0.0249	0.0242	99.6	96.9	73.0-127			2.73	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/22/16 04:07 • (LCSD) 03/22/16 04:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0234	0.0247	93.7	98.9	61.9-132			5.46	20
Di-isopropyl ether	0.0250	0.0224	0.0223	89.8	89.0	67.2-131			0.810	20
Ethylbenzene	0.0250	0.0238	0.0246	95.3	98.5	78.6-124			3.24	20
Hexachloro-1,3-butadiene	0.0250	0.0217	0.0213	87.0	85.2	69.2-136			2.15	20
Isopropylbenzene	0.0250	0.0226	0.0238	90.5	95.0	79.4-126			4.85	20
p-Isopropyltoluene	0.0250	0.0234	0.0240	93.8	96.1	75.4-132			2.50	20
2-Butanone (MEK)	0.125	0.104	0.100	83.0	80.3	44.5-154			3.33	21.3
Methylene Chloride	0.0250	0.0225	0.0228	90.1	91.4	68.2-119			1.38	20
4-Methyl-2-pentanone (MIBK)	0.125	0.117	0.115	93.4	91.7	61.1-138			1.85	20
Methyl tert-butyl ether	0.0250	0.0218	0.0225	87.1	89.8	70.2-122			3.05	20
Naphthalene	0.0250	0.0203	0.0204	81.4	81.5	69.9-132			0.200	20
n-Propylbenzene	0.0250	0.0235	0.0243	94.1	97.3	80.2-124			3.34	20
Styrene	0.0250	0.0236	0.0244	94.2	97.7	79.4-124			3.56	20
1,1,1,2-Tetrachloroethane	0.0250	0.0230	0.0245	92.1	98.0	76.7-127			6.16	20
1,1,2,2-Tetrachloroethane	0.0250	0.0223	0.0231	89.4	92.2	78.8-124			3.14	20
Tetrachloroethene	0.0250	0.0232	0.0236	92.9	94.6	71.1-133			1.78	20
Toluene	0.0250	0.0226	0.0226	90.4	90.4	76.7-116			0.0200	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0294	0.0294	118	118	62.6-138			0.100	20
1,2,3-Trichlorobenzene	0.0250	0.0212	0.0214	84.7	85.7	72.5-137			1.14	20
1,2,4-Trichlorobenzene	0.0250	0.0220	0.0217	88.0	87.0	74.0-137			1.16	20
1,1,1-Trichloroethane	0.0250	0.0240	0.0241	96.0	96.5	69.9-127			0.500	20
1,1,2-Trichloroethane	0.0250	0.0234	0.0235	93.6	94.1	81.9-119			0.580	20
Trichloroethene	0.0250	0.0230	0.0237	91.8	94.7	77.2-122			3.09	20
Trichlorofluoromethane	0.0250	0.0257	0.0263	103	105	51.5-151			2.28	20
1,2,3-Trichloropropane	0.0250	0.0228	0.0231	91.1	92.2	74.0-124			1.26	20
1,2,3-Trimethylbenzene	0.0250	0.0227	0.0233	90.6	93.0	79.4-118			2.64	20
1,2,4-Trimethylbenzene	0.0250	0.0233	0.0241	93.1	96.3	77.1-124			3.42	20
1,3,5-Trimethylbenzene	0.0250	0.0228	0.0237	91.4	94.7	79.0-125			3.54	20
Vinyl chloride	0.0250	0.0266	0.0263	107	105	58.4-134			1.08	20
Xylenes, Total	0.0750	0.0709	0.0732	94.5	97.5	78.1-123			3.14	20
(S) Toluene-d8				*102*	*104*	*88.7-115*				
(S) Dibromofluoromethane				*101*	*101*	*76.3-123*				
(S) 4-Bromofluorobenzene				*97.9*	*101*	*69.7-129*				

Method Blank (MB)

(MB) 03/22/16 12:37

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
2-Chloroethyl vinyl ether	ND		0.0500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/22/16 11:14 • (LCSD) 03/22/16 11:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Chloroethyl vinyl ether	0.125	0.132	0.134	105	107	23.4-162			1.41	23.5

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
B	The same analyte is found in the associated blank.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

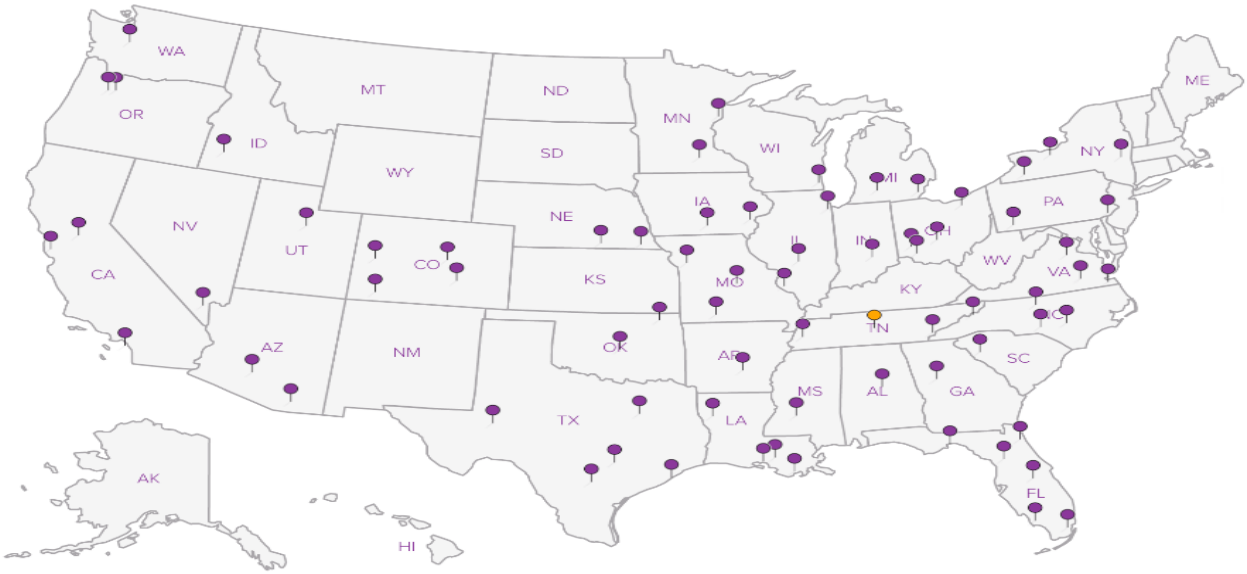
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Report to: **Chris DeBoer**

Email To: **CDeBoer@pesenv.com**

Project Description:

City/State Collected:

Phone: **206-529-3980**
Fax: **206-529-3985**

Client Project #

Lab Project # **PESENVSWA-AIR**

Collected by (print): CJD

Site/Facility ID # Lake Stevens

P.O. #

Collected by (signature):

Immediately Packed on Ice N___ Y_X_

Rush? (Lab MUST Be Notified)
___ Same Day 200%
_X_ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

L122

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15SIM Summa	V8260C 40ml/NaHSO4/Syr/MeOH	V8260C 40mlAmb-HCl	V8260C- Trip Blank 40mlAmb-HCl-Blk	VOC Screen / TS 4ozClr-NoPres	Rem./Contaminant	Sample # (lab only)
IA-031716	Grab	Air	NA	3/17/16	1730	1	X						-12
OA-031716		Air	NA	3/17/16	1737	1	X						13
SV1-031816		Air	.5	3/18/16	937	1	X						-01
SV2-031816		Air	.5	3/18/16	950	1	X						02
SV3-031816		Air	.5	3/18/16	1010	1	X						03
TW-1-8		Air SS	8	3/17/16	1210	1	X						04
TW-2-6		SS	6	3/17/16	1310	4		X			X		05
SV1-1.5		SS	1.5	3/18/16	1205	4		X			X		06
SV2-1		SS	1	3/18/16	1230	4		X			X		07
SV3-1.5		SS	1.5	3/18/16	1310	4		X			X		08

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Chain of Custody Page ___ of ___

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L824454

A097

Acctnum: **PESENVSWA**
Template: **T110587**
Prelogin: **P546003**
TSR: **358 - Jarred Willis**
PB: 3-14-16 MG
Shipped Via: **FedEx 2nd Day**

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	3/18/16	1618	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 3032

Date: 3/19/16 Time: 900

Hold #

Condition: (lab use only) OK

COC Seal Intact: _✓_ Y ___N ___NA

pH Checked: NCF: ✓

6617361509 66

PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Report to: Chris DeBoer

Email To: CDeBoer@pesenv.com

Project Description:

City/State Collected:

Phone: 206-529-3980
Fax: 206-529-3985

Client Project #

Lab Project #
PESENVSWA-AIR

Collected by (print): CDB

Site/Facility ID #: Lake Stevens

P.O. #

Collected by (signature): Chris DeBoer

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
X Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15SIM Summa	V8260C 40ml/NaHSO4/Syr/MeOH	V8260C 40mlAmb-HCl	V8260C- Trip Blank 40mlAmb-HCl-Blk	VOC Screen / TS 4ozClr-NoPres						Rem./Contaminant	Sample # (lab only)
TW-1-W	GRAB	GW	9	3/17/16	1425	3			X									09
TW-2-W		GW	6	3/17/16	1515	3			X									10
		GW				3			X									
TRIP BLANK		GW				1				X								11

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L824454

Table #

Acctnum: PESENVSWA
Template: T110587
Prelogin: P546003
TSR: 358 - Jarred Willis
PB: 3-14-16 MJB

Shipped Via: FedEX 2nd Day

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Chris DeBoer	3/18/16	1610	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 30

Date: 3/19/16 Time: 900

Condition: (lab use only) GW

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF: ✓

Andy Vann

ESC Lab Sciences
Non-Conformance Form

Login #: L824454	Client: PESENVSWA	Date: 3/19/16	Evaluated by: Jeremy

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	x	Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Couri
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments:

Client sent SS samples for TW-1-8 has TO-15SIM marked on COC. Please advise

Client informed by:	Call	Email X	Voice Mail	Date: 3/21/16	Time: 1045
TSR Initials: JW	Client Contact: Chris DeBoer				

Login Instructions: **Log sample "TW-1-8" for V8260C and TS. Add to L824454 as R2 due 3/22.**

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.2		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0573	1	03/22/2016 00:29	WG857902
Acrylonitrile	ND		0.0115	1	03/22/2016 00:29	WG857902
Benzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromodichloromethane	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromoform	ND		0.00115	1	03/22/2016 00:29	WG857902
Bromomethane	ND		0.00573	1	03/22/2016 00:29	WG857902
n-Butylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
sec-Butylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
tert-Butylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Carbon tetrachloride	ND		0.00115	1	03/22/2016 00:29	WG857902
Chlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Chlorodibromomethane	ND		0.00115	1	03/22/2016 00:29	WG857902
Chloroethane	ND		0.00573	1	03/22/2016 00:29	WG857902
2-Chloroethyl vinyl ether	ND		0.0573	1	03/22/2016 00:29	WG857902
Chloroform	ND		0.00573	1	03/22/2016 00:29	WG857902
Chloromethane	ND		0.00287	1	03/22/2016 00:29	WG857902
2-Chlorotoluene	ND		0.00115	1	03/22/2016 00:29	WG857902
4-Chlorotoluene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00573	1	03/22/2016 00:29	WG857902
1,2-Dibromoethane	ND		0.00115	1	03/22/2016 00:29	WG857902
Dibromomethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,3-Dichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,4-Dichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Dichlorodifluoromethane	ND		0.00573	1	03/22/2016 00:29	WG857902
1,1-Dichloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dichloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1-Dichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
cis-1,2-Dichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
trans-1,2-Dichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2-Dichloropropane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1-Dichloropropene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,3-Dichloropropane	ND		0.00115	1	03/22/2016 00:29	WG857902
cis-1,3-Dichloropropene	ND		0.00115	1	03/22/2016 00:29	WG857902
trans-1,3-Dichloropropene	ND		0.00115	1	03/22/2016 00:29	WG857902
2,2-Dichloropropane	ND		0.00115	1	03/22/2016 00:29	WG857902
Di-isopropyl ether	ND		0.00115	1	03/22/2016 00:29	WG857902
Ethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Hexachloro-1,3-butadiene	ND		0.00115	1	03/22/2016 00:29	WG857902
Isopropylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
p-Isopropyltoluene	ND		0.00115	1	03/22/2016 00:29	WG857902
2-Butanone (MEK)	ND		0.0115	1	03/22/2016 00:29	WG857902
Methylene Chloride	ND		0.00573	1	03/22/2016 00:29	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0115	1	03/22/2016 00:29	WG857902
Methyl tert-butyl ether	ND		0.00115	1	03/22/2016 00:29	WG857902
Naphthalene	ND		0.00573	1	03/22/2016 00:29	WG857902
n-Propylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Styrene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902

JC 3/23/16

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND VJ	J4	0.00115	1	03/22/2016 00:29	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00115	1	03/22/2016 00:29	WG857902
Tetrachloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
Toluene	ND		0.00573	1	03/22/2016 00:29	WG857902
1,2,3-Trichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2,4-Trichlorobenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1,1-Trichloroethane	ND		0.00115	1	03/22/2016 00:29	WG857902
1,1,2-Trichloroethane	ND	J4	0.00115	1	03/22/2016 00:29	WG857902
Trichloroethene	ND		0.00115	1	03/22/2016 00:29	WG857902
Trichlorofluoromethane	ND		0.00573	1	03/22/2016 00:29	WG857902
1,2,3-Trichloropropane	ND		0.00287	1	03/22/2016 00:29	WG857902
1,2,4-Trimethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
1,2,3-Trimethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Vinyl chloride	ND		0.00115	1	03/22/2016 00:29	WG857902
1,3,5-Trimethylbenzene	ND		0.00115	1	03/22/2016 00:29	WG857902
Xylenes, Total	ND		0.00344	1	03/22/2016 00:29	WG857902
(S) Toluene-d8	*102*		*88.7-115*		*03/22/2016 00:29*	WG857902
(S) Dibromofluoromethane	*104*		*76.3-123*		*03/22/2016 00:29*	WG857902
(S) 4-Bromofluorobenzene	*91.4*		*69.7-129*		*03/22/2016 00:29*	WG857902

JC 3/23/16

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	%				
Total Solids	93.6		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Acetone	ND		0.0534	1	03/22/2016 01:53	WG857902
Acrylonitrile	ND		0.0107	1	03/22/2016 01:53	WG857902
Benzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromodichloromethane	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromoform	ND		0.00107	1	03/22/2016 01:53	WG857902
Bromomethane	ND		0.00534	1	03/22/2016 01:53	WG857902
n-Butylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
sec-Butylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
tert-Butylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Carbon tetrachloride	ND		0.00107	1	03/22/2016 01:53	WG857902
Chlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Chlorodibromomethane	ND		0.00107	1	03/22/2016 01:53	WG857902
Chloroethane	ND		0.00534	1	03/22/2016 01:53	WG857902
2-Chloroethyl vinyl ether	ND		0.0534	1	03/22/2016 01:53	WG857902
Chloroform	ND		0.00534	1	03/22/2016 01:53	WG857902
Chloromethane	ND		0.00267	1	03/22/2016 01:53	WG857902
2-Chlorotoluene	ND		0.00107	1	03/22/2016 01:53	WG857902
4-Chlorotoluene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00534	1	03/22/2016 01:53	WG857902
1,2-Dibromoethane	ND		0.00107	1	03/22/2016 01:53	WG857902
Dibromomethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,3-Dichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,4-Dichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Dichlorodifluoromethane	ND		0.00534	1	03/22/2016 01:53	WG857902
1,1-Dichloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dichloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1-Dichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
cis-1,2-Dichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
trans-1,2-Dichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2-Dichloropropane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1-Dichloropropene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,3-Dichloropropane	ND		0.00107	1	03/22/2016 01:53	WG857902
cis-1,3-Dichloropropene	ND		0.00107	1	03/22/2016 01:53	WG857902
trans-1,3-Dichloropropene	ND		0.00107	1	03/22/2016 01:53	WG857902
2,2-Dichloropropane	ND		0.00107	1	03/22/2016 01:53	WG857902
Di-isopropyl ether	ND		0.00107	1	03/22/2016 01:53	WG857902
Ethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Hexachloro-1,3-butadiene	ND		0.00107	1	03/22/2016 01:53	WG857902
Isopropylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
p-Isopropyltoluene	ND		0.00107	1	03/22/2016 01:53	WG857902
2-Butanone (MEK)	ND		0.0107	1	03/22/2016 01:53	WG857902
Methylene Chloride	ND		0.00534	1	03/22/2016 01:53	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0107	1	03/22/2016 01:53	WG857902
Methyl tert-butyl ether	ND		0.00107	1	03/22/2016 01:53	WG857902
Naphthalene	ND		0.00534	1	03/22/2016 01:53	WG857902
n-Propylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Styrene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902

JC 3/23/16

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND U5	J4	0.00107	1	03/22/2016 01:53	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00107	1	03/22/2016 01:53	WG857902
Tetrachloroethene	0.00167		0.00107	1	03/22/2016 01:53	WG857902
Toluene	ND		0.00534	1	03/22/2016 01:53	WG857902
1,2,3-Trichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2,4-Trichlorobenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1,1-Trichloroethane	ND		0.00107	1	03/22/2016 01:53	WG857902
1,1,2-Trichloroethane	ND	J4	0.00107	1	03/22/2016 01:53	WG857902
Trichloroethene	ND		0.00107	1	03/22/2016 01:53	WG857902
Trichlorofluoromethane	ND		0.00534	1	03/22/2016 01:53	WG857902
1,2,3-Trichloropropane	ND		0.00267	1	03/22/2016 01:53	WG857902
1,2,4-Trimethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
1,2,3-Trimethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Vinyl chloride	ND		0.00107	1	03/22/2016 01:53	WG857902
1,3,5-Trimethylbenzene	ND		0.00107	1	03/22/2016 01:53	WG857902
Xylenes, Total	ND		0.00321	1	03/22/2016 01:53	WG857902
(S) Toluene-d8	*103*		*88.7-115*		*03/22/2016 01:53*	WG857902
(S) Dibromofluoromethane	*105*		*76.3-123*		*03/22/2016 01:53*	WG857902
(S) 4-Bromofluorobenzene	*89.9*		*69.7-129*		*03/22/2016 01:53*	WG857902

JC 3/23/16

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.8		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0545	1	03/22/2016 02:13	WG857902
Acrylonitrile	ND		0.0109	1	03/22/2016 02:13	WG857902
Benzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromodichloromethane	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromoform	ND		0.00109	1	03/22/2016 02:13	WG857902
Bromomethane	ND		0.00545	1	03/22/2016 02:13	WG857902
n-Butylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
sec-Butylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
tert-Butylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Carbon tetrachloride	ND		0.00109	1	03/22/2016 02:13	WG857902
Chlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Chlorodibromomethane	ND		0.00109	1	03/22/2016 02:13	WG857902
Chloroethane	ND		0.00545	1	03/22/2016 02:13	WG857902
2-Chloroethyl vinyl ether	ND		0.0545	1	03/22/2016 02:13	WG857902
Chloroform	ND		0.00545	1	03/22/2016 02:13	WG857902
Chloromethane	ND		0.00272	1	03/22/2016 02:13	WG857902
2-Chlorotoluene	ND		0.00109	1	03/22/2016 02:13	WG857902
4-Chlorotoluene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00545	1	03/22/2016 02:13	WG857902
1,2-Dibromoethane	ND		0.00109	1	03/22/2016 02:13	WG857902
Dibromomethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,3-Dichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,4-Dichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Dichlorodifluoromethane	ND		0.00545	1	03/22/2016 02:13	WG857902
1,1-Dichloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dichloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1-Dichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
cis-1,2-Dichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
trans-1,2-Dichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2-Dichloropropane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1-Dichloropropene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,3-Dichloropropane	ND		0.00109	1	03/22/2016 02:13	WG857902
cis-1,3-Dichloropropene	ND		0.00109	1	03/22/2016 02:13	WG857902
trans-1,3-Dichloropropene	ND		0.00109	1	03/22/2016 02:13	WG857902
2,2-Dichloropropane	ND		0.00109	1	03/22/2016 02:13	WG857902
Di-isopropyl ether	ND		0.00109	1	03/22/2016 02:13	WG857902
Ethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Hexachloro-1,3-butadiene	ND		0.00109	1	03/22/2016 02:13	WG857902
Isopropylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
p-Isopropyltoluene	ND		0.00109	1	03/22/2016 02:13	WG857902
2-Butanone (MEK)	ND		0.0109	1	03/22/2016 02:13	WG857902
Methylene Chloride	ND		0.00545	1	03/22/2016 02:13	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0109	1	03/22/2016 02:13	WG857902
Methyl tert-butyl ether	ND		0.00109	1	03/22/2016 02:13	WG857902
Naphthalene	ND		0.00545	1	03/22/2016 02:13	WG857902
n-Propylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Styrene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902

3/23/16

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND	J4	0.00109	1	03/22/2016 02:13	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00109	1	03/22/2016 02:13	WG857902
Tetrachloroethene	0.00573		0.00109	1	03/22/2016 02:13	WG857902
Toluene	ND		0.00545	1	03/22/2016 02:13	WG857902
1,2,3-Trichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2,4-Trichlorobenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1,1-Trichloroethane	ND		0.00109	1	03/22/2016 02:13	WG857902
1,1,2-Trichloroethane	ND	J4	0.00109	1	03/22/2016 02:13	WG857902
Trichloroethene	ND		0.00109	1	03/22/2016 02:13	WG857902
Trichlorofluoromethane	ND		0.00545	1	03/22/2016 02:13	WG857902
1,2,3-Trichloropropane	ND		0.00272	1	03/22/2016 02:13	WG857902
1,2,4-Trimethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
1,2,3-Trimethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Vinyl chloride	ND		0.00109	1	03/22/2016 02:13	WG857902
1,3,5-Trimethylbenzene	ND		0.00109	1	03/22/2016 02:13	WG857902
Xylenes, Total	ND		0.00327	1	03/22/2016 02:13	WG857902
(S) Toluene-d8	*103*		*88.7-115*		*03/22/2016 02:13*	WG857902
(S) Dibromofluoromethane	*104*		*76.3-123*		*03/22/2016 02:13*	WG857902
(S) 4-Bromofluorobenzene	*90.4*		*69.7-129*		*03/22/2016 02:13*	WG857902

Cp
Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

JC 3/23/16

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.5		1	03/21/2016 11:50	WG857989

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.0529	1	03/22/2016 03:41	WG857902
Acrylonitrile	ND		0.0106	1	03/22/2016 03:41	WG857902
Benzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromodichloromethane	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromoform	ND		0.00106	1	03/22/2016 03:41	WG857902
Bromomethane	ND		0.00529	1	03/22/2016 03:41	WG857902
n-Butylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
sec-Butylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
tert-Butylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Carbon tetrachloride	ND		0.00106	1	03/22/2016 03:41	WG857902
Chlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Chlorodibromomethane	ND		0.00106	1	03/22/2016 03:41	WG857902
Chloroethane	ND		0.00529	1	03/22/2016 03:41	WG857902
2-Chloroethyl vinyl ether	ND		0.0529	1	03/22/2016 03:41	WG857902
Chloroform	ND		0.00529	1	03/22/2016 03:41	WG857902
Chloromethane	ND		0.00264	1	03/22/2016 03:41	WG857902
2-Chlorotoluene	ND		0.00106	1	03/22/2016 03:41	WG857902
4-Chlorotoluene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dibromo-3-Chloropropane	ND		0.00529	1	03/22/2016 03:41	WG857902
1,2-Dibromoethane	ND		0.00106	1	03/22/2016 03:41	WG857902
Dibromomethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,3-Dichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,4-Dichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Dichlorodifluoromethane	ND		0.00529	1	03/22/2016 03:41	WG857902
1,1-Dichloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dichloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1-Dichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
cis-1,2-Dichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
trans-1,2-Dichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2-Dichloropropane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1-Dichloropropene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,3-Dichloropropane	ND		0.00106	1	03/22/2016 03:41	WG857902
cis-1,3-Dichloropropene	ND		0.00106	1	03/22/2016 03:41	WG857902
trans-1,3-Dichloropropene	ND		0.00106	1	03/22/2016 03:41	WG857902
2,2-Dichloropropane	ND		0.00106	1	03/22/2016 03:41	WG857902
Di-isopropyl ether	ND		0.00106	1	03/22/2016 03:41	WG857902
Ethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Hexachloro-1,3-butadiene	ND		0.00106	1	03/22/2016 03:41	WG857902
Isopropylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
p-Isopropyltoluene	ND		0.00106	1	03/22/2016 03:41	WG857902
2-Butanone (MEK)	ND		0.0106	1	03/22/2016 03:41	WG857902
Methylene Chloride	ND		0.00529	1	03/22/2016 03:41	WG857902
4-Methyl-2-pentanone (MIBK)	ND		0.0106	1	03/22/2016 03:41	WG857902
Methyl tert-butyl ether	ND		0.00106	1	03/22/2016 03:41	WG857902
Naphthalene	ND		0.00529	1	03/22/2016 03:41	WG857902
n-Propylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Styrene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1,1,2-Tetrachloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902

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Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND UJ	J4	0.00106	1	03/22/2016 03:41	WG857902
1,1,2-Trichlorotrifluoroethane	ND	J3	0.00106	1	03/22/2016 03:41	WG857902
Tetrachloroethene	0.00442		0.00106	1	03/22/2016 03:41	WG857902
Toluene	ND		0.00529	1	03/22/2016 03:41	WG857902
1,2,3-Trichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2,4-Trichlorobenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1,1-Trichloroethane	ND		0.00106	1	03/22/2016 03:41	WG857902
1,1,2-Trichloroethane	ND	J4	0.00106	1	03/22/2016 03:41	WG857902
Trichloroethene	ND		0.00106	1	03/22/2016 03:41	WG857902
Trichlorofluoromethane	ND		0.00529	1	03/22/2016 03:41	WG857902
1,2,3-Trichloropropane	ND		0.00264	1	03/22/2016 03:41	WG857902
1,2,4-Trimethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
1,2,3-Trimethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Vinyl chloride	ND		0.00106	1	03/22/2016 03:41	WG857902
1,3,5-Trimethylbenzene	ND		0.00106	1	03/22/2016 03:41	WG857902
Xylenes, Total	ND		0.00317	1	03/22/2016 03:41	WG857902
(S) Toluene-d8	*103*		*88.7-115*		*03/22/2016 03:41*	WG857902
(S) Dibromofluoromethane	*106*		*76.3-123*		*03/22/2016 03:41*	WG857902
(S) 4-Bromofluorobenzene	*90.4*		*69.7-129*		*03/22/2016 03:41*	WG857902

Cp Tc Ss Cn Sr Qc Gl Al Sc

J 3/23/16 -

MEMORANDUM

TO: Project File **DATE:** March 23, 2016

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.02.002

TASK: March 17-18, 2016 Sampling Event

LAB: ESC Lab Sciences Analytical Report No. L824454

Two groundwater, five soil, three sub-slab vapor, and two air (ambient and an indoor grab) samples along with one trip blank sample were collected March 17 -18, 2016 from the Lake Stevens Marketplace in Snohomish County, Washington. The samples were collected as part of a Limited Phase II Environmental Investigation. The samples were submitted to ESC Lab Sciences (ESC) of Mount Juliet, Tennessee for laboratory analyses. The air and sub-slab vapor samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15. Soil and groundwater samples were analyzed for VOCs by USEPA 8260C. Soils were also measured for total solids (percent) by Standard Methods for Water and Wastewater (SM) 2540 Method G (Editorial Revisions, 2011).

The results were reported in laboratory report ESC L824454. The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Sample Receipt, Preservation and Handling

The laboratory supplied Summa canisters for the air (includes sub-slab vapor samples) samples. The samples were shipped by courier and received in good condition by the laboratory. Summa canisters do not require preservation or cooling. The samples were collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

The soil and groundwater samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols with the following discussion:

> Review of ESC's Non-Conformance Form indicated Sample TW-1-8 was recorded on the chain of custody (COC) as an air sample. On March 21, 2016 PES contacted ESC to correct the matrix to read "soil" on the COC. In addition PES clarified the COC analysis request for VOC and total solids analysis on the associated sample.

Review of ESC's Non-Conformance Form and COC indicates that all samples were received in good condition at a cooler temperature of 3.2 degrees Centigrade (°C) within the recommended preservation temperature range of 4.0°C ± 2.0°C. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Holding Times

USEPA Method TO-15 (VOCs):
The analysis for VOCs was performed within the thirty day recommended holding time limit for air samples collected in a Summa canister. No data was qualified based upon holding times.

USEPA Method 8260C (VOCs):
All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (soils and preserved waters) from the data of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. The case narrative did not indicate any issues with calibration; therefore no qualifications were warranted.

Method Blank Results

USEPA Method TO-15 (VOCs):
A laboratory method blank was included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the Reported Detection Limit (RDL) with the following discussion:

- Benzene results for sub-slab vapor samples SV1-031816 and SV2-031816 are qualified 'B' by the laboratory indicating that benzene was detected at a low level in the associated blank. ESC indicated that benzene was detected at less than half the Reported Detection Limit (RDL) for benzene (0.02 ppbv). The low level benzene detection in the method blank has no impact on associated sample results for benzene. No action was taken on this basis. No data qualifications were warranted.

USEPA Method 8260C (VOCs):
Laboratory method blanks for soil and water were included with the analytical batches per method requirement. The target analytes were not detected in the method blanks for soil or waters at or above the RDLs. No qualifications of the data were made due to the results of the method blank analyses.

Total Solids by SM 2540 G-2011:
Percent solids were measured at negligible levels in the method blanks. No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

USEPA Method TO-15 (VOCs):

A trip blank was not required for the TO-15 analyses.

USEPA Method 8260C (VOCs):
A trip blank was collected. No compounds were detected in the trip blank at concentrations at or above the RDLs. No data qualifications were warranted.

Field, Rinsate, or Equipment Blank Results

USEPA Method 8260C (VOCs):
No field, rinsate, or equipment blanks were collected.

Laboratory Duplicate Analyses

USEPA Method TO-15 (VOCs):
A laboratory duplicate analysis was not performed. Refer to laboratory control sample and laboratory control sample duplicate results for precision information.

USEPA Method 8260C (VOCs):
Laboratory duplicate analyses were not performed on soils or waters. Refer to laboratory control sample and/or matrix spike data for precision information.

Total Solids by SM 2540 G-2011:
Laboratory duplicate analysis was performed on non-client samples within each analytical batch. The primary/duplicate RPDs were within the laboratory control limit of 5%. Duplicate data are acceptable.

Field Duplicate Analyses

USEPA Method TO-15 (VOCs) and USEPA Method 8260C (VOCs):
Field duplicate samples were not collected. Refer laboratory duplicate results for precision data.

Surrogate Recoveries

USEPA Method TO-15 (VOCs):
The surrogate % R results for the air samples, method blank, and laboratory control samples were within the laboratory surrogate control limits of 70 to 130% R. No data qualifications were warranted.

USEPA Method 8260C (VOCs):
The surrogate recovery results for soil and water samples, associated laboratory control samples, matrix spikes, and method blanks were within the laboratory surrogate control limits for all of the analyses.

Matrix Spike/ Matrix Spike Duplicates

USEPA Method TO-15 (VOCs):
An MS/MSD is not required for the TO-15 method. Refer to laboratory control sample results for accuracy and precision data.

USEPA Method 8260C (VOCs):
A matrix spike (MS) analysis was performed a non-client soil sample within the analytical batch. The MS percent recoveries (%Rs) for all 8260C target analytes were within the laboratory control criteria with the following exceptions:

- MS/MSD (Batch ID WG857902) results for spike compound acetone were not recovered. No action is taken since the spike was performed on a non-client sample. LCS/LCSD acetone spike recoveries were acceptable.

A matrix spike analysis was not performed on water samples. Refer to laboratory control sample results for precision and accuracy data.

Laboratory Control Samples

USEPA Method TO-15 (VOCs):
A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses were performed with the analytical batch. The LCS recovery results for all control compounds met the % R and RPD acceptance criteria (70-130%R and 25% RPD). LCS/LCSD results are acceptable.

USEPA Method 8260C (VOCs):
LCS/LCSD analyses were performed along with each analytical batch for soils and waters. The LCS/LCSD %R's and RPDs for the control analytes (VOCs) were within the laboratory control criteria for soils and waters with the following exceptions:

- LCS/LCSD (Batch ID WG857902) compound 1,1,2,2-tetrachloroethane was recovered slightly below laboratory control limit criteria. **Associated sample 1,1,2,2-tetrachloroethane results (samples TW-2-6, SV1-1.5, SV2-1, and SV3-1.5) are estimated and qualified (UJ) due to slightly low LCS/LCSD recoveries.**

- LCS/LCSD (Batch ID WG857902) compound 1,1,2-trichlorotrifluoroethane RPD is at 23% and above ESC's acceptance criteria of 20%. No action is taken in this case since both LCS/LCSD 1,1,2-trichlorotrifluoroethane recoveries were within ESC's criteria.

- LCS (Batch ID WG857902) compound 1,1,2-trichloroethane was recovered slightly below ESC's laboratory control limit criteria. No action is taken in this case since the LCSD 1,1,2-trichloroethane recovery is within criteria.

Total Solids by SM 2540 G-2011:
An LCS was performed with each analytical batch. The LCS recovery results for the spiked blank met the % R acceptance criteria (85-115%R). LCS results are acceptable.

Quantitation Limits

Results of all analyses were reported based on standard laboratory RDLs. The reported RDLs are considered appropriate for this project. Air samples submitted for VOC analysis via USEPA Method TO-15 were analyzed for 22 VOC compounds. Soil and groundwater samples submitted for VOC analysis via USEPA 8260C were analyzed for 66 VOC compounds. No data qualifiers were warranted based upon standard or dilution-elevated detection limits.

Completeness

The samples were collected and analyzed as requested. The results in all cases were reported based upon standard Reporting Detection Limits (RDLs). Data completeness is 100%.

Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999)

Data qualifiers were assigned and laboratory report pages with qualifiers are attached. All data are judged to be acceptable for their intended use.

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Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Brian O'Neal
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Lake Stevens Marketplace
Lab ID: 1607053

July 14, 2016

Attention Brian O'Neal:

Fremont Analytical, Inc. received 5 sample(s) on 7/7/2016 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260C

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,

Chelsea Ward
Project Manager

Date: *07/14/2016*

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab Order: 1607053

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1607053-001	SB-1a-8	07/07/2016 10:30 AM	07/07/2016 4:51 PM
1607053-002	SB-2-6	07/07/2016 11:10 AM	07/07/2016 4:51 PM
1607053-003	SB-3-7	07/07/2016 12:20 PM	07/07/2016 4:51 PM
1607053-004	SB-4-7	07/07/2016 12:45 PM	07/07/2016 4:51 PM
1607053-005	SB-5-8	07/07/2016 1:20 PM	07/07/2016 4:51 PM

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

Case Narrative

WO#: **1607053**
Date: **7/14/2016**

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below 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

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 10:30:00 AM

Project: Lake Stevens Marketplace

Lab ID: 1607053-001

Matrix: Soil

Client Sample ID: **SB-1a-8**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0623		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Chloromethane	ND	0.0623		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Vinyl chloride	ND	0.00208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Bromomethane	ND	0.0934		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Trichlorofluoromethane (CFC-11)	ND	0.0519		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Chloroethane	ND	0.0623		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,1-Dichloroethene	ND	0.0519		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Methylene chloride	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
trans-1,2-Dichloroethene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Methyl tert-butyl ether (MTBE)	ND	0.0519		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,1-Dichloroethane	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
2,2-Dichloropropane	ND	0.0519	Q	mg/Kg-dry	1	7/13/2016 9:59:02 AM
cis-1,2-Dichloroethene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Chloroform	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,1,1-Trichloroethane (TCA)	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,1-Dichloropropene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Carbon tetrachloride	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2-Dichloroethane (EDC)	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Benzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Trichloroethene (TCE)	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2-Dichloropropane	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Bromodichloromethane	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Dibromomethane	ND	0.0415		mg/Kg-dry	1	7/13/2016 9:59:02 AM
cis-1,3-Dichloropropene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Toluene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
trans-1,3-Dichloropropylene	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,1,2-Trichloroethane	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,3-Dichloropropane	ND	0.0519		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Tetrachloroethene (PCE)	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Dibromochloromethane	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2-Dibromoethane (EDB)	ND	0.00519		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Chlorobenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,1,1,2-Tetrachloroethane	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Ethylbenzene	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
m,p-Xylene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
o-Xylene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Styrene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Isopropylbenzene	ND	0.0830		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Bromoform	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 10:30:00 AM

Project: Lake Stevens Marketplace

Lab ID: 1607053-001

Matrix: Soil

Client Sample ID: **SB-1a-8**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
1,1,2,2-Tetrachloroethane	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
n-Propylbenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Bromobenzene	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,3,5-Trimethylbenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
2-Chlorotoluene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
4-Chlorotoluene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
tert-Butylbenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2,3-Trichloropropane	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2,4-Trichlorobenzene	ND	0.0519		mg/Kg-dry	1	7/13/2016 9:59:02 AM
sec-Butylbenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
4-Isopropyltoluene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,3-Dichlorobenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,4-Dichlorobenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
n-Butylbenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2-Dichlorobenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2-Dibromo-3-chloropropane	ND	0.519		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2,4-Trimethylbenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Hexachlorobutadiene	ND	0.104		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Naphthalene	ND	0.0311		mg/Kg-dry	1	7/13/2016 9:59:02 AM
1,2,3-Trichlorobenzene	ND	0.0208		mg/Kg-dry	1	7/13/2016 9:59:02 AM
Surr: Dibromofluoromethane	99.6	56.5-129		%Rec	1	7/13/2016 9:59:02 AM
Surr: Toluene-d8	96.9	64.3-131		%Rec	1	7/13/2016 9:59:02 AM
Surr: 1-Bromo-4-fluorobenzene	100	63.1-141		%Rec	1	7/13/2016 9:59:02 AM

NOTES:

Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30464		Analyst: ME
Percent Moisture	9.51	0.500		wt%	1	7/11/2016 10:18:11 AM

Analytical Report

WO#: **1607053**
Date Reported: **7/14/2016**

Client: PES Environmental, Inc.
Collection Date: 7/7/2016 11:10:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607053-002
Matrix: Soil
Client Sample ID: **SB-2-6**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0629		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Chloromethane	ND	0.0629		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Vinyl chloride	ND	0.00210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Bromomethane	ND	0.0943		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Trichlorofluoromethane (CFC-11)	ND	0.0524		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Chloroethane	ND	0.0629		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,1-Dichloroethene	ND	0.0524		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Methylene chloride	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
trans-1,2-Dichloroethene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Methyl tert-butyl ether (MTBE)	ND	0.0524		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,1-Dichloroethane	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
2,2-Dichloropropane	ND	0.0524	Q	mg/Kg-dry	1	7/13/2016 7:03:31 AM
cis-1,2-Dichloroethene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Chloroform	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,1,1-Trichloroethane (TCA)	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,1-Dichloropropene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Carbon tetrachloride	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2-Dichloroethane (EDC)	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Benzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Trichloroethene (TCE)	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2-Dichloropropane	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Bromodichloromethane	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Dibromomethane	ND	0.0419		mg/Kg-dry	1	7/13/2016 7:03:31 AM
cis-1,3-Dichloropropene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Toluene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
trans-1,3-Dichloropropylene	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,1,2-Trichloroethane	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,3-Dichloropropane	ND	0.0524		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Tetrachloroethene (PCE)	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Dibromochloromethane	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2-Dibromoethane (EDB)	ND	0.00524		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Chlorobenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,1,1,2-Tetrachloroethane	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Ethylbenzene	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
m,p-Xylene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
o-Xylene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Styrene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Isopropylbenzene	ND	0.0838		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Bromoform	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 11:10:00 AM

Project: Lake Stevens Marketplace

Lab ID: 1607053-002

Matrix: Soil

Client Sample ID: **SB-2-6**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
1,1,2,2-Tetrachloroethane	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
n-Propylbenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Bromobenzene	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,3,5-Trimethylbenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
2-Chlorotoluene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
4-Chlorotoluene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
tert-Butylbenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2,3-Trichloropropane	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2,4-Trichlorobenzene	ND	0.0524		mg/Kg-dry	1	7/13/2016 7:03:31 AM
sec-Butylbenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
4-Isopropyltoluene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,3-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,4-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
n-Butylbenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2-Dichlorobenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2-Dibromo-3-chloropropane	ND	0.524		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2,4-Trimethylbenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Hexachlorobutadiene	ND	0.105		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Naphthalene	ND	0.0314		mg/Kg-dry	1	7/13/2016 7:03:31 AM
1,2,3-Trichlorobenzene	ND	0.0210		mg/Kg-dry	1	7/13/2016 7:03:31 AM
Surr: Dibromofluoromethane	97.8	56.5-129		%Rec	1	7/13/2016 7:03:31 AM
Surr: Toluene-d8	99.6	64.3-131		%Rec	1	7/13/2016 7:03:31 AM
Surr: 1-Bromo-4-fluorobenzene	106	63.1-141		%Rec	1	7/13/2016 7:03:31 AM

NOTES:

Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30464		Analyst: ME
Percent Moisture	13.0	0.500		wt%	1	7/11/2016 10:18:11 AM

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 12:20:00 PM

Project: Lake Stevens Marketplace

Lab ID: 1607053-003

Matrix: Soil

Client Sample ID: **SB-3-7**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14232 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0592		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Chloromethane	ND	0.0592		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Vinyl chloride	ND	0.00197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Bromomethane	ND	0.0888		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Trichlorofluoromethane (CFC-11)	ND	0.0493		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Chloroethane	ND	0.0592		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,1-Dichloroethene	ND	0.0493		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Methylene chloride	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
trans-1,2-Dichloroethene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Methyl tert-butyl ether (MTBE)	ND	0.0493		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,1-Dichloroethane	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
2,2-Dichloropropane	ND	0.0493	Q	mg/Kg-dry	1	7/13/2016 10:28:18 AM
cis-1,2-Dichloroethene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Chloroform	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,1,1-Trichloroethane (TCA)	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,1-Dichloropropene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Carbon tetrachloride	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2-Dichloroethane (EDC)	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Benzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Trichloroethene (TCE)	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2-Dichloropropane	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Bromodichloromethane	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Dibromomethane	ND	0.0394		mg/Kg-dry	1	7/13/2016 10:28:18 AM
cis-1,3-Dichloropropene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Toluene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
trans-1,3-Dichloropropylene	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,1,2-Trichloroethane	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,3-Dichloropropane	ND	0.0493		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Tetrachloroethene (PCE)	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Dibromochloromethane	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2-Dibromoethane (EDB)	ND	0.00493		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Chlorobenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,1,1,2-Tetrachloroethane	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Ethylbenzene	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
m,p-Xylene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
o-Xylene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Styrene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Isopropylbenzene	ND	0.0789		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Bromoform	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 12:20:00 PM

Project: Lake Stevens Marketplace

Lab ID: 1607053-003

Matrix: Soil

Client Sample ID: **SB-3-7**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
1,1,2,2-Tetrachloroethane	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
n-Propylbenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Bromobenzene	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,3,5-Trimethylbenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
2-Chlorotoluene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
4-Chlorotoluene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
tert-Butylbenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2,3-Trichloropropane	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2,4-Trichlorobenzene	ND	0.0493		mg/Kg-dry	1	7/13/2016 10:28:18 AM
sec-Butylbenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
4-Isopropyltoluene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,3-Dichlorobenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,4-Dichlorobenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
n-Butylbenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2-Dichlorobenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2-Dibromo-3-chloropropane	ND	0.493		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2,4-Trimethylbenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Hexachlorobutadiene	ND	0.0986		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Naphthalene	ND	0.0296		mg/Kg-dry	1	7/13/2016 10:28:18 AM
1,2,3-Trichlorobenzene	ND	0.0197		mg/Kg-dry	1	7/13/2016 10:28:18 AM
Surr: Dibromofluoromethane	98.8	56.5-129		%Rec	1	7/13/2016 10:28:18 AM
Surr: Toluene-d8	99.8	64.3-131		%Rec	1	7/13/2016 10:28:18 AM
Surr: 1-Bromo-4-fluorobenzene	100	63.1-141		%Rec	1	7/13/2016 10:28:18 AM

NOTES:

Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30464		Analyst: ME
Percent Moisture	10.5	0.500		wt%	1	7/11/2016 10:18:11 AM

Analytical Report

WO#: **1607053**
Date Reported: **7/14/2016**

Client: PES Environmental, Inc.
Collection Date: 7/7/2016 12:45:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1607053-004
Matrix: Soil
Client Sample ID: **SB-4-7**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0673		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Chloromethane	ND	0.0673		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Vinyl chloride	ND	0.00224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Bromomethane	ND	0.101		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Trichlorofluoromethane (CFC-11)	ND	0.0561		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Chloroethane	ND	0.0673		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,1-Dichloroethene	ND	0.0561		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Methylene chloride	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
trans-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Methyl tert-butyl ether (MTBE)	ND	0.0561		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,1-Dichloroethane	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
2,2-Dichloropropane	ND	0.0561	Q	mg/Kg-dry	1	7/13/2016 10:57:28 AM
cis-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Chloroform	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,1,1-Trichloroethane (TCA)	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,1-Dichloropropene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Carbon tetrachloride	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2-Dichloroethane (EDC)	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Benzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Trichloroethene (TCE)	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2-Dichloropropane	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Bromodichloromethane	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Dibromomethane	ND	0.0448		mg/Kg-dry	1	7/13/2016 10:57:28 AM
cis-1,3-Dichloropropene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Toluene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
trans-1,3-Dichloropropylene	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,1,2-Trichloroethane	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,3-Dichloropropane	ND	0.0561		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Tetrachloroethene (PCE)	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Dibromochloromethane	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2-Dibromoethane (EDB)	ND	0.00561		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Chlorobenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,1,1,2-Tetrachloroethane	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Ethylbenzene	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
m,p-Xylene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
o-Xylene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Styrene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Isopropylbenzene	ND	0.0897		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Bromoform	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 12:45:00 PM

Project: Lake Stevens Marketplace

Lab ID: 1607053-004

Matrix: Soil

Client Sample ID: **SB-4-7**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
1,1,2,2-Tetrachloroethane	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
n-Propylbenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Bromobenzene	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,3,5-Trimethylbenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
2-Chlorotoluene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
4-Chlorotoluene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
tert-Butylbenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2,3-Trichloropropane	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2,4-Trichlorobenzene	ND	0.0561		mg/Kg-dry	1	7/13/2016 10:57:28 AM
sec-Butylbenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
4-Isopropyltoluene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,3-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,4-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
n-Butylbenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2-Dibromo-3-chloropropane	ND	0.561		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2,4-Trimethylbenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Hexachlorobutadiene	ND	0.112		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Naphthalene	ND	0.0336		mg/Kg-dry	1	7/13/2016 10:57:28 AM
1,2,3-Trichlorobenzene	ND	0.0224		mg/Kg-dry	1	7/13/2016 10:57:28 AM
Surr: Dibromofluoromethane	99.0	56.5-129		%Rec	1	7/13/2016 10:57:28 AM
Surr: Toluene-d8	99.6	64.3-131		%Rec	1	7/13/2016 10:57:28 AM
Surr: 1-Bromo-4-fluorobenzene	102	63.1-141		%Rec	1	7/13/2016 10:57:28 AM

NOTES:

Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30464		Analyst: ME
Percent Moisture	9.31	0.500		wt%	1	7/11/2016 10:18:11 AM

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 1:20:00 PM

Project: Lake Stevens Marketplace

Lab ID: 1607053-005

Matrix: Soil

Client Sample ID: **SB-5-8**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14232 Analyst: EM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0617		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Chloromethane	ND	0.0617		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Vinyl chloride	ND	0.00206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Bromomethane	ND	0.0926		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Trichlorofluoromethane (CFC-11)	ND	0.0514		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Chloroethane	ND	0.0617		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,1-Dichloroethene	ND	0.0514		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Methylene chloride	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
trans-1,2-Dichloroethene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Methyl tert-butyl ether (MTBE)	ND	0.0514		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,1-Dichloroethane	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
2,2-Dichloropropane	ND	0.0514	Q	mg/Kg-dry	1	7/13/2016 11:26:50 AM
cis-1,2-Dichloroethene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Chloroform	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,1,1-Trichloroethane (TCA)	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,1-Dichloropropene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Carbon tetrachloride	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2-Dichloroethane (EDC)	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Benzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Trichloroethene (TCE)	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2-Dichloropropane	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Bromodichloromethane	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Dibromomethane	ND	0.0412		mg/Kg-dry	1	7/13/2016 11:26:50 AM
cis-1,3-Dichloropropene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Toluene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
trans-1,3-Dichloropropylene	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,1,2-Trichloroethane	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,3-Dichloropropane	ND	0.0514		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Tetrachloroethene (PCE)	0.112	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Dibromochloromethane	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2-Dibromoethane (EDB)	ND	0.00514		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Chlorobenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,1,1,2-Tetrachloroethane	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Ethylbenzene	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
m,p-Xylene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
o-Xylene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Styrene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Isopropylbenzene	ND	0.0823		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Bromoform	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM

Analytical Report

WO#: **1607053**

Date Reported: **7/14/2016**

Client: PES Environmental, Inc.

Collection Date: 7/7/2016 1:20:00 PM

Project: Lake Stevens Marketplace

Lab ID: 1607053-005

Matrix: Soil

Client Sample ID: **SB-5-8**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14232		Analyst: EM
1,1,2,2-Tetrachloroethane	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
n-Propylbenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Bromobenzene	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,3,5-Trimethylbenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
2-Chlorotoluene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
4-Chlorotoluene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
tert-Butylbenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2,3-Trichloropropane	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2,4-Trichlorobenzene	ND	0.0514		mg/Kg-dry	1	7/13/2016 11:26:50 AM
sec-Butylbenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
4-Isopropyltoluene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,3-Dichlorobenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,4-Dichlorobenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
n-Butylbenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2-Dichlorobenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2-Dibromo-3-chloropropane	ND	0.514		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2,4-Trimethylbenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Hexachlorobutadiene	ND	0.103		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Naphthalene	ND	0.0309		mg/Kg-dry	1	7/13/2016 11:26:50 AM
1,2,3-Trichlorobenzene	ND	0.0206		mg/Kg-dry	1	7/13/2016 11:26:50 AM
Surr: Dibromofluoromethane	97.3	56.5-129		%Rec	1	7/13/2016 11:26:50 AM
Surr: Toluene-d8	99.3	64.3-131		%Rec	1	7/13/2016 11:26:50 AM
Surr: 1-Bromo-4-fluorobenzene	101	63.1-141		%Rec	1	7/13/2016 11:26:50 AM

NOTES:

Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30464		Analyst: ME
Percent Moisture	8.23	0.500		wt%	1	7/11/2016 10:18:11 AM

Fremont Analytical

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14232** SampType: **LCS** Units: **µg/L** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **LCSS** Batch ID: **14232** Analysis Date: **7/12/2016** SeqNo: **576047**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.15	0.0600	1.000	0	115	34.5	141				
Chloromethane	0.993	0.0600	1.000	0	99.3	38.8	132				
Vinyl chloride	1.02	0.00200	1.000	0	102	44	142				
Bromomethane	1.20	0.0900	1.000	0	120	40.9	157				
Trichlorofluoromethane (CFC-11)	1.39	0.0500	1.000	0	139	42.9	147				
Chloroethane	1.11	0.0600	1.000	0	111	37.1	144				
1,1-Dichloroethene	1.07	0.0500	1.000	0	107	49.7	142				
Methylene chloride	1.03	0.0200	1.000	0	103	46.3	140				
trans-1,2-Dichloroethene	0.988	0.0200	1.000	0	98.9	68	130				
Methyl tert-butyl ether (MTBE)	0.887	0.0500	1.000	0	88.7	59.1	138				
1,1-Dichloroethane	1.03	0.0200	1.000	0	103	61.9	137				
2,2-Dichloropropane	0.840	0.0500	1.000	0	84.0	28.1	149				Q
cis-1,2-Dichloroethene	0.988	0.0200	1.000	0	98.8	71.3	135				
Chloroform	0.993	0.0200	1.000	0	99.3	67.5	129				
1,1,1-Trichloroethane (TCA)	0.953	0.0200	1.000	0	95.3	69	132				
1,1-Dichloropropene	0.976	0.0200	1.000	0	97.6	72.7	131				
Carbon tetrachloride	1.18	0.0200	1.000	0	118	63.4	137				
1,2-Dichloroethane (EDC)	0.958	0.0300	1.000	0	95.8	61.9	136				
Benzene	0.966	0.0200	1.000	0	96.6	64.3	133				
Trichloroethene (TCE)	0.975	0.0200	1.000	0	97.5	65.5	137				
1,2-Dichloropropane	0.972	0.0200	1.000	0	97.2	63.2	142				
Bromodichloromethane	1.03	0.0200	1.000	0	103	73.2	131				
Dibromomethane	0.967	0.0400	1.000	0	96.7	70	130				
cis-1,3-Dichloropropene	0.961	0.0200	1.000	0	96.1	59.1	143				
Toluene	0.985	0.0200	1.000	0	98.5	67.3	138				
trans-1,3-Dichloropropylene	0.935	0.0300	1.000	0	93.5	49.2	149				
1,1,2-Trichloroethane	0.959	0.0300	1.000	0	95.9	74.5	129				
1,3-Dichloropropane	0.940	0.0500	1.000	0	94.0	70	130				
Tetrachloroethene (PCE)	1.02	0.0200	1.000	0	102	52.7	150				
Dibromochloromethane	1.00	0.0300	1.000	0	100	70.6	144				
1,2-Dibromoethane (EDB)	0.949	0.00500	1.000	0	94.9	70	130				

Fremont Analytical

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14232** SampType: **LCS** Units: **µg/L** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **LCSS** Batch ID: **14232** Analysis Date: **7/12/2016** SeqNo: **576047**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	0.988	0.0200	1.000	0	98.8	76.1	123				
1,1,1,2-Tetrachloroethane	1.02	0.0300	1.000	0	102	65.9	141				
Ethylbenzene	0.992	0.0300	1.000	0	99.2	74	129				
m,p-Xylene	1.99	0.0200	2.000	0	99.7	70	124				
o-Xylene	0.978	0.0200	1.000	0	97.9	72.7	124				
Styrene	0.976	0.0200	1.000	0	97.6	76.8	130				
Isopropylbenzene	0.997	0.0800	1.000	0	99.7	70	130				
Bromoform	1.02	0.0200	1.000	0	102	67	154				
1,1,2,2-Tetrachloroethane	0.910	0.0200	1.000	0	91.0	60	130				
n-Propylbenzene	1.00	0.0200	1.000	0	100	74.8	125				
Bromobenzene	0.980	0.0300	1.000	0	98.0	49.2	144				
1,3,5-Trimethylbenzene	0.994	0.0200	1.000	0	99.4	74.6	123				
2-Chlorotoluene	0.986	0.0200	1.000	0	98.6	76.7	129				
4-Chlorotoluene	0.980	0.0200	1.000	0	98.0	77.5	125				
tert-Butylbenzene	0.994	0.0200	1.000	0	99.4	66.2	130				
1,2,3-Trichloropropane	0.894	0.0200	1.000	0	89.4	67.9	136				
1,2,4-Trichlorobenzene	0.994	0.0500	1.000	0	99.4	62.6	143				
sec-Butylbenzene	1.00	0.0200	1.000	0	100	75.6	133				
4-Isopropyltoluene	0.984	0.0200	1.000	0	98.4	76.8	131				
1,3-Dichlorobenzene	1.03	0.0200	1.000	0	103	72.8	128				
1,4-Dichlorobenzene	1.03	0.0200	1.000	0	103	72.6	126				
n-Butylbenzene	1.06	0.0200	1.000	0	106	65.3	136				
1,2-Dichlorobenzene	1.01	0.0200	1.000	0	101	72.8	126				
1,2-Dibromo-3-chloropropane	0.986	0.500	1.000	0	98.6	61.2	139				
1,2,4-Trimethylbenzene	1.01	0.0200	1.000	0	101	77.5	129				
Hexachlorobutadiene	1.04	0.100	1.000	0	104	42	151				
Naphthalene	0.938	0.0300	1.000	0	93.8	62.3	134				
1,2,3-Trichlorobenzene	0.980	0.0200	1.000	0	98.0	54.8	143				
Surr: Dibromofluoromethane	1.35		1.250		108	56.5	129				
Surr: Toluene-d8	1.19		1.250		95.4	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.28		1.250		103	63.1	141				

Fremont Analytical

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14232**	SampType: **LCS**			Units: **µg/L**		Prep Date: **7/12/2016**		RunNo: **30519**				
Client ID: **LCSS**	Batch ID: **14232**					Analysis Date: **7/12/2016**		SeqNo: **576047**				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **MB-14232**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **7/12/2016**		RunNo: **30519**				
Client ID: **MBLKS**	Batch ID: **14232**					Analysis Date: **7/13/2016**		SeqNo: **576048**				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Dichlorodifluoromethane (CFC-12)	ND	0.0600										
Chloromethane	ND	0.0600										
Vinyl chloride	ND	0.00200										
Bromomethane	ND	0.0900										
Trichlorofluoromethane (CFC-11)	ND	0.0500										
Chloroethane	ND	0.0600										
1,1-Dichloroethene	ND	0.0500										
Methylene chloride	ND	0.0200										
trans-1,2-Dichloroethene	ND	0.0200										
Methyl tert-butyl ether (MTBE)	ND	0.0500										
1,1-Dichloroethane	ND	0.0200										
2,2-Dichloropropane	ND	0.0500										Q
cis-1,2-Dichloroethene	ND	0.0200										
Chloroform	ND	0.0200										
1,1,1-Trichloroethane (TCA)	ND	0.0200										
1,1-Dichloropropene	ND	0.0200										
Carbon tetrachloride	ND	0.0200										
1,2-Dichloroethane (EDC)	ND	0.0300										
Benzene	ND	0.0200										
Trichloroethene (TCE)	ND	0.0200										
1,2-Dichloropropane	ND	0.0200										
Bromodichloromethane	ND	0.0200										
Dibromomethane	ND	0.0400										
cis-1,3-Dichloropropene	ND	0.0200										

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Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-14232** SampType: **MBLK** Units: **µg/L** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **MBLKS** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576048**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-14232** SampType: **MBLK** Units: **µg/L** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **MBLKS** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576048**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.25		1.250		99.9	56.5	129				
Surr: Toluene-d8	1.24		1.250		98.8	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.19		1.250		95.0	63.1	141				

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607099-002BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **BATCH** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576040**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0399						0		30	
Chloromethane	ND	0.0399						0		30	
Vinyl chloride	ND	0.00133						0		30	
Bromomethane	ND	0.0599						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0333						0		30	
Chloroethane	ND	0.0399						0		30	
1,1-Dichloroethene	ND	0.0333						0		30	
Methylene chloride	ND	0.0133						0		30	
trans-1,2-Dichloroethene	ND	0.0133						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0333						0		30	
1,1-Dichloroethane	ND	0.0133						0		30	
2,2-Dichloropropane	ND	0.0333						0		30	Q
cis-1,2-Dichloroethene	ND	0.0133						0		30	
Chloroform	ND	0.0133						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0133						0		30	
1,1-Dichloropropene	ND	0.0133						0		30	
Carbon tetrachloride	ND	0.0133						0		30	

Fremont Analytical

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607099-002BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **BATCH** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576040**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane (EDC)	ND	0.0200						0		30	
Benzene	ND	0.0133						0		30	
Trichloroethene (TCE)	ND	0.0133						0		30	
1,2-Dichloropropane	ND	0.0133						0		30	
Bromodichloromethane	ND	0.0133						0		30	
Dibromomethane	ND	0.0266						0		30	
cis-1,3-Dichloropropene	ND	0.0133						0		30	
Toluene	ND	0.0133						0		30	
trans-1,3-Dichloropropylene	ND	0.0200						0		30	
1,1,2-Trichloroethane	ND	0.0200						0		30	
1,3-Dichloropropane	ND	0.0333						0		30	
Tetrachloroethene (PCE)	ND	0.0133						0		30	
Dibromochloromethane	ND	0.0200						0		30	
1,2-Dibromoethane (EDB)	ND	0.00333						0		30	
Chlorobenzene	ND	0.0133						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0200						0		30	
Ethylbenzene	ND	0.0200						0		30	
m,p-Xylene	ND	0.0133						0		30	
o-Xylene	ND	0.0133						0		30	
Styrene	ND	0.0133						0		30	
Isopropylbenzene	ND	0.0532						0		30	
Bromoform	ND	0.0133						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0133						0		30	
n-Propylbenzene	ND	0.0133						0		30	
Bromobenzene	ND	0.0200						0		30	
1,3,5-Trimethylbenzene	ND	0.0133						0		30	
2-Chlorotoluene	ND	0.0133						0		30	
4-Chlorotoluene	ND	0.0133						0		30	
tert-Butylbenzene	ND	0.0133						0		30	
1,2,3-Trichloropropane	ND	0.0133						0		30	
1,2,4-Trichlorobenzene	ND	0.0333						0		30	

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607099-002BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **BATCH** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576040**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	ND	0.0133						0		30	
4-Isopropyltoluene	ND	0.0133						0		30	
1,3-Dichlorobenzene	ND	0.0133						0		30	
1,4-Dichlorobenzene	ND	0.0133						0		30	
n-Butylbenzene	ND	0.0133						0		30	
1,2-Dichlorobenzene	ND	0.0133						0		30	
1,2-Dibromo-3-chloropropane	ND	0.333						0		30	
1,2,4-Trimethylbenzene	ND	0.0133						0		30	
Hexachlorobutadiene	ND	0.0665						0		30	
Naphthalene	ND	0.0200						0		30	
1,2,3-Trichlorobenzene	ND	0.0133						0		30	
Surr: Dibromofluoromethane	0.852		0.8317		102	56.5	129		0		
Surr: Toluene-d8	0.833		0.8317		100	64.3	131		0		
Surr: 1-Bromo-4-fluorobenzene	0.816		0.8317		98.2	63.1	141		0		

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607053-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **SB-2-6** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576027**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.23	0.0629	1.048	0	118	43.5	121				
Chloromethane	0.975	0.0629	1.048	0	93.0	45	130				
Vinyl chloride	1.05	0.00210	1.048	0	101	51.2	146				
Bromomethane	1.07	0.0943	1.048	0	102	21.3	120				
Trichlorofluoromethane (CFC-11)	1.79	0.0524	1.048	0	171	35	131				S
Chloroethane	1.06	0.0629	1.048	0	101	43.8	117				
1,1-Dichloroethene	1.07	0.0524	1.048	0	102	61.9	141				
Methylene chloride	1.00	0.0210	1.048	0	95.9	54.7	142				
trans-1,2-Dichloroethene	0.925	0.0210	1.048	0	88.2	52	136				
Methyl tert-butyl ether (MTBE)	0.887	0.0524	1.048	0	84.6	54.4	132				

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607053-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **SB-2-6** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576027**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	0.996	0.0210	1.048	0	95.0	51.8	141				
2,2-Dichloropropane	0.632	0.0524	1.048	0	60.3	36	123				Q
cis-1,2-Dichloroethene	0.949	0.0210	1.048	0	90.6	58.6	136				
Chloroform	0.939	0.0210	1.048	0.01415	88.2	53.2	129				
1,1,1-Trichloroethane (TCA)	0.924	0.0210	1.048	0	88.2	58.3	145				
1,1-Dichloropropene	0.957	0.0210	1.048	0	91.3	55.1	138				
Carbon tetrachloride	1.04	0.0210	1.048	0	99.5	53.3	144				
1,2-Dichloroethane (EDC)	0.921	0.0314	1.048	0	87.9	51.3	139				
Benzene	0.917	0.0210	1.048	0	87.5	63.5	133				
Trichloroethene (TCE)	0.948	0.0210	1.048	0	90.4	68.6	132				
1,2-Dichloropropane	0.944	0.0210	1.048	0	90.1	59	136				
Bromodichloromethane	0.974	0.0210	1.048	0	92.9	50.7	141				
Dibromomethane	0.955	0.0419	1.048	0	91.2	50.6	137				
cis-1,3-Dichloropropene	0.916	0.0210	1.048	0	87.5	50.4	138				
Toluene	0.961	0.0210	1.048	0	91.7	63.4	132				
trans-1,3-Dichloropropylene	0.923	0.0314	1.048	0	88.1	44.1	147				
1,1,2-Trichloroethane	0.936	0.0314	1.048	0	89.3	51.6	137				
1,3-Dichloropropane	0.941	0.0524	1.048	0	89.8	53.1	134				
Tetrachloroethene (PCE)	0.985	0.0210	1.048	0	94.0	35.6	158				
Dibromochloromethane	0.996	0.0314	1.048	0	95.0	55.3	140				
1,2-Dibromoethane (EDB)	0.950	0.00524	1.048	0	90.7	50.4	136				
Chlorobenzene	0.931	0.0210	1.048	0	88.9	60	133				
1,1,1,2-Tetrachloroethane	0.955	0.0314	1.048	0	91.1	53.1	142				
Ethylbenzene	0.946	0.0314	1.048	0	90.3	54.5	134				
m,p-Xylene	1.90	0.0210	2.096	0	90.4	53.1	132				
o-Xylene	0.967	0.0210	1.048	0	92.3	53.3	139				
Styrene	0.954	0.0210	1.048	0	91.0	51.1	132				
Isopropylbenzene	0.985	0.0838	1.048	0	94.0	58.9	138				
Bromoform	1.00	0.0210	1.048	0	95.9	57.9	130				
1,1,2,2-Tetrachloroethane	0.854	0.0210	1.048	0	81.4	51.9	131				
n-Propylbenzene	0.978	0.0210	1.048	0	93.3	53.6	140				

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Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607053-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **SB-2-6** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576027**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	0.955	0.0314	1.048	0	91.2	54.2	140				
1,3,5-Trimethylbenzene	0.973	0.0210	1.048	0	92.9	51.8	136				
2-Chlorotoluene	0.953	0.0210	1.048	0	90.9	51.6	136				
4-Chlorotoluene	0.954	0.0210	1.048	0	91.0	50.1	139				
tert-Butylbenzene	1.00	0.0210	1.048	0	95.4	50.5	135				
1,2,3-Trichloropropane	0.922	0.0210	1.048	0	88.0	50.5	131				
1,2,4-Trichlorobenzene	0.985	0.0524	1.048	0	94.0	50.8	130				
sec-Butylbenzene	0.999	0.0210	1.048	0	95.4	52.6	141				
4-Isopropyltoluene	0.988	0.0210	1.048	0	94.2	52.9	134				
1,3-Dichlorobenzene	0.989	0.0210	1.048	0	94.4	52.6	131				
1,4-Dichlorobenzene	0.984	0.0210	1.048	0	93.9	52.9	129				
n-Butylbenzene	1.05	0.0210	1.048	0	100	52.6	130				
1,2-Dichlorobenzene	0.969	0.0210	1.048	0	92.5	55.8	129				
1,2-Dibromo-3-chloropropane	0.995	0.524	1.048	0	95.0	40.5	131				
1,2,4-Trimethylbenzene	0.984	0.0210	1.048	0	93.9	50.6	137				
Hexachlorobutadiene	0.999	0.105	1.048	0	95.4	40.6	158				
Naphthalene	0.990	0.0314	1.048	0	94.5	52.3	124				
1,2,3-Trichlorobenzene	0.947	0.0210	1.048	0	90.4	54.4	124				
Surr: Dibromofluoromethane	1.40		1.310		107	56.5	129				
Surr: Toluene-d8	1.33		1.310		101	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.36		1.310		104	63.1	141				

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607053-002BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **SB-2-6** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576028**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.22	0.0629	1.048	0	116	43.5	121	1.232	1.33	30	
Chloromethane	0.993	0.0629	1.048	0	94.8	45	130	0.9746	1.92	30	

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Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607053-002BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **SB-2-6** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576028**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.09	0.00210	1.048	0	104	51.2	146	1.053	3.09	30	
Bromomethane	1.08	0.0943	1.048	0	103	21.3	120	1.072	0.779	30	
Trichlorofluoromethane (CFC-11)	1.99	0.0524	1.048	0	190	35	131	1.791	10.7	30	S
Chloroethane	1.07	0.0629	1.048	0	102	43.8	117	1.056	1.18	30	
1,1-Dichloroethene	1.12	0.0524	1.048	0	106	61.9	141	1.066	4.47	30	
Methylene chloride	1.01	0.0210	1.048	0	96.8	54.7	142	1.005	0.934	30	
trans-1,2-Dichloroethene	0.936	0.0210	1.048	0	89.4	52	136	0.9248	1.24	30	
Methyl tert-butyl ether (MTBE)	0.888	0.0524	1.048	0	84.7	54.4	132	0.8871	0.0590	30	
1,1-Dichloroethane	1.00	0.0210	1.048	0	95.7	51.8	141	0.9956	0.682	30	
2,2-Dichloropropane	0.645	0.0524	1.048	0	61.6	36	123	0.6319	2.05	30	Q
cis-1,2-Dichloroethene	0.941	0.0210	1.048	0	89.8	58.6	136	0.9489	0.832	30	
Chloroform	0.956	0.0210	1.048	0.01415	89.9	53.2	129	0.9390	1.77	30	
1,1,1-Trichloroethane (TCA)	0.973	0.0210	1.048	0	92.9	58.3	145	0.9243	5.14	30	
1,1-Dichloropropene	0.995	0.0210	1.048	0	95.0	55.1	138	0.9568	3.92	30	
Carbon tetrachloride	1.19	0.0210	1.048	0	114	53.3	144	1.043	13.5	30	
1,2-Dichloroethane (EDC)	0.905	0.0314	1.048	0	86.4	51.3	139	0.9212	1.78	30	
Benzene	0.938	0.0210	1.048	0	89.5	63.5	133	0.9170	2.26	30	
Trichloroethene (TCE)	0.979	0.0210	1.048	0	93.4	68.6	132	0.9479	3.21	30	
1,2-Dichloropropane	0.951	0.0210	1.048	0	90.8	59	136	0.9442	0.719	30	
Bromodichloromethane	1.00	0.0210	1.048	0	95.5	50.7	141	0.9736	2.76	30	
Dibromomethane	0.937	0.0419	1.048	0	89.4	50.6	137	0.9552	1.88	30	
cis-1,3-Dichloropropene	0.957	0.0210	1.048	0	91.3	50.4	138	0.9164	4.31	30	
Toluene	0.974	0.0210	1.048	0	92.9	63.4	132	0.9610	1.30	30	
trans-1,3-Dichloropropylene	0.958	0.0314	1.048	0	91.4	44.1	147	0.9227	3.73	30	
1,1,2-Trichloroethane	0.935	0.0314	1.048	0	89.2	51.6	137	0.9358	0.112	30	
1,3-Dichloropropane	0.925	0.0524	1.048	0	88.3	53.1	134	0.9405	1.63	30	
Tetrachloroethene (PCE)	1.02	0.0210	1.048	0	97.0	35.6	158	0.9851	3.14	30	
Dibromochloromethane	0.990	0.0314	1.048	0	94.5	55.3	140	0.9956	0.528	30	
1,2-Dibromoethane (EDB)	0.932	0.00524	1.048	0	88.9	50.4	136	0.9505	2.00	30	
Chlorobenzene	0.954	0.0210	1.048	0	91.1	60	133	0.9311	2.45	30	
1,1,1,2-Tetrachloroethane	0.968	0.0314	1.048	0	92.4	53.1	142	0.9547	1.42	30	

Fremont Analytical

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607053-002BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **SB-2-6** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576028**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	0.967	0.0314	1.048	0	92.2	54.5	134	0.9463	2.14	30	
m,p-Xylene	1.95	0.0210	2.096	0	92.8	53.1	132	1.896	2.56	30	
o-Xylene	0.976	0.0210	1.048	0	93.2	53.3	139	0.9673	0.917	30	
Styrene	0.967	0.0210	1.048	0	92.2	51.1	132	0.9536	1.36	30	
Isopropylbenzene	1.01	0.0838	1.048	0	96.4	58.9	138	0.9851	2.47	30	
Bromoform	1.01	0.0210	1.048	0	96.8	57.9	130	1.004	0.935	30	
1,1,2,2-Tetrachloroethane	0.845	0.0210	1.048	0	80.6	51.9	131	0.8536	0.987	30	
n-Propylbenzene	1.01	0.0210	1.048	0	96.4	53.6	140	0.9777	3.27	30	
Bromobenzene	0.978	0.0314	1.048	0	93.3	54.2	140	0.9552	2.33	30	
1,3,5-Trimethylbenzene	0.993	0.0210	1.048	0	94.8	51.8	136	0.9730	2.03	30	
2-Chlorotoluene	0.982	0.0210	1.048	0	93.7	51.6	136	0.9526	3.03	30	
4-Chlorotoluene	0.980	0.0210	1.048	0	93.5	50.1	139	0.9536	2.71	30	
tert-Butylbenzene	1.03	0.0210	1.048	0	98.6	50.5	135	0.9998	3.25	30	
1,2,3-Trichloropropane	0.903	0.0210	1.048	0	86.2	50.5	131	0.9222	2.12	30	
1,2,4-Trichlorobenzene	0.987	0.0524	1.048	0	94.2	50.8	130	0.9851	0.159	30	
sec-Butylbenzene	1.04	0.0210	1.048	0	99.0	52.6	141	0.9992	3.76	30	
4-Isopropyltoluene	1.01	0.0210	1.048	0	96.7	52.9	134	0.9877	2.51	30	
1,3-Dichlorobenzene	1.00	0.0210	1.048	0	95.5	52.6	131	0.9893	1.16	30	
1,4-Dichlorobenzene	0.999	0.0210	1.048	0	95.3	52.9	129	0.9835	1.53	30	
n-Butylbenzene	1.07	0.0210	1.048	0	102	52.6	130	1.051	2.12	30	
1,2-Dichlorobenzene	0.978	0.0210	1.048	0	93.4	55.8	129	0.9688	0.969	30	
1,2-Dibromo-3-chloropropane	0.998	0.524	1.048	0	95.2	40.5	131	0.9950	0.263	30	
1,2,4-Trimethylbenzene	0.999	0.0210	1.048	0	95.3	50.6	137	0.9835	1.53	30	
Hexachlorobutadiene	1.02	0.105	1.048	0	97.1	40.6	158	0.9992	1.82	30	
Naphthalene	0.975	0.0314	1.048	0	93.1	52.3	124	0.9903	1.55	30	
1,2,3-Trichlorobenzene	0.949	0.0210	1.048	0	90.6	54.4	124	0.9468	0.221	30	
Surr: Dibromofluoromethane	1.40		1.310		107	56.5	129		0		
Surr: Toluene-d8	1.32		1.310		101	64.3	131		0		
Surr: 1-Bromo-4-fluorobenzene	1.38		1.310		106	63.1	141		0		

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607053-002BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/12/2016** RunNo: **30519**
Client ID: **SB-2-6** Batch ID: **14232** Analysis Date: **7/13/2016** SeqNo: **576028**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Date: *7/14/2016*

Work Order: 1607053
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID **1607053-001ADUP** SampType: **DUP** Units: **wt%** Prep Date: **7/11/2016** RunNo: **30464**
Client ID: **SB-1a-8** Batch ID: **R30464** Analysis Date: **7/11/2016** SeqNo: **574824**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	9.03	0.500						9.511	5.18	20	

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1607053**
Logged by:	**Erica Silva**	Date Received:	**7/7/2016 4:51:00 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 ☐
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 ☐
	Samples received at appropriate temperature			
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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	11.4
Sample	2.7

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical

3600 Fremont Ave N. Tel: 206-352-3790
Seattle, WA 98103 Fax: 206-352-7178

Date: 7/7/16 Laboratory Project No (internal): 1607053

Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave. Suite 1350
City, State, Zip: Seattle, WA 98161
Telephone: (206) 329-3980 Fax: (206) 329-3985

Project Name: Lake Stevens, WA @ Marketplace
Project No: 1246.038.03.001 Collected by: CJD
Location: Lake Stevens, WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)				Comments
1	SB-1a-8 (2)	7/7/16	1030	S	X															
2	SB-2-6	7/7/16	1110	S	X															
3	SB-3-7	7/7/16	1220	S	X															
4	SB-4-7	7/7/16	1245	S	X															
5	SB-5-8	7/7/16	1320	S	X															
6																				
7																				
8																				
9																				
10																				

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	7/7/16 4:48	x M. Ely	7/7 1651
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day (STD)

^Please coordinate with the lab in advance

MEMORANDUM

TO: Project File **DATE:** July 27, 2016

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.03.002

TASK: July 7, 2015 Soil Samples

LAB: Fremont Analytical Service Request No. 1607053

Five soil samples were collected at the Lake Stevens Marketplace Site in Snohomish County on July 7, 2016. The samples were collected as part of a Limited Phase II Investigation at the Site. The samples were delivered to Fremont Analytical (Fremont) of Seattle, Washington for laboratory analysis. Samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C. The results were reported in Fremont Lab Package 1607053.

The Limited Phase II Investigation occurred in July of 2016 and associated sample data are reported in FA Project Number 1607053 along with FA Project numbers 1607054, and 1607063. The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Sample Receipt, Preservation and Handling

The samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols. Review of Fremont's Sample Log-In Check List Form indicates that all samples were received in good condition at a cooler temperature of 11.0 degrees Centigrade (°C) and samples in the cooler were recorded at a temperature of 2.7°C within the recommended preservation temperature range of 4.0°C ± 2.0°C. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Holding Times

USEPA Method 8260C (VOCs):
All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (soils) from the data of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. **Case narrative notes and qualifiers indicate that either initial or continuing calibration criteria was not met for 2,2-dichloropropane. All associated 2,2-dichloropropane results are all non-detect and qualified as estimated (UJ).**

Method Blank Results

USEPA Method 8260C (VOCs):
Laboratory method blank for soil was included with the analytical batch per method requirement. The target analytes were not detected in the method blank for soil at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

USEPA Method 8260C (VOCs):
No trip blank was collected. No action was taken other than to note this.

Field, Rinsate, or Equipment Blank Results

USEPA Method 8260C (VOCs):
Field, rinsate, or equipment blanks were not collected.

Laboratory Duplicate Analyses

USEPA Method 8260C (VOCs):
Laboratory duplicate analysis was performed on a non-client soil sample within the analytical batch. The primary/duplicate RPDs were within the laboratory control limit of 30%. Duplicate data are acceptable.

Field Duplicate Analyses

USEPA Method 8260C (VOCs):
Soil field duplicate sample was not collected. Refer laboratory duplicate and matrix spike results for precision data.

Surrogate Recoveries

USEPA Method 8260C (VOCs):
The surrogate recovery results for the sample, laboratory duplicate, laboratory control sample, matrix spike, and the method blank were within the laboratory surrogate control limits for all of the analyses.

Matrix Spike/ Matrix Spike Duplicates

USEPA Method 8260C (VOCs):
A matrix spike and matrix spike duplicate (MS/MSD) analysis was performed on soil sample SB-2-6. One MS is required for each sample event (maximum of 20 samples in a group); therefore, the MS analysis meets this required frequency. The MS/MSD percent recoveries (%Rs) and RPDs for all 8260C target analytes were within the laboratory control criteria with the following exception:

> MS/MSD % R's for trichlorofluoromethane (CFC-11) were elevated and above FA's control limit criteria. No action is taken in this case since trichlorofluoromethane (CFC-11) was not detected in sample SB-2-6.

Laboratory Control Samples

USEPA Method 8260C (VOCs):
Laboratory control sample (LCS) analysis was performed along with the analytical batch. The LCS %Rs for the control analytes (VOCs) were within the laboratory control criteria for soil. No data qualifications were warranted.

Quantitation Limits

Results of all analyses were reported based on standard laboratory MRLs. The reported MRLs are considered appropriate for this project. No data qualifiers were warranted based upon standard or dilution-elevated detection limits.

Completeness

The samples were collected and analyzed as requested. The results in all cases were reported based upon standard Method Reporting Limits (MRLs). Data completeness is 100%.

Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999)

Data qualifiers were assigned and laboratory report pages with qualifiers are attached. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Brian O'Neal
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Lake Stevens Marketplace
Lab ID: 1607054

July 14, 2016

Attention Brian O'Neal:

Fremont Analytical, Inc. received 2 sample(s) on 7/7/2016 for the analyses presented in the following report.

Volatile Organic Compounds-EPA Method TO-15 (SIM)

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,

Chelsea Ward
Project Manager

Date: *07/14/2016*

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab Order: 1607054

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1607054-001	Ambient_070716	07/07/2016 8:27 AM	07/07/2016 4:51 PM
1607054-002	Indoor_070716	07/07/2016 8:37 AM	07/07/2016 4:51 PM

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

Case Narrative

WO#: **1607054**
Date: **7/14/2016**

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

WorkOrder Narrative:
I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples 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.

Standard temperature and pressure assumes 24.45 = (25C and 1 atm).

Qualifiers & Acronyms

WO#: **1607054**
Date Reported: **7/14/2016**

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: **PES Environmental, Inc.**
WorkOrder: 1607054
Project: Lake Stevens Marketplace

Client Sample ID: Ambient_070716
Lab ID: 1607054-001A
Sample Type: Summa Canister

Date Sampled: 7/7/2016
Date Received: 7/7/2016

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Reporting Limit (ug/m³)	Qual	Method	Date/Analyst	
1,1,1-Trichloroethane	<0.00500	<0.0273	0.00500	0.0273		EPA-TO-15SIM	07/14/2016	BC
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		EPA-TO-15SIM	07/14/2016	BC
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		EPA-TO-15SIM	07/14/2016	BC
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		EPA-TO-15SIM	07/14/2016	BC
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	07/14/2016	BC
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		EPA-TO-15SIM	07/14/2016	BC
1,2,4-Trimethylbenzene	<0.0730	<0.359	0.0730	0.359		EPA-TO-15SIM	07/14/2016	BC
1,2-Dibromoethane (EDB)	<0.0200	<0.154	0.0200	0.154		EPA-TO-15SIM	07/14/2016	BC
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		EPA-TO-15SIM	07/14/2016	BC
Benzene	0.100	0.319	0.0400	0.128		EPA-TO-15SIM	07/14/2016	BC
Carbon tetrachloride	0.0800	0.503	0.0200	0.126		EPA-TO-15SIM	07/14/2016	BC
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		EPA-TO-15SIM	07/14/2016	BC
Chloroethane	<0.0980	<0.259	0.0980	0.259		EPA-TO-15SIM	07/14/2016	BC
Chloroform	<0.0200	<0.0977	0.0200	0.0977		EPA-TO-15SIM	07/14/2016	BC
Chloromethane	<0.400	<0.826	0.400	0.826		EPA-TO-15SIM	07/14/2016	BC
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	07/14/2016	BC
Dichlorodifluoromethane (CFC-12)	<0.300	<1.48	0.300	1.48		EPA-TO-15SIM	07/14/2016	BC
Ethylbenzene	0.560	2.43	0.0500	0.217		EPA-TO-15SIM	07/14/2016	BC
Hexachlorobutadiene	<0.0166	<0.177	0.0166	0.177		EPA-TO-15SIM	07/14/2016	BC
m,p-Xylene	0.440	1.91	0.0600	0.261		EPA-TO-15SIM	07/14/2016	BC
Methylene chloride	0.200	0.695	0.0600	0.208		EPA-TO-15SIM	07/14/2016	BC
Naphthalene	<0.300	<1.57	0.300	1.57		EPA-TO-15SIM	07/14/2016	BC
Hexane	<0.0700	<0.247	0.0700	0.247		EPA-TO-15SIM	07/14/2016	BC
o-Xylene	0.500	2.17	0.0400	0.174		EPA-TO-15SIM	07/14/2016	BC
Methyl tert-butyl ether (MTBE)	<0.00900	<0.0324	0.00900	0.0324		EPA-TO-15SIM	07/14/2016	BC
Tetrachloroethene (PCE)	0.140	0.950	0.0500	0.339		EPA-TO-15SIM	07/14/2016	BC
Toluene	0.600	2.26	0.0500	0.188		EPA-TO-15SIM	07/14/2016	BC
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	07/14/2016	BC
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		EPA-TO-15SIM	07/14/2016	BC
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	07/14/2016	BC

Client: **PES Environmental, Inc.**
WorkOrder: 1607054
Project: Lake Stevens Marketplace

Client Sample ID: Ambient_070716
Lab ID: 1607054-001A
Sample Type: Summa Canister

Date Sampled: 7/7/2016
Date Received: 7/7/2016

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Surr: 4-Bromofluorobenzene	96.3 %Rec	--	70-130	--		EPA-TO-15SIM	07/14/2016	BC

Client: **PES Environmental, Inc.**
WorkOrder: 1607054
Project: Lake Stevens Marketplace

Client Sample ID: Indoor_070716
Lab ID: 1607054-002A
Sample Type: Summa Canister

Date Sampled: 7/7/2016
Date Received: 7/7/2016

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Reporting Limit (ug/m³)	Qual	Method	Date/Analyst	
1,1,1-Trichloroethane	<0.00500	<0.0273	0.00500	0.0273		EPA-TO-15SIM	07/14/2016	BC
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		EPA-TO-15SIM	07/14/2016	BC
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		EPA-TO-15SIM	07/14/2016	BC
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		EPA-TO-15SIM	07/14/2016	BC
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	07/14/2016	BC
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		EPA-TO-15SIM	07/14/2016	BC
1,2,4-Trimethylbenzene	<0.0730	<0.359	0.0730	0.359		EPA-TO-15SIM	07/14/2016	BC
1,2-Dibromoethane (EDB)	<0.0200	<0.154	0.0200	0.154		EPA-TO-15SIM	07/14/2016	BC
1,2-Dichloroethane	<0.0200	<0.0809	0.0200	0.0809		EPA-TO-15SIM	07/14/2016	BC
Benzene	0.160	0.511	0.0400	0.128		EPA-TO-15SIM	07/14/2016	BC
Carbon tetrachloride	0.0800	0.503	0.0200	0.126		EPA-TO-15SIM	07/14/2016	BC
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		EPA-TO-15SIM	07/14/2016	BC
Chloroethane	<0.0980	<0.259	0.0980	0.259		EPA-TO-15SIM	07/14/2016	BC
Chloroform	<0.0200	<0.0977	0.0200	0.0977		EPA-TO-15SIM	07/14/2016	BC
Chloromethane	<0.400	<0.826	0.400	0.826		EPA-TO-15SIM	07/14/2016	BC
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	07/14/2016	BC
Dichlorodifluoromethane (CFC-12)	<0.300	<1.48	0.300	1.48		EPA-TO-15SIM	07/14/2016	BC
Ethylbenzene	0.590	2.56	0.0500	0.217		EPA-TO-15SIM	07/14/2016	BC
Hexachlorobutadiene	<0.0166	<0.177	0.0166	0.177		EPA-TO-15SIM	07/14/2016	BC
m,p-Xylene	0.480	2.08	0.0600	0.261		EPA-TO-15SIM	07/14/2016	BC
Methylene chloride	0.220	0.764	0.0600	0.208		EPA-TO-15SIM	07/14/2016	BC
Naphthalene	<0.300	<1.57	0.300	1.57		EPA-TO-15SIM	07/14/2016	BC
Hexane	<0.0700	<0.247	0.0700	0.247		EPA-TO-15SIM	07/14/2016	BC
o-Xylene	0.530	2.30	0.0400	0.174		EPA-TO-15SIM	07/14/2016	BC
Methyl tert-butyl ether (MTBE)	<0.00900	<0.0324	0.00900	0.0324		EPA-TO-15SIM	07/14/2016	BC
Tetrachloroethene (PCE)	0.160	1.09	0.0500	0.339		EPA-TO-15SIM	07/14/2016	BC
Toluene	0.880	3.32	0.0500	0.188		EPA-TO-15SIM	07/14/2016	BC
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	07/14/2016	BC
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		EPA-TO-15SIM	07/14/2016	BC
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	07/14/2016	BC

Client: **PES Environmental, Inc.**
WorkOrder: 1607054
Project: Lake Stevens Marketplace

Client Sample ID: Indoor_070716
Lab ID: 1607054-002A
Sample Type: Summa Canister

Date Sampled: 7/7/2016
Date Received: 7/7/2016

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Surr: 4-Bromofluorobenzene	95.6 %Rec	--	70-130	--		EPA-TO-15SIM	07/14/2016	BC

Fremont Analytical

Date: *7/14/2016*

Work Order: 1607054
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **LCS-R30561** SampType: **LCS** Units: **ppbv** Prep Date: **7/14/2016** RunNo: **30561**
Client ID: **LCSW** Batch ID: **R30561** Analysis Date: **7/14/2016** SeqNo: **576570**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	2.46	0.300	2.500	0	98.4	70	130				
Chloromethane	2.48	0.400	2.500	0	99.2	70	130				
Vinyl chloride	2.41	0.0850	2.500	0	96.4	70	130				
Chloroethane	2.40	0.0980	2.500	0	96.0	70	130				
1,1-Dichloroethene (DCE)	2.49	0.00900	2.500	0	99.6	70	130				
Methylene chloride	2.41	0.0600	2.500	0	96.4	70	130				
trans-1,2-Dichloroethene	2.72	0.00600	2.500	0	109	70	130				
Methyl tert-butyl ether (MTBE)	2.43	0.00900	2.500	0	97.2	70	130				
Hexane	2.47	0.0700	2.500	0	98.8	70	130				
1,1-Dichloroethane	2.51	0.00800	2.500	0	100	70	130				
cis-1,2-Dichloroethene	2.34	0.0200	2.500	0	93.6	70	130				
Chloroform	2.49	0.0200	2.500	0	99.6	70	130				
1,1,1-Trichloroethane	2.49	0.00500	2.500	0	99.6	70	130				
Carbon tetrachloride	2.50	0.0200	2.500	0	100	70	130				
1,2-Dichloroethane	2.51	0.0200	2.500	0	100	70	130				
Benzene	2.42	0.0400	2.500	0	96.8	70	130				
Trichloroethene (TCE)	2.48	0.0170	2.500	0	99.2	70	130				
Toluene	2.40	0.0500	2.500	0	96.0	70	130				
1,1,2-Trichloroethane (TCA)	2.50	0.0200	2.500	0	100	70	130				
Tetrachloroethene (PCE)	2.50	0.0500	2.500	0	100	70	130				
1,2-Dibromoethane (EDB)	2.49	0.0200	2.500	0	99.6	70	130				
Chlorobenzene	2.53	0.0700	2.500	0	101	70	130				
Ethylbenzene	2.46	0.0500	2.500	0	98.4	70	130				
m,p-Xylene	4.99	0.0600	5.000	0	99.8	70	130				
o-Xylene	2.46	0.0400	2.500	0	98.4	70	130				
1,1,2,2-Tetrachloroethane	2.56	0.00620	2.500	0	102	70	130				
1,3,5-Trimethylbenzene	2.50	0.300	2.500	0	100	70	130				
1,2,4-Trimethylbenzene	2.50	0.0730	2.500	0	100	70	130				
1,2,4-Trichlorobenzene	2.42	0.0500	2.500	0	96.8	70	130				
Hexachlorobutadiene	2.29	0.0166	2.500	0	91.6	70	130				
Naphthalene	2.38	0.300	2.500	0	95.2	70	130				

Date: *7/14/2016*

Work Order: 1607054
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID	**LCS-R30561**	SampType: **LCS**		Units: **ppbv**		Prep Date: **7/14/2016**		RunNo: **30561**	
Client ID:	**LCSW**	Batch ID: **R30561**				Analysis Date: **7/14/2016**		SeqNo: **576570**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10.2		10.00		102	70	130				

Sample ID	**MB-R30561**	SampType: **MBLK**		Units: **ppbv**		Prep Date: **7/14/2016**		RunNo: **30561**	
Client ID:	**MBLKW**	Batch ID: **R30561**				Analysis Date: **7/14/2016**		SeqNo: **576571**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.300									
Chloromethane	ND	0.400									
Vinyl chloride	ND	0.0850									
Chloroethane	ND	0.0980									
1,1-Dichloroethene (DCE)	ND	0.00900									
Methylene chloride	ND	0.0600									
trans-1,2-Dichloroethene	ND	0.00600									
Methyl tert-butyl ether (MTBE)	ND	0.00900									
Hexane	ND	0.0700									
1,1-Dichloroethane	ND	0.00800									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane	ND	0.00500									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane	ND	0.0200									
Benzene	ND	0.0400									
Trichloroethene (TCE)	ND	0.0170									
Toluene	ND	0.0500									
1,1,2-Trichloroethane (TCA)	ND	0.0200									
Tetrachloroethene (PCE)	ND	0.0500									
1,2-Dibromoethane (EDB)	ND	0.0200									
Chlorobenzene	ND	0.0700									
Ethylbenzene	ND	0.0500									
m,p-Xylene	ND	0.0600									

Fremont Analytical

Date: *7/14/2016*

Work Order: 1607054
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **MB-R30561** SampType: **MBLK** Units: **ppbv** Prep Date: **7/14/2016** RunNo: **30561**
Client ID: **MBLKW** Batch ID: **R30561** Analysis Date: **7/14/2016** SeqNo: **576571**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	ND	0.0400									
1,1,2,2-Tetrachloroethane	ND	0.00620									
1,3,5-Trimethylbenzene	ND	0.300									
1,2,4-Trimethylbenzene	ND	0.0730									
1,2,4-Trichlorobenzene	ND	0.0500									
Hexachlorobutadiene	ND	0.0166									
Naphthalene	ND	0.300									
Surr: 4-Bromofluorobenzene	9.51		10.00		95.1	70	130				

Sample ID **1607122-001AREP** SampType: **REP** Units: **ppbv** Prep Date: **7/14/2016** RunNo: **30561**
Client ID: **BATCH** Batch ID: **R30561** Analysis Date: **7/14/2016** SeqNo: **576567**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.300						0		30	
Chloromethane	ND	0.400						0		30	
Vinyl chloride	ND	0.0850						0		30	
Chloroethane	ND	0.0980						0		30	
1,1-Dichloroethene (DCE)	ND	0.00900						0		30	
Methylene chloride	0.590	0.0600						0.5600	5.22	30	
trans-1,2-Dichloroethene	ND	0.00600						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.00900						0		30	
Hexane	0.620	0.0700						0.5500	12.0	30	
1,1-Dichloroethane	ND	0.00800						0		30	
cis-1,2-Dichloroethene	ND	0.0200						0		30	
Chloroform	0.0200	0.0200						0.02000	0	30	
1,1,1-Trichloroethane	ND	0.00500						0		30	
Carbon tetrachloride	0.0800	0.0200						0.07000	13.3	30	
1,2-Dichloroethane	0.0200	0.0200						0.01000	66.7	30	
Benzene	0.210	0.0400						0.2100	0	30	
Trichloroethene (TCE)	0.0600	0.0170						0.06000	0	30	

Date: *7/14/2016*

Work Order: 1607054
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **1607122-001AREP** SampType: **REP** Units: **ppbv** Prep Date: **7/14/2016** RunNo: **30561**
Client ID: **BATCH** Batch ID: **R30561** Analysis Date: **7/14/2016** SeqNo: **576567**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	1.01	0.0500						0.9900	2.00	30	
1,1,2-Trichloroethane (TCA)	ND	0.0200						0		30	
Tetrachloroethene (PCE)	0.0500	0.0500						0.05000	0	30	
1,2-Dibromoethane (EDB)	ND	0.0200						0		30	
Chlorobenzene	ND	0.0700						0		30	
Ethylbenzene	0.590	0.0500						0.5900	0	30	
m,p-Xylene	0.510	0.0600						0.5100	0	30	
o-Xylene	0.530	0.0400						0.5300	0	30	
1,1,2,2-Tetrachloroethane	0.0100	0.00620						0.01000	0	30	
1,2,4-Trimethylbenzene	0.500	0.0730						0.5100	1.98	30	
1,2,4-Trichlorobenzene	ND	0.0500						0		30	
Hexachlorobutadiene	ND	0.0166						0		30	
Naphthalene	ND	0.300						0		30	
Surr: 4-Bromofluorobenzene	9.49		10.00		94.9	70	130		0		

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1607054**
Logged by:	**Erica Silva**	Date Received:	**7/7/2016 4:51:00 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:	Chris DeBoer	Date	7/7/2016
By Whom:	Clare Griggs	Via:	☐ eMail ☐ Phone ☐ Fax ☑ In Person
Regarding:	Confirming TO-15 SIM request - full list, + Freon12		
Client Instructions:	Confirmed		

19. Additional remarks:

Item Information

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Air Chain of Custody Record & Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (Internal): 1607054

Date: 7/7/16 Page: 1 of: 1

Client: PES
Address: 1215 4th Ave, Suite 1357
City, State, Zip: Seattle WA 98101
Telephone: (206) 529-3980 Fax: (206) 529-3985

Project Name: Lake Stevens Marketplace
Project No: 1246.038.03.001 Collected by: CJD
Location: Lake Stevens WA
Reports To (PM): Brian O'Neal
Email (PM): boneal@pesenv.com

* Gas Matrix Codes: I = Indoor SS = Subslab L = Landfill SG = Soil Gas M = Plume Mapping Q = Fuel Gas Quality L = LEED (Consult Client Services)

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag BV = 1 Liter Bottle Vac MC = 1 Liter MiniCan HP = High Pressure Cylinder HJ = Glass Headspace Jar

	Sample Name	Canister / Flow Reg Serial #	Sample Date & Time	Gas Matrix Code *	Anticipated Fill Time	Sample Volume	Container Type **	Internal: Evacuation Pressure (mtorr)	Internal: Pressure at Time of Pick-up (" Hg)	Internal: Equipment Certificaton Code	Field Initial Sample Pressure (" Hg)	Field Final Sample Pressure (" Hg)	Analysis Requested	Internal: Receipt Date	Internal: Final Pressure ("Hg)
1	Ambient_070716	15422 Canister	0827 Date		8hr	6L	Summa	10 mTorr Pressure	Pressure	Container	-30 Pressure	-5 Pressure	TO-15 + Freon12	7/7	-6
		Flow Reg	Time					7/5/16 17:00 Date	Date/Time	Regulator	827 Time	1500 Time			
4	Indoor_070716	17244 Canister	0837 Date		8hr	6L	Summa	10 mTorr Pressure	Pressure	Container	-30 Pressure	-5 Pressure	TO-15 + Freon12	7/7	-6
		Flow Reg	Time					7/5/16 17:00 Date	Date/Time	Regulator	837 Time	1500 Time			
4		Canister	Date					Pressure	Pressure	Container	Pressure	Pressure			
		Flow Reg	Time					Date	Date/Time	Regulator	Time	Time			
4		Canister	Date					Pressure	Pressure	Container	Pressure	Pressure			
		Flow Reg	Time					Date	Date/Time	Regulator	Time	Time			
5		Canister	Date					Pressure	Pressure	Container	Pressure	Pressure			
		Flow Reg	Time					Date	Date/Time	Regulator	Time	Time			

Condition:

Seals Intact: Y N N/A

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBruin	7/7/16 4:50	x [signature]	7/7 1657
x		x	

TAT --> STD Rush (specify)

Air Chain of Custody Record & Laboratory Services Agreement

Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (Internal): 1607054

Date: 7/7/16 Page: 1 of: 1

Client: PES
Address: 1215 4th Ave Suite 1357
City, State, Zip: Seattle WA 98161
Telephone: (206) 529-3980 Fax: (206) 529-3985

Project Name: Lake Stevens Marketplace
Project No: 1246.038.03.001 Collected by: CJD
Location: Lake Stevens WA
Reports To (PM): Brian O'Neal
Email (PM): boneal@pesenv.com

* Gas Matrix Codes: I = Indoor SS = Subslab L = Landfill SG = Soil Gas M = Plume Mapping Q = Fuel Gas Quality L = LEED (Consult Client Services)

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag BV = 1 Liter Bottle Vac MC = 1 Liter MiniCan HP = High Pressure Cylinder HJ = Glass Headspace Jar

	Sample Name	Canister / Flow Reg Serial #	Sample Date & Time	Gas Matrix Code *	Anticipated Fill Time	Sample Volume	Container Type **	Internal: Evacuation Pressure (mtorr)	Internal: Pressure at Time of Pick-up (" Hg)	Internal: Equipment Certificaton Code	Field Initial Sample Pressure (" Hg)	Field Final Sample Pressure (" Hg)	Analysis Requested	Internal: Receipt Date	Internal: Final Pressure ("Hg)
1	Ambient_070716	15422 Canister / Flow Reg	0827 Date / Time		8hr	6L	Summa	10 mTorr Pressure / 7/5/16 17:00 Date	Pressure / Date/Time	Container / Regulator	-30 Pressure / 837 Time	-5 Pressure / 1500 Time	TO-15 + Freon12 SIM	7/7	-6
4	Indoor_070716	17244 Canister / Flow Reg	0837 Date / Time		8hr	6L	Summa	10 mTorr Pressure / 7/5/16 17:00 Date	Pressure / Date/Time	Container / Regulator	-30 Pressure / 837 Time	-5 Pressure / 1500 Time	TO-15 + Freon12 SIM	7/7	-6
4		Canister / Flow Reg	Date / Time					Pressure / Date	Pressure / Date/Time	Container / Regulator	Pressure / Time	Pressure / Time			
4		Canister / Flow Reg	Date / Time					Pressure / Date	Pressure / Date/Time	Container / Regulator	Pressure / Time	Pressure / Time			
5		Canister / Flow Reg	Date / Time					Pressure / Date	Pressure / Date/Time	Container / Regulator	Pressure / Time	Pressure / Time			

Condition:

Seals Intact: Y N N/A

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: Full TO-15 SIM VOC list, plus Freon 12 per C. DeBoer 7/7/16

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	7/7/16 4:50	x [signature]	7/7 1651
x		x	

TAT --> STD Rush (specify)

MEMORANDUM

TO: Project File **DATE:** July 26, 2016

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.03.002

TASK: July 7, 2016 Soil

LAB: Fremont Analytical Service Request No. 1607054

Two air samples were collected at the Lake Stevens Marketplace in Snohomish County on July 7, 2016. The samples were collected as part of a Limited Phase II Investigation at the Site. The air samples (ambient and indoor air) were analyzed for VOCs including dichlorodifluoromethane (CFC-12 or Freon-12) by USEPA Method TO-15. Laboratory analytical services were provided by Fremont Analytical (FA) of Seattle, Washington. FA Project number: 1607054.

The Limited Phase II Investigation occurred in July of 2016 and associated sample data are reported in FA Project Number 1607054 along with FA Project numbers 1607053 and 1607063. The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied Summa canisters for the air samples. The sample was hand delivered and received in good condition by the laboratory. Summa canisters do not require preservation or cooling. The samples were collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for TO-15 VOCs was performed within the thirty day recommended holding time limit for air samples collected in the Summa canisters. No data was qualified based upon holding times.

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the MRLs. No data qualifications were warranted.

Trip Blank Results

A trip blank was not required for the TO-15 analyses.

Field Duplicate Analyses

No field duplicates were required or collected during this field event. Refer to laboratory duplicate results for precision data.

Laboratory Duplicate Analyses

A laboratory duplicate was performed on a non-client sample analyzed within the same analytical batch. The relative percent differences (RPDs) for the VOC compounds were within FA laboratory control limits.

Surrogate Recoveries

The surrogate % R results for the TO-15 air sample, method blank, duplicate, and laboratory control sample were within the laboratory surrogate control limits of 70 to 130% R. No data qualifications were warranted.

Laboratory Control Samples

One laboratory control sample (LCS) was run for the TO-15 analytical group sample. The LCS was run at the appropriate frequency for this project. The LCS recovery results for all control compounds met the % R acceptance criteria of 70 to 130%. LCS results are acceptable.

Matrix Spike/Matrix Spike Duplicates

A MS/MSD is not required for the TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the TO-15 VOC analysis were reported based on laboratory MRLs. Standard temperature and pressure assumes 24.45 (25^{o} Celsius and 1 atmosphere). The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs and MDL were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers were assigned. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
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info@fremontanalytical.com

PES Environmental, Inc.
Brian O'Neal
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Lake Stevens Marketplace
Lab ID: 1607063

July 12, 2016

Attention Brian O'Neal:

Fremont Analytical, Inc. received 4 sample(s) on 7/8/2016 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260C

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,

Chelsea Ward
Project Manager

Date: *07/12/2016*

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab Order: 1607063

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1607063-001	TW-3-070816	07/08/2016 6:10 AM	07/08/2016 10:08 AM
1607063-002	TW-5-070816	07/08/2016 6:30 AM	07/08/2016 10:08 AM
1607063-003	TW-6-070816	07/08/2016 6:45 AM	07/08/2016 10:08 AM
1607063-004	Trip Blank	07/05/2016 1:10 PM	07/08/2016 10:08 AM

Case Narrative

WO#: **1607063**

Date: **7/12/2016**

CLIENT: PES Environmental, Inc.

Project: Lake Stevens Marketplace

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below 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: PES Environmental, Inc.
Collection Date: 7/8/2016 6:10:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607063-001
Matrix: Groundwater
Client Sample ID: **TW-3-070816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Chloromethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Vinyl chloride	ND	0.200		µg/L	1	7/8/2016 10:17:13 PM
Bromomethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Chloroethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Methylene chloride	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/8/2016 10:17:13 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Chloroform	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Benzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/8/2016 10:17:13 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Dibromomethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Toluene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/8/2016 10:17:13 PM
Chlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Ethylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
m,p-Xylene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
o-Xylene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Styrene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Isopropylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Bromoform	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM

Client: PES Environmental, Inc.
Collection Date: 7/8/2016 6:10:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607063-001
Matrix: Groundwater
Client Sample ID: **TW-3-070816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: R30505		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
n-Propylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Bromobenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
tert-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/8/2016 10:17:13 PM
sec-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
n-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	7/8/2016 10:17:13 PM
Naphthalene	ND	1.00		µg/L	1	7/8/2016 10:17:13 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/8/2016 10:17:13 PM
Surr: Dibromofluoromethane	102	45.4-152		%Rec	1	7/8/2016 10:17:13 PM
Surr: Toluene-d8	97.8	40.1-139		%Rec	1	7/8/2016 10:17:13 PM
Surr: 1-Bromo-4-fluorobenzene	97.4	64.2-128		%Rec	1	7/8/2016 10:17:13 PM

Client: PES Environmental, Inc.
Collection Date: 7/8/2016 6:30:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607063-002
Matrix: Groundwater
Client Sample ID: **TW-5-070816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Chloromethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Vinyl chloride	ND	0.200		µg/L	1	7/8/2016 10:47:54 PM
Bromomethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Chloroethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Methylene chloride	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/8/2016 10:47:54 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Chloroform	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Benzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/8/2016 10:47:54 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Dibromomethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Toluene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/8/2016 10:47:54 PM
Chlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Ethylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
m,p-Xylene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
o-Xylene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Styrene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Isopropylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Bromoform	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM

Analytical Report

WO#: **1607063**

Date Reported: **7/12/2016**

Client: PES Environmental, Inc.

Collection Date: 7/8/2016 6:30:00 AM

Project: Lake Stevens Marketplace

Lab ID: 1607063-002

Matrix: Groundwater

Client Sample ID: **TW-5-070816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: R30505		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
n-Propylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Bromobenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
tert-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/8/2016 10:47:54 PM
sec-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
n-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	7/8/2016 10:47:54 PM
Naphthalene	ND	1.00		µg/L	1	7/8/2016 10:47:54 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/8/2016 10:47:54 PM
Surr: Dibromofluoromethane	102	45.4-152		%Rec	1	7/8/2016 10:47:54 PM
Surr: Toluene-d8	99.0	40.1-139		%Rec	1	7/8/2016 10:47:54 PM
Surr: 1-Bromo-4-fluorobenzene	97.8	64.2-128		%Rec	1	7/8/2016 10:47:54 PM

Client: PES Environmental, Inc.
Collection Date: 7/8/2016 6:45:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607063-003
Matrix: Groundwater
Client Sample ID: **TW-6-070816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Chloromethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Vinyl chloride	ND	0.200		µg/L	1	7/8/2016 11:18:31 PM
Bromomethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Chloroethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Methylene chloride	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/8/2016 11:18:31 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Chloroform	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Benzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/8/2016 11:18:31 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Dibromomethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Toluene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/8/2016 11:18:31 PM
Chlorobenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Ethylbenzene	1.36	1.00		µg/L	1	7/8/2016 11:18:31 PM
m,p-Xylene	6.25	1.00		µg/L	1	7/8/2016 11:18:31 PM
o-Xylene	2.51	1.00		µg/L	1	7/8/2016 11:18:31 PM
Styrene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Isopropylbenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Bromoform	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM

Analytical Report

WO#: **1607063**

Date Reported: **7/12/2016**

Client: PES Environmental, Inc.

Collection Date: 7/8/2016 6:45:00 AM

Project: Lake Stevens Marketplace

Lab ID: 1607063-003

Matrix: Groundwater

Client Sample ID: **TW-6-070816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: R30505		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
n-Propylbenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Bromobenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
tert-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/8/2016 11:18:31 PM
sec-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
n-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	7/8/2016 11:18:31 PM
Naphthalene	ND	1.00		µg/L	1	7/8/2016 11:18:31 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/8/2016 11:18:31 PM
Surr: Dibromofluoromethane	102	45.4-152		%Rec	1	7/8/2016 11:18:31 PM
Surr: Toluene-d8	98.8	40.1-139		%Rec	1	7/8/2016 11:18:31 PM
Surr: 1-Bromo-4-fluorobenzene	97.2	64.2-128		%Rec	1	7/8/2016 11:18:31 PM

Client: PES Environmental, Inc. **Collection Date:** 7/5/2016 1:10:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1607063-004 **Matrix:** Water
Client Sample ID: **Trip Blank**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Chloromethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Vinyl chloride	ND	0.200		µg/L	1	7/8/2016 9:46:32 PM
Bromomethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Chloroethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Methylene chloride	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/8/2016 9:46:32 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Chloroform	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Benzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/8/2016 9:46:32 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Dibromomethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Toluene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/8/2016 9:46:32 PM
Chlorobenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Ethylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
m,p-Xylene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
o-Xylene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Styrene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Isopropylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Bromoform	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM

Analytical Report

WO#: **1607063**

Date Reported: **7/12/2016**

Client: PES Environmental, Inc.

Collection Date: 7/5/2016 1:10:00 PM

Project: Lake Stevens Marketplace

Lab ID: 1607063-004

Matrix: Water

Client Sample ID: **Trip Blank**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: R30505		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
n-Propylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Bromobenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
tert-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/8/2016 9:46:32 PM
sec-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
n-Butylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
Hexachlorobutadiene	ND	4.00		µg/L	1	7/8/2016 9:46:32 PM
Naphthalene	ND	1.00		µg/L	1	7/8/2016 9:46:32 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/8/2016 9:46:32 PM
Surr: Dibromofluoromethane	103	45.4-152		%Rec	1	7/8/2016 9:46:32 PM
Surr: Toluene-d8	99.1	40.1-139		%Rec	1	7/8/2016 9:46:32 PM
Surr: 1-Bromo-4-fluorobenzene	94.1	64.2-128		%Rec	1	7/8/2016 9:46:32 PM

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-R30505** SampType: **LCS** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **LCSW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575579**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	20.6	1.00	20.00	0	103	43	136				
Chloromethane	22.7	1.00	20.00	0	114	43.9	139				
Vinyl chloride	21.4	0.200	20.00	0	107	53.6	139				
Bromomethane	26.2	1.00	20.00	0	131	42.5	152				
Trichlorofluoromethane (CFC-11)	23.2	1.00	20.00	0	116	63.7	133				
Chloroethane	22.2	1.00	20.00	0	111	53	141				
1,1-Dichloroethene	24.9	1.00	20.00	0	124	65.6	136				
Methylene chloride	69.6	1.00	20.00	0	348	67.1	131				BS
trans-1,2-Dichloroethene	23.0	1.00	20.00	0	115	71.7	129				
Methyl tert-butyl ether (MTBE)	21.9	1.00	20.00	0	109	67.7	131				
1,1-Dichloroethane	23.1	1.00	20.00	0	116	67.9	134				
2,2-Dichloropropane	41.0	2.00	20.00	0	205	33.7	152				S
cis-1,2-Dichloroethene	23.7	1.00	20.00	0	118	71.1	130				
Chloroform	23.0	1.00	20.00	0	115	66.3	131				
1,1,1-Trichloroethane (TCA)	22.3	1.00	20.00	0	111	71	131				
1,1-Dichloropropene	22.4	1.00	20.00	0	112	69.9	124				
Carbon tetrachloride	22.0	1.00	20.00	0	110	66.2	134				
1,2-Dichloroethane (EDC)	22.4	1.00	20.00	0	112	68.8	123				
Benzene	23.0	1.00	20.00	0	115	69.3	132				
Trichloroethene (TCE)	22.3	0.500	20.00	0	111	65.2	136				
1,2-Dichloropropane	22.6	1.00	20.00	0	113	70.5	130				
Bromodichloromethane	22.6	1.00	20.00	0	113	67.2	137				
Dibromomethane	22.4	1.00	20.00	0	112	75.5	126				
cis-1,3-Dichloropropene	23.8	1.00	20.00	0	119	62.6	137				
Toluene	23.5	1.00	20.00	0	118	61.3	145				
trans-1,3-Dichloropropene	23.3	1.00	20.00	0	116	58.5	142				
1,1,2-Trichloroethane	22.2	1.00	20.00	0	111	71.7	131				
1,3-Dichloropropane	22.2	1.00	20.00	0	111	73.5	127				
Tetrachloroethene (PCE)	22.6	1.00	20.00	0	113	47.5	147				
Dibromochloromethane	21.6	1.00	20.00	0	108	67.2	134				
1,2-Dibromoethane (EDB)	22.3	0.0600	20.00	0	111	73.6	125				

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-R30505** SampType: **LCS** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **LCSW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575579**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	23.4	1.00	20.00	0	117	73.9	126				
1,1,1,2-Tetrachloroethane	22.4	1.00	20.00	0	112	76.8	124				
Ethylbenzene	23.2	1.00	20.00	0	116	72	130				
m,p-Xylene	46.4	1.00	40.00	0	116	70.3	134				
o-Xylene	23.1	1.00	20.00	0	115	72.1	131				
Styrene	23.0	1.00	20.00	0	115	64.3	140				
Isopropylbenzene	22.7	1.00	20.00	0	114	73.9	128				
Bromoform	21.5	1.00	20.00	0	107	55.3	141				
1,1,2,2-Tetrachloroethane	22.7	1.00	20.00	0	114	62.9	132				
n-Propylbenzene	23.0	1.00	20.00	0	115	74.5	127				
Bromobenzene	22.7	1.00	20.00	0	114	71	131				
1,3,5-Trimethylbenzene	23.0	1.00	20.00	0	115	73.1	128				
2-Chlorotoluene	23.2	1.00	20.00	0	116	70.8	130				
4-Chlorotoluene	23.4	1.00	20.00	0	117	70.1	131				
tert-Butylbenzene	22.2	1.00	20.00	0	111	68.2	131				
1,2,3-Trichloropropane	22.1	1.00	20.00	0	111	67.7	131				
1,2,4-Trichlorobenzene	22.4	2.00	20.00	0	112	51.8	152				
sec-Butylbenzene	22.2	1.00	20.00	0	111	72	129				
4-Isopropyltoluene	22.5	1.00	20.00	0	113	69.2	130				
1,3-Dichlorobenzene	23.3	1.00	20.00	0	116	71	115				S
1,4-Dichlorobenzene	22.8	1.00	20.00	0	114	66.8	119				
n-Butylbenzene	23.2	1.00	20.00	0	116	73.8	127				
1,2-Dichlorobenzene	22.7	1.00	20.00	0	114	69.7	119				
1,2-Dibromo-3-chloropropane	20.8	1.00	20.00	0	104	63.1	136				
1,2,4-Trimethylbenzene	23.1	1.00	20.00	0	116	73.4	127				
Hexachlorobutadiene	22.2	4.00	20.00	0	111	58.6	138				
Naphthalene	20.9	1.00	20.00	0	104	41.8	165				
1,2,3-Trichlorobenzene	22.2	4.00	20.00	0	111	48.7	156				
Surr: Dibromofluoromethane	25.6		25.00		102	45.4	152				
Surr: Toluene-d8	25.6		25.00		102	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.9		25.00		104	64.2	128				

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-R30505** SampType: **LCS** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **LCSW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575579**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.
Methylene Chloride is a common laboratory solvent.

Sample ID **LCSD-R30505** SampType: **LCS** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **LCSW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575578**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	21.4	1.00	20.00	0	107	43	136				
Chloromethane	22.8	1.00	20.00	0	114	43.9	139				
Vinyl chloride	21.8	0.200	20.00	0	109	53.6	139				
Bromomethane	27.0	1.00	20.00	0	135	42.5	152				
Trichlorofluoromethane (CFC-11)	24.0	1.00	20.00	0	120	63.7	133				
Chloroethane	22.5	1.00	20.00	0	112	53	141				
1,1-Dichloroethene	25.0	1.00	20.00	0	125	65.6	136				
Methylene chloride	68.5	1.00	20.00	0	342	67.1	131				BS
trans-1,2-Dichloroethene	23.0	1.00	20.00	0	115	71.7	129				
Methyl tert-butyl ether (MTBE)	21.8	1.00	20.00	0	109	67.7	131				
1,1-Dichloroethane	23.1	1.00	20.00	0	115	67.9	134				
2,2-Dichloropropane	38.3	2.00	20.00	0	192	33.7	152				S
cis-1,2-Dichloroethene	22.6	1.00	20.00	0	113	71.1	130				
Chloroform	23.0	1.00	20.00	0	115	66.3	131				
1,1,1-Trichloroethane (TCA)	22.6	1.00	20.00	0	113	71	131				
1,1-Dichloropropene	22.5	1.00	20.00	0	113	69.9	124				
Carbon tetrachloride	22.0	1.00	20.00	0	110	66.2	134				
1,2-Dichloroethane (EDC)	22.4	1.00	20.00	0	112	68.8	123				
Benzene	23.0	1.00	20.00	0	115	69.3	132				
Trichloroethene (TCE)	22.3	0.500	20.00	0	112	65.2	136				
1,2-Dichloropropane	22.6	1.00	20.00	0	113	70.5	130				
Bromodichloromethane	22.6	1.00	20.00	0	113	67.2	137				
Dibromomethane	22.3	1.00	20.00	0	112	75.5	126				

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCSD-R30505** SampType: **LCS** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **LCSW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575578**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	23.4	1.00	20.00	0	117	62.6	137				
Toluene	23.5	1.00	20.00	0	118	61.3	145				
trans-1,3-Dichloropropene	23.3	1.00	20.00	0	116	58.5	142				
1,1,2-Trichloroethane	21.7	1.00	20.00	0	109	71.7	131				
1,3-Dichloropropane	22.1	1.00	20.00	0	111	73.5	127				
Tetrachloroethene (PCE)	22.8	1.00	20.00	0	114	47.5	147				
Dibromochloromethane	21.5	1.00	20.00	0	107	67.2	134				
1,2-Dibromoethane (EDB)	22.6	0.0600	20.00	0	113	73.6	125				
Chlorobenzene	22.4	1.00	20.00	0	112	73.9	126				
1,1,1,2-Tetrachloroethane	22.2	1.00	20.00	0	111	76.8	124				
Ethylbenzene	23.1	1.00	20.00	0	115	72	130				
m,p-Xylene	45.9	1.00	40.00	0	115	70.3	134				
o-Xylene	22.9	1.00	20.00	0	114	72.1	131				
Styrene	22.7	1.00	20.00	0	114	64.3	140				
Isopropylbenzene	22.7	1.00	20.00	0	114	73.9	128				
Bromoform	20.7	1.00	20.00	0	103	55.3	141				
1,1,2,2-Tetrachloroethane	22.4	1.00	20.00	0	112	62.9	132				
n-Propylbenzene	23.0	1.00	20.00	0	115	74.5	127				
Bromobenzene	22.3	1.00	20.00	0	111	71	131				
1,3,5-Trimethylbenzene	23.1	1.00	20.00	0	116	73.1	128				
2-Chlorotoluene	23.0	1.00	20.00	0	115	70.8	130				
4-Chlorotoluene	23.2	1.00	20.00	0	116	70.1	131				
tert-Butylbenzene	22.2	1.00	20.00	0	111	68.2	131				
1,2,3-Trichloropropane	22.7	1.00	20.00	0	113	67.7	131				
1,2,4-Trichlorobenzene	23.9	2.00	20.00	0	119	51.8	152				
sec-Butylbenzene	22.6	1.00	20.00	0	113	72	129				
4-Isopropyltoluene	22.8	1.00	20.00	0	114	69.2	130				
1,3-Dichlorobenzene	24.2	1.00	20.00	0	121	71	115				S
1,4-Dichlorobenzene	23.6	1.00	20.00	0	118	66.8	119				
n-Butylbenzene	24.4	1.00	20.00	0	122	73.8	127				
1,2-Dichlorobenzene	23.4	1.00	20.00	0	117	69.7	119				

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCSD-R30505** SampType: **LCS** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **LCSW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575578**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	21.7	1.00	20.00	0	108	63.1	136				
1,2,4-Trimethylbenzene	23.2	1.00	20.00	0	116	73.4	127				
Hexachlorobutadiene	23.5	4.00	20.00	0	117	58.6	138				
Naphthalene	22.5	1.00	20.00	0	112	41.8	165				
1,2,3-Trichlorobenzene	23.2	4.00	20.00	0	116	48.7	156				
Surr: Dibromofluoromethane	25.9		25.00		103	45.4	152				
Surr: Toluene-d8	25.7		25.00		103	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.5		25.00		102	64.2	128				

NOTES:
S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.
Methylene Chloride is a common laboratory solvent.

Sample ID **MB-R30505** SampType: **MBLK** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **MBLKW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575580**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	65.2	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-R30505** SampType: **MBLK** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **MBLKW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575580**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-R30505** SampType: **MBLK** Units: **µg/L** Prep Date: **7/8/2016** RunNo: **30505**
Client ID: **MBLKW** Batch ID: **R30505** Analysis Date: **7/8/2016** SeqNo: **575580**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	25.2		25.00		101	45.4	152				
Surr: Toluene-d8	24.7		25.00		99.0	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.0		25.00		95.8	64.2	128				

NOTES:
Methylene Chloride is a common laboratory solvent.

Sample ID **1607056-004DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/9/2016** RunNo: **30505**
Client ID: **BATCH** Batch ID: **R30505** Analysis Date: **7/9/2016** SeqNo: **575563**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607056-004DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/9/2016** RunNo: **30505**
Client ID: **BATCH** Batch ID: **R30505** Analysis Date: **7/9/2016** SeqNo: **575563**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	

Work Order: 1607063
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607056-004DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/9/2016** RunNo: **30505**
Client ID: **BATCH** Batch ID: **R30505** Analysis Date: **7/9/2016** SeqNo: **575563**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachlorobutadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	25.7		25.00		103	45.4	152		0		
Surr: Toluene-d8	24.6		25.00		98.4	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.9		25.00		95.4	64.2	128		0		

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1607063**
Logged by:	**Erica Silva**	Date Received:	**7/8/2016 10:08:00 AM**

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 ☐
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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	1.6
Sample	5.7
Temp Blank	4.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N. Tel: 206-352-3790
Seattle, WA 98103 Fax: 206-352-7178

Date: 7/8/16 Laboratory Project No (internal): 1607063

Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave. Suite 1350
City, State, Zip: Seattle WA 98161
Telephone: (206)529-3980 Fax: (206)529-3985

Project Name: Lake Stevens Marketplace
Project No: 1246.038.03.001 Collected by: CJD
Location: Lake Stevens, WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	TW-3-070816	7/8/16	610	GW	X												
2	TW-5-070816	"	630	GW	X												
3	TW-6-070816	"	645	GW	X												
4	TRIP BLANK	—	—	W	X												
5																	
6																	
7																	
8																	
9																	
10																	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	7/8/16 1007	x	7/8/16 10:08
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

MEMORANDUM

TO: Project File **DATE:** July 27, 2016

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.03.002

TASK: July 8, 2016 Groundwater Samples

LAB: Fremont Analytical Service Request No. 1607063

Three groundwater samples and a trip blank were collected at the Lake Stevens Marketplace Site in Snohomish County on July 8, 2016. The samples were collected as part of a Limited Phase II Investigation at the Site. The samples were delivered to Fremont Analytical (Fremont) of Seattle, Washington for laboratory analysis. Samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C. The results were reported in Fremont Lab Package 1607063.

The Limited Phase II Investigation occurred in July of 2016 and associated sample data are reported in FA Project Number1607063 along with FA Project numbers 1607053 and 1607054. The quality assurance review of the laboratory data is summarized below. The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Sample Receipt, Preservation and Handling

The samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols. Review of Fremont's Sample Log-In Check List Form indicates that all samples were received in good condition within the recommended preservation temperature range of 4.0°C ± 2.0°C. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Holding Times

All samples were analyzed for VOCs within the USEPA recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. The case narrative did not indicate any issues with calibration; therefore no qualifications were warranted.

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

A trip blank was collected and analyzed. The target analytes were not detected in the method blanks at or above the MRL. No qualifications of the data were made due to the results of the trip blank analyses.

Laboratory Duplicate Analyses

Laboratory duplicate sample analyses were performed on a non-client sample within the analytical batch. The primary/duplicate relative percent differences (RPDs) for VOCs were within the laboratory control limit of 30%. Duplicate data are acceptable.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to laboratory duplicate data for precision data.

Surrogate Recoveries

The surrogate recovery results for the samples, laboratory duplicates, laboratory control samples (LCS), matrix spike, and the method blank were within the laboratory surrogate control limits for all of the analyses.

Matrix Spike/ Matrix Spike Duplicates

A matrix spike (MS) analysis was not performed. Refer to LCS/LCSD and laboratory duplicate data for accuracy and precision.

Laboratory Control Samples

An LCS/LCSD was analyzed by USEPA Method 8260C per method requirement. The LCS/LCSD %Rs for the all target compounds were within the laboratory control criteria for water with the following exceptions:

- VOC compounds methylene chloride, 2,2-dichloropropane, and 1,3-dichlorobenzene % R's were elevated and above acceptance criteria. Methylene chloride was also qualified (B) due to blank contamination. No action was taken as these compounds were not detected at or above the MRL in the associated samples.

Quantitation Limits

Results of all analyses were reported based on standard laboratory MRLs. The reported MRLs are considered appropriate for this project. No data qualifiers were warranted based upon standard detection limits.

Completeness

The samples were collected and analyzed as requested. The results in all cases were reported based upon standard Method Reporting Limits (MRLs). Data completeness is 100%.

Data Assessment

The laboratory data reported for this project were reviewed based on laboratory control limit acceptance criteria and criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999);

No data qualifiers were assigned. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Brian O'Neal
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Lake Stevens Marketplace
Lab ID: 1607216

July 28, 2016

Attention Brian O'Neal:

Fremont Analytical, Inc. received 3 sample(s) on 7/21/2016 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260C

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,

Chelsea Ward
Project Manager

Date: *07/28/2016*

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab Order: 1607216

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1607216-001	MW-5-7.5	07/20/2016 10:10 AM	07/21/2016 2:26 PM
1607216-002	MW-6-5	07/21/2016 8:40 AM	07/21/2016 2:26 PM
1607216-003	MW-7-5	07/21/2016 11:00 AM	07/21/2016 2:26 PM

Case Narrative

WO#: **1607216**
Date: **7/28/2016**

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below 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

Analytical Report

WO#: **1607216**
Date Reported: **7/28/2016**

Client: PES Environmental, Inc.
Collection Date: 7/20/2016 10:10:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607216-001
Matrix: Soil
Client Sample ID: **MW-5-7.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14376		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0803		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Chloromethane	ND	0.0803		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Vinyl chloride	ND	0.00268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Bromomethane	ND	0.120		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Trichlorofluoromethane (CFC-11)	ND	0.0669		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Chloroethane	ND	0.0803		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,1-Dichloroethene	ND	0.0669		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Methylene chloride	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
trans-1,2-Dichloroethene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Methyl tert-butyl ether (MTBE)	ND	0.0669		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,1-Dichloroethane	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
2,2-Dichloropropane	ND	0.0669	Q	mg/Kg-dry	1	7/27/2016 6:47:11 PM
cis-1,2-Dichloroethene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Chloroform	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,1,1-Trichloroethane (TCA)	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,1-Dichloropropene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Carbon tetrachloride	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2-Dichloroethane (EDC)	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Benzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Trichloroethene (TCE)	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2-Dichloropropane	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Bromodichloromethane	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Dibromomethane	ND	0.0535		mg/Kg-dry	1	7/27/2016 6:47:11 PM
cis-1,3-Dichloropropene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Toluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
trans-1,3-Dichloropropylene	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,1,2-Trichloroethane	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,3-Dichloropropane	ND	0.0669		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Tetrachloroethene (PCE)	0.681	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Dibromochloromethane	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2-Dibromoethane (EDB)	ND	0.00669		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Chlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,1,1,2-Tetrachloroethane	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Ethylbenzene	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
m,p-Xylene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
o-Xylene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Styrene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Isopropylbenzene	ND	0.107		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Bromoform	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM

Analytical Report

WO#: **1607216**

Date Reported: **7/28/2016**

Client: PES Environmental, Inc.

Collection Date: 7/20/2016 10:10:00 AM

Project: Lake Stevens Marketplace

Lab ID: 1607216-001

Matrix: Soil

Client Sample ID: MW-5-7.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14376		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
n-Propylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Bromobenzene	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,3,5-Trimethylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
2-Chlorotoluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
4-Chlorotoluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
tert-Butylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2,3-Trichloropropane	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2,4-Trichlorobenzene	ND	0.0669		mg/Kg-dry	1	7/27/2016 6:47:11 PM
sec-Butylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
4-Isopropyltoluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,3-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,4-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
n-Butylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2-Dibromo-3-chloropropane	ND	0.669		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2,4-Trimethylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Hexachlorobutadiene	ND	0.134		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Naphthalene	ND	0.0401		mg/Kg-dry	1	7/27/2016 6:47:11 PM
1,2,3-Trichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 6:47:11 PM
Surr: Dibromofluoromethane	102	56.5-129		%Rec	1	7/27/2016 6:47:11 PM
Surr: Toluene-d8	103	64.3-131		%Rec	1	7/27/2016 6:47:11 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	63.1-141		%Rec	1	7/27/2016 6:47:11 PM

NOTES:

Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30721		Analyst: ME
Percent Moisture	11.9	0.500		wt%	1	7/22/2016 9:11:26 AM

Client: PES Environmental, Inc.
Collection Date: 7/21/2016 8:40:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607216-002
Matrix: Soil
Client Sample ID: **MW-6-5**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14376 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0705		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Chloromethane	ND	0.0705		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Vinyl chloride	ND	0.00235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Bromomethane	ND	0.106		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Trichlorofluoromethane (CFC-11)	ND	0.0588		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Chloroethane	ND	0.0705		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,1-Dichloroethene	ND	0.0588		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Methylene chloride	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
trans-1,2-Dichloroethene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Methyl tert-butyl ether (MTBE)	ND	0.0588		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,1-Dichloroethane	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
2,2-Dichloropropane	ND	0.0588	Q	mg/Kg-dry	1	7/27/2016 7:16:48 PM
cis-1,2-Dichloroethene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Chloroform	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,1,1-Trichloroethane (TCA)	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,1-Dichloropropene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Carbon tetrachloride	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2-Dichloroethane (EDC)	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Benzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Trichloroethene (TCE)	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2-Dichloropropane	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Bromodichloromethane	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Dibromomethane	ND	0.0470		mg/Kg-dry	1	7/27/2016 7:16:48 PM
cis-1,3-Dichloropropene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Toluene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
trans-1,3-Dichloropropylene	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,1,2-Trichloroethane	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,3-Dichloropropane	ND	0.0588		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Tetrachloroethene (PCE)	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Dibromochloromethane	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2-Dibromoethane (EDB)	ND	0.00588		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Chlorobenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,1,1,2-Tetrachloroethane	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Ethylbenzene	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
m,p-Xylene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
o-Xylene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Styrene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Isopropylbenzene	ND	0.0940		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Bromoform	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM

Analytical Report

WO#: **1607216**

Date Reported: **7/28/2016**

Client: PES Environmental, Inc.

Collection Date: 7/21/2016 8:40:00 AM

Project: Lake Stevens Marketplace

Lab ID: 1607216-002

Matrix: Soil

Client Sample ID: MW-6-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14376		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
n-Propylbenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Bromobenzene	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,3,5-Trimethylbenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
2-Chlorotoluene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
4-Chlorotoluene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
tert-Butylbenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2,3-Trichloropropane	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2,4-Trichlorobenzene	ND	0.0588		mg/Kg-dry	1	7/27/2016 7:16:48 PM
sec-Butylbenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
4-Isopropyltoluene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,3-Dichlorobenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,4-Dichlorobenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
n-Butylbenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2-Dichlorobenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2-Dibromo-3-chloropropane	ND	0.588		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2,4-Trimethylbenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Hexachlorobutadiene	ND	0.118		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Naphthalene	ND	0.0353		mg/Kg-dry	1	7/27/2016 7:16:48 PM
1,2,3-Trichlorobenzene	ND	0.0235		mg/Kg-dry	1	7/27/2016 7:16:48 PM
Surr: Dibromofluoromethane	103	56.5-129		%Rec	1	7/27/2016 7:16:48 PM
Surr: Toluene-d8	98.6	64.3-131		%Rec	1	7/27/2016 7:16:48 PM
Surr: 1-Bromo-4-fluorobenzene	100	63.1-141		%Rec	1	7/27/2016 7:16:48 PM

NOTES:

Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30721		Analyst: ME
Percent Moisture	11.9	0.500		wt%	1	7/22/2016 9:11:26 AM

Client: PES Environmental, Inc.
Collection Date: 7/21/2016 11:00:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607216-003
Matrix: Soil
Client Sample ID: **MW-7-5**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14376 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	0.0804		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Chloromethane	ND	0.0804		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Vinyl chloride	ND	0.00268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Bromomethane	ND	0.121		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Trichlorofluoromethane (CFC-11)	ND	0.0670		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Chloroethane	ND	0.0804		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,1-Dichloroethene	ND	0.0670		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Methylene chloride	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
trans-1,2-Dichloroethene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Methyl tert-butyl ether (MTBE)	ND	0.0670		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,1-Dichloroethane	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
2,2-Dichloropropane	ND	0.0670	Q	mg/Kg-dry	1	7/27/2016 7:46:20 PM
cis-1,2-Dichloroethene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Chloroform	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,1,1-Trichloroethane (TCA)	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,1-Dichloropropene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Carbon tetrachloride	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2-Dichloroethane (EDC)	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Benzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Trichloroethene (TCE)	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2-Dichloropropane	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Bromodichloromethane	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Dibromomethane	ND	0.0536		mg/Kg-dry	1	7/27/2016 7:46:20 PM
cis-1,3-Dichloropropene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Toluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
trans-1,3-Dichloropropylene	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,1,2-Trichloroethane	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,3-Dichloropropane	ND	0.0670		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Tetrachloroethene (PCE)	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Dibromochloromethane	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2-Dibromoethane (EDB)	ND	0.00670		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Chlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,1,1,2-Tetrachloroethane	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Ethylbenzene	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
m,p-Xylene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
o-Xylene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Styrene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Isopropylbenzene	ND	0.107		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Bromoform	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM

Analytical Report

WO#: **1607216**
Date Reported: **7/28/2016**

Client: PES Environmental, Inc.
Collection Date: 7/21/2016 11:00:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607216-003
Matrix: Soil
Client Sample ID: **MW-7-5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14376		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
n-Propylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Bromobenzene	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,3,5-Trimethylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
2-Chlorotoluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
4-Chlorotoluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
tert-Butylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2,3-Trichloropropane	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2,4-Trichlorobenzene	ND	0.0670		mg/Kg-dry	1	7/27/2016 7:46:20 PM
sec-Butylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
4-Isopropyltoluene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,3-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,4-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
n-Butylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2-Dibromo-3-chloropropane	ND	0.670		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2,4-Trimethylbenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Hexachlorobutadiene	ND	0.134		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Naphthalene	ND	0.0402		mg/Kg-dry	1	7/27/2016 7:46:20 PM
1,2,3-Trichlorobenzene	ND	0.0268		mg/Kg-dry	1	7/27/2016 7:46:20 PM
Surr: Dibromofluoromethane	101	56.5-129		%Rec	1	7/27/2016 7:46:20 PM
Surr: Toluene-d8	99.0	64.3-131		%Rec	1	7/27/2016 7:46:20 PM
Surr: 1-Bromo-4-fluorobenzene	98.3	63.1-141		%Rec	1	7/27/2016 7:46:20 PM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R30721		Analyst: ME
Percent Moisture	8.80	0.500		wt%	1	7/22/2016 9:11:26 AM

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14376** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **LCSS** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582254**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.94	0.0600	1.000	0	194	34.5	141				S
Chloromethane	1.33	0.0600	1.000	0	133	38.8	132				S
Vinyl chloride	1.31	0.00200	1.000	0	131	44	142				
Bromomethane	1.49	0.0900	1.000	0	149	40.9	157				
Trichlorofluoromethane (CFC-11)	1.73	0.0500	1.000	0	173	42.9	147				S
Chloroethane	1.42	0.0600	1.000	0	142	37.1	144				
1,1-Dichloroethene	1.16	0.0500	1.000	0	116	49.7	142				
Methylene chloride	1.11	0.0200	1.000	0	111	46.3	140				
trans-1,2-Dichloroethene	1.04	0.0200	1.000	0	104	68	130				
Methyl tert-butyl ether (MTBE)	0.846	0.0500	1.000	0	84.6	59.1	138				
1,1-Dichloroethane	1.08	0.0200	1.000	0	108	61.9	137				
2,2-Dichloropropane	1.04	0.0500	1.000	0	104	28.1	149				Q
cis-1,2-Dichloroethene	1.03	0.0200	1.000	0	103	71.3	135				
Chloroform	1.03	0.0200	1.000	0	103	67.5	129				
1,1,1-Trichloroethane (TCA)	0.961	0.0200	1.000	0	96.1	69	132				
1,1-Dichloropropene	1.03	0.0200	1.000	0	103	72.7	131				
Carbon tetrachloride	1.01	0.0200	1.000	0	101	63.4	137				
1,2-Dichloroethane (EDC)	0.956	0.0300	1.000	0	95.6	61.9	136				
Benzene	1.01	0.0200	1.000	0	101	64.3	133				
Trichloroethene (TCE)	0.990	0.0200	1.000	0	99.0	65.5	137				
1,2-Dichloropropane	0.982	0.0200	1.000	0	98.2	63.2	142				
Bromodichloromethane	1.02	0.0200	1.000	0	102	73.2	131				
Dibromomethane	0.960	0.0400	1.000	0	96.0	70	130				
cis-1,3-Dichloropropene	0.968	0.0200	1.000	0	96.8	59.1	143				
Toluene	1.03	0.0200	1.000	0	103	67.3	138				
trans-1,3-Dichloropropylene	0.911	0.0300	1.000	0	91.1	49.2	149				
1,1,2-Trichloroethane	0.961	0.0300	1.000	0	96.1	74.5	129				
1,3-Dichloropropane	0.954	0.0500	1.000	0	95.4	70	130				
Tetrachloroethene (PCE)	1.06	0.0200	1.000	0	106	52.7	150				
Dibromochloromethane	1.03	0.0300	1.000	0	103	70.6	144				
1,2-Dibromoethane (EDB)	0.948	0.00500	1.000	0	94.8	70	130				

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14376** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **LCSS** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582254**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.01	0.0200	1.000	0	101	76.1	123				
1,1,1,2-Tetrachloroethane	0.992	0.0300	1.000	0	99.2	65.9	141				
Ethylbenzene	1.01	0.0300	1.000	0	101	74	129				
m,p-Xylene	2.07	0.0200	2.000	0	103	70	124				
o-Xylene	1.02	0.0200	1.000	0	102	72.7	124				
Styrene	1.01	0.0200	1.000	0	101	76.8	130				
Isopropylbenzene	1.04	0.0800	1.000	0	104	70	130				
Bromoform	0.988	0.0200	1.000	0	98.8	67	154				
1,1,2,2-Tetrachloroethane	0.946	0.0200	1.000	0	94.6	60	130				
n-Propylbenzene	1.09	0.0200	1.000	0	109	74.8	125				
Bromobenzene	1.01	0.0300	1.000	0	101	49.2	144				
1,3,5-Trimethylbenzene	1.04	0.0200	1.000	0	104	74.6	123				
2-Chlorotoluene	1.04	0.0200	1.000	0	104	76.7	129				
4-Chlorotoluene	1.05	0.0200	1.000	0	105	77.5	125				
tert-Butylbenzene	1.07	0.0200	1.000	0	107	66.2	130				
1,2,3-Trichloropropane	0.887	0.0200	1.000	0	88.7	67.9	136				
1,2,4-Trichlorobenzene	0.967	0.0500	1.000	0	96.7	62.6	143				
sec-Butylbenzene	1.09	0.0200	1.000	0	109	75.6	133				
4-Isopropyltoluene	1.06	0.0200	1.000	0	106	76.8	131				
1,3-Dichlorobenzene	1.04	0.0200	1.000	0	104	72.8	128				
1,4-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.6	126				
n-Butylbenzene	1.10	0.0200	1.000	0	110	65.3	136				
1,2-Dichlorobenzene	1.01	0.0200	1.000	0	101	72.8	126				
1,2-Dibromo-3-chloropropane	0.832	0.500	1.000	0	83.2	61.2	139				
1,2,4-Trimethylbenzene	1.04	0.0200	1.000	0	104	77.5	129				
Hexachlorobutadiene	1.07	0.100	1.000	0	107	42	151				
Naphthalene	0.834	0.0300	1.000	0	83.4	62.3	134				
1,2,3-Trichlorobenzene	0.938	0.0200	1.000	0	93.8	54.8	143				
Surr: Dibromofluoromethane	1.34		1.250		108	56.5	129				
Surr: Toluene-d8	1.23		1.250		98.6	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.27		1.250		102	63.1	141				

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14376** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **LCSS** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582254**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **MB-14376** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MBLKS** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582255**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									Q
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-14376** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MBLKS** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582255**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-14376** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MBLKS** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582255**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.22		1.250		97.2	56.5	129				
Surr: Toluene-d8	1.27		1.250		101	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.15		1.250		92.4	63.1	141				

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607216-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MW-7-5** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582243**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	2.00	0.0804	1.340	0	149	43.5	121				S
Chloromethane	1.56	0.0804	1.340	0	117	45	130				
Vinyl chloride	1.55	0.00268	1.340	0	116	51.2	146				
Bromomethane	1.82	0.121	1.340	0	135	21.3	120				S
Trichlorofluoromethane (CFC-11)	2.23	0.0670	1.340	0	166	35	131				S
Chloroethane	1.82	0.0804	1.340	0	136	43.8	117				S
1,1-Dichloroethene	1.39	0.0670	1.340	0	104	61.9	141				
Methylene chloride	1.43	0.0268	1.340	0	107	54.7	142				
trans-1,2-Dichloroethene	1.27	0.0268	1.340	0	94.7	52	136				
Methyl tert-butyl ether (MTBE)	1.22	0.0670	1.340	0	91.2	54.4	132				
1,1-Dichloroethane	1.35	0.0268	1.340	0	101	51.8	141				
2,2-Dichloropropane	0.988	0.0670	1.340	0	73.7	36	123				Q
cis-1,2-Dichloroethene	1.31	0.0268	1.340	0	98.0	58.6	136				
Chloroform	1.34	0.0268	1.340	0	100	53.2	129				
1,1,1-Trichloroethane (TCA)	1.16	0.0268	1.340	0	86.6	58.3	145				
1,1-Dichloropropene	1.28	0.0268	1.340	0	95.8	55.1	138				

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607216-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MW-7-5** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582243**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	1.29	0.0268	1.340	0	95.9	53.3	144				
1,2-Dichloroethane (EDC)	1.32	0.0402	1.340	0	98.8	51.3	139				
Benzene	1.27	0.0268	1.340	0	94.4	63.5	133				
Trichloroethene (TCE)	1.25	0.0268	1.340	0	92.9	68.6	132				
1,2-Dichloropropane	1.29	0.0268	1.340	0	95.9	59	136				
Bromodichloromethane	1.33	0.0268	1.340	0	98.9	50.7	141				
Dibromomethane	1.35	0.0536	1.340	0	100	50.6	137				
cis-1,3-Dichloropropene	1.22	0.0268	1.340	0	91.3	50.4	138				
Toluene	1.24	0.0268	1.340	0	92.2	63.4	132				
trans-1,3-Dichloropropylene	1.18	0.0402	1.340	0	87.9	44.1	147				
1,1,2-Trichloroethane	1.37	0.0402	1.340	0	102	51.6	137				
1,3-Dichloropropane	1.34	0.0670	1.340	0	100	53.1	134				
Tetrachloroethene (PCE)	1.29	0.0268	1.340	0	96.3	35.6	158				
Dibromochloromethane	1.37	0.0402	1.340	0	102	55.3	140				
1,2-Dibromoethane (EDB)	1.34	0.00670	1.340	0	100	50.4	136				
Chlorobenzene	1.30	0.0268	1.340	0	96.8	60	133				
1,1,1,2-Tetrachloroethane	1.27	0.0402	1.340	0	95.0	53.1	142				
Ethylbenzene	1.26	0.0402	1.340	0	94.3	54.5	134				
m,p-Xylene	2.58	0.0268	2.681	0	96.1	53.1	132				
o-Xylene	1.28	0.0268	1.340	0	95.7	53.3	139				
Styrene	1.30	0.0268	1.340	0	97.2	51.1	132				
Isopropylbenzene	1.29	0.107	1.340	0	96.2	58.9	138				
Bromoform	1.36	0.0268	1.340	0	101	57.9	130				
1,1,2,2-Tetrachloroethane	1.37	0.0268	1.340	0	102	51.9	131				
n-Propylbenzene	1.33	0.0268	1.340	0	99.5	53.6	140				
Bromobenzene	1.32	0.0402	1.340	0	98.5	54.2	140				
1,3,5-Trimethylbenzene	1.32	0.0268	1.340	0	98.2	51.8	136				
2-Chlorotoluene	1.33	0.0268	1.340	0	98.9	51.6	136				
4-Chlorotoluene	1.34	0.0268	1.340	0	99.8	50.1	139				
tert-Butylbenzene	1.32	0.0268	1.340	0	98.8	50.5	135				
1,2,3-Trichloropropane	1.31	0.0268	1.340	0	98.1	50.5	131				

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607216-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MW-7-5** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582243**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	1.20	0.0670	1.340	0	89.6	50.8	130				
sec-Butylbenzene	1.34	0.0268	1.340	0	100	52.6	141				
4-Isopropyltoluene	1.31	0.0268	1.340	0	97.5	52.9	134				
1,3-Dichlorobenzene	1.30	0.0268	1.340	0	97.0	52.6	131				
1,4-Dichlorobenzene	1.32	0.0268	1.340	0	98.3	52.9	129				
n-Butylbenzene	1.30	0.0268	1.340	0	97.2	52.6	130				
1,2-Dichlorobenzene	1.31	0.0268	1.340	0	97.5	55.8	129				
1,2-Dibromo-3-chloropropane	1.21	0.670	1.340	0	90.6	40.5	131				
1,2,4-Trimethylbenzene	1.31	0.0268	1.340	0	97.8	50.6	137				
Hexachlorobutadiene	1.24	0.134	1.340	0	92.3	40.6	158				
Naphthalene	1.19	0.0402	1.340	0	88.8	52.3	124				
1,2,3-Trichlorobenzene	1.24	0.0268	1.340	0	92.7	54.4	124				
Surr: Dibromofluoromethane	1.81		1.675		108	56.5	129				
Surr: Toluene-d8	1.66		1.675		99.3	64.3	131				
Surr: 1-Bromo-4-fluorobenzene	1.74		1.675		104	63.1	141				

NOTES:
S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607216-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MW-7-5** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582244**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	2.04	0.0804	1.340	0	152	43.5	121	2.004	1.69	30	S
Chloromethane	1.62	0.0804	1.340	0	121	45	130	1.562	3.46	30	
Vinyl chloride	1.60	0.00268	1.340	0	120	51.2	146	1.549	3.53	30	
Bromomethane	1.81	0.121	1.340	0	135	21.3	120	1.816	0.0738	30	S
Trichlorofluoromethane (CFC-11)	2.30	0.0670	1.340	0	171	35	131	2.229	2.93	30	S
Chloroethane	1.87	0.0804	1.340	0	140	43.8	117	1.824	2.57	30	S
1,1-Dichloroethene	1.47	0.0670	1.340	0	109	61.9	141	1.393	5.20	30	
Methylene chloride	1.49	0.0268	1.340	0	111	54.7	142	1.428	4.41	30	

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607216-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MW-7-5** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582244**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	1.35	0.0268	1.340	0	101	52	136	1.269	6.49	30	
Methyl tert-butyl ether (MTBE)	1.30	0.0670	1.340	0	96.6	54.4	132	1.223	5.75	30	
1,1-Dichloroethane	1.40	0.0268	1.340	0	105	51.8	141	1.352	3.84	30	
2,2-Dichloropropane	1.06	0.0670	1.340	0	79.3	36	123	0.9879	7.32	30	Q
cis-1,2-Dichloroethene	1.35	0.0268	1.340	0	101	58.6	136	1.314	2.82	30	
Chloroform	1.39	0.0268	1.340	0	103	53.2	129	1.342	3.24	30	
1,1,1-Trichloroethane (TCA)	1.25	0.0268	1.340	0	93.2	58.3	145	1.161	7.40	30	
1,1-Dichloropropene	1.33	0.0268	1.340	0	99.3	55.1	138	1.285	3.59	30	
Carbon tetrachloride	1.42	0.0268	1.340	0	106	53.3	144	1.286	9.95	30	
1,2-Dichloroethane (EDC)	1.38	0.0402	1.340	0	103	51.3	139	1.324	3.92	30	
Benzene	1.33	0.0268	1.340	0	99.1	63.5	133	1.266	4.86	30	
Trichloroethene (TCE)	1.31	0.0268	1.340	0	97.5	68.6	132	1.245	4.83	30	
1,2-Dichloropropane	1.34	0.0268	1.340	0	99.8	59	136	1.285	4.04	30	
Bromodichloromethane	1.40	0.0268	1.340	0	104	50.7	141	1.326	5.36	30	
Dibromomethane	1.40	0.0536	1.340	0	104	50.6	137	1.347	3.57	30	
cis-1,3-Dichloropropene	1.29	0.0268	1.340	0	96.3	50.4	138	1.224	5.38	30	
Toluene	1.35	0.0268	1.340	0	101	63.4	132	1.236	8.71	30	
trans-1,3-Dichloropropylene	1.27	0.0402	1.340	0	94.5	44.1	147	1.179	7.18	30	
1,1,2-Trichloroethane	1.42	0.0402	1.340	0	106	51.6	137	1.369	3.93	30	
1,3-Dichloropropane	1.40	0.0670	1.340	0	105	53.1	134	1.344	4.20	30	
Tetrachloroethene (PCE)	1.30	0.0268	1.340	0	97.3	35.6	158	1.291	1.08	30	
Dibromochloromethane	1.43	0.0402	1.340	0	106	55.3	140	1.365	4.37	30	
1,2-Dibromoethane (EDB)	1.41	0.00670	1.340	0	105	50.4	136	1.344	4.72	30	
Chlorobenzene	1.34	0.0268	1.340	0	100	60	133	1.298	3.40	30	
1,1,1,2-Tetrachloroethane	1.35	0.0402	1.340	0	100	53.1	142	1.273	5.53	30	
Ethylbenzene	1.31	0.0402	1.340	0	97.6	54.5	134	1.264	3.44	30	
m,p-Xylene	2.70	0.0268	2.681	0	101	53.1	132	2.578	4.55	30	
o-Xylene	1.33	0.0268	1.340	0	99.1	53.3	139	1.283	3.49	30	
Styrene	1.35	0.0268	1.340	0	101	51.1	132	1.303	3.44	30	
Isopropylbenzene	1.34	0.107	1.340	0	100	58.9	138	1.289	3.97	30	
Bromoform	1.43	0.0268	1.340	0	106	57.9	130	1.360	4.86	30	

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607216-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **MW-7-5** Batch ID: **14376** Analysis Date: **7/27/2016** SeqNo: **582244**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	1.44	0.0268	1.340	0	107	51.9	131	1.373	4.58	30	
n-Propylbenzene	1.38	0.0268	1.340	0	103	53.6	140	1.334	3.26	30	
Bromobenzene	1.38	0.0402	1.340	0	103	54.2	140	1.321	4.42	30	
1,3,5-Trimethylbenzene	1.36	0.0268	1.340	0	101	51.8	136	1.316	2.96	30	
2-Chlorotoluene	1.37	0.0268	1.340	0	102	51.6	136	1.326	3.48	30	
4-Chlorotoluene	1.39	0.0268	1.340	0	103	50.1	139	1.338	3.44	30	
tert-Butylbenzene	1.37	0.0268	1.340	0	102	50.5	135	1.324	3.29	30	
1,2,3-Trichloropropane	1.30	0.0268	1.340	0	97.0	50.5	131	1.315	1.08	30	
1,2,4-Trichlorobenzene	1.26	0.0670	1.340	0	94.0	50.8	130	1.201	4.79	30	
sec-Butylbenzene	1.39	0.0268	1.340	0	103	52.6	141	1.341	3.39	30	
4-Isopropyltoluene	1.35	0.0268	1.340	0	101	52.9	134	1.308	3.43	30	
1,3-Dichlorobenzene	1.35	0.0268	1.340	0	100	52.6	131	1.300	3.44	30	
1,4-Dichlorobenzene	1.37	0.0268	1.340	0	102	52.9	129	1.318	3.55	30	
n-Butylbenzene	1.35	0.0268	1.340	0	101	52.6	130	1.304	3.44	30	
1,2-Dichlorobenzene	1.35	0.0268	1.340	0	101	55.8	129	1.308	3.43	30	
1,2-Dibromo-3-chloropropane	1.30	0.670	1.340	0	96.7	40.5	131	1.214	6.51	30	
1,2,4-Trimethylbenzene	1.36	0.0268	1.340	0	101	50.6	137	1.312	3.27	30	
Hexachlorobutadiene	1.28	0.134	1.340	0	95.3	40.6	158	1.238	3.14	30	
Naphthalene	1.28	0.0402	1.340	0	95.2	52.3	124	1.190	6.96	30	
1,2,3-Trichlorobenzene	1.30	0.0268	1.340	0	96.7	54.4	124	1.243	4.17	30	
Surr: Dibromofluoromethane	1.82		1.675		109	56.5	129		0		
Surr: Toluene-d8	1.66		1.675		99.1	64.3	131		0		
Surr: 1-Bromo-4-fluorobenzene	1.73		1.675		103	63.1	141		0		

NOTES:
S - Outlying QC recoveries were associated with this sample. The method is in control as indicated by the LCS.
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607237-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **BATCH** Batch ID: **14376** Analysis Date: **7/28/2016** SeqNo: **582246**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0689						0		30	
Chloromethane	ND	0.0689						0		30	
Vinyl chloride	ND	0.00230						0		30	
Bromomethane	ND	0.103						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0574						0		30	
Chloroethane	ND	0.0689						0		30	
1,1-Dichloroethene	ND	0.0574						0		30	
Methylene chloride	ND	0.0230						0		30	
trans-1,2-Dichloroethene	ND	0.0230						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0574						0		30	
1,1-Dichloroethane	ND	0.0230						0		30	
2,2-Dichloropropane	ND	0.0574						0		30	Q
cis-1,2-Dichloroethene	ND	0.0230						0		30	
Chloroform	ND	0.0230						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0230						0		30	
1,1-Dichloropropene	ND	0.0230						0		30	
Carbon tetrachloride	ND	0.0230						0		30	
1,2-Dichloroethane (EDC)	ND	0.0344						0		30	
Benzene	ND	0.0230						0		30	
Trichloroethene (TCE)	ND	0.0230						0		30	
1,2-Dichloropropane	ND	0.0230						0		30	
Bromodichloromethane	ND	0.0230						0		30	
Dibromomethane	ND	0.0459						0		30	
cis-1,3-Dichloropropene	ND	0.0230						0		30	
Toluene	ND	0.0230						0		30	
trans-1,3-Dichloropropylene	ND	0.0344						0		30	
1,1,2-Trichloroethane	ND	0.0344						0		30	
1,3-Dichloropropane	ND	0.0574						0		30	
Tetrachloroethene (PCE)	ND	0.0230						0		30	
Dibromochloromethane	ND	0.0344						0		30	
1,2-Dibromoethane (EDB)	ND	0.00574						0		30	

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607237-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/27/2016** RunNo: **30845**
Client ID: **BATCH** Batch ID: **14376** Analysis Date: **7/28/2016** SeqNo: **582246**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	ND	0.0230						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0344						0		30	
Ethylbenzene	ND	0.0344						0		30	
m,p-Xylene	ND	0.0230						0		30	
o-Xylene	ND	0.0230						0		30	
Styrene	ND	0.0230						0		30	
Isopropylbenzene	ND	0.0918						0		30	
Bromoform	ND	0.0230						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0230						0		30	
n-Propylbenzene	ND	0.0230						0		30	
Bromobenzene	ND	0.0344						0		30	
1,3,5-Trimethylbenzene	ND	0.0230						0		30	
2-Chlorotoluene	ND	0.0230						0		30	
4-Chlorotoluene	ND	0.0230						0		30	
tert-Butylbenzene	ND	0.0230						0		30	
1,2,3-Trichloropropane	ND	0.0230						0		30	
1,2,4-Trichlorobenzene	ND	0.0574						0		30	
sec-Butylbenzene	ND	0.0230						0		30	
4-Isopropyltoluene	ND	0.0230						0		30	
1,3-Dichlorobenzene	ND	0.0230						0		30	
1,4-Dichlorobenzene	ND	0.0230						0		30	
n-Butylbenzene	ND	0.0230						0		30	
1,2-Dichlorobenzene	ND	0.0230						0		30	
1,2-Dibromo-3-chloropropane	ND	0.574						0		30	
1,2,4-Trimethylbenzene	ND	0.0230						0		30	
Hexachlorobutadiene	ND	0.115						0		30	
Naphthalene	ND	0.0344						0		30	
1,2,3-Trichlorobenzene	ND	0.0230						0		30	
Surr: Dibromofluoromethane	1.43		1.435		99.8	56.5	129		0		
Surr: Toluene-d8	1.49		1.435		104	64.3	131		0		
Surr: 1-Bromo-4-fluorobenzene	1.41		1.435		98.4	63.1	141		0		

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	**1607237-001BDUP**	SampType:	**DUP**			Units:	**mg/Kg-dry**	Prep Date:	**7/27/2016**		RunNo:	**30845**
Client ID:	**BATCH**	Batch ID:	**14376**					Analysis Date:	**7/28/2016**		SeqNo:	**582246**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Date: *7/28/2016*

Work Order: 1607216
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID **1607109-003ADUP** SampType: **DUP** Units: **wt%** Prep Date: **7/22/2016** RunNo: **30721**
Client ID: **BATCH** Batch ID: **R30721** Analysis Date: **7/22/2016** SeqNo: **579613**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	21.9	0.500						22.06	0.617	20	

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1607216**
Logged by:	**Erica Silva**	Date Received:	**7/21/2016 2:26:00 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 ☐
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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	9.7
Sample	2.3

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N. Tel: 206-352-3790
Seattle, WA 98103 Fax: 206-352-7178

Date: 7/21/16

Laboratory Project No (internal): 1607216

Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave. Suite 1358
City, State, Zip: Seattle WA, 98161
Telephone: (206) 529-3980 Fax: (206) 529-3985

Project Name: Lake Stevens Marketplace
Project No: 1246.034.03 Collected by: Chris DeBoer
Location: Lake Stevens WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	MW-5-7.5	7/20/16	1010	S	X												
2	MW-6-5	7/21/16	840	S	X												
3	MW-7-5	7/21/16	1100	S	X												
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Chris DeBoer 7/21/16

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	7/21/16 1426	x	7/21/16 1426
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

MEMORANDUM

TO: Project File **DATE:** August 9, 2016

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.03.002

TASK: July 20-21, 2016 Soil Samples

LAB: Fremont Analytical Service Request No. 1607216

Three soil samples were collected at the Lake Stevens Marketplace Site in Snohomish County on July 20-21, 2016. The samples were collected as part of a Limited Phase II Investigation at the Site. The samples were delivered to Fremont Analytical (Fremont) of Seattle, Washington for laboratory analysis. Samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C. The results were reported in Fremont Lab Package 1607216.

The Limited Phase II Investigation occurred in July of 2016 and associated sample data are reported in FA Project Number 1607216 along with FA Project numbers 1607053,1607054, and 1607063. The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Sample Receipt, Preservation and Handling

The samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols. Review of Fremont's Sample Log-In Check List Form indicates that all samples were received in good condition at a cooler temperature of 9.7 degrees Centigrade (°C) and samples in the cooler were recorded at a temperature of 2.3°C within the recommended preservation temperature range of 4.0°C ± 2.0°C. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Holding Times

USEPA Method 8260C (VOCs):
All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (soils) from the data of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. **Case narrative notes and qualifiers indicate that either initial or continuing calibration criteria was not met for 2,2-dichloropropane. Fremont was contacted for more information. Continuing calibration %D was slightly below Fremont's control limit criteria at 77.5%. All associated 2,2-dichloropropane results are all non-detect and qualified as estimated (UJ).**

Method Blank Results

USEPA Method 8260C (VOCs):
Laboratory method blank for soil was included with the analytical batch per method requirement. The target analytes were not detected in the method blank for soil at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

USEPA Method 8260C (VOCs):
No trip blank was collected. No action was taken other than to note this.

Field, Rinsate, or Equipment Blank Results

USEPA Method 8260C (VOCs):
Field, rinsate, or equipment blanks were not collected.

Laboratory Duplicate Analyses

USEPA Method 8260C (VOCs):
Laboratory duplicate analysis was performed on a non-client soil sample within the analytical batch. The primary/duplicate RPDs were within the laboratory control limit of 30%. Duplicate data are acceptable.

Field Duplicate Analyses

USEPA Method 8260C (VOCs):
Soil field duplicate sample was not collected. Refer laboratory duplicate and matrix spike results for precision data.

Surrogate Recoveries

USEPA Method 8260C (VOCs):
The surrogate recovery results for the sample, laboratory duplicate, laboratory control sample, matrix spike/matrix spike duplicate, and the method blank were within the laboratory surrogate control limits for all of the analyses.

Matrix Spike/ Matrix Spike Duplicates

USEPA Method 8260C (VOCs):
A matrix spike and matrix spike duplicate (MS/MSD) analysis was performed on soil sample MW-7-5. One MS is required for each sample event (maximum of 20 samples in a group); therefore, the MS analysis meets this required frequency. The MS/MSD percent recoveries (%Rs) and RPDs for all 8260C target analytes were within the laboratory control criteria with the following exceptions:

> MS/MSD % R's for dichlorodifluoromethane (CFC-12), bromomethane, chloromethane, and trichlorofluoromethane (CFC-11) were elevated and above FA's control limit criteria. No action is taken in this case since these compounds were not detected in sample MW-7-5.

Laboratory Control Samples

USEPA Method 8260C (VOCs):
Laboratory control sample (LCS) analysis was performed along with the analytical batch. The LCS %Rs for the control analytes (VOCs) were within the laboratory control criteria for soil with the following exceptions:

> Three compounds dichlorodifluoromethane (CFC-12), chloromethane, and trichlorofluoromethane (CFC-11) were recovered above laboratory control limit criteria. These compounds were not detected in associated samples so no action was required.

Quantitation Limits

Results of all analyses were reported based on standard laboratory MRLs. The reported MRLs are considered appropriate for this project. No data qualifiers were warranted based upon standard or dilution-elevated detection limits.

Completeness

The samples were collected and analyzed as requested. The results in all cases were reported based upon standard Method Reporting Limits (MRLs). Data completeness is 100%.

Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999)

Data qualifiers were assigned and laboratory report pages with qualifiers are attached. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Brian O'Neal
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Lake Stevens Marketplace
Lab ID: 1607286

August 02, 2016

Attention Brian O'Neal:

Fremont Analytical, Inc. received 10 sample(s) on 7/26/2016 for the analyses presented in the following report.

Mercury by EPA Method 7471
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260C

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,

Chelsea Ward
Project Manager

Date: *08/02/2016*

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab Order: 1607286

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1607286-001	Drum-S-072616	07/26/2016 6:50 AM	07/26/2016 2:09 PM
1607286-002	MW-1-072616	07/26/2016 7:40 AM	07/26/2016 2:09 PM
1607286-003	MW-6-072616	07/26/2016 8:40 AM	07/26/2016 2:09 PM
1607286-004	MW-7-072616	07/26/2016 9:35 AM	07/26/2016 2:09 PM
1607286-005	Drum-W-072616	07/26/2016 9:50 AM	07/26/2016 2:09 PM
1607286-006	MW-3-072616	07/26/2016 10:35 AM	07/26/2016 2:09 PM
1607286-007	MW-4-072616	07/26/2016 11:35 AM	07/26/2016 2:09 PM
1607286-008	MW-2-072616	07/26/2016 12:30 PM	07/26/2016 2:09 PM
1607286-009	MW-5-072616	07/26/2016 1:30 PM	07/26/2016 2:09 PM
1607286-010	Trip Blank	07/25/2016 10:39 AM	07/26/2016 2:09 PM

Case Narrative

WO#: **1607286**
Date: **8/2/2016**

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below 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

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 6:50:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-001
Matrix: Soil
Client Sample ID: **Drum-S-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 14415		Analyst: MW
Mercury	ND	0.249		mg/Kg-dry	1	8/1/2016 2:31:34 PM
Total Metals by EPA Method 6020				Batch ID: 14398		Analyst: TN
Arsenic	2.62	0.0857		mg/Kg-dry	1	7/29/2016 3:23:04 PM
Barium	27.4	0.428		mg/Kg-dry	1	7/29/2016 3:23:04 PM
Cadmium	ND	0.171		mg/Kg-dry	1	7/29/2016 3:23:04 PM
Chromium	23.6	0.0857		mg/Kg-dry	1	7/29/2016 3:23:04 PM
Lead	6.79	0.171		mg/Kg-dry	1	7/29/2016 3:23:04 PM
Selenium	1.53	0.428		mg/Kg-dry	1	7/29/2016 3:23:04 PM
Silver	ND	0.0857		mg/Kg-dry	1	7/29/2016 3:23:04 PM
Sample Moisture (Percent Moisture)				Batch ID: R30817		Analyst: ME
Percent Moisture	8.82			wt%	1	7/27/2016 8:12:33 AM

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 7:40:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-002
Matrix: Water
Client Sample ID: **MW-1-072616**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14381 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Chloromethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Vinyl chloride	ND	0.200		µg/L	1	7/28/2016 9:28:12 PM
Bromomethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/28/2016 9:28:12 PM
Chloroethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Methylene chloride	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/28/2016 9:28:12 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Chloroform	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Benzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/28/2016 9:28:12 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Dibromomethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Toluene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/28/2016 9:28:12 PM
Chlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Ethylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
m,p-Xylene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
o-Xylene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Styrene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Isopropylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Bromoform	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 7:40:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-002
Matrix: Water
Client Sample ID: **MW-1-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
n-Propylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Bromobenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
tert-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/28/2016 9:28:12 PM
sec-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
n-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/28/2016 9:28:12 PM
Naphthalene	ND	1.00		µg/L	1	7/28/2016 9:28:12 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/28/2016 9:28:12 PM
Surr: Dibromofluoromethane	96.1	45.4-152		%Rec	1	7/28/2016 9:28:12 PM
Surr: Toluene-d8	93.6	40.1-139		%Rec	1	7/28/2016 9:28:12 PM
Surr: 1-Bromo-4-fluorobenzene	95.1	64.2-128		%Rec	1	7/28/2016 9:28:12 PM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: PES Environmental, Inc. **Collection Date:** 7/26/2016 8:40:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-003 **Matrix:** Water
Client Sample ID: **MW-6-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Chloromethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Vinyl chloride	ND	0.200		µg/L	1	7/28/2016 9:58:49 PM
Bromomethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/28/2016 9:58:49 PM
Chloroethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Methylene chloride	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/28/2016 9:58:49 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Chloroform	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Benzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/28/2016 9:58:49 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Dibromomethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Toluene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Tetrachloroethene (PCE)	1.68	1.00		µg/L	1	7/28/2016 9:58:49 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/28/2016 9:58:49 PM
Chlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Ethylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
m,p-Xylene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
o-Xylene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Styrene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Isopropylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Bromoform	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 8:40:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-003
Matrix: Water
Client Sample ID: **MW-6-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
n-Propylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Bromobenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
tert-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/28/2016 9:58:49 PM
sec-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
n-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/28/2016 9:58:49 PM
Naphthalene	ND	1.00		µg/L	1	7/28/2016 9:58:49 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/28/2016 9:58:49 PM
Surr: Dibromofluoromethane	95.7	45.4-152		%Rec	1	7/28/2016 9:58:49 PM
Surr: Toluene-d8	92.6	40.1-139		%Rec	1	7/28/2016 9:58:49 PM
Surr: 1-Bromo-4-fluorobenzene	96.1	64.2-128		%Rec	1	7/28/2016 9:58:49 PM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: PES Environmental, Inc. **Collection Date:** 7/26/2016 9:35:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-004 **Matrix:** Water
Client Sample ID: **MW-7-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Chloromethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Vinyl chloride	ND	0.200		µg/L	1	7/28/2016 10:29:25 PM
Bromomethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/28/2016 10:29:25 PM
Chloroethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Methylene chloride	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/28/2016 10:29:25 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Chloroform	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Carbon tetrachloride	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Benzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/28/2016 10:29:25 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Bromodichloromethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Dibromomethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Toluene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Tetrachloroethene (PCE)	43.5	1.00		µg/L	1	7/28/2016 10:29:25 PM
Dibromochloromethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/28/2016 10:29:25 PM
Chlorobenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Ethylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
m,p-Xylene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
o-Xylene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Styrene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Isopropylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Bromoform	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 9:35:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-004
Matrix: Water
Client Sample ID: **MW-7-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
n-Propylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Bromobenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
2-Chlorotoluene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
4-Chlorotoluene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
tert-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/28/2016 10:29:25 PM
sec-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
n-Butylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/28/2016 10:29:25 PM
Naphthalene	ND	1.00		µg/L	1	7/28/2016 10:29:25 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/28/2016 10:29:25 PM
Surr: Dibromofluoromethane	95.3	45.4-152		%Rec	1	7/28/2016 10:29:25 PM
Surr: Toluene-d8	93.3	40.1-139		%Rec	1	7/28/2016 10:29:25 PM
Surr: 1-Bromo-4-fluorobenzene	95.4	64.2-128		%Rec	1	7/28/2016 10:29:25 PM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 9:50:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-005
Matrix: Wastewater
Client Sample ID: **Drum-W-072616**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14381 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Chloromethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Vinyl chloride	ND	0.200		µg/L	1	7/29/2016 12:31:41 AM
Bromomethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/29/2016 12:31:41 AM
Chloroethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Methylene chloride	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/29/2016 12:31:41 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Chloroform	2.00	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Carbon tetrachloride	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Benzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/29/2016 12:31:41 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Bromodichloromethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Dibromomethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Toluene	13.2	1.00		µg/L	1	7/29/2016 12:31:41 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Dibromochloromethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/29/2016 12:31:41 AM
Chlorobenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Ethylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
m,p-Xylene	1.19	1.00		µg/L	1	7/29/2016 12:31:41 AM
o-Xylene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Styrene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Isopropylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Bromoform	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 9:50:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-005
Matrix: Wastewater
Client Sample ID: **Drum-W-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Bromobenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
2-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
4-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
tert-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/29/2016 12:31:41 AM
sec-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
n-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/29/2016 12:31:41 AM
Naphthalene	ND	1.00		µg/L	1	7/29/2016 12:31:41 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/29/2016 12:31:41 AM
Surr: Dibromofluoromethane	94.8	45.4-152		%Rec	1	7/29/2016 12:31:41 AM
Surr: Toluene-d8	93.4	40.1-139		%Rec	1	7/29/2016 12:31:41 AM
Surr: 1-Bromo-4-fluorobenzene	96.3	64.2-128		%Rec	1	7/29/2016 12:31:41 AM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: PES Environmental, Inc. **Collection Date:** 7/26/2016 10:35:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-006 **Matrix:** Water
Client Sample ID: **MW-3-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
Dichlorodifluoromethane (CFC-12)	14.7	1.00		µg/L	1	7/29/2016 1:02:18 AM
Chloromethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Vinyl chloride	ND	0.200		µg/L	1	7/29/2016 1:02:18 AM
Bromomethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/29/2016 1:02:18 AM
Chloroethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Methylene chloride	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/29/2016 1:02:18 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Chloroform	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Carbon tetrachloride	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Benzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/29/2016 1:02:18 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Bromodichloromethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Dibromomethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Toluene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Dibromochloromethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/29/2016 1:02:18 AM
Chlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Ethylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
m,p-Xylene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
o-Xylene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Styrene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Isopropylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Bromoform	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 10:35:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-006
Matrix: Water
Client Sample ID: **MW-3-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Bromobenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
2-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
4-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
tert-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/29/2016 1:02:18 AM
sec-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
n-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/29/2016 1:02:18 AM
Naphthalene	ND	1.00		µg/L	1	7/29/2016 1:02:18 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/29/2016 1:02:18 AM
Surr: Dibromofluoromethane	94.5	45.4-152		%Rec	1	7/29/2016 1:02:18 AM
Surr: Toluene-d8	91.8	40.1-139		%Rec	1	7/29/2016 1:02:18 AM
Surr: 1-Bromo-4-fluorobenzene	95.8	64.2-128		%Rec	1	7/29/2016 1:02:18 AM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: PES Environmental, Inc. **Collection Date:** 7/26/2016 11:35:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-007 **Matrix:** Water
Client Sample ID: **MW-4-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
Dichlorodifluoromethane (CFC-12)	1.13	1.00		µg/L	1	7/29/2016 1:32:50 AM
Chloromethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Vinyl chloride	ND	0.200		µg/L	1	7/29/2016 1:32:50 AM
Bromomethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/29/2016 1:32:50 AM
Chloroethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Methylene chloride	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/29/2016 1:32:50 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Chloroform	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Carbon tetrachloride	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Benzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/29/2016 1:32:50 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Bromodichloromethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Dibromomethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Toluene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Dibromochloromethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/29/2016 1:32:50 AM
Chlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Ethylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
m,p-Xylene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
o-Xylene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Styrene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Isopropylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Bromoform	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 11:35:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1607286-007
Matrix: Water
Client Sample ID: **MW-4-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Bromobenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
2-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
4-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
tert-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/29/2016 1:32:50 AM
sec-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
n-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/29/2016 1:32:50 AM
Naphthalene	ND	1.00		µg/L	1	7/29/2016 1:32:50 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/29/2016 1:32:50 AM
Surr: Dibromofluoromethane	94.9	45.4-152		%Rec	1	7/29/2016 1:32:50 AM
Surr: Toluene-d8	92.3	40.1-139		%Rec	1	7/29/2016 1:32:50 AM
Surr: 1-Bromo-4-fluorobenzene	94.4	64.2-128		%Rec	1	7/29/2016 1:32:50 AM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: PES Environmental, Inc. **Collection Date:** 7/26/2016 12:30:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1607286-008 **Matrix:** Water
Client Sample ID: MW-2-072616

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Chloromethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Vinyl chloride	ND	0.200		µg/L	1	7/29/2016 2:03:28 AM
Bromomethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/29/2016 2:03:28 AM
Chloroethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Methylene chloride	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/29/2016 2:03:28 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Chloroform	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Carbon tetrachloride	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Benzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/29/2016 2:03:28 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Bromodichloromethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Dibromomethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Toluene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Tetrachloroethene (PCE)	128	10.0	D	µg/L	10	8/2/2016 7:54:31 AM
Dibromochloromethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/29/2016 2:03:28 AM
Chlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Ethylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
m,p-Xylene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
o-Xylene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Styrene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Isopropylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Bromoform	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 12:30:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1607286-008
Matrix: Water
Client Sample ID: **MW-2-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Bromobenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
2-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
4-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
tert-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/29/2016 2:03:28 AM
sec-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
n-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/29/2016 2:03:28 AM
Naphthalene	ND	1.00		µg/L	1	7/29/2016 2:03:28 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/29/2016 2:03:28 AM
Surr: Dibromofluoromethane	94.3	45.4-152		%Rec	1	7/29/2016 2:03:28 AM
Surr: Toluene-d8	92.5	40.1-139		%Rec	1	7/29/2016 2:03:28 AM
Surr: 1-Bromo-4-fluorobenzene	94.3	64.2-128		%Rec	1	7/29/2016 2:03:28 AM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: PES Environmental, Inc. **Collection Date:** 7/26/2016 1:30:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1607286-009 **Matrix:** Water
Client Sample ID: **MW-5-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Chloromethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Vinyl chloride	ND	0.200		µg/L	1	7/29/2016 2:33:59 AM
Bromomethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Trichlorofluoromethane (CFC-11)	ND	1.00	Q	µg/L	1	7/29/2016 2:33:59 AM
Chloroethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Methylene chloride	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	7/29/2016 2:33:59 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Chloroform	1.88	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Carbon tetrachloride	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Benzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/29/2016 2:33:59 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Bromodichloromethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Dibromomethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Toluene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Dibromochloromethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	7/29/2016 2:33:59 AM
Chlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Ethylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
m,p-Xylene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
o-Xylene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Styrene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Isopropylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Bromoform	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM

Analytical Report

WO#: **1607286**
Date Reported: **8/2/2016**

Client: PES Environmental, Inc.
Collection Date: 7/26/2016 1:30:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1607286-009
Matrix: Water
Client Sample ID: **MW-5-072616**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 14381		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
n-Propylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Bromobenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
2-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
4-Chlorotoluene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
tert-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	7/29/2016 2:33:59 AM
sec-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
n-Butylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	7/29/2016 2:33:59 AM
Naphthalene	ND	1.00		µg/L	1	7/29/2016 2:33:59 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	7/29/2016 2:33:59 AM
Surr: Dibromofluoromethane	96.2	45.4-152		%Rec	1	7/29/2016 2:33:59 AM
Surr: Toluene-d8	92.8	40.1-139		%Rec	1	7/29/2016 2:33:59 AM
Surr: 1-Bromo-4-fluorobenzene	96.2	64.2-128		%Rec	1	7/29/2016 2:33:59 AM

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **MB-14398** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/29/2016** RunNo: **30890**
Client ID: **MBLKS** Batch ID: **14398** Analysis Date: **7/29/2016** SeqNo: **583144**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0763									
Barium	ND	0.382									
Cadmium	ND	0.153									
Chromium	ND	0.0763									
Lead	ND	0.153									
Selenium	ND	0.382									
Silver	ND	0.0763									

Sample ID **LCS-14398** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/29/2016** RunNo: **30890**
Client ID: **LCSS** Batch ID: **14398** Analysis Date: **7/29/2016** SeqNo: **583145**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.7	0.0787	39.37	0	101	80	120				
Barium	39.1	0.394	39.37	0	99.4	80	120				
Cadmium	2.06	0.157	1.969	0	105	80	120				
Chromium	41.6	0.0787	39.37	0	106	80	120				
Lead	20.6	0.157	19.69	0	105	80	120				
Selenium	3.93	0.394	3.937	0	99.8	80	120				
Silver	2.12	0.0787	1.969	0	107	80	120				

Sample ID **1607192-006ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/29/2016** RunNo: **30890**
Client ID: **BATCH** Batch ID: **14398** Analysis Date: **7/29/2016** SeqNo: **583149**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	3.23	0.0908						2.766	15.6	20	
Barium	49.5	0.454						46.08	7.17	20	
Cadmium	ND	0.182						0		20	
Chromium	41.0	0.0908						36.52	11.6	20	
Lead	2.51	0.182						2.689	7.06	20	
Selenium	1.03	0.454						1.082	5.09	20	

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1607192-006ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/29/2016** RunNo: **30890**
Client ID: **BATCH** Batch ID: **14398** Analysis Date: **7/29/2016** SeqNo: **583149**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.0908						0		20	

Sample ID **1607192-006AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/29/2016** RunNo: **30890**
Client ID: **BATCH** Batch ID: **14398** Analysis Date: **7/29/2016** SeqNo: **583151**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.6	0.0908	45.41	2.766	108	75	125				
Barium	117	0.454	45.41	46.08	155	75	125				S
Cadmium	2.25	0.182	2.270	0.07799	95.7	75	125				
Chromium	104	0.0908	45.41	36.52	149	75	125				S
Lead	26.7	0.182	22.70	2.689	106	75	125				
Selenium	6.01	0.454	4.541	1.082	109	75	125				
Silver	2.12	0.0908	2.270	0.04334	91.6	75	125				

NOTES:
S - Outlying spike recovery observed (Cr). A duplicate analysis was performed with similar results indicating a possible matrix effect.
S - Outlying spike recovery observed (Ba). A duplicate analysis was performed and recovered within range.

Sample ID **1607192-006AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/29/2016** RunNo: **30890**
Client ID: **BATCH** Batch ID: **14398** Analysis Date: **7/29/2016** SeqNo: **583152**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	52.1	0.0908	45.41	2.766	109	75	125	51.60	0.918	20	
Barium	92.3	0.454	45.41	46.08	102	75	125	116.5	23.2	20	R
Cadmium	2.36	0.182	2.270	0.07799	101	75	125	2.250	4.80	20	
Chromium	94.6	0.0908	45.41	36.52	128	75	125	104.4	9.82	20	S
Lead	24.3	0.182	22.70	2.689	95.3	75	125	26.70	9.31	20	
Selenium	5.51	0.454	4.541	1.082	97.6	75	125	6.012	8.67	20	
Silver	2.19	0.0908	2.270	0.04334	94.5	75	125	2.122	3.05	20	

NOTES:
S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.
R - High RPD observed, spike recoveries are within range.

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1607192-006APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **7/29/2016** RunNo: **30890**
Client ID: **BATCH** Batch ID: **14398** Analysis Date: **7/29/2016** SeqNo: **583153**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.6	0.0901	45.0	2.77	108	80	120				
Barium	89.7	0.451	45.0	46.1	96.9	80	120				
Cadmium	2.25	0.180	2.25	0.0780	96.4	80	120				
Chromium	86.8	0.0901	45.0	36.5	112	80	120				
Lead	25.9	0.180	22.5	2.69	103	80	120				
Selenium	5.59	0.451	4.50	1.08	100	80	120				
Silver	2.29	0.0901	2.25	0.0433	99.7	80	120				

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID	**MB-14415**	SampType:	**MBLK**			Units:	**mg/Kg**	Prep Date:	**8/1/2016**		RunNo:	**30919**	
Client ID:	**MBLKS**	Batch ID:	**14415**					Analysis Date:	**8/1/2016**		SeqNo:	**583585**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.223										

Sample ID	**LCS-14415**	SampType:	**LCS**			Units:	**mg/Kg**	Prep Date:	**8/1/2016**		RunNo:	**30919**	
Client ID:	**LCSS**	Batch ID:	**14415**					Analysis Date:	**8/1/2016**		SeqNo:	**583586**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.441	0.216	0.4310	0	102	80	120					

Sample ID	**1607192-006ADUP**	SampType:	**DUP**			Units:	**mg/Kg-dry**	Prep Date:	**8/1/2016**		RunNo:	**30919**	
Client ID:	**BATCH**	Batch ID:	**14415**					Analysis Date:	**8/1/2016**		SeqNo:	**583588**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.257						0		20		

Sample ID	**1607192-006AMS**	SampType:	**MS**			Units:	**mg/Kg-dry**	Prep Date:	**8/1/2016**		RunNo:	**30919**	
Client ID:	**BATCH**	Batch ID:	**14415**					Analysis Date:	**8/1/2016**		SeqNo:	**583589**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.446	0.244	0.4887	0.008481	89.5	70	130					

Sample ID	**1607192-006AMSD**	SampType:	**MSD**			Units:	**mg/Kg-dry**	Prep Date:	**8/1/2016**		RunNo:	**30919**	
Client ID:	**BATCH**	Batch ID:	**14415**					Analysis Date:	**8/1/2016**		SeqNo:	**583590**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.519	0.272	0.5440	0.008481	93.8	70	130	0.4457	15.2	20		

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-14381** SampType: **MBLK** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **MBLKW** Batch ID: **14381** Analysis Date: **7/28/2016** SeqNo: **583091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									Q
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-14381** SampType: **MBLK** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **MBLKW** Batch ID: **14381** Analysis Date: **7/28/2016** SeqNo: **583091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	24.0		25.00		95.9	45.4	152				
Surr: Toluene-d8	23.4		25.00		93.4	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.1		25.00		96.6	64.2	128				

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-14381** SampType: **MBLK** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **MBLKW** Batch ID: **14381** Analysis Date: **7/28/2016** SeqNo: **583091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **LCS-14381** SampType: **LCS** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **LCSW** Batch ID: **14381** Analysis Date: **7/28/2016** SeqNo: **583092**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	21.4	1.00	20.00	0	107	43	136				
Chloromethane	18.0	1.00	20.00	0	90.2	43.9	139				
Vinyl chloride	17.0	0.200	20.00	0	85.0	53.6	139				
Bromomethane	20.6	1.00	20.00	0	103	42.5	152				
Trichlorofluoromethane (CFC-11)	16.2	1.00	20.00	0	81.0	56.4	143				Q
Chloroethane	19.0	1.00	20.00	0	94.8	53	141				
1,1-Dichloroethene	16.4	1.00	20.00	0	81.9	65.6	136				
Methylene chloride	17.2	1.00	20.00	0	86.1	67.1	131				
trans-1,2-Dichloroethene	16.8	1.00	20.00	0	84.2	71.7	129				
Methyl tert-butyl ether (MTBE)	19.5	1.00	20.00	0	97.6	67.7	131				
1,1-Dichloroethane	17.3	1.00	20.00	0	86.3	67.9	134				
2,2-Dichloropropane	20.4	2.00	20.00	0	102	33.7	152				
cis-1,2-Dichloroethene	17.0	1.00	20.00	0	85.2	71.1	130				
Chloroform	18.0	1.00	20.00	0	90.0	66.3	131				
1,1,1-Trichloroethane (TCA)	17.1	1.00	20.00	0	85.5	71	131				
1,1-Dichloropropene	16.9	1.00	20.00	0	84.4	69.9	124				
Carbon tetrachloride	17.7	1.00	20.00	0	88.6	66.2	134				
1,2-Dichloroethane (EDC)	17.2	1.00	20.00	0	85.9	68.8	123				
Benzene	20.0	1.00	20.00	0	99.8	69.3	132				
Trichloroethene (TCE)	17.4	0.500	20.00	0	87.0	65.2	136				
1,2-Dichloropropane	17.1	1.00	20.00	0	85.6	70.5	130				
Bromodichloromethane	17.4	1.00	20.00	0	87.0	67.2	137				
Dibromomethane	17.5	1.00	20.00	0	87.6	75.5	126				
cis-1,3-Dichloropropene	17.4	1.00	20.00	0	86.9	62.6	137				

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14381** SampType: **LCS** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **LCSW** Batch ID: **14381** Analysis Date: **7/28/2016** SeqNo: **583092**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	20.5	1.00	20.00	0	102	61.3	145				
trans-1,3-Dichloropropylene	16.8	1.00	20.00	0	84.2	58.5	142				
1,1,2-Trichloroethane	17.8	1.00	20.00	0	89.2	71.7	131				
1,3-Dichloropropane	17.5	1.00	20.00	0	87.6	73.5	127				
Tetrachloroethene (PCE)	17.2	1.00	20.00	0	86.2	47.5	147				
Dibromochloromethane	17.4	1.00	20.00	0	87.1	67.2	134				
1,2-Dibromoethane (EDB)	17.5	0.0600	20.00	0	87.5	73.6	125				
Chlorobenzene	18.0	1.00	20.00	0	90.0	73.9	126				
1,1,1,2-Tetrachloroethane	18.0	1.00	20.00	0	89.8	76.8	124				
Ethylbenzene	19.9	1.00	20.00	0	99.7	72	130				
m,p-Xylene	41.9	1.00	40.00	0	105	70.3	134				
o-Xylene	20.9	1.00	20.00	0	104	72.1	131				
Styrene	18.1	1.00	20.00	0	90.5	64.3	140				
Isopropylbenzene	17.5	1.00	20.00	0	87.3	73.9	128				
Bromoform	17.5	1.00	20.00	0	87.4	55.3	141				
1,1,2,2-Tetrachloroethane	17.9	1.00	20.00	0	89.4	62.9	132				
n-Propylbenzene	17.6	1.00	20.00	0	87.9	74.5	127				
Bromobenzene	17.7	1.00	20.00	0	88.6	71	131				
1,3,5-Trimethylbenzene	17.7	1.00	20.00	0	88.4	73.1	128				
2-Chlorotoluene	17.8	1.00	20.00	0	89.0	70.8	130				
4-Chlorotoluene	17.9	1.00	20.00	0	89.4	70.1	131				
tert-Butylbenzene	17.2	1.00	20.00	0	86.2	68.2	131				
1,2,3-Trichloropropane	18.1	1.00	20.00	0	90.7	67.7	131				
1,2,4-Trichlorobenzene	17.5	2.00	20.00	0	87.4	51.8	152				
sec-Butylbenzene	17.2	1.00	20.00	0	85.9	72	129				
4-Isopropyltoluene	17.5	1.00	20.00	0	87.4	69.2	130				
1,3-Dichlorobenzene	18.2	1.00	20.00	0	91.0	71	115				
1,4-Dichlorobenzene	18.1	1.00	20.00	0	90.3	66.8	119				
n-Butylbenzene	18.1	1.00	20.00	0	90.5	73.8	127				
1,2-Dichlorobenzene	18.3	1.00	20.00	0	91.7	69.7	119				
1,2-Dibromo-3-chloropropane	17.1	1.00	20.00	0	85.7	63.1	136				

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-14381** SampType: **LCS** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **LCSW** Batch ID: **14381** Analysis Date: **7/28/2016** SeqNo: **583092**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	18.0	1.00	20.00	0	90.3	73.4	127				
Hexachloro-1,3-butadiene	18.4	4.00	20.00	0	91.8	58.6	138				
Naphthalene	19.1	1.00	20.00	0	95.6	41.8	165				
1,2,3-Trichlorobenzene	18.0	4.00	20.00	0	90.3	48.7	156				
Surr: Dibromofluoromethane	24.6		25.00		98.4	45.4	152				
Surr: Toluene-d8	24.9		25.00		99.5	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.6		25.00		102	64.2	128				

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607283-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583795**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	Q
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607283-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583795**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607283-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583795**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	24.5		25.00		97.8	45.4	152		0		
Surr: Toluene-d8	23.8		25.00		95.2	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	22.5		25.00		89.8	64.2	128		0		

NOTES:
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607278-006AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583083**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	27.3	1.00	20.00	0	136	33.3	122				S
Chloromethane	21.1	1.00	20.00	0	106	48.2	145				
Vinyl chloride	20.8	0.200	20.00	0	104	58.1	158				
Bromomethane	22.8	1.00	20.00	0	114	31.5	135				
Trichlorofluoromethane (CFC-11)	19.9	1.00	20.00	0	99.7	54.7	138				
Chloroethane	22.6	1.00	20.00	0	113	49.9	143				
1,1-Dichloroethene	20.2	1.00	20.00	0	101	63	141				
Methylene chloride	18.8	1.00	20.00	0	93.9	61.6	135				
trans-1,2-Dichloroethene	18.8	1.00	20.00	0	94.1	63.5	138				
Methyl tert-butyl ether (MTBE)	20.0	1.00	20.00	0	100	60.9	132				

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607278-006AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583083**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	18.8	1.00	20.00	0	93.9	67.8	136				
2,2-Dichloropropane	8.44	2.00	20.00	0	42.2	31.5	121				Q
cis-1,2-Dichloroethene	18.3	1.00	20.00	0	91.3	67.1	123				
Chloroform	19.3	1.00	20.00	0	96.5	66.7	136				
1,1,1-Trichloroethane (TCA)	20.1	1.00	20.00	0	100	64.2	146				
1,1-Dichloropropene	19.9	1.00	20.00	0	99.4	73.8	136				
Carbon tetrachloride	20.8	1.00	20.00	0	104	62.7	146				
1,2-Dichloroethane (EDC)	18.6	1.00	20.00	0	93.2	63.4	137				
Benzene	21.4	1.00	20.00	2.600	94.0	65.4	138				
Trichloroethene (TCE)	19.6	0.500	20.00	0	98.2	60.4	134				
1,2-Dichloropropane	18.6	1.00	20.00	0	92.8	62.6	138				
Bromodichloromethane	18.7	1.00	20.00	0	93.4	59.4	139				
Dibromomethane	19.1	1.00	20.00	0	95.7	63.6	139				
cis-1,3-Dichloropropene	16.2	1.00	20.00	0	81.1	63.8	132				
Toluene	19.8	1.00	20.00	0.4100	96.9	64	139				
trans-1,3-Dichloropropylene	15.9	1.00	20.00	0	79.4	57.7	125				
1,1,2-Trichloroethane	19.0	1.00	20.00	0	94.9	59.4	127				
1,3-Dichloropropane	18.7	1.00	20.00	0	93.3	64.3	135				
Tetrachloroethene (PCE)	19.3	1.00	20.00	0	96.6	50.3	133				
Dibromochloromethane	18.6	1.00	20.00	0	93.2	61.6	139				
1,2-Dibromoethane (EDB)	19.0	0.0600	20.00	0	95.1	63.2	134				
Chlorobenzene	19.2	1.00	20.00	0	95.8	65.8	134				
1,1,1,2-Tetrachloroethane	19.3	1.00	20.00	0	96.6	65.4	135				
Ethylbenzene	19.5	1.00	20.00	0.6000	94.6	64.5	136				
m,p-Xylene	40.2	1.00	40.00	0.4300	99.3	63.3	135				
o-Xylene	19.4	1.00	20.00	0.1700	95.9	65.4	134				
Styrene	19.2	1.00	20.00	0	96.0	59.1	134				
Isopropylbenzene	19.7	1.00	20.00	0.2900	97.2	56	147				
Bromoform	18.8	1.00	20.00	0.4000	91.8	57.7	139				
1,1,2,2-Tetrachloroethane	19.3	1.00	20.00	0	96.7	59.8	146				
n-Propylbenzene	19.4	1.00	20.00	0.2000	96.0	57.6	142				

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607278-006AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583083**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	18.9	1.00	20.00	0	94.7	63.6	130				
1,3,5-Trimethylbenzene	19.3	1.00	20.00	0.1500	95.6	59.9	136				
2-Chlorotoluene	19.4	1.00	20.00	0.08000	96.9	61.7	134				
4-Chlorotoluene	19.2	1.00	20.00	0.08000	95.8	58.4	134				
tert-Butylbenzene	19.5	1.00	20.00	0	97.3	66.8	141				
1,2,3-Trichloropropane	18.6	1.00	20.00	0	93.0	62.4	129				
1,2,4-Trichlorobenzene	18.8	2.00	20.00	0	93.8	50.9	133				
sec-Butylbenzene	19.1	1.00	20.00	0.1500	95.0	56	146				
4-Isopropyltoluene	18.8	1.00	20.00	0.1500	93.1	56.4	136				
1,3-Dichlorobenzene	18.4	1.00	20.00	0	91.8	58.2	128				
1,4-Dichlorobenzene	19.3	1.00	20.00	0	96.6	60.1	123				
n-Butylbenzene	18.4	1.00	20.00	0.06000	91.7	54.6	135				
1,2-Dichlorobenzene	19.3	1.00	20.00	0	96.4	65.4	133				
1,2-Dibromo-3-chloropropane	19.0	1.00	20.00	0	94.8	51.8	142				
1,2,4-Trimethylbenzene	19.5	1.00	20.00	0.2500	96.3	63.7	132				
Hexachloro-1,3-butadiene	19.1	4.00	20.00	0	95.4	58.1	130				
Naphthalene	20.2	1.00	20.00	0.2500	99.7	54.5	132				
1,2,3-Trichlorobenzene	19.6	4.00	20.00	0	97.9	57	131				
Surr: Dibromofluoromethane	24.7		25.00		98.8	45.4	152				
Surr: Toluene-d8	24.8		25.00		99.0	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.0		25.00		104	64.2	128				

NOTES:
S - Outlying QC recoveries were observed. The method is in control as indicated by the LCS.
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1607278-006AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583084**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	26.0	1.00	20.00	0	130	33.3	122	27.27	4.88	30	S
Chloromethane	21.2	1.00	20.00	0	106	48.2	145	21.11	0.189	30	

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607278-006AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583084**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	20.2	0.200	20.00	0	101	58.1	158	20.82	2.78	30	
Bromomethane	22.7	1.00	20.00	0	113	31.5	135	22.85	0.703	30	
Trichlorofluoromethane (CFC-11)	19.4	1.00	20.00	0	97.2	54.7	138	19.93	2.54	30	
Chloroethane	21.7	1.00	20.00	0	109	49.9	143	22.64	4.19	30	
1,1-Dichloroethene	20.2	1.00	20.00	0	101	63	141	20.20	0.148	30	
Methylene chloride	18.7	1.00	20.00	0	93.5	61.6	135	18.78	0.480	30	
trans-1,2-Dichloroethene	18.7	1.00	20.00	0	93.7	63.5	138	18.81	0.373	30	
Methyl tert-butyl ether (MTBE)	19.9	1.00	20.00	0	99.7	60.9	132	20.03	0.501	30	
1,1-Dichloroethane	18.2	1.00	20.00	0	91.2	67.8	136	18.78	2.86	30	
2,2-Dichloropropane	7.46	2.00	20.00	0	37.3	31.5	121	8.440	12.3	30	Q
cis-1,2-Dichloroethene	17.6	1.00	20.00	0	87.9	67.1	123	18.26	3.85	30	
Chloroform	19.1	1.00	20.00	0	95.7	66.7	136	19.30	0.885	30	
1,1,1-Trichloroethane (TCA)	19.8	1.00	20.00	0	98.8	64.2	146	20.06	1.51	30	
1,1-Dichloropropene	19.3	1.00	20.00	0	96.7	73.8	136	19.87	2.70	30	
Carbon tetrachloride	20.0	1.00	20.00	0	100	62.7	146	20.78	3.63	30	
1,2-Dichloroethane (EDC)	18.1	1.00	20.00	0	90.4	63.4	137	18.64	3.05	30	
Benzene	21.5	1.00	20.00	2.600	94.6	65.4	138	21.40	0.559	30	
Trichloroethene (TCE)	19.4	0.500	20.00	0	97.0	60.4	134	19.65	1.28	30	
1,2-Dichloropropane	18.1	1.00	20.00	0	90.6	62.6	138	18.57	2.51	30	
Bromodichloromethane	18.5	1.00	20.00	0	92.6	59.4	139	18.68	0.860	30	
Dibromomethane	18.9	1.00	20.00	0	94.3	63.6	139	19.13	1.42	30	
cis-1,3-Dichloropropene	16.1	1.00	20.00	0	80.7	63.8	132	16.22	0.494	30	
Toluene	19.7	1.00	20.00	0.4100	96.6	64	139	19.79	0.354	30	
trans-1,3-Dichloropropylene	15.9	1.00	20.00	0	79.4	57.7	125	15.88	0	30	
1,1,2-Trichloroethane	18.7	1.00	20.00	0	93.6	59.4	127	18.98	1.43	30	
1,3-Dichloropropane	18.7	1.00	20.00	0	93.6	64.3	135	18.66	0.374	30	
Tetrachloroethene (PCE)	19.0	1.00	20.00	0	95.0	50.3	133	19.32	1.72	30	
Dibromochloromethane	18.5	1.00	20.00	0	92.3	61.6	139	18.64	0.970	30	
1,2-Dibromoethane (EDB)	18.8	0.0600	20.00	0	93.8	63.2	134	19.02	1.32	30	
Chlorobenzene	19.5	1.00	20.00	0	97.6	65.8	134	19.16	1.81	30	
1,1,1,2-Tetrachloroethane	19.0	1.00	20.00	0	95.2	65.4	135	19.32	1.41	30	

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607278-006AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583084**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	19.4	1.00	20.00	0.6000	94.3	64.5	136	19.52	0.359	30	
m,p-Xylene	39.7	1.00	40.00	0.4300	98.1	63.3	135	40.16	1.20	30	
o-Xylene	19.3	1.00	20.00	0.1700	95.5	65.4	134	19.35	0.414	30	
Styrene	19.1	1.00	20.00	0	95.3	59.1	134	19.19	0.680	30	
Isopropylbenzene	19.6	1.00	20.00	0.2900	96.7	56	147	19.73	0.559	30	
Bromoform	18.6	1.00	20.00	0.4000	90.9	57.7	139	18.75	0.965	30	
1,1,2,2-Tetrachloroethane	19.4	1.00	20.00	0	97.3	59.8	146	19.33	0.619	30	
n-Propylbenzene	19.1	1.00	20.00	0.2000	94.6	57.6	142	19.39	1.35	30	
Bromobenzene	19.1	1.00	20.00	0	95.5	63.6	130	18.94	0.841	30	
1,3,5-Trimethylbenzene	19.0	1.00	20.00	0.1500	94.3	59.9	136	19.28	1.41	30	
2-Chlorotoluene	19.1	1.00	20.00	0.08000	95.2	61.7	134	19.45	1.66	30	
4-Chlorotoluene	19.0	1.00	20.00	0.08000	94.4	58.4	134	19.23	1.41	30	
tert-Butylbenzene	19.4	1.00	20.00	0	96.8	66.8	141	19.46	0.567	30	
1,2,3-Trichloropropane	18.6	1.00	20.00	0	93.1	62.4	129	18.60	0.107	30	
1,2,4-Trichlorobenzene	19.3	2.00	20.00	0	96.4	50.9	133	18.77	2.68	30	
sec-Butylbenzene	18.9	1.00	20.00	0.1500	94.0	56	146	19.14	1.05	30	
4-Isopropyltoluene	18.8	1.00	20.00	0.1500	93.1	56.4	136	18.76	0.0533	30	
1,3-Dichlorobenzene	18.6	1.00	20.00	0	92.9	58.2	128	18.35	1.25	30	
1,4-Dichlorobenzene	19.4	1.00	20.00	0	97.0	60.1	123	19.31	0.465	30	
n-Butylbenzene	18.6	1.00	20.00	0.06000	92.6	54.6	135	18.40	0.920	30	
1,2-Dichlorobenzene	19.4	1.00	20.00	0	97.1	65.4	133	19.27	0.775	30	
1,2-Dibromo-3-chloropropane	19.4	1.00	20.00	0	97.2	51.8	142	18.97	2.45	30	
1,2,4-Trimethylbenzene	19.3	1.00	20.00	0.2500	95.4	63.7	132	19.51	0.979	30	
Hexachloro-1,3-butadiene	19.0	4.00	20.00	0	94.8	58.1	130	19.07	0.578	30	
Naphthalene	21.6	1.00	20.00	0.2500	106	54.5	132	20.18	6.57	30	
1,2,3-Trichlorobenzene	20.4	4.00	20.00	0	102	57	131	19.57	4.10	30	
Surr: Dibromofluoromethane	24.7		25.00		98.7	45.4	152		0		
Surr: Toluene-d8	24.5		25.00		97.9	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128		0		

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1607278-006AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **7/27/2016** RunNo: **30864**
Client ID: **BATCH** Batch ID: **14381** Analysis Date: **7/29/2016** SeqNo: **583084**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying QC recoveries were observed. The method is in control as indicated by the LCS.
Q - Indicates an analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **CCV-G-14381** SampType: **CCV** Units: **µg/L** Prep Date: **8/1/2016** RunNo: **30864**
Client ID: **CCV** Batch ID: **14381** Analysis Date: **8/1/2016** SeqNo: **584036**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	17.8	1.00	20.00	0	88.8	80	120				
Tetrachloroethene (PCE)	17.5	1.00	20.00	0	87.4	80	120				
Ethylbenzene	17.3	1.00	20.00	0	86.5	80	120				
m,p-Xylene	36.4	1.00	40.00	0	91.1	80	120				
o-Xylene	18.0	1.00	20.00	0	89.8	80	120				
Isopropylbenzene	17.9	1.00	20.00	0	89.6	80	120				
n-Propylbenzene	17.5	1.00	20.00	0	87.5	80	120				
1,3,5-Trimethylbenzene	17.8	1.00	20.00	0	89.2	80	120				
1,2,4-Trimethylbenzene	18.0	1.00	20.00	0	90.0	80	120				
Naphthalene	16.2	1.00	20.00	0	80.8	80	120				
Surr: Dibromofluoromethane	24.4		25.00		97.7	72.1	122				
Surr: Toluene-d8	24.8		25.00		99.2	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		102	63.3	132				

Work Order: 1607286
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID **1607284-001ADUP** SampType: **DUP** Units: **wt%** Prep Date: **7/27/2016** RunNo: **30817**
Client ID: **BATCH** Batch ID: **R30817** Analysis Date: **7/27/2016** SeqNo: **581728**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	14.6	0.500						15.56	6.40	20	

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1607286**
Logged by:	**Erica Silva**	Date Received:	**7/26/2016 2:09:00 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 ☐
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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	8.4
Sample	9.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical

3600 Fremont Ave N. Tel: 206-352-3790
Seattle, WA 98103 Fax: 206-352-7178

Date: 7/26/16 Laboratory Project No (internal): 1607286

Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave. Suite 1300
City, State, Zip: Seattle WA 98161
Telephone: (206) 579-3980 Fax: (206) 579-3985

Project Name: Lake Stevens Marketplace
Project No: 1246.038.03 Collected by: C. DeBoer
Location: Lake Stevens, WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	Drum-S-072616	7/26/16	650	S										X				
2	MW-1-072616		740	W	X													
3	MW-6-072616		840	W	X													
4	MW-7-072616		935	W	X													
5	Drum-W-072616		950	WW	X													
6	MW-3-072616		1035	W	X													
7	MW-4-072616		1135	W	X													
8	MW-2-072616		1230	W	X													
9	MW-5-072616		1330	W	X													
10																		

**Metals Analysis (Circle): MTCA-5 (RCRA-8) Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	7/26/16 1408	x [signature]	7/26/16 14:09
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day (STD)

^Please coordinate with the lab in advance

MEMORANDUM

TO: Project File **DATE:** August 4, 2016

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.03.002

TASK: July 26, 2016 Groundwater Samples and Drum Characterization Samples

LAB: Fremont Analytical Service Request No. 1607286

Seven groundwater samples, water and soil drum samples were collected at the Lake Stevens Marketplace Site in Snohomish County on July 26, 2016. The samples were collected as part of a Limited Phase II Investigation at the Site. The samples were delivered to Fremont Analytical (Fremont) of Seattle, Washington for laboratory analysis as follows:

- Groundwater samples and drum water sample were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C.

- Drum soil sample was analyzed for RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, selenium, silver and mercury) by USEPA Method 6020 and USEPA Method 7471 (mercury), and for percent moisture content.

The results were reported in Fremont Lab Package 1607286. The Limited Phase II Investigation occurred in July of 2016 and associated sample data are reported in FA Project Number 1607286 along with FA Project numbers 1607063, 1607053, and 1607054. The quality assurance review of the laboratory data is summarized below. The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999) and USEPA Contract Laboratory Program NFG for Inorganic Data Review (USEPA, 2004).

DATA VALIDATION

Sample Receipt, Preservation and Handling

The samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols. Review of Fremont's Sample Log-In Check List Form indicates that all samples were received in good condition above the recommended preservation temperature range of 4.0°C ± 2.0°C. Samples were collected and received by the laboratory on the same day and did not have sufficient time to cool. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Holding Times

USEPA Method 8260C (VOCs):
All samples were analyzed for VOCs within the USEPA recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

USEPA Method 200.8:
All samples were analyzed within the USEPA recommended holding time for metals (arsenic, barium, cadmium, chromium, lead, selenium, and silver) of 180 days for soils from the date of sample collection. All holding time criteria were met.

USEPA Method 7470:
All samples were analyzed within the USEPA recommended holding time for mercury of 28 days for soils from the date of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

USEPA Method 8260C (VOCs):
Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. **Case narrative notes and qualifiers indicate that either initial or continuing calibration criteria were not met for trichlorofluoromethane (CFC-11). Fremont was contacted for more information. Continuing calibration %D was slightly below Fremont's control limit criteria at 79.2%. All associated trichlorofluoromethane (CFC-11) results are non-detect and qualified as estimated (UJ).**

USEPA Method 200.8 and USEPA Method 7470:
Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. The case narrative did not indicate any issues with calibration; therefore no qualifications were warranted.

Method Blank Results

USEPA Method 8260C (VOCs):

A laboratory method blank was included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

USEPA Method 200.8:
A laboratory method blank was included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

USEPA Method 7470:
A laboratory method blank was included with the analytical batch per method requirement. The target analyte was not detected in the method blank at or above the method reporting limit (MRL). No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

USEPA Method 8260C (VOCs):
A trip blank is incorrectly included on Fremont's Work Order Sample Summary. This trip blank was not included on the chain of custody nor was it analyzed. No action was taken other than to note this.

Laboratory Duplicate Analyses

USEPA Method 8260C (VOCs):
Laboratory duplicate sample analyses were performed on a non-client sample within the analytical batch. The primary/duplicate relative percent differences (RPDs) for VOCs were within the laboratory control limit of 30%. Duplicate data are acceptable.

USEPA Method 200.8:
A laboratory duplicate sample was performed on a non-client sample within the analytical batch. The primary/duplicate RPD for all metals were within the laboratory control limit of 20%.

USEPA Method 7470:
A laboratory duplicate sample was performed on a non-client sample within the analytical batch. The primary/duplicate RPD for mercury was within the laboratory control limit of 20%.

Sample Moisture (Percent):
A laboratory duplicate sample was performed on a non-client sample within the analytical batch. The primary/duplicate RPD for moisture content was within the laboratory control limit of 20%.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to laboratory duplicate or matrix spike results for precision data.

Surrogate Recoveries

USEPA Method 8260C (VOCs):
The surrogate recovery results for the samples, laboratory duplicates, laboratory control samples, matrix spike samples, and the method blank were within the laboratory surrogate control limits for all of the analyses.

Matrix Spike/ Matrix Spike Duplicates

USEPA Method 8260C (VOCs):
Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on a non-client sample within the analytical batch. At a minimum, one MS is required for each analytical batch (maximum of 20 samples in a group); therefore, the MS analysis meets this required frequency. The MS/MSD percent recoveries (%R's) for target analytes were within the laboratory control criteria for water samples with the following exception:

> MS/MSD % R's and RPD for dichlorodifluoromethane (CFC-12) were above FA's acceptance criteria. In this case no action was taken since the spike was performed on a non-client sample within the analytical batch. LCS % R was acceptable indicating that the high MS recovery was likely due to matrix effect.

USEPA Method 200.8:
MS/MSD analysis was performed on a non-client sample within the analytical batch. The MS/MSD % R's and RPD were acceptable and within laboratory control limit criteria for soil sample with the following exceptions:

> MS/MSD % R's for barium and chromium were above FA acceptance criteria (75-125%). Barium RPD was 23% and above the laboratory control limit of 20%. No action was taken since the spikes were performed on a non-client sample, duplicate, and LCS results were acceptable.

USEPA Method 7470:
MS/MSD analysis was performed on sample on a non-client sample with the analytical batch. The MS/MSD % R's and RPD were acceptable and within laboratory control limit criteria for soil samples.

Laboratory Control Samples

USEPA Method 8260C (VOCs):
A laboratory control sample (LCS) was analyzed by USEPA Method 8260C per method requirement. The LCS %R's for the all target compounds were within the laboratory control criteria for waters.

USEPA Method 200.8:

LCS's were analyzed by USEPA Method 200.8 along with the analytical batch. The LCS %R's for the analytes were within the laboratory control criteria (80-120%) for soil. No data qualifications were warranted.

USEPA Method 7471:
LCS was analyzed by USEPA Method 7471 along with the analytical batch. The LCS %R for the analyte (mercury) was within the laboratory control criteria (80-120%) for soil. No data qualifications were warranted.

Quantitation Limits

Results of all analyses were reported based on standard laboratory MRLs. The reported MRLs are considered appropriate for this project. No data qualifiers were warranted based upon standard detection limits.

Completeness

The samples were collected and analyzed as requested. The results in all cases were reported based upon standard Method Reporting Limits (MRLs). Data completeness is 100%.

Data Assessment

The laboratory data reported for this project were reviewed based on laboratory control limit acceptance criteria and criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999);
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA, 2004)

Data qualifiers were assigned and laboratory report pages with qualifiers are attached. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Brian O'Neal
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Lake Stevens Marketplace
Work Order Number: 1610304

October 25, 2016

Attention Brian O'Neal:

Fremont Analytical, Inc. received 8 sample(s) on 10/19/2016 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260C

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,

Chelsea Ward
Project Manager

Date: *10/25/2016*

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Work Order: 1610304

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1610304-001	MW-6-101816	10/18/2016 9:50 AM	10/19/2016 9:19 AM
1610304-002	MW-7-101816	10/18/2016 10:40 AM	10/19/2016 9:19 AM
1610304-003	MW-2-101816	10/18/2016 11:20 AM	10/19/2016 9:19 AM
1610304-004	MW-5-101816	10/18/2016 12:10 PM	10/19/2016 9:19 AM
1610304-005	MW-3-101816	10/18/2016 12:55 PM	10/19/2016 9:19 AM
1610304-006	MW-4-101816	10/18/2016 1:40 PM	10/19/2016 9:19 AM
1610304-007	MW-1-101816	10/18/2016 2:30 PM	10/19/2016 9:19 AM
1610304-008	Trip Blank		10/19/2016 9:19 AM

Case Narrative

WO#: **1610304**

Date: **10/25/2016**

CLIENT: PES Environmental, Inc.

Project: Lake Stevens Marketplace

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below 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

Analytical Report

Work Order: **1610304**
Date Reported: **10/25/2016**

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 9:50:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1610304-001
Matrix: Groundwater
Client Sample ID: **MW-6-101816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 15210 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Chloromethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Vinyl chloride	ND	0.200		µg/L	1	10/21/2016 4:37:23 PM
Bromomethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Chloroethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Methylene chloride	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/21/2016 4:37:23 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Chloroform	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Carbon tetrachloride	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Benzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	10/21/2016 4:37:23 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Bromodichloromethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Dibromomethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Toluene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Dibromochloromethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	10/21/2016 4:37:23 PM
Chlorobenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Ethylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
m,p-Xylene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
o-Xylene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Styrene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Isopropylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Bromoform	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM

Analytical Report

Work Order: **1610304**
Date Reported: **10/25/2016**

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 9:50:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1610304-001
Matrix: Groundwater
Client Sample ID: **MW-6-101816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 15210		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
n-Propylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Bromobenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
2-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
4-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
tert-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/21/2016 4:37:23 PM
sec-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
n-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	10/21/2016 4:37:23 PM
Naphthalene	ND	1.00		µg/L	1	10/21/2016 4:37:23 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	10/21/2016 4:37:23 PM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	10/21/2016 4:37:23 PM
Surr: Toluene-d8	90.9	40.1-139		%Rec	1	10/21/2016 4:37:23 PM
Surr: 1-Bromo-4-fluorobenzene	98.9	64.2-128		%Rec	1	10/21/2016 4:37:23 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 10:40:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1610304-002
Matrix: Groundwater
Client Sample ID: **MW-7-101816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 15210 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Chloromethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Vinyl chloride	ND	0.200		µg/L	1	10/21/2016 5:06:44 PM
Bromomethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Chloroethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Methylene chloride	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/21/2016 5:06:44 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Chloroform	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Carbon tetrachloride	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Benzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	10/21/2016 5:06:44 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Bromodichloromethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Dibromomethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Toluene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Tetrachloroethene (PCE)	10.6	1.00		µg/L	1	10/21/2016 5:06:44 PM
Dibromochloromethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	10/21/2016 5:06:44 PM
Chlorobenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Ethylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
m,p-Xylene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
o-Xylene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Styrene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Isopropylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Bromoform	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM

Analytical Report

Work Order: **1610304**
Date Reported: **10/25/2016**

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 10:40:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1610304-002
Matrix: Groundwater
Client Sample ID: **MW-7-101816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 15210		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
n-Propylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Bromobenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
2-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
4-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
tert-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/21/2016 5:06:44 PM
sec-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
n-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	10/21/2016 5:06:44 PM
Naphthalene	ND	1.00		µg/L	1	10/21/2016 5:06:44 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	10/21/2016 5:06:44 PM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	10/21/2016 5:06:44 PM
Surr: Toluene-d8	101	40.1-139		%Rec	1	10/21/2016 5:06:44 PM
Surr: 1-Bromo-4-fluorobenzene	97.7	64.2-128		%Rec	1	10/21/2016 5:06:44 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 11:20:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1610304-003
Matrix: Groundwater
Client Sample ID: **MW-2-101816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 15210 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Chloromethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Vinyl chloride	ND	0.200		µg/L	1	10/21/2016 6:05:20 PM
Bromomethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Chloroethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Methylene chloride	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/21/2016 6:05:20 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Chloroform	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Carbon tetrachloride	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Benzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	10/21/2016 6:05:20 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Bromodichloromethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Dibromomethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Toluene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Tetrachloroethene (PCE)	214	10.0	D	µg/L	10	10/24/2016 7:32:11 PM
Dibromochloromethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	10/21/2016 6:05:20 PM
Chlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Ethylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
m,p-Xylene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
o-Xylene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Styrene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Isopropylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Bromoform	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 11:20:00 AM
Project: Lake Stevens Marketplace
Lab ID: 1610304-003
Matrix: Groundwater
Client Sample ID: **MW-2-101816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 15210		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
n-Propylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Bromobenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
2-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
4-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
tert-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/21/2016 6:05:20 PM
sec-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
n-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	10/21/2016 6:05:20 PM
Naphthalene	ND	1.00		µg/L	1	10/21/2016 6:05:20 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	10/21/2016 6:05:20 PM
Surr: Dibromofluoromethane	100	45.4-152		%Rec	1	10/21/2016 6:05:20 PM
Surr: Toluene-d8	98.4	40.1-139		%Rec	1	10/21/2016 6:05:20 PM
Surr: 1-Bromo-4-fluorobenzene	96.2	64.2-128		%Rec	1	10/21/2016 6:05:20 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 12:10:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-004
Matrix: Groundwater
Client Sample ID: **MW-5-101816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 15210 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Chloromethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Vinyl chloride	ND	0.200		µg/L	1	10/21/2016 6:34:42 PM
Bromomethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Chloroethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Methylene chloride	1.34	1.00		µg/L	1	10/21/2016 6:34:42 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/21/2016 6:34:42 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Chloroform	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Carbon tetrachloride	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Benzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	10/21/2016 6:34:42 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Bromodichloromethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Dibromomethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Toluene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Dibromochloromethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	10/21/2016 6:34:42 PM
Chlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Ethylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
m,p-Xylene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
o-Xylene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Styrene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Isopropylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Bromoform	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM

Analytical Report

Work Order: **1610304**
Date Reported: **10/25/2016**

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 12:10:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-004
Matrix: Groundwater
Client Sample ID: **MW-5-101816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 15210		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
n-Propylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Bromobenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
2-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
4-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
tert-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/21/2016 6:34:42 PM
sec-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
n-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	10/21/2016 6:34:42 PM
Naphthalene	ND	1.00		µg/L	1	10/21/2016 6:34:42 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	10/21/2016 6:34:42 PM
Surr: Dibromofluoromethane	100	45.4-152		%Rec	1	10/21/2016 6:34:42 PM
Surr: Toluene-d8	90.4	40.1-139		%Rec	1	10/21/2016 6:34:42 PM
Surr: 1-Bromo-4-fluorobenzene	96.8	64.2-128		%Rec	1	10/21/2016 6:34:42 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 12:55:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-005
Matrix: Groundwater
Client Sample ID: **MW-3-101816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 15210 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	16.6	1.00		µg/L	1	10/21/2016 7:03:58 PM
Chloromethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Vinyl chloride	ND	0.200		µg/L	1	10/21/2016 7:03:58 PM
Bromomethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Chloroethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Methylene chloride	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/21/2016 7:03:58 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Chloroform	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Carbon tetrachloride	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Benzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	10/21/2016 7:03:58 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Bromodichloromethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Dibromomethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Toluene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Dibromochloromethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	10/21/2016 7:03:58 PM
Chlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Ethylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
m,p-Xylene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
o-Xylene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Styrene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Isopropylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Bromoform	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 12:55:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-005
Matrix: Groundwater
Client Sample ID: **MW-3-101816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 15210		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
n-Propylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Bromobenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
2-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
4-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
tert-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/21/2016 7:03:58 PM
sec-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
n-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	10/21/2016 7:03:58 PM
Naphthalene	ND	1.00		µg/L	1	10/21/2016 7:03:58 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	10/21/2016 7:03:58 PM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	10/21/2016 7:03:58 PM
Surr: Toluene-d8	100	40.1-139		%Rec	1	10/21/2016 7:03:58 PM
Surr: 1-Bromo-4-fluorobenzene	97.0	64.2-128		%Rec	1	10/21/2016 7:03:58 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 1:40:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-006
Matrix: Groundwater
Client Sample ID: **MW-4-101816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 15210 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Chloromethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Vinyl chloride	ND	0.200		µg/L	1	10/21/2016 7:33:24 PM
Bromomethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Chloroethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Methylene chloride	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/21/2016 7:33:24 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Chloroform	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Carbon tetrachloride	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Benzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	10/21/2016 7:33:24 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Bromodichloromethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Dibromomethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Toluene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Dibromochloromethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	10/21/2016 7:33:24 PM
Chlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Ethylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
m,p-Xylene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
o-Xylene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Styrene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Isopropylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Bromoform	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM

Analytical Report

Work Order: **1610304**
Date Reported: **10/25/2016**

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 1:40:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-006
Matrix: Groundwater
Client Sample ID: **MW-4-101816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 15210		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
n-Propylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Bromobenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
2-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
4-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
tert-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/21/2016 7:33:24 PM
sec-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
n-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	10/21/2016 7:33:24 PM
Naphthalene	ND	1.00		µg/L	1	10/21/2016 7:33:24 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	10/21/2016 7:33:24 PM
Surr: Dibromofluoromethane	100	45.4-152		%Rec	1	10/21/2016 7:33:24 PM
Surr: Toluene-d8	98.0	40.1-139		%Rec	1	10/21/2016 7:33:24 PM
Surr: 1-Bromo-4-fluorobenzene	94.9	64.2-128		%Rec	1	10/21/2016 7:33:24 PM

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 2:30:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-007
Matrix: Groundwater
Client Sample ID: **MW-1-101816**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 15210 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Chloromethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Vinyl chloride	ND	0.200		µg/L	1	10/21/2016 8:02:35 PM
Bromomethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Chloroethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Methylene chloride	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/21/2016 8:02:35 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Chloroform	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Carbon tetrachloride	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Benzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	10/21/2016 8:02:35 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Bromodichloromethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Dibromomethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Toluene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Dibromochloromethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	10/21/2016 8:02:35 PM
Chlorobenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Ethylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
m,p-Xylene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
o-Xylene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Styrene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Isopropylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Bromoform	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM

Analytical Report

Work Order: **1610304**
Date Reported: **10/25/2016**

Client: PES Environmental, Inc.
Collection Date: 10/18/2016 2:30:00 PM
Project: Lake Stevens Marketplace
Lab ID: 1610304-007
Matrix: Groundwater
Client Sample ID: **MW-1-101816**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 15210		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
n-Propylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Bromobenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
2-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
4-Chlorotoluene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
tert-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/21/2016 8:02:35 PM
sec-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
n-Butylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	10/21/2016 8:02:35 PM
Naphthalene	ND	1.00		µg/L	1	10/21/2016 8:02:35 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	10/21/2016 8:02:35 PM
Surr: Dibromofluoromethane	99.8	45.4-152		%Rec	1	10/21/2016 8:02:35 PM
Surr: Toluene-d8	90.8	40.1-139		%Rec	1	10/21/2016 8:02:35 PM
Surr: 1-Bromo-4-fluorobenzene	95.3	64.2-128		%Rec	1	10/21/2016 8:02:35 PM

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-15210** SampType: **LCS** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **LCSW** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614927**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	19.6	1.00	20.00	0	97.9	43	136				
Chloromethane	18.3	1.00	20.00	0	91.6	43.9	139				
Vinyl chloride	20.7	0.200	20.00	0	104	53.6	139				
Bromomethane	29.0	1.00	20.00	0	145	42.5	152				
Trichlorofluoromethane (CFC-11)	19.6	1.00	20.00	0	98.2	56.4	143				
Chloroethane	20.4	1.00	20.00	0	102	53	141				
1,1-Dichloroethene	20.6	1.00	20.00	0	103	65.6	136				
Methylene chloride	20.7	1.00	20.00	0	104	67.1	131				
trans-1,2-Dichloroethene	21.1	1.00	20.00	0	105	71.7	129				
Methyl tert-butyl ether (MTBE)	20.2	1.00	20.00	0	101	67.7	131				
1,1-Dichloroethane	22.6	1.00	20.00	0	113	67.9	134				
2,2-Dichloropropane	31.4	2.00	20.00	0	157	33.7	152				S
cis-1,2-Dichloroethene	21.3	1.00	20.00	0	107	70.2	139				
Chloroform	20.8	1.00	20.00	0	104	66.3	131				
1,1,1-Trichloroethane (TCA)	21.0	1.00	20.00	0	105	71	131				
1,1-Dichloropropene	21.0	1.00	20.00	0	105	69.9	124				
Carbon tetrachloride	21.8	1.00	20.00	0	109	66.2	134				
1,2-Dichloroethane (EDC)	19.5	1.00	20.00	0	97.5	68.8	123				
Benzene	21.3	1.00	20.00	0	107	69.3	132				
Trichloroethene (TCE)	20.9	0.500	20.00	0	104	65.2	136				
1,2-Dichloropropane	21.8	1.00	20.00	0	109	70.5	130				
Bromodichloromethane	20.8	1.00	20.00	0	104	67.2	137				
Dibromomethane	20.3	1.00	20.00	0	101	75.5	126				
cis-1,3-Dichloropropene	22.1	1.00	20.00	0	111	62.6	137				
Toluene	20.3	1.00	20.00	0	101	61.3	145				
trans-1,3-Dichloropropylene	22.2	1.00	20.00	0	111	58.5	142				
1,1,2-Trichloroethane	18.7	1.00	20.00	0	93.6	71.7	131				
1,3-Dichloropropane	18.5	1.00	20.00	0	92.7	73.5	127				
Tetrachloroethene (PCE)	19.9	1.00	20.00	0	99.6	47.5	147				
Dibromochloromethane	19.6	1.00	20.00	0	98.1	67.2	134				
1,2-Dibromoethane (EDB)	18.4	0.0600	20.00	0	91.9	73.6	125				

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-15210** SampType: **LCS** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **LCSW** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614927**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	21.5	1.00	20.00	0	107	73.9	126				
1,1,1,2-Tetrachloroethane	22.3	1.00	20.00	0	112	76.8	124				
Ethylbenzene	21.0	1.00	20.00	0	105	72	130				
m,p-Xylene	42.3	1.00	40.00	0	106	70.3	134				
o-Xylene	20.9	1.00	20.00	0	104	72.1	131				
Styrene	21.0	1.00	20.00	0	105	64.3	140				
Isopropylbenzene	21.1	1.00	20.00	0	105	73.9	128				
Bromoform	21.7	1.00	20.00	0	108	55.3	141				
1,1,2,2-Tetrachloroethane	18.6	1.00	20.00	0	93.0	62.9	132				
n-Propylbenzene	21.4	1.00	20.00	0	107	74.5	127				
Bromobenzene	21.3	1.00	20.00	0	106	71	131				
1,3,5-Trimethylbenzene	21.4	1.00	20.00	0	107	73.1	128				
2-Chlorotoluene	21.3	1.00	20.00	0	106	70.8	130				
4-Chlorotoluene	21.3	1.00	20.00	0	107	70.1	131				
tert-Butylbenzene	21.2	1.00	20.00	0	106	68.2	131				
1,2,3-Trichloropropane	18.8	1.00	20.00	0	93.8	67.7	131				
1,2,4-Trichlorobenzene	21.1	2.00	20.00	0	106	51.8	152				
sec-Butylbenzene	21.1	1.00	20.00	0	106	72	129				
4-Isopropyltoluene	21.3	1.00	20.00	0	106	69.2	130				
1,3-Dichlorobenzene	22.1	1.00	20.00	0	111	71	115				
1,4-Dichlorobenzene	21.3	1.00	20.00	0	106	66.8	119				
n-Butylbenzene	22.8	1.00	20.00	0	114	73.8	127				
1,2-Dichlorobenzene	21.3	1.00	20.00	0	107	69.7	119				
1,2-Dibromo-3-chloropropane	21.3	1.00	20.00	0	107	63.1	136				
1,2,4-Trimethylbenzene	21.5	1.00	20.00	0	107	73.4	127				
Hexachloro-1,3-butadiene	23.6	4.00	20.00	0	118	58.6	138				
Naphthalene	19.1	1.00	20.00	0	95.4	41.8	165				
1,2,3-Trichlorobenzene	19.7	4.00	20.00	0	98.6	48.7	156				
Surr: Dibromofluoromethane	25.2		25.00		101	45.4	152				
Surr: Toluene-d8	23.6		25.00		94.4	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.2		25.00		105	64.2	128				

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-15210** SampType: **LCS** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **LCSW** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614927**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.

Sample ID **LCSD-15210** SampType: **LCSD** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **LCSW02** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614926**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	18.9	1.00	20.00	0	94.4	43	136	19.57	3.58	20	
Chloromethane	18.2	1.00	20.00	0	90.8	43.9	139	18.33	0.955	20	
Vinyl chloride	21.4	0.200	20.00	0	107	53.6	139	20.72	3.06	20	
Bromomethane	28.1	1.00	20.00	0	140	42.5	152	29.04	3.45	20	
Trichlorofluoromethane (CFC-11)	19.9	1.00	20.00	0	99.3	56.4	143	19.64	1.13	20	
Chloroethane	21.0	1.00	20.00	0	105	53	141	20.35	3.21	20	
1,1-Dichloroethene	21.0	1.00	20.00	0	105	65.6	136	20.61	1.80	20	
Methylene chloride	21.5	1.00	20.00	0	108	67.1	131	20.70	3.80	20	
trans-1,2-Dichloroethene	21.0	1.00	20.00	0	105	71.7	129	21.05	0.246	20	
Methyl tert-butyl ether (MTBE)	22.2	1.00	20.00	0	111	67.7	131	20.19	9.57	20	
1,1-Dichloroethane	22.0	1.00	20.00	0	110	67.9	134	22.55	2.70	20	
2,2-Dichloropropane	30.8	2.00	20.00	0	154	33.7	152	31.39	1.88	20	S
cis-1,2-Dichloroethene	21.5	1.00	20.00	0	108	70.2	139	21.33	0.953	20	
Chloroform	20.7	1.00	20.00	0	103	66.3	131	20.78	0.462	20	
1,1,1-Trichloroethane (TCA)	21.4	1.00	20.00	0	107	71	131	20.97	1.83	20	
1,1-Dichloropropene	22.0	1.00	20.00	0	110	69.9	124	20.98	4.59	20	
Carbon tetrachloride	21.8	1.00	20.00	0	109	66.2	134	21.75	0.371	20	
1,2-Dichloroethane (EDC)	20.5	1.00	20.00	0	103	68.8	123	19.49	5.18	20	
Benzene	21.8	1.00	20.00	0	109	69.3	132	21.32	2.19	20	
Trichloroethene (TCE)	21.3	0.500	20.00	0	106	65.2	136	20.87	1.86	20	
1,2-Dichloropropane	22.3	1.00	20.00	0	111	70.5	130	21.76	2.24	20	
Bromodichloromethane	21.3	1.00	20.00	0	107	74.6	127	20.83	2.24	20	
Dibromomethane	21.6	1.00	20.00	0	108	75.5	126	20.28	6.09	20	
cis-1,3-Dichloropropene	22.9	1.00	20.00	0	115	62.6	137	22.12	3.63	20	

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCSD-15210** SampType: **LCSD** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **LCSW02** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614926**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	20.6	1.00	20.00	0	103	61.3	145	20.30	1.37	20	
trans-1,3-Dichloropropylene	22.5	1.00	20.00	0	112	58.5	142	22.16	1.38	20	
1,1,2-Trichloroethane	20.0	1.00	20.00	0	99.9	71.7	131	18.71	6.52	20	
1,3-Dichloropropane	19.7	1.00	20.00	0	98.6	73.5	127	18.55	6.15	20	
Tetrachloroethene (PCE)	19.7	1.00	20.00	0	98.7	47.5	147	19.93	0.969	20	
Dibromochloromethane	20.8	1.00	20.00	0	104	67.2	134	19.61	5.65	20	
1,2-Dibromoethane (EDB)	20.2	0.0600	20.00	0	101	73.6	125	18.38	9.64	20	
Chlorobenzene	21.6	1.00	20.00	0	108	73.9	126	21.49	0.595	20	
1,1,1,2-Tetrachloroethane	22.7	1.00	20.00	0	113	76.8	124	22.33	1.64	20	
Ethylbenzene	21.2	1.00	20.00	0	106	72	130	21.00	0.979	20	
m,p-Xylene	42.8	1.00	40.00	0	107	70.3	134	42.27	1.25	20	
o-Xylene	21.0	1.00	20.00	0	105	72.1	131	20.86	0.848	20	
Styrene	21.3	1.00	20.00	0	107	64.3	140	21.01	1.61	20	
Isopropylbenzene	21.3	1.00	20.00	0	106	73.9	128	21.08	0.968	20	
Bromoform	23.3	1.00	20.00	0	117	55.3	141	21.66	7.46	20	
1,1,2,2-Tetrachloroethane	20.9	1.00	20.00	0	104	62.9	132	18.60	11.6	20	
n-Propylbenzene	21.4	1.00	20.00	0	107	74.5	127	21.37	0.285	20	
Bromobenzene	22.0	1.00	20.00	0	110	71	131	21.27	3.24	20	
1,3,5-Trimethylbenzene	21.3	1.00	20.00	0	107	73.1	128	21.40	0.288	20	
2-Chlorotoluene	21.7	1.00	20.00	0	108	70.8	130	21.28	1.77	20	
4-Chlorotoluene	21.3	1.00	20.00	0	106	70.1	131	21.34	0.264	20	
tert-Butylbenzene	21.3	1.00	20.00	0	107	68.2	131	21.21	0.552	20	
1,2,3-Trichloropropane	21.7	1.00	20.00	0	108	67.7	131	18.75	14.5	20	
1,2,4-Trichlorobenzene	21.8	2.00	20.00	0	109	51.8	152	21.13	3.26	20	
sec-Butylbenzene	21.3	1.00	20.00	0	107	72	129	21.14	0.797	20	
4-Isopropyltoluene	21.5	1.00	20.00	0	107	69.2	130	21.27	0.866	20	
1,3-Dichlorobenzene	22.0	1.00	20.00	0	110	71	115	22.14	0.816	20	
1,4-Dichlorobenzene	21.3	1.00	20.00	0	107	66.8	119	21.26	0.370	20	
n-Butylbenzene	22.6	1.00	20.00	0	113	73.8	127	22.80	0.874	20	
1,2-Dichlorobenzene	21.9	1.00	20.00	0	110	69.7	119	21.32	2.87	20	
1,2-Dibromo-3-chloropropane	25.0	1.00	20.00	0	125	63.1	136	21.32	16.0	20	

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCSD-15210** SampType: **LCSD** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **LCSW02** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614926**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	21.6	1.00	20.00	0	108	73.4	127	21.48	0.578	20	
Hexachloro-1,3-butadiene	23.4	4.00	20.00	0	117	58.6	138	23.56	0.492	20	
Naphthalene	21.7	1.00	20.00	0	108	41.8	165	19.08	12.7	20	
1,2,3-Trichlorobenzene	20.9	4.00	20.00	0	105	48.7	156	19.73	6.00	20	
Surr: Dibromofluoromethane	25.7		25.00		103	45.4	152		0		
Surr: Toluene-d8	23.4		25.00		93.6	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	26.6		25.00		106	64.2	128		0		

NOTES:
S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.

Sample ID **MB-15210** SampType: **MBLK** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **MBLKW** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614928**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-15210** SampType: **MBLK** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **MBLKW** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614928**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-15210** SampType: **MBLK** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **MBLKW** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **614928**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	24.9		25.00		99.5	45.4	152				
Surr: Toluene-d8	23.1		25.00		92.5	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.5		25.00		97.9	64.2	128				

Sample ID **1610304-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **MW-7-101816** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **615128**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1610304-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **MW-7-101816** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **615128**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	9.62	1.00						10.56	9.26	30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	

Work Order: 1610304
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Marketplace

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1610304-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/21/2016** RunNo: **32486**
Client ID: **MW-7-101816** Batch ID: **15210** Analysis Date: **10/21/2016** SeqNo: **615128**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	25.1		25.00		100	45.4	152		0		
Surr: Toluene-d8	23.1		25.00		92.3	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.1		25.00		96.3	64.2	128		0		

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1610304**
Logged by:	**Erica Silva**	Date Received:	**10/19/2016 9:19:00 AM**

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 ☐
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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

10/24 - Sample name change per client request. See revised COC.

Item Information

Item #	Temp °C
Cooler	1.4
Sample	0.9
Temp Blank	0.8

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N. Tel: 206-352-3790
Seattle, WA 98103 Fax: 206-352-7178

Date: 10/18/16 Laboratory Project No (internal): 1610304

Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave Suite 1350
City, State, Zip: Seattle WA 98161
Telephone: (206) 529-3980 Fax: (206) 529-3985

Project Name: Lake Stevens Marketplace
Project No: 1246.038.03 Collected by: C. DeBoer
Location: Lake Stevens, WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments
1	MW-6-101816	10/8/16	950	GW	X														
2	MW-7-101816		1040		X														
3	MW-2-101816		1120		X														
4	MW-5-101816		1210		X														
5	MW-3-101816		1255		X														
6	MW-4-101816		1340		X														
7	MW-8-101816		1430		X														
8	TRIP BLANK	-	-	W													X		
9																			
10																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	10/19/16 918	x Wayne J	10/19/16 09:19
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical

3600 Fremont Ave N. *Tel: 206-352-3790*
Seattle, WA 98103 *Fax: 206-352-7178*

Date: 10/18/16 *Laboratory Project No (internal):* 1610304

Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave Suite 1350
City, State, Zip: Seattle, WA 98161
Telephone: (206) 529-3980 **Fax:** (206) 529-3985

Project Name: Lake Stevens Marketplace
Project No: 1246.038.03 **Collected by:** C. DeBoer
Location: Lake Stevens, WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments
1 MW-6-101816	10/8/16	950	GW	X													
2 MW-7-101816	"	1040	"	X													
3 MW-2-101816		1120		X													
4 MW-5-101816		1210		X													
5 MW-3-101816		1255		X													
6 MW-4-101816		1340		X													
7 MW-8-101816		1430		X													Change name from MW-8-101816 to MW-1-101816 Chris DeBoer 10/24/16
8 TRIP BLANK	-	-	W											X			
9																	
10																	

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	10/19/16 918	x Wayne J	10/19/16 09:19
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

MEMORANDUM

TO: Project File **DATE:** October 27, 2016

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.03.002

TASK: October 18, 2016 Groundwater Samples

LAB: Fremont Analytical Service Request No. 1610304

Seven groundwater samples and a trip blank were collected at the Lake Stevens Marketplace Site in Snohomish County on October 18, 2016. The samples were collected as part of a Limited Phase II Investigation at the Site. The samples were delivered to Fremont Analytical (Fremont) of Seattle, Washington for laboratory analysis. Samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C. The results were reported in Fremont Lab Package 1610304.

The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2016).

DATA VALIDATION

Sample Receipt, Preservation and Handling

The samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols. Review of Fremont's Sample Log-In Check List Form indicates that all samples were received in good condition within the recommended preservation temperature of less than 6.0°C. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Sample MW-8-101816 identification was corrected by Fremont to read MW-1-101816 per PES's request on October 24, 2016.

Holding Times

All samples were analyzed for VOCs within the USEPA recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. The case narrative did not indicate any issues with calibration; therefore no qualifications were warranted.

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

A trip blank was collected but not analyzed. No action was taken other than this.

Laboratory Duplicate Analyses

Laboratory duplicate sample analyses were performed on client sample MW-7-101816. The primary/duplicate relative percent differences (RPDs) for VOCs were within the laboratory control limit of 30%. Duplicate data are acceptable.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to laboratory duplicate data for precision data.

Surrogate Recoveries

The surrogate recovery results for the samples, laboratory duplicates, laboratory control samples (LCS), and the method blank were within the laboratory surrogate control limits for all of the analyses.

Matrix Spike/ Matrix Spike Duplicates

A matrix spike (MS) analysis was not performed. Refer to LCS/LCSD and laboratory duplicate data for accuracy and precision.

Laboratory Control Samples

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) was analyzed by USEPA Method 8260C. The LCS/LCSD %Rs and RPDs for the all target compounds were within the laboratory control criteria for water with the following exceptions:

- VOC compound 2,2-dichloropropane % R's were elevated and above acceptance criteria. No action was taken as these compounds were not detected at or above the MRL in the associated samples.

Quantitation Limits

Results of all analyses were reported based on standard laboratory MRLs. The reported MRLs are considered appropriate for this project. No data qualifiers were warranted based upon standard detection limits.

Completeness

The samples were collected and analyzed as requested. The results in all cases were reported based upon standard Method Reporting Limits (MRLs). Data completeness is 100%.

Data Assessment

The laboratory data reported for this project were reviewed based on laboratory control limit acceptance criteria and criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2016)

No data qualifiers were assigned. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Brian O'Neal
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Lake Stevens Shopping Center
Work Order Number: 1701202

January 26, 2017

Attention Brian O'Neal:

Fremont Analytical, Inc. received 8 sample(s) on 1/19/2017 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260C

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,

Chelsea Ward
Project Manager

Date: *01/26/2017*

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Work Order: 1701202

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701202-001	MW-1-011917	01/19/2017 9:20 AM	01/19/2017 2:00 PM
1701202-002	MW-2-011917	01/19/2017 10:05 AM	01/19/2017 2:00 PM
1701202-003	MW-5-011917	01/19/2017 10:40 AM	01/19/2017 2:00 PM
1701202-004	MW-6-011917	01/19/2017 11:20 AM	01/19/2017 2:00 PM
1701202-005	MW-7-011917	01/19/2017 11:55 AM	01/19/2017 2:00 PM
1701202-006	MW-3-011917	01/19/2017 12:40 PM	01/19/2017 2:00 PM
1701202-007	MW-4-011917	01/19/2017 1:15 PM	01/19/2017 2:00 PM
1701202-008	Trip Blank	01/11/2017 12:04 PM	01/19/2017 2:00 PM

Case Narrative

WO#: **1701202**
Date: **1/26/2017**

CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

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

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

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below 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: PES Environmental, Inc.
Collection Date: 1/19/2017 9:20:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-001
Matrix: Groundwater
Client Sample ID: **MW-1-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:00:53 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:00:53 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:00:53 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:00:53 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 9:20:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-001
Matrix: Groundwater
Client Sample ID: **MW-1-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:00:53 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:00:53 AM
Surr: Toluene-d8	96.7	40.1-139		%Rec	1	1/24/2017 6:00:53 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 6:00:53 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 10:05:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-002
Matrix: Groundwater
Client Sample ID: **MW-2-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:58:11 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:58:11 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:58:11 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Tetrachloroethene (PCE)	114	10.0	D	µg/L	10	1/24/2017 2:23:23 PM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:58:11 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 10:05:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-002
Matrix: Groundwater
Client Sample ID: **MW-2-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:58:11 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:58:11 AM
Surr: Toluene-d8	97.2	40.1-139		%Rec	1	1/24/2017 6:58:11 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	64.2-128		%Rec	1	1/24/2017 6:58:11 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 10:40:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-003
Matrix: Groundwater
Client Sample ID: **MW-5-011917**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 7:26:47 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 7:26:47 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 7:26:47 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 7:26:47 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 10:40:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-003
Matrix: Groundwater
Client Sample ID: **MW-5-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:26:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:26:47 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:26:47 AM
Surr: 1-Bromo-4-fluorobenzene	94.7	64.2-128		%Rec	1	1/24/2017 7:26:47 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 11:20:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-004
Matrix: Groundwater
Client Sample ID: **MW-6-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 7:55:24 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 7:55:24 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 7:55:24 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Tetrachloroethene (PCE)	1.44	1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 7:55:24 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 11:20:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-004
Matrix: Groundwater
Client Sample ID: **MW-6-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:55:24 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:55:24 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:55:24 AM
Surr: 1-Bromo-4-fluorobenzene	95.4	64.2-128		%Rec	1	1/24/2017 7:55:24 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 11:55:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-005
Matrix: Groundwater
Client Sample ID: **MW-7-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 8:24:06 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 8:24:06 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroform	1.04	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 8:24:06 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Tetrachloroethene (PCE)	126	10.0	D	µg/L	10	1/24/2017 2:52:05 PM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 8:24:06 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 11:55:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-005
Matrix: Groundwater
Client Sample ID: **MW-7-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:24:06 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:24:06 AM
Surr: Toluene-d8	98.5	40.1-139		%Rec	1	1/24/2017 8:24:06 AM
Surr: 1-Bromo-4-fluorobenzene	93.7	64.2-128		%Rec	1	1/24/2017 8:24:06 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 12:40:00 PM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-006
Matrix: Groundwater
Client Sample ID: **MW-3-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
Dichlorodifluoromethane (CFC-12)	2.95	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 8:52:47 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 8:52:47 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 8:52:47 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 8:52:47 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 12:40:00 PM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-006
Matrix: Groundwater
Client Sample ID: **MW-3-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:52:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:52:47 AM
Surr: Toluene-d8	99.1	40.1-139		%Rec	1	1/24/2017 8:52:47 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 8:52:47 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 1:15:00 PM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-007
Matrix: Groundwater
Client Sample ID: **MW-4-011917**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 9:21:39 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 9:21:39 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 9:21:39 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 9:21:39 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 1:15:00 PM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-007
Matrix: Groundwater
Client Sample ID: **MW-4-011917**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 9:21:39 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 9:21:39 AM
Surr: Toluene-d8	99.2	40.1-139		%Rec	1	1/24/2017 9:21:39 AM
Surr: 1-Bromo-4-fluorobenzene	94.8	64.2-128		%Rec	1	1/24/2017 9:21:39 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16001** SampType: **LCS** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **LCSW** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647759**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	19.1	1.00	20.00	0	95.7	43	136				
Chloromethane	19.9	1.00	20.00	0	99.3	40.4	150				
Vinyl chloride	20.1	0.200	20.00	0	100	48	145				
Bromomethane	15.2	1.00	20.00	0	76.2	43.2	166				
Trichlorofluoromethane (CFC-11)	20.0	1.00	20.00	0	100	43.5	149				
Chloroethane	20.8	1.00	20.00	0	104	43.8	168				
1,1-Dichloroethene	20.2	1.00	20.00	0	101	65.6	136				
Methylene chloride	20.7	1.00	20.00	0	104	67.1	131				
trans-1,2-Dichloroethene	20.5	1.00	20.00	0	102	71.7	129				
Methyl tert-butyl ether (MTBE)	22.3	1.00	20.00	0	112	67.7	131				
1,1-Dichloroethane	20.5	1.00	20.00	0	103	67.9	134				
2,2-Dichloropropane	19.2	2.00	20.00	0	96.0	33.7	152				
cis-1,2-Dichloroethene	20.5	1.00	20.00	0	103	70.2	139				
Chloroform	20.4	1.00	20.00	0	102	66.3	131				
1,1,1-Trichloroethane (TCA)	20.5	1.00	20.00	0	103	71	131				
1,1-Dichloropropene	20.5	1.00	20.00	0	102	69.9	124				
Carbon tetrachloride	20.8	1.00	20.00	0	104	66.2	134				
1,2-Dichloroethane (EDC)	21.2	1.00	20.00	0	106	67	126				
Benzene	20.4	1.00	20.00	0	102	69.3	132				
Trichloroethene (TCE)	20.0	0.500	20.00	0	100	65.2	136				
1,2-Dichloropropane	20.9	1.00	20.00	0	105	70.5	130				
Bromodichloromethane	19.9	1.00	20.00	0	99.6	67.2	137				
Dibromomethane	20.8	1.00	20.00	0	104	75.5	126				
cis-1,3-Dichloropropene	19.6	1.00	20.00	0	98.0	62.6	137				
Toluene	20.7	1.00	20.00	0	103	61.3	145				
trans-1,3-Dichloropropylene	20.0	1.00	20.00	0	100	56.5	163				
1,1,2-Trichloroethane	21.0	1.00	20.00	0	105	71.7	131				
1,3-Dichloropropane	21.0	1.00	20.00	0	105	73.5	127				
Tetrachloroethene (PCE)	20.9	1.00	20.00	0	104	47.5	147				
Dibromochloromethane	20.5	1.00	20.00	0	102	67.2	134				
1,2-Dibromoethane (EDB)	21.6	0.0600	20.00	0	108	73.6	125				

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16001** SampType: **LCS** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **LCSW** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647759**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.1	1.00	20.00	0	101	73.9	126				
1,1,1,2-Tetrachloroethane	20.5	1.00	20.00	0	102	76.8	124				
Ethylbenzene	20.1	1.00	20.00	0	101	72	130				
m,p-Xylene	40.5	1.00	40.00	0	101	70.3	134				
o-Xylene	20.0	1.00	20.00	0	100	72.1	131				
Styrene	20.3	1.00	20.00	0	101	64.3	140				
Isopropylbenzene	20.3	1.00	20.00	0	101	73.9	128				
Bromoform	20.4	1.00	20.00	0	102	55.3	141				
1,1,2,2-Tetrachloroethane	21.6	1.00	20.00	0	108	62.9	132				
n-Propylbenzene	20.4	1.00	20.00	0	102	74.5	127				
Bromobenzene	20.7	1.00	20.00	0	104	71	131				
1,3,5-Trimethylbenzene	20.4	1.00	20.00	0	102	73.1	128				
2-Chlorotoluene	20.2	1.00	20.00	0	101	70.8	130				
4-Chlorotoluene	20.4	1.00	20.00	0	102	70.1	131				
tert-Butylbenzene	20.4	1.00	20.00	0	102	68.2	131				
1,2,3-Trichloropropane	22.8	1.00	20.00	0	114	67.7	131				
1,2,4-Trichlorobenzene	21.6	2.00	20.00	0	108	51.8	152				
sec-Butylbenzene	20.4	1.00	20.00	0	102	72	129				
4-Isopropyltoluene	20.2	1.00	20.00	0	101	69.2	130				
1,3-Dichlorobenzene	20.8	1.00	20.00	0	104	71	115				
1,4-Dichlorobenzene	20.7	1.00	20.00	0	103	66.8	119				
n-Butylbenzene	21.0	1.00	20.00	0	105	73.8	127				
1,2-Dichlorobenzene	20.8	1.00	20.00	0	104	69.7	119				
1,2-Dibromo-3-chloropropane	22.0	1.00	20.00	0	110	63.1	136				
1,2,4-Trimethylbenzene	20.5	1.00	20.00	0	103	73.4	127				
Hexachloro-1,3-butadiene	20.8	4.00	20.00	0	104	58.6	138				
Naphthalene	23.2	1.00	20.00	0	116	41.8	165				
1,2,3-Trichlorobenzene	21.9	4.00	20.00	0	110	48.7	156				
Surr: Dibromofluoromethane	26.0		25.00		104	45.4	152				
Surr: Toluene-d8	25.4		25.00		102	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128				

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16001** SampType: **LCS** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **LCSW** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647759**

Sample ID **LCSD-16001** SampType: **LCSD** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **LCSW02** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647758**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	18.6	1.00	20.00	0	93.0	43	136	19.14	2.90	20	
Chloromethane	19.9	1.00	20.00	0	99.4	40.4	150	19.85	0.136	20	
Vinyl chloride	19.8	0.200	20.00	0	99.1	48	145	20.08	1.27	20	
Bromomethane	19.0	1.00	20.00	0	95.1	43.2	166	15.24	22.1	20	R
Trichlorofluoromethane (CFC-11)	19.5	1.00	20.00	0	97.5	43.5	149	20.02	2.67	20	
Chloroethane	20.3	1.00	20.00	0	101	43.8	168	20.77	2.50	20	
1,1-Dichloroethene	19.9	1.00	20.00	0	99.6	65.6	136	20.20	1.40	20	
Methylene chloride	20.3	1.00	20.00	0	102	67.1	131	20.70	1.84	20	
trans-1,2-Dichloroethene	20.5	1.00	20.00	0	102	71.7	129	20.46	0.0473	20	
Methyl tert-butyl ether (MTBE)	22.1	1.00	20.00	0	110	67.7	131	22.33	1.16	20	
1,1-Dichloroethane	20.3	1.00	20.00	0	102	67.9	134	20.54	1.12	20	
2,2-Dichloropropane	18.6	2.00	20.00	0	93.2	33.7	152	19.19	2.95	20	
cis-1,2-Dichloroethene	20.4	1.00	20.00	0	102	70.2	139	20.51	0.738	20	
Chloroform	20.4	1.00	20.00	0	102	66.3	131	20.38	0.0210	20	
1,1,1-Trichloroethane (TCA)	20.2	1.00	20.00	0	101	71	131	20.54	1.44	20	
1,1-Dichloropropene	20.0	1.00	20.00	0	100	69.9	124	20.46	2.30	20	
Carbon tetrachloride	19.9	1.00	20.00	0	99.3	66.2	134	20.85	4.89	20	
1,2-Dichloroethane (EDC)	21.0	1.00	20.00	0	105	68.8	123	21.18	0.850	20	
Benzene	20.2	1.00	20.00	0	101	69.3	132	20.37	1.04	20	
Trichloroethene (TCE)	20.0	0.500	20.00	0	100	65.2	136	20.02	0.0107	20	
1,2-Dichloropropane	20.7	1.00	20.00	0	103	70.5	130	20.94	1.15	20	
Bromodichloromethane	19.8	1.00	20.00	0	99.2	74.6	127	19.93	0.451	20	
Dibromomethane	20.4	1.00	20.00	0	102	75.5	126	20.78	1.72	20	
cis-1,3-Dichloropropene	19.2	1.00	20.00	0	96.1	62.6	137	19.60	2.02	20	
Toluene	20.1	1.00	20.00	0	101	61.3	145	20.66	2.66	20	

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCSD-16001** SampType: **LCSD** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **LCSW02** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647758**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	19.5	1.00	20.00	0	97.6	56.5	163	20.05	2.68	20	
1,1,2-Trichloroethane	20.5	1.00	20.00	0	103	71.7	131	21.02	2.34	20	
1,3-Dichloropropane	20.6	1.00	20.00	0	103	73.5	127	20.98	1.74	20	
Tetrachloroethene (PCE)	20.4	1.00	20.00	0	102	47.5	147	20.88	2.16	20	
Dibromochloromethane	19.9	1.00	20.00	0	99.6	67.2	134	20.47	2.77	20	
1,2-Dibromoethane (EDB)	21.0	0.0600	20.00	0	105	73.6	125	21.58	2.92	20	
Chlorobenzene	20.0	1.00	20.00	0	100	73.9	126	20.12	0.397	20	
1,1,1,2-Tetrachloroethane	20.1	1.00	20.00	0	100	76.8	124	20.45	1.84	20	
Ethylbenzene	19.9	1.00	20.00	0	99.6	72	130	20.12	0.995	20	
m,p-Xylene	40.1	1.00	40.00	0	100	70.3	134	40.50	0.896	20	
o-Xylene	19.8	1.00	20.00	0	99.0	72.1	131	20.04	1.23	20	
Styrene	20.0	1.00	20.00	0	100	64.3	140	20.29	1.33	20	
Isopropylbenzene	19.9	1.00	20.00	0	99.3	73.9	128	20.26	1.96	20	
Bromoform	19.7	1.00	20.00	0	98.6	55.3	141	20.38	3.30	20	
1,1,2,2-Tetrachloroethane	21.0	1.00	20.00	0	105	62.9	132	21.63	2.97	20	
n-Propylbenzene	20.0	1.00	20.00	0	99.9	74.5	127	20.43	2.21	20	
Bromobenzene	20.4	1.00	20.00	0	102	71	131	20.73	1.56	20	
1,3,5-Trimethylbenzene	20.1	1.00	20.00	0	100	73.1	128	20.40	1.63	20	
2-Chlorotoluene	20.0	1.00	20.00	0	99.8	70.8	130	20.17	1.03	20	
4-Chlorotoluene	20.2	1.00	20.00	0	101	70.1	131	20.39	1.14	20	
tert-Butylbenzene	19.9	1.00	20.00	0	99.5	68.2	131	20.38	2.45	20	
1,2,3-Trichloropropane	22.1	1.00	20.00	0	111	67.7	131	22.83	3.24	20	
1,2,4-Trichlorobenzene	21.8	2.00	20.00	0	109	51.8	152	21.63	0.600	20	
sec-Butylbenzene	19.9	1.00	20.00	0	99.6	72	129	20.37	2.24	20	
4-Isopropyltoluene	19.9	1.00	20.00	0	99.5	69.2	130	20.17	1.35	20	
1,3-Dichlorobenzene	20.6	1.00	20.00	0	103	71	115	20.78	0.663	20	
1,4-Dichlorobenzene	20.5	1.00	20.00	0	103	66.8	119	20.66	0.664	20	
n-Butylbenzene	20.9	1.00	20.00	0	104	73.8	127	20.97	0.548	20	
1,2-Dichlorobenzene	20.7	1.00	20.00	0	104	69.7	119	20.80	0.227	20	
1,2-Dibromo-3-chloropropane	21.7	1.00	20.00	0	109	63.1	136	21.98	1.25	20	
1,2,4-Trimethylbenzene	20.4	1.00	20.00	0	102	73.4	127	20.55	0.817	20	

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCSD-16001** SampType: **LCSD** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **LCSW02** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647758**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	20.4	4.00	20.00	0	102	58.6	138	20.83	2.11	20	
Naphthalene	23.8	1.00	20.00	0	119	41.8	165	23.15	2.88	20	
1,2,3-Trichlorobenzene	22.1	4.00	20.00	0	110	48.7	156	21.90	0.750	20	
Surr: Dibromofluoromethane	26.0		25.00		104	45.4	152		0		
Surr: Toluene-d8	25.4		25.00		101	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128		0		

Sample ID **MB-16001** SampType: **MBLK** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **MBLKW** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									Q
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									Q
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-16001** SampType: **MBLK** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **MBLKW** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropylene	ND	1.00									Q
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-16001** SampType: **MBLK** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **MBLKW** Batch ID: **16001** Analysis Date: **1/23/2017** SeqNo: **647760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	25.2		25.00		101	45.4	152				
Surr: Toluene-d8	25.0		25.00		99.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.3		25.00		97.1	64.2	128				

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Sample ID **1701155-006ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **BATCH** Batch ID: **16001** Analysis Date: **1/24/2017** SeqNo: **647741**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.61	1.00						1.593	1.31	30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	Q
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	Q

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1701155-006ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **BATCH** Batch ID: **16001** Analysis Date: **1/24/2017** SeqNo: **647741**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	1.65	1.00						1.674	1.17	30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	Q
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	

Work Order: 1701202
CLIENT: PES Environmental, Inc.
Project: Lake Stevens Shopping Center

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1701155-006ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **1/23/2017** RunNo: **34032**
Client ID: **BATCH** Batch ID: **16001** Analysis Date: **1/24/2017** SeqNo: **647741**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	25.3		25.00		101	45.4	152		0		
Surr: Toluene-d8	24.2		25.00		96.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.1		25.00		96.3	64.2	128		0		

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1701202**
Logged by:	**Erica Silva**	Date Received:	**1/19/2017 2:00:00 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 ☐
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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	1.5
Sample	6.2
Temp Blank	2.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record and Laboratory Services Agreement

Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Date: 1/19/17

Laboratory Project No (internal): 1701202

Page: 1 of 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave. Suite 1350
City, State, Zip: Seattle WA 98161
Telephone: (206)329-3480 Fax: (206)329-3485

Project Name: Lake Stevens Shopping Center
Project No: 1246.038.03.001 Collected by: C. DeBroer
Location: Lake Stevens, WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM / 625)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	HOLD	Comments
1	MW-1-011917	1/19/17	920	GW	X														
2	MW-2-011917		1005		X														
3	MW-5-011917		1040		X														
4	MW-6-011917		1120		X														
5	MW-7-011917		1155		X														
6	MW-3-011917		1240		X														
7	MW-4-011917		1315		X														
8	TRIP BLANK	—	—	—													X		
9																			
10																			

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBroer	1/19/17 1400	x	1/19/17 1400
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance

MEMORANDUM

TO: Project File **DATE:** January 27, 2017

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Lake Stevens Marketplace

PROJECT #: 1246.038.004

TASK: January 19, 2017 Groundwater Samples

LAB: Fremont Analytical Service Request No. 1701202

Seven groundwater samples and a trip blank were collected at the Lake Stevens Marketplace Site in Snohomish County on January 19, 2017. The samples were collected as part of a Limited Phase II Investigation at the Site. The samples were delivered to Fremont Analytical (Fremont) of Seattle, Washington for laboratory analysis. Samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C. The results were reported in Fremont Lab Package 1701202.

The quality assurance review of the laboratory data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2014).

DATA VALIDATION

Sample Receipt, Preservation and Handling

The samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols. Review of Fremont's Sample Log-In Check List Form indicates that all samples were received in good condition slightly above the recommended preservation temperature of less than 6.0°C. No action is taken since samples were collected and delivered to the laboratory on the same day and did not have sufficient time to cool. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Trip blank was placed on hold per PES's chain of custody request.

Holding Times

All samples were analyzed for VOCs within the USEPA recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. Case narrative notes and/or qualifiers indicate that continuing calibration criteria were not met for 2,2-dichloropropane, trans-1,3-dichloropropylene, and bromomethane (with associated QC). Continuing calibration %D was below Fremont's control limit criteria. No action was taken for bromomethane since this is associated with continuing calibration bracketing other samples and/or QC. **All associated 2,2-dichloropropane and trans-1,3-dichloropropylene sample results are non-detect and qualified as estimated (UJ).**

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

A trip blank was collected but not analyzed. No action was taken other than to note this.

Laboratory Duplicate Analyses

Laboratory duplicate sample analyses were performed on a non-client sample within the analytical batch. The primary/duplicate relative percent differences (RPDs) for VOCs were within the laboratory control limit of 30%. Duplicate data are acceptable.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to laboratory duplicate data for precision data.

Surrogate Recoveries

The surrogate recovery results for the samples, laboratory duplicates, laboratory control samples (LCS), and the method blank were within the laboratory surrogate control limits for all of the analyses.

Matrix Spike/ Matrix Spike Duplicates

A matrix spike (MS) analysis was not performed. Refer to laboratory control samples and laboratory duplicate data for accuracy and precision.

Laboratory Control Samples

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) was analyzed by USEPA Method 8260C. The LCS/LCSD percent recoveries (%R's) and RPDs for the all target compounds were within the laboratory control criteria for water with the following exception:

- VOC compound bromomethane RPD was elevated at 22% and slightly above acceptance criteria (20%). No action was taken since both LCS/LCSD %R's were within laboratory acceptance criteria.

Quantitation Limits

Results of all analyses were reported based on standard laboratory MRLs. The reported MRLs are considered appropriate for this project. No data qualifiers were warranted based upon standard detection limits.

Completeness

The samples were collected and analyzed as requested. The results in all cases were reported based upon standard Method Reporting Limits (MRLs). Data completeness is 100%.

Data Assessment

The laboratory data reported for this project were reviewed based on laboratory control limit acceptance criteria and criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2014)

Data qualifiers were assigned and laboratory report pages with qualifiers are attached. All data are judged to be acceptable for their intended use.

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-001
Client Sample ID: MW-1-011917

Collection Date: 1/19/2017 9:20:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:00:53 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:00:53 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:00:53 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:00:53 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM

DS 1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-001
Client Sample ID: MW-1-011917

Collection Date: 1/19/2017 9:20:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:00:53 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:00:53 AM
Surr: Toluene-d8	96.7	40.1-139		%Rec	1	1/24/2017 6:00:53 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 6:00:53 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-002
Client Sample ID: MW-2-011917

Collection Date: 1/19/2017 10:05:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:58:11 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:58:11 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:58:11 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Tetrachloroethene (PCE)	114	10.0	D	µg/L	10	1/24/2017 2:23:23 PM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:58:11 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-002
Client Sample ID: **MW-2-011917**

Collection Date: 1/19/2017 10:05:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:58:11 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:58:11 AM
Surr: Toluene-d8	97.2	40.1-139		%Rec	1	1/24/2017 6:58:11 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	64.2-128		%Rec	1	1/24/2017 6:58:11 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-003
Client Sample ID: MW-5-011917

Collection Date: 1/19/2017 10:40:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result		RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloromethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Vinyl chloride	ND		0.200		µg/L	1	1/24/2017 7:26:47 AM
Bromomethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichlorofluoromethane (CFC-11)	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Methylene chloride	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Methyl tert-butyl ether (MTBE)	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
2,2-Dichloropropane	ND	UJ	2.00	Q	µg/L	1	1/24/2017 7:26:47 AM
cis-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroform	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1-Trichloroethane (TCA)	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Carbon tetrachloride	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloroethane (EDC)	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Benzene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichloroethene (TCE)	ND		0.500		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromodichloromethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromomethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
cis-1,3-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Toluene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,3-Dichloropropylene	ND	UJ	1.00	Q	µg/L	1	1/24/2017 7:26:47 AM
1,1,2-Trichloroethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Tetrachloroethene (PCE)	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromochloromethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromoethane (EDB)	ND		0.0600		µg/L	1	1/24/2017 7:26:47 AM
Chlorobenzene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1,2-Tetrachloroethane	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Ethylbenzene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
m,p-Xylene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
o-Xylene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Styrene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Isopropylbenzene	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromoform	ND		1.00		µg/L	1	1/24/2017 7:26:47 AM

JC 1/27/17

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 10:40:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-003
Matrix: Groundwater
Client Sample ID: MW-5-011917

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:26:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:26:47 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:26:47 AM
Surr: 1-Bromo-4-fluorobenzene	94.7	64.2-128		%Rec	1	1/24/2017 7:26:47 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-004
Client Sample ID: MW-6-011917

Collection Date: 1/19/2017 11:20:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result		RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloromethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Vinyl chloride	ND		0.200		µg/L	1	1/24/2017 7:55:24 AM
Bromomethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichlorofluoromethane (CFC-11)	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Methylene chloride	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Methyl tert-butyl ether (MTBE)	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
2,2-Dichloropropane	ND	UJ	2.00	Q	µg/L	1	1/24/2017 7:55:24 AM
cis-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroform	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1-Trichloroethane (TCA)	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Carbon tetrachloride	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloroethane (EDC)	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Benzene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichloroethene (TCE)	ND		0.500		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromodichloromethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromomethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
cis-1,3-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Toluene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,3-Dichloropropylene	ND	UJ	1.00	Q	µg/L	1	1/24/2017 7:55:24 AM
1,1,2-Trichloroethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Tetrachloroethene (PCE)	1.44		1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromochloromethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromoethane (EDB)	ND		0.0600		µg/L	1	1/24/2017 7:55:24 AM
Chlorobenzene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1,2-Tetrachloroethane	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Ethylbenzene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
m,p-Xylene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
o-Xylene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Styrene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Isopropylbenzene	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromoform	ND		1.00		µg/L	1	1/24/2017 7:55:24 AM

1/27/17

Client: PES Environmental, Inc.
Collection Date: 1/19/2017 11:20:00 AM
Project: Lake Stevens Shopping Center
Lab ID: 1701202-004
Matrix: Groundwater
Client Sample ID: MW-6-011917

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:55:24 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:55:24 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:55:24 AM
Surr: 1-Bromo-4-fluorobenzene	95.4	64.2-128		%Rec	1	1/24/2017 7:55:24 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

1/27/17

Analytical Report

Work Order: **1701202**
Date Reported: **1/26/2017**

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-005
Client Sample ID: **MW-7-011917**

Collection Date: 1/19/2017 11:55:00 AM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result		RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloromethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Vinyl chloride	ND		0.200		µg/L	1	1/24/2017 8:24:06 AM
Bromomethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichlorofluoromethane (CFC-11)	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Methylene chloride	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Methyl tert-butyl ether (MTBE)	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
2,2-Dichloropropane	ND	UJ	2.00	Q	µg/L	1	1/24/2017 8:24:06 AM
cis-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroform	1.04		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1-Trichloroethane (TCA)	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Carbon tetrachloride	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloroethane (EDC)	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Benzene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichloroethene (TCE)	ND		0.500		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromodichloromethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Dibromomethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
cis-1,3-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Toluene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,3-Dichloropropylene	ND	UJ	1.00	Q	µg/L	1	1/24/2017 8:24:06 AM
1,1,2-Trichloroethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Tetrachloroethene (PCE)	126		10.0	D	µg/L	10	1/24/2017 2:52:05 PM
Dibromochloromethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromoethane (EDB)	ND		0.0600		µg/L	1	1/24/2017 8:24:06 AM
Chlorobenzene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1,2-Tetrachloroethane	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Ethylbenzene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
m,p-Xylene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
o-Xylene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Styrene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Isopropylbenzene	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromoform	ND		1.00		µg/L	1	1/24/2017 8:24:06 AM

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-005
Client Sample ID: MW-7-011917

Collection Date: 1/19/2017 11:55:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:24:06 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:24:06 AM
Surr: Toluene-d8	98.5	40.1-139		%Rec	1	1/24/2017 8:24:06 AM
Surr: 1-Bromo-4-fluorobenzene	93.7	64.2-128		%Rec	1	1/24/2017 8:24:06 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-006
Client Sample ID: MW-3-011917

Collection Date: 1/19/2017 12:40:00 PM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result		RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	2.95		1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloromethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Vinyl chloride	ND		0.200		µg/L	1	1/24/2017 8:52:47 AM
Bromomethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichlorofluoromethane (CFC-11)	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Methylene chloride	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Methyl tert-butyl ether (MTBE)	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
2,2-Dichloropropane	ND	UJ	2.00	Q	µg/L	1	1/24/2017 8:52:47 AM
cis-1,2-Dichloroethene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroform	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1-Trichloroethane (TCA)	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Carbon tetrachloride	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloroethane (EDC)	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Benzene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichloroethene (TCE)	ND		0.500		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromodichloromethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromomethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
cis-1,3-Dichloropropene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Toluene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,3-Dichloropropylene	ND	UJ	1.00	Q	µg/L	1	1/24/2017 8:52:47 AM
1,1,2-Trichloroethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichloropropane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Tetrachloroethene (PCE)	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromochloromethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromoethane (EDB)	ND		0.0600		µg/L	1	1/24/2017 8:52:47 AM
Chlorobenzene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1,2-Tetrachloroethane	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Ethylbenzene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
m,p-Xylene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
o-Xylene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Styrene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Isopropylbenzene	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromoform	ND		1.00		µg/L	1	1/24/2017 8:52:47 AM

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-006
Client Sample ID: MW-3-011917

Collection Date: 1/19/2017 12:40:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:52:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:52:47 AM
Surr: Toluene-d8	99.1	40.1-139		%Rec	1	1/24/2017 8:52:47 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 8:52:47 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-007
Client Sample ID: MW-4-011917

Collection Date: 1/19/2017 1:15:00 PM
Matrix: Groundwater

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16001 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 9:21:39 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2,2-Dichloropropane	ND UJ	2.00	Q	µg/L	1	1/24/2017 9:21:39 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,3-Dichloropropylene	ND UJ	1.00	Q	µg/L	1	1/24/2017 9:21:39 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 9:21:39 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM

1/27/17

Client: PES Environmental, Inc.
Project: Lake Stevens Shopping Center
Lab ID: 1701202-007
Client Sample ID: MW-4-011917

Collection Date: 1/19/2017 1:15:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16001		Analyst: NG
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 9:21:39 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 9:21:39 AM
Surr: Toluene-d8	99.2	40.1-139		%Rec	1	1/24/2017 9:21:39 AM
Surr: 1-Bromo-4-fluorobenzene	94.8	64.2-128		%Rec	1	1/24/2017 9:21:39 AM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF) - low bias.

1/27/17

APPENDIX D

Groundwater Field Sampling Data Sheets

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** TW-3
Project No.: 1246.038.03	**Date:** 7/8/16

Site Description ☐ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☒ Other: Temp

Air Temp: 70 ☐ °C ☒ °F	Weather: Sun
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 0 ☐ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other: 3/4" @

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 224244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	6:00						
Depth to Water	6.85						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☒

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☐ SC ☐ EC (µS/cm)	Temp ☐°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
		__:__	__.__	____	___.__	___.__	___.__	___.__
Collected 3 40ml VOAs of water. Well pumped dry when trying to measure water quality data.								

Pump Rate (ml/min) 50-80	Color/Tint/Odor cloudy
Meter Used N/A	

Sample Data Sample Depth: 11 ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
TW-3-070816	PO	7/8/16	610	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Market place	**Location I.D. :** TW-5
Project No.: 1246.038.03	**Date:** 7-8-16

Location Description ☐ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☒ Other: Temp

Air Temp: 65 ☐ °C ☒ °F	Weather: Sun
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed:
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 0 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☐ 2-inch ☐ 4-inch Other: 3/4"

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 922244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	6:20						
Depth to Water	9.80						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [_____(TD) - _____(WL)]•[____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☒

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☐ SC ☐ EC (µS/cm)	Temp ☐°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
		__:__	__.__	____	__.__	__.__	__.__	__.__
		Collected 3 40ml VOAs before collecting water quality parameters. Well pumped dry before water quality parameters could be measured.						

Pump Rate (ml/min) 50-80	Color/Tint/Odor cloudy, brown
Meter Used YSI ProPlus (NA)	

Sample Data Sample Depth: 14 ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
TW-5-070816	PO	7/8/16	630	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Location I.D. :** TW-6
Project No.: 1246.035.04	**Date:** 7/8/16

Location Description ☐ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☒ Other: Temp

Air Temp: 65 ☐ °C ☒ °F	Weather: sun
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☐ TOC ☒ MP Description of MP (e.g., well monument at grade surface):	ground surface
TOC/MP Stickup: 0' ☐ ft ☒ m above/~~below~~ ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	6:40						
Depth to Water	7.82						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [_____(TD) - _____(WL)]•[____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☒

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☐ SC ☐ EC (µS/cm)	Temp ☐°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
		__:__	__.__	____	___.__	__.__	___.__	__.__
		Collected 3 40ml VOAs prior to water quality measurements, well pumped dry before measurements could be collected						

Pump Rate (ml/min) 50-80	Color/Tint/Odor cloudy, brown
Meter Used NA	

Sample Data Sample Depth: 10 ☐ Grab ☐ Bailer ☒ Pump Description: peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
TW-6-07-0816	PO	7/8/16	645 (W)	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** MW-1 BID 972
Project No.: 1246.038.03	**Date:** 7/26/16

Site Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 65 ☐ °C ☒ °F	Weather: clear, in shade
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none, no well lock
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 0.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 224744 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	7:04		704		748		
Depth to Water	9.35				9.70		
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☐°C ☒°F	D. O (mg/L)	ORP (mV)	Turbidity ☒ NTU
~.25	9.44*	7:08	5.62	739	17.7	11.15	144.0	NM
~.5	9.49	7:13	5.88	582	17.7	3.88	135.2	
~.75	9.53	7:18	5.97	538.6	17.8	3.00	139.0	
~1.00	9.56	7:23	6.01	520.0	17.8	2.66	143.4	
~1.25	9.59	7:28	6.06	510.4	17.9	2.39	143.4	
~1.5	9.63	7:33	6.10	505.8	17.7	2.36	143.5	
~1.75	9.68	7:38	6.13	507.2	17.8	2.41	144.6	
~2.0	9.70	7:41	6.14	508.3	17.9	2.33	144.5	

Pump Rate (ml/min) as slow as the pump runs ~50-80	Color/Tint/Odor clear, colorless
Meter Used YSI Pro Plus	

Sample Data Sample Depth: 12 ft. ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-1-072616	PO	7/26/16	745	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

* slowed pump rate.

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** MW-2-072616 BID 973
Project No.: 1246.038.03	**Date:**

Site Description

☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 70 ☐ °C ☒ °F	Weather: Shade
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: .3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data

Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 284244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	11:45		1145			1233	
Depth to Water	8.45					8.68	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data

Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: peri

Casing Volume: [_____(TD) - _____(WL)]•[____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☐°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	8.54	11:47	6.67	362.8	19.3	2.61	151.2	NM
~.5	8.59	1152	6.60	363.9	19.7	2.17	151.2	
~.75	8.63	1157	6.58	367.4	19.5	1.95	152.0	
~1	8.66	1203	6.53	370.3	19.5	1.88	153.7	
~1.25	8.67	1217	6.48	372.4	19.6	1.83	154.1	
~1.5	8.68	1222	6.46	376.6	19.5	1.77	155.8	
~1.75	8.69	1227	6.45	378.2	19.6	1.74	156.7	

Pump Rate (ml/min): 50-80.

Color/Tint/Odor: Clear colorless

Meter Used: YSI Pro Plus

Sample Data

Sample Depth: 12ft ☐ Grab ☐ Bailer ☒ Pump Description: peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-2-072616	PO	7/26/16	1230	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print): Chris DeBoer Signature: Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** MW-3 BID 975
Project No.: 124603B.03	**Date:** 7/26/16

Site Description

☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 70 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 1.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data

Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 942944 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	9:50		950			1040	
Depth to Water	4.81					5.04	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data

Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [_____(TD) - _____(WL)]•[_____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☐ SC ☐ EC (µS/cm)	Temp ☐°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	4.87	9:57	7.30	212.6	20.5	4.48	~~212.5~~ 128.7	
~.5	4.92	10:03	7.15	212.5	20.4	3.62	125.6	
~.75	4.94	10:07	7.07	211.4	20.3	3.50	125.9	
~1.0	4.99	10:12	6.99	211.9	20.4	3.31	126.9	
~1.25	5.01	10:17	6.95	212.8	20.7	3.48	127.9	
~1.5	5.03	10:22	6.92	211.0	21.0	3.33	128.8	
~1.75	5.05	10:27	6.90	211.5	21.0	3.20	129.6	

Pump Rate (ml/min) as slow as the pump runs 50-86

Color/Tint/Odor clear, colorless

Meter Used YSI Pro Plus

Sample Data

Sample Depth: 10 ft. ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-3-072616	PO	7/26/16	1035	3	Y ⊗	VOA	⊗ N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** MW-4 (GW) BH 974
Project No.: 1246.038.03	**Date:** 7/26/16

Site Description

☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 70 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data

Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 974.04 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	10:41		1041			1130	
Depth to Water	4.54					4.80	
Depth to Bottom						11.37	
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data

Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [_____(TD) - _____(WL)]•[_____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒ °C ☐ °F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
2.26	4.62	10:51	6.99	206.0	19.5	4.56	139.6	nm
2.5	4.67	10:55	6.88	207.6	19.8	3.17	139.0	
~2.75	4.72	11:00	6.76	198.8	19.4	3.28	141.8	
~3.0	4.74	11:05	6.68	199.6	19.7	3.15	144.0	
~3.25	4.76	11:10	6.65	201.3	19.6	3.13	148.3	
~3.50	4.77	11:15	6.62	202.0	19.6	3.10	153.6	
~3.75	4.78	11:20	6.59	202.9	19.6	3.08	157.2	
~4.00	4.80	11:25	6.57	203.4	19.7	3.05	158.0	

Pump Rate (ml/min): 50-80	Color/Tint/Odor: clear, colorless
Meter Used: YSI Pro Plus	

Sample Data

Sample Depth: 10 ft. ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-4-072616	PO	7/26/16	1135	3	Y ⊘	VOA	⊘ N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print): Chris DeBoer Signature: Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** MW-5 BGY 10ft
Project No.: 1246.038.03	**Date:** 7/26/16

Site Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 70 ☐ °C ☒ °F	Weather: Sunny
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: None
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 0.3 ☒ ft ☐ m above/~~below~~ ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 284241 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	12:53		1253			21.32	
Depth to Water	20.68					1332	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☐ SC ☐ EC (µS/cm)	Temp ☐°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	20.85	1255	8.19	445.3	18.8	5.12	127.4	NM
~.5	20.96 21.02 (2)	1300	9.27	486.7	19.0	3.10	143.7	
~.75	21.02	1305	9.46	483.7	19.1	2.71	148.9	
~1.0	21.16	1315	9.53	483.9	19.1	2.06	153.7	
~1.25	21.20	1320	9.64	484.3	19.1	1.53	158.9	
~1.5	21.29	1325	9.68	485.1	19.1	1.05	162.7	
		1325 (2)						

Pump Rate (ml/min) 50-80	Color/Tint/Odor clear, faintly cloudy
Meter Used YSI Pro Plus	

Sample Data Sample Depth: 21 (2) ☐ Grab ☐ Bailer ☒ Pump Description: peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-5-072616	PO	7/26/16	1330	3	Y (N)	VOA	(N) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris De Boer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** MW-6 BJY 108
Project No.: 1246.038.03	**Date:** 7/26/16

Site Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 65 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 224244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	7:51		751			844	
Depth to Water	9.30					844 9.60	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [_____(TD) - _____(WL)]•[_____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☐°C ☒°F	D. O (mg/L)	ORP (mV)	Turbidity ☒ NTU
~2.25	9.41	7:58	6.55	667	18.0	6.49	145.3	
~2.5	9.43	8:03	6.63	667	17.9	5.88	143.3	
~2.75	9.46	8:08	6.70	667	18.0	5.71	143.6	
~3.0	9.49	8:13	6.75	669	18.1	5.56	142.9	
~3.25	9.51	8:18	6.78	671	18.1	5.54	142.8	
~3.5	9.53	8:24	6.82	673	18.1	5.43	142.6	
~3.75	9.55	8:29	6.84	682	17.9	6.20	143.0	
~4.0	9.59	8:34	6.88	676	17.4	6.16	143.1	

Pump Rate (ml/min) as slow as the pump can run ~50-80

Color/Tint/Odor clear, colorless

Meter Used YSI Pro Plus

Sample Data Sample Depth: ~12 ft bgs ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-6-072616	PO	7/26/16	840	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Well I.D.:** MW-7 BOY 109
Project No.: 1248.038.03	**Date:** 7/26/16

Site Description

☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 65 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 2.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data

Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 224244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	8:46		847			937	
Depth to Water	7.58					7.83	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data

Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [_____(TD) - _____(WL)]•[_____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☐°C ☒°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	7.69	8:53	7.38	362.1	18.3	6.92	134.1	am
~.5	7.71	8:58	7.36	361.7	18.2	5.69	135.4	
~.75	7.75	9:03	7.34	362.5	18.6	5.70	135.6	
~1.0	7.76	9:08	7.34	364.2	18.9	6.01	135.2	
~1.25	7.77	9:13	7.35	365.7	18.8	5.68	134.5	
~1.5	7.81	9:18	7.35	370.4	18.7	5.61	134.8	
~1.75	7.84	9:23	7.36	373.9	18.2	5.61	134.9	
~2	7.87	9:28	7.36	373.8	18.1	5.69	135.2	

Pump Rate (ml/min) as slow as the pump runs ~90 -80

Color/Tint/Odor Clear, colorless

Meter Used YSI Pro Plus

Sample Data

Sample Depth: ~12 ft. ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-7-072616	PO	7/26/16	935	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES Environmental, Inc.
Engineering & Environmental Services

PAGE 1 OF 1
DATE: 10/28/16

WATER LEVEL DATA FORM

PROJECT: Lake Stevens
JOB No: 1246.038.03
FIELD PERSONNEL: C. DeBoer
RECORDED BY: C. DeBoer
DATUM: ☐ MEAN SEA LEVEL ☐ OTHER - DESCRIBE

MEASURING INSTRUMENT:
☒ STEEL TAPE ☐ OTHER-TYPE
☒ ELECTRONIC SOUNDER SERIAL No. #37861

WELL I.D.	Time Well Opened	Depth to Water (FT) I	Time I	Depth to Water (FT) II	Time II	Depth to Water (FT)	COMMENTS (well condition, odor, presence of product, etc.)
MW-1	710	9.16	740	9.15	816		
MW-2	723	7.45	751	7.44	826		
MW-3	728	3.14	744	3.09	820		
MW-4	730	3.00	742	2.66	818		
MW-5	725	20.90	746	20.78	822		
MW-6	713	8.65	747	8.63	824		
MW-7	718	6.80	749	6.81	828		
		III	III	IV	IV		
MW-4 cont.		2.50	855	2.34	931		
MW-3 cont.		3.08	856	–	–		
MW-5 cont.		20.71	859	~~9.26~~ 20.67 (a)	~~9.26~~ 20.67		
MW-6 cont.		8.63	900	–	–		
		V	V	VI	VII		
MW-4 cont.		2.30	1013	2.30	1305		
MW-5 cont.		20.52	1130				

-Note: pairs of time & measurement are indicated by roman numeral

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Location I.D. :** MW-6
Project No.: 1246.038.03.	**Date:** 10-18-16

Location Description ☐ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 55-60 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~1.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 37861 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	9:00		910			956	1102
Depth to Water	8.63					8.87	8.80
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[___(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	8.73	9:17	6.61	751	14.5	2.81	60.7	NM
~.5	8.75	9:22	6.29	731	14.3	2.61	65.1	
~.75	8.77	9:27	6.11	712	14.0	2.76	67.8	
~1.0	NM	9:32	6.12	694	13.9	2.70	70.0	
~1.25	8.82	9:37	6.11	681	13.8	2.72	70.6	
~1.5	8.85	9:42	6.14	667	13.9	2.53	70.3	
~1.75	8.87	9:47	6.11	649	14.0	2.56	71.7	

Pump Rate (ml/min) 50-80	Color/Tint/Odor clear, colorless
Meter Used YSI Pro Plus	

Sample Data Sample Depth: 10' ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-6-101816	PO	10/18/16	950	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Location I.D. :** MW-7
Project No.: 1246.038.03	**Date:** 10-18-16

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 55-60 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 19861 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	9:59		1000			1045	1102
Depth to Water	6.89					7.10	7.05
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [_____(TD) - _____(WL)]•[____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~1.25	6.94	10:06	6.48	266.3	13.4	2.80	73.8	NM
~1.5	6.96	10 11	6.26	256.4	13.3	2.14	78.5	
~1.75	7.00	10 16	6.14	256.5	13.6	1.92	81.0	
~1.0	7.04	10 21	6.09	253.4	13.6	1.86	82.5	
~1.25	7.07	1026	6.05	251.3	13.9	1.89	83.8	
~1.5	7.10	1031	6.02	250.8	14.1	1.84	84.9	
~1.75	7.12	1036	6.00	250.9	13.8	1.96	85.7	

Pump Rate (ml/min) 50-80 Color/Tint/Odor clear, colorless

Meter Used YSI Pro Plus

Sample Data Sample Depth: 10' ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-7-101816	PO	10/18/16	1040	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Location I.D. :** MW-2
Project No.:	**Date:** 10-18-16

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 55-60 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 37861 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	10:48		1048			1127	
Depth to Water	7.43				(CW)	~~1120~~ 7.74	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	7.55	10:57	5.94	375.6	13.7	3.92 (CW) ~~5.94~~	107.9	NM
~.5	7.61	11 02	5.95	378.0	14.1	3.33	106.6	
~.75	7.64	11 07	5.95	379.2	14.4	3.07	106.0	
~1.0	7.70	11 12	5.94	378.7	14.8	3.03	106.2	
~1.25	7.76	11 17	5.96	379.8	14.7	2.96	106.2	

Pump Rate (ml/min) 50 - 80	Color/Tint/Odor clear, colorless
Meter Used YSI Pro Plus	

Sample Data Sample Depth: ~10' ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-2-101816	PO	10/18/16	1120	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Location I.D. :** MW-5
Project No.: 1246.038.03	**Date:** 10-18-16

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 55-60 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~2.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 37861 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	11:30		1131			1213	
Depth to Water	20.52					20.38	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [_____(TD) - _____(WL)]•[____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒ °C ☐ °F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	20.80	11:39	6.36	111.2	12.7	2.83	161.0	NM
~.5	20.95	11 45	6.53	204.0	13.8	1.71	101.6	
~.75	21.08	1150	6.64	203.2	13.8	1.38	100.7	
~1.0	21.14	1155	6.73	203.2	13.8	1.04	99.2	
~1.25	21.23	1200	6.79	203.4	13.8	1.04	97.6	
~1.5	21.30	1205	6.82	203.3	14.2	10.7	96.6	

Pump Rate (ml/min) 50 - 80	Color/Tint/Odor Clear colorless
Meter Used YSI Pro Plus	

Sample Data Sample Depth: ~35' ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-5-101816	PO	10/18/16	1210	3	Y ⊘	VOA	⊘ N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	**Location I.D.:** MW-3
Project No.: 1246-038.03	**Date:** 10-18-16

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 55-60 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: new well cap
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 37861 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	12:24		1224			1257	
Depth to Water	3.04					3.29	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒ °C ☐ °F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~0.25	3.13*	12:27	6.77	188.9	15.0	4.73	101.9	n.m.
~0.5	3.21	1232	6.53	190.2	14.6	3.84	106.6	
~0.75	3.24	1237	6.42	191.3	14.5	3.80	107.9	
~1.0	3.25	1242	6.37	191.2	14.3	3.83	108.6	
~1.25	3.28	1247	6.33	191.0	14.3	3.96	109.8	
~1.5	3.30	1252	6.30	190.6	14.4	3.81	110.1	

Pump Rate (ml/min) 50-80	Color/Tint/Odor Clear, colorless
Meter Used YSI Pro Plus	

Sample Data Sample Depth: ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-3-101816	PO	10/18/16	1255	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature

* pump sped up; pump rate adjusted lower.

PES GROUNDWATER SAMPLING PROTOCOLS

Facility/Site: Lake Stevens Marketplace	**Location I.D. :** MW-4
Project No.: 1246.038.03	**Date:** 10-18-16

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 60 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 37861 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	13:05		1305				
Depth to Water	2.30						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	2.36	13:15	6.87	160.3	14.0	2.09	83.6	NM
~.5	2.40	1320	6.46	150.6	14.5	1.24	100.1	
~.75	2.43	1325	6.33	142.4	14.7	1.11	108.4	
~1.0	2.46	1330	6.29	140.3	14.7	1.06	110.8	
~1.25	2.49	1335	6.27	136.4	14.8	1.03	113.2	

Pump Rate (ml/min) 50-80	Color/Tint/Odor clear, colorless
Meter Used YSI Pro Plus	

Sample Data Sample Depth: 10' ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-4-101816	PO	10/18/16	1340	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility/Site: Lake Stevens Marketplace	**Location I.D.:** MW-8 (2)
Project No.: 1241.038.03	**Date:** 10-18-16

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 60 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, #37861 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	13:49		1349				
Depth to Water	9.15		@ 9.15				
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [_____(TD) - _____(WL)]•[____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒ °C ☐ °F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	9.20	13:58	6.37	317	14.8	2.04	49.1	nm
~.5	9.23	1403 (@)	6.23	248	14.8	1.88	55.4	
~.75	9.26	1408	6.15	237	14.8	1.30	57.9	
~1.0 (@)	9.29	1413	6.07	219	14.7	1.17	60.8	
~1.25	9.32	1418	6.04	215	14.8	1.13	62.3	
~1.5	9.35	1423	6.02	213	14.7	1.09	64.3	

Pump Rate (ml/min) 50-80	Color/Tint/Odor clear, colorless
Meter Used YSI ProPlus	

Sample Data Sample Depth: 10' ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-8-101816 (@)1	PO	10/18/16	1430	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

Fremont Analytical

Chain of Custody Record and Laboratory Services Agreement

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 10/19/16

Laboratory Project No (internal): _____

Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave Suite 1350
City, State, Zip: Seattle, WA 98161
Telephone: (206) 524-3990 Fax: (206) 524-3995

Project Name: Lake Stevens Marketplace
Project No: 1246.033.03 Collected by: C DeBoer
Location: Lake Stevens, WA
Report To (PM): Brian O'Neal
PM Email: boneal@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)					Comments
1	MW-6-101816	10/18/16	950	GW	X																
2	MW-7-101816		1040		X																
3	MW-8-101816		1120		X																
4	MW-5-101816		1210		X																
5	MW-3-101816		1255		X																
6	MW-4-101816		1340		X																
7	MW-8-101816		1430		X																
8	TRIP BLANK		-														X				
9																					
10																					

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	10/19/16 918	x [signature]	10/19/16 09:19
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day ~~STD~~

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

PES Environmental, Inc.
Engineering & Environmental Services

PAGE 1 OF 1
DATE: 1/19/17

WATER LEVEL DATA FORM

PROJECT: Lake Stevens Shp Ctr
JOB No: 1246.038.03.001
FIELD PERSONNEL: C. DeBoer
RECORDED BY: C. DeBoer
DATUM: ☐ MEAN SEA LEVEL ☐ OTHER - DESCRIBE

MEASURING INSTRUMENT:
☐ STEEL TAPE ☐ OTHER-TYPE
☒ ELECTRONIC SOUNDER SERIAL No. 724244

WELL I.D.	Time Well Opened	Depth to Water (FT)	Time	Depth to Water (FT)	Time	Depth to Water (FT)	COMMENTS (well condition, odor, presence of product, etc.)
MW-1	735	n/m	750	7.94	836	7.94	
MW-2	736		757	6.89	835	6.88	
MW-3	739		753	1.93	828	1.78	
MW-4	741		752	1.35	829	1.21	
MW-5	736		759	18.92	831	18.97	
MW-6	737		755	8.61	834	8.58	
MW-7	738		807	6.73	833	6.74	
MW-3 cont.			910	1.75			
MW-4 cont.			911	1.18			
MW-6 cont.			908	8.53			
*	could feel air Came and		temperature changes as rain went.				

G:\Public\Admin\Forms\Field Forms\New Water_Level_form 2015

Last up-dated: 3/24/03

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Shopping Center	**Well I.D. :** MW-1
Project No.: 1246.038.03.001	**Date:** 1/19/17

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 40's ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data

Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 314344 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	8:44		844				
Depth to Water	7.94						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data

Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [_____(TD) - _____(WL)]•[_____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	8.04	851	7.34	945	10.5	10.58	3.7	mm.
~.5	8.08	857	7.86	913	10.5	2.70	12.3	
* ~.75	8.11	901	7.68	879	10.7	2.12	19.0	
~1.00	8.14	907 @	7.66	867	10.4	2.00	16.4	
~1.25	8.17	913	7.66	856	10.2	1.88	15.9	
~1.5	8.21	918 @	7.65	850	10.2	1.87	22.3	

Pump Rate (ml/min): 50 - 80 Color/Tint/Odor: clear, colorless

Meter Used: YSI Pro Plus

Sample Data

Sample Depth: 10 ft ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-1-011917	PO	1/19/17	920	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature: Chris DeBoer

* slowed pump rate

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Shopping Center	**Well I.D. :** MW-7
Project No.: 1246.038.03.001	**Date:** 1/19/17

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 40 ☐ °C ☑ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 2.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☑ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 334344 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	9:30		932				
Depth to Water	6.87						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [_____(TD) - _____(WL)]•[_____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☑°C ☐°F	D. O ★ (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.3	6.97	9:37	7.03	439.8	9.4	0.41	7.7	
~.55	7.02	942	7.14	436.5	9.6	—	17.7	
~.8	7.06	947	7.23	440.1	9.5	—	14.4	
~1.05	7.10	952	7.26	434.6	9.3	—	31.8	
~1.3	7.15	957	7.28	429.4	9.4	—	17.8	
~1.55	7.19	1002	7.27	429.3	9.4	—	18.6	

Pump Rate (ml/min): 50-80 Color/Tint/Odor: clear colorless

Meter Used: YSI Pro Plus

Sample Data Sample Depth: ~10 ft ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-7-011917	P0	01/19/17	1005	5	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature: Chris DeBoer

★ D.O. meter read blank

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Shopping Center	**Well I.D. :** MW-5
Project No.: 1246.038.03.001	**Date:** 1/19/17

Location Description ☑ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 45 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed:
☑ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~.3 ☑ ft ☐ m above/below ground	Well Inside Diameter (ID): ☑ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☑ ft ☐ m

☒ E-Tape, # 22,244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	10:05		10:05				
Depth to Water	18.92						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☑ SC ☐ EC (µS/cm)	Temp ☑°C ☐°F	D. O (mg/L) ★	ORP (mV)	Turbidity ☐ NTU
~1.25	18.96	10:10	7.05	236.3	11.0	—	23.8	2m
~1.5	19.03	10 15	7.16	223.4	11.0	—	14.7	
~1.75	19.09	10 20	7.23	213.9	10.7	—	2.1	
~2.0	19.05	10 25	7.68	214.3	10.2	—	-2.2	
~2.25	19.15	1030	7.69	209.0	10.4	—	-2.2	
~2.5	19.25	1035	7.70	216.2	10.4	—	-4.1	

Pump Rate (ml/min): 50-80 Color/Tint/Odor: clear, colorless

Meter Used: YSI Pro Plus

Sample Data Sample Depth: ~35 ft. ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-5-011917	P0	1/19/17	1040	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature: Chris DeBoer

★ D.O. meter read blank

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Shopping Center	**Well I.D. :** MW-6
Project No.: 1246.038.03.001	**Date:** 1/19/17

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 45 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 2.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 2294794 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	10:44		1044				
Depth to Water	8.60						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☐ SC ☐ EC (µS/cm)	Temp ☒°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
2.3	8.68	10:49	8.52	567.4	7.4	—	33.4	—
~0.6	8.71	10:54	8.57	586.2	7.5	—	35.1	
~1.25	8.74	10:59	8.60	588.4	7.2	-	34.0	
~1.2	8.76	11:04	8.62	584.6	7.3	—	33.2	
~1.5	8.78	1109	8.64	585.3	7.5	—	32.5	
~1.75	8.80	1114	8.66	583.9	7.5	—	31.8	

Pump Rate (ml/min) 50-60	Color/Tint/Odor Clear, colorless
Meter Used YSI Pro Plus	

Sample Data Sample Depth: 10ft ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-6-011917	P0	1/19/17	1130	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature [signature]

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Shopping Center	**Well I.D. :** MW-7-
Project No.: 1246.038.03.001	**Date:** 1/19/17

Location Description

☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 45 ☐ °C ☐ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 2.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data

Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 334 344 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	11:32		1120				
Depth to Water	6.75						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data

Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri,

Casing Volume: [_____(TD) - _____(WL)]•[_____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☒ °C ☐ °F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~.25	6.83	11:28	9.44	350.0	7.7	—	28.1	NM
~.5	6.84	11 33	9.04	352.4	8.0	—	28.7	
~.75	6.92	11 38	9.01	346.5	8.5	—	28.5	
~1.0	6.95	11 43	9.06	343.2	8.5	—	28.1	
~1.3	6.98	11 48	8.94	344.2	8.6	—	27.9	
~1.6	7.00	11 53	8.96	344.8	8.6	—	27.0	

Pump Rate (ml/min): 50-80 Color/Tint/Odor: clear, colorless

Meter Used: YSI Pro Plus

Sample Data

Sample Depth: ~10 ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-7-011917	PO	1/19/17	1155	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature: Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Shopping Center	**Well I.D. :** MW-3
Project No.: 1246.038.03.001	**Date:** 1/19/17

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 45 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☐ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: ~3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☒ ft ☐ m

☒ E-Tape, # 224244 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	12:01		1201				
Depth to Water	1.72						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____(WL)]•[____(Well ID)]²•[____(Conversion Factor)] = ____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☐ SC ☐ EC (µS/cm)	Temp ☐°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
~2.25	~~1.70~~ 2.05 ②	12:10	7.27	219.7	8.3	3.31	34.4	NM
~2.5	2.10	12:15	7.13	227.9	8.3	2.70	40.4	
~2.75	2.18	12:20	7.09	227.6	8.2	2.54	~~42.0~~	
~3.0 *	2.30 ②	12:25	6.83	224.4	8.5	2.43	51.6	
~3.25	2.28	12:30	6.78	224.6	8.2	2.31	47.1	
~3.5	2.26	12:35 ②	6.84	223.0	8.1	2.49	47.0	

Pump Rate (ml/min): 50 - 80 * Color/Tint/Odor: clear colorless

Meter Used: YSI Pro Plus

Sample Data Sample Depth: ~3 ft ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-3-011917	PO	1/19/17	1240	3	Y (N)	VOA	(Y) N	MS
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

* slowed pump rate

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Shopping Center	**Well I.D. :** MW-4
Project No.: 1246.038.03.001	**Date:** 1/19/17

Location Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 45-50 ☐ °C ☒ °F	Weather: overcast
Well Locked? ☐ yes ☒ no	Damaged/Repairs Needed: none
☒ TOC ☐ MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: 2.3 ☒ ft ☐ m above/below ground	Well Inside Diameter (ID): ☒ 2-inch ☐ 4-inch Other:

Water Level Data Measurement Units: ☑ ft ☐ m

☒ E-Tape, #334044 ☐ Steel Tape ☐ Other	Pre-Purge[1] Initial	Pre-Purge[2] Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	12:44		1244				
Depth to Water	1.15						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery ☐ gallons ☐ liters							

[1]First round of water levels; [2]Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri.

Casing Volume: [_____(TD) - _____(WL)]•[____(Well ID)]²•[_____(Conversion Factor)] = _____ ☐ gal ☐ liters
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Dry While Purging ☐

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? ☐)	Conductivity ☒ SC ☐ EC (µS/cm)	Temp ☑°C ☐°F	D. O (mg/L)	ORP (mV)	Turbidity ☐ NTU
2.25	1.18	12:49	8.36	399.3	8.4	—	111.0	1m.
2.5	1.24	1254	8.04	386.3	8.4	—	83.9	
2.75	1.28	1259	7.96	373.1	8.3	—	61.1	
3.0	1.31	1304	7.84	368.9	8.2	—	53.3	
3.29	1.36	1309	7.80	366.3	8.3	—	42.7	
3.5	1.40	1314	7.78	363.7	8.2	—	36.3	

Pump Rate (ml/min): 50-80 Color/Tint/Odor: Clear, colorless

Meter Used: YSI Pro Plus

Sample Data Sample Depth: ~8ft ☐ Grab ☐ Bailer ☒ Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-4-011917	PO	1/19/17	1315	3	Y (N)	VOA	(Y) N	HCl
					Y N		Y N	
					Y N		Y N	

Sampler's Name (print) Chris DeBoer Signature: Chris DeBoer

APPENDIX E

Terrestrial Ecological Evaluation

Washington State Department of Ecology
Toxics Cleanup Program

Lake Stevens
1/8/19

Terrestrial Ecological Evaluation Process - Primary Exclusions

1/3

Documentation Form

Exclusion #	Exclusion Detail	Yes or No?	Are Institutional Controls Required If The Exclusion Applies?
1	Will soil contamination be located at least 6 feet beneath the ground surface and less than 15 feet?	Yes / (No)	Yes
	Will soil contamination located at least 15 feet beneath the ground surface?	Yes / (No)	No
	Will soil contamination located below the conditional point of compliance?	Yes / (No)	Yes
2	Will soil contamination be covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed?	Yes / (No)	Yes
3	Is there less than 1.5 acres of contiguous undeveloped land on the site, or within 500 feet of any area of the site affected by hazardous substances **other than** those listed in the table of Hazardous Substances of Concern? And Is there less than 0.25 acres of contiguous undeveloped land on or within 500 feet of any area of the site affected by hazardous substances **listed in** the table of Hazardous Substances of Concern?	Yes / (No) (Yes) / No	Other factors determine
4	Are concentrations of hazardous substances in the soil less than or equal to natural background concentrations of those substances at the point of compliance	Yes / (No)	No

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493]

[TEE Home]

Lake Stevens

1/8/17 2/3

Terrestrial Ecological Evaluation Process- Simplified or Site-Specific Evaluation?

Documentation Form

	Terrestrial Concern	Response (Circle One)
*1	Is the site is located on or directly adjacent to an area where management or land use plans will maintain or restore native or semi-native vegetation?	Yes / (No)
*2a	Is the site used by a threatened or endangered species?	Yes / (No)
*2b	Is the site used by a wildlife species classified by the state department of fish and wildlife as a "priority species" or "species of concern" under Title 77 RCW?	Yes / (No)
*2c	Is the site used by a plant species classified by the Washington state department of Natural Resources natural heritage program as "endangered," "threatened," or "sensitive" under Title 79 RCW.	Yes / (No)
*3	Is the site (area where the contamination is located) located on a property that contains at least ten acres of native vegetation within 500 feet of the area where the contamination is located?	Yes / (No)
4	Has the department determined that the site may present a risk to significant wildlife populations?	Yes / (No)

*1 This includes for example, green-belts, protected wetlands, forestlands, locally designated environmentally sensitive areas, open space areas managed for wildlife, and some parks or outdoor recreation areas. This does not include park areas used for intensive sport activities such as baseball or football.

*2a What are the threatened or endangered species in Washington state?

*2b Which plant species are classified as threatened, endangered, or sensitive? Where can I find out more information about this topic?

*2c For plants, "used" means that a plant species grows at the site or has been found growing at the site. For animals, "used" means that individuals of a species have been observed to live, feed or breed at the site.

*3 For this analysis, do not include native vegetation beyond the property boundary.

Washington State Department of Ecology
Toxics Cleanup Program

Lake Stevens
1/8/17

3/3

Terrestrial Ecological Evaluation Process- Simplified Evaluation

Documentation Form

Criteria # (Concern)	Criteria	Response (Circle One)
1 (exposure)	Is the total area of soil contamination at the site less than or equal to 350 square feet	**Yes (End TEE) / No**
2 (exposure)	Does land use at the site and surrounding area make substantial wildlife exposure unlikely based on completion of Table 749-1?	**Yes (End TEE) / No**
3 (pathway)	Is there a potential exposure pathway from soil contamination to soil biota, plants, or wildlife?	**Yes / No (End TEE)**
4 (contaminant)	Are the hazardous substances at your site listed in Table 749-2 and is (or will) their location in the soil at your site be at a depth not exceeding the point of compliance, and at concentrations that do not exceed the values provided in Table 749-2.	**Yes (End TEE) / No** **Note: You must perform bioassays for contaminants at your site if no table value is provided.**
5 (contaminant)	Will hazardous substances listed in Table 749-2 be present in the soil at your site within 6 feet of the ground surface at concentrations likely to be toxic, or with the potential to bioaccumulate, based on bioassays using methods approved by the department.	**Yes / No (End TEE)**

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493] [Index of Tables]

[TEE Home]

APPENDIX F

Sampling and Analysis Plan

PES Environmental, Inc.
Engineering & Environmental Services

Lake Stevens GRF2, LLC
c/o: Gerrity Group, LLC
973 Lomas Santa Fe Drive
Solana Beach, California

SAMPLING AND ANALYSIS PLAN

FORMER LAKE STEVENS CLEANERS
LAKE STEVENS MARKETPLACE SHOPPING CENTER
LAKE STEVENS, WASHINGTON

FEBRUARY 17, 2017

By:

Brian O'Neal, P.E.
Associate Engineer

Kelly Rankich
Project Engineer

1246.038.03

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1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) has been prepared on behalf of Lake Stevens GRF2, LLC (Gerrity) as a reference appendix to the Cleanup Action Plan (CAP) for the Lake Stevens Shopping Center property located at 303 91st Avenue Northeast, in Lake Stevens, Washington (Property, Plate 1; PES, 2017). The term "Site", as used in this SAP, refers to the locations where contaminants originating from the Property have come to be located. The Site is the location of releases from former dry-cleaning operations from the former Lake Stevens Cleaners (Suite #302). The Site is the subject of on-going remedial investigations since 2013.

This SAP applies to the collection and analysis of groundwater samples as a component of the CAP, including the performance and confirmation sampling programs. This SAP includes a Quality Assurance Project Plan (QAPP), which is presented in Section 3.0.

1.1 Property Description

The Property is located within a mixed use commercial/retail/residential neighborhood, located in the West Lake Stevens area of the City of Lake Stevens, Snohomish County, Washington. The Property encompasses approximately 9.46 acres in the southwest quarter (SW¼) of the northeast quarter (NE¼) of Section 13 (S13), Township 29 North (T29N), Range 5 East (R5E). The City of Lake Stevens identifies zoning at the Property as "539 Other Retail Trade NEC". The surrounding area is primarily a mix of residential and commercial/retail use. The Property is comprised of Parcels 1 (0.75 acres), Parcel 3 (8.37 acres), and Parcel 5 (0.34 acres).

As shown on Plate 2, the Property includes two areas within the Lake Stevens Marketplace Shopping Center, consisting of retail stores, restaurants, professional businesses surrounded by associated paved parking areas and landscaping. Three commercial structures are present on the Property.

The term "Site", whenever used in this SAP, refers to the locations where contaminants originating from the former dry-cleaning operations have come to be located. Pertinent site features are shown on Plate 2.

1.2 Project History

The Property was mostly undeveloped with few rural residential properties from the 1940s to the early 1970s. The Property was bisected by 4th Street Northeast until 1993 when the shopping center was constructed. During the 1970s a septic tank service business (Tandem Service Corporation [Tandem]) operated in the northeast corner of the Property in the general vicinity of the northern portion of the north multi-tenant building. Since the construction of the shopping center in 1993, no significant changes have occurred at the Property.

Since the shopping center was constructed, uses of the Site include a variety of commercial businesses, including a hardware store, restaurants, an animal hospital, a paint store, financial services, and retail. Gerrity does not plan any substantive changes in the uses of the property. Lake Stevens Cleaners reportedly began operations in Suite #302 when the shopping center

opened in 1993 and used chlorinated solvent-based cleaning solutions throughout their operations, ending in 2015.

The first environmental investigation of the Property was conducted in 2013 by the previous owner of the property, and a report of release was reported to Ecology on November 9, 2015 by Galloway Environmental, Inc. (Galloway, 2015a). PES's 2017 CAP provides additional details regarding previous investigations conducted at the Site.

1.3 Remedial Action Purpose and Approach

Shallow groundwater downgradient of the former dry cleaners (MW-2 and MW-7) contains PCE above the CUL. In order to confirm that the downward trend in PCE concentrations in groundwater at MW-2 continues, and also document the effects of the source treatment further downgradient at MW-7, continued quarterly groundwater monitoring will be conducted.

1.4 Document Organization

This SAP is organized into five sections. A brief description of each section is presented below.

- **Section 1 – Introduction.** Section 1 provides a description of the Site, briefly summarizes the project history, and describes the cleanup action purpose and approach for remediating the subsurface groundwater media, and documenting performance and compliance.

- **Section 2 – Sampling and Analysis Plan.** Section 2 details the performance and compliance monitoring procedures, laboratory methods, decontamination procedures, and the management of monitoring residuals.

- **Section 3 – Quality Assurance Project Plan.** Section 3 identifies quality assurance/quality control (QA/QC) procedures for monitoring and laboratory analysis.

- **Section 4 – Data Evaluation.** Section 4 provides the procedures for data evaluation, and interpretation.

- **Section 5 – References.** Section 5 provides the references cited in the work plan.

- **Appendix A – Field Forms**. Appendix A provides examples of field forms that will be used on this project.

2.0 SAMPLING AND ANALYSIS PLAN

This SAP has been developed as a project reference manual for the collection of high quality environmental data. This SAP includes collection of performance and compliance groundwater samples.

2.1 Sampling Needs and Objectives

The sampling and analysis plan for the project has been developed to collect high quality environmental data. The overall goal of the field work is to generate data that are acceptable for use in evaluating performance of the remedial action, and documenting compliance with the remedial action objectives (RAOs).

As demonstrated in the CAP, tetrachloroethene (PCE) is the primary contaminant of concern for shallow groundwater at the Site.

2.2 Health and Safety Plan Preparation

Prior to mobilization for field work, the site-specific health and safety plan (HASP) will be updated as needed for the scope of work. The original HASP was prepared consistent with the requirements of the Washington State Division of Occupational Safety and Health's Hazardous Waste Operations Regulation (WAC 296-843). The HASP includes a description of the project team, the scope of work, site control, a site hazard information, site hazard control, air monitoring, and emergency response. Information about the nearest hospital, including a map, is also provided.

2.3 Groundwater Performance and Compliance Monitoring

Groundwater monitoring will be conducted to assess the performance of the groundwater extraction systems at controlling off-Property contaminant migration and to assess water quality over time to demonstrate that cleanup levels are being achieved at the point of compliance. Monitoring will consist of collecting depth to water measurements and collecting groundwater samples for laboratory analysis. Groundwater samples will be collected using similar procedures as for the site characterization investigations. Monitoring well locations are shown on Figure 3.

2.3.1 Performance Monitoring

Performance monitoring will be conducted quarterly and includes the following tasks:

- Quarterly water level monitoring in all 6 shallow groundwater monitoring wells (MW-1 through MW-4, MW-6, and MW-7) and the 1 deep monitoring well (MW-5; Plate 3); and

- Quarterly groundwater sampling wells with previous detections of PCE (MW-2, MW-6, and MW-7) as well as deep well MW-5. Sampling of MW-5 will be discontinued after four consecutive quarters of results below CULs are obtained).

2.3.2 Compliance Monitoring

Once the last round of groundwater performance monitoring has been completed, compliance groundwater monitoring will be conducted to demonstrate that groundwater within the Site meets the cleanup level at the point of compliance. Compliance monitoring will include an additional four quarters of monitoring to confirm compliance with groundwater cleanup levels at the Site. Compliance monitoring will include the following tasks:

- Quarterly water level monitoring in all 6 shallow groundwater monitoring wells (MW-1 through MW-4, MW-6, and MW-7) and the 1 deep monitoring well (MW-5; Plate 3).

- Collection of groundwater samples from 6 shallow monitoring wells and the 1 deep well on a quarterly basis to confirm compliance with groundwater cleanup levels (MW-1 through MW-7).

2.3.3 Groundwater Monitoring Methods

2.3.3.1 Groundwater Level Measurements

Groundwater elevations will be measured using the following procedures:

1. Open the well monument, remove any standing water and debris (i.e., sediment, vegetation, or refuse) prior to removing the well cap;
2. Open the well by carefully removing the cap. Allow the riser to vent if under pressure or vacuum. Record the time at which the well is initially vented to the atmosphere (i.e., time of well cap removal). Document initial conditions (i.e., well over-pressurized or under-pressurized relative to the atmosphere) on the Water Level Form (Appendix A);
3. After opening and venting the well, measure the initial water level to the nearest 0.01 foot, using an electronic water level probe;
4. Measure the water level at the surveyed measuring point (MP) on the north side of the top of the PVC casing;
5. Duplicate the water level measurement in each well in the field to ensure that the reading is accurate. Record all results (times, measured values, etc.) on the Water Level Form;
6. Rinse the probe tip with distilled water between each well to avoid cross contamination;
7. Replace the well cap upon completing the water level measurement;
8. Periodically, check the time needed for water level equilibration after cap removal by measuring the water level in a well, allowing the well to vent for a more extended period of time (at least 1 hour), and measuring the water level a second time. Record all results on the Water Level Form; and
9. Upon completion of the water level measurements, replace and tightly seal each of the surface monuments.

2.3.3.2 Groundwater Sampling

This section includes a description of groundwater sampling methods. Sample field forms are provided in Appendix A.

Preparation. Prior to the initiation of any sampling activities, all of the necessary field equipment and documentation materials (e.g. field notebook and sampling forms) will be prepared. Prior to the commencement of purging and sampling, each of the field instruments will be calibrated with standard solutions at a minimum of once per day. Laboratory supplied sample bottles will be inspected for proper preservative (Table 1). The depth to water will be measured prior to sampling using the procedures outlined above.

Low-Flow Purging. A peristaltic pump will be used to sample the shallow and deep wells. The pump tubing will be slowly lowered into the well until the intake is approximately two to three feet below the groundwater surface and within the screened interval, whichever is lower, and purged prior to sampling. The pump will be started and the start time will be recorded on a Groundwater Sampling Form. Pumping rates will be measured with a stopwatch and graduated cylinder, graduated cup, or volatile organic analysis (VOA) vial, depending on flow rate. Low flow purging will be conducted at a pumping rate between 80 and 500 mL/min.

During purging, the water level will be measured approximately every 3 to 5 minutes, until a steady water level is determined. If possible, a drawdown of 0.3 feet or less will be maintained in the well, with the pumping rate lowered to a minimum rate of 80 mL/min if necessary to maintain a drawdown of 0.3 feet or less. The water level in the well will be maintained above the tubing intake at all times. If the well yield is sufficiently poor that the water level drops to the level of the tubing intake, the pump will be stopped until the water level recovers to near the pre-pumping level. The process will then be repeated until the field parameters have stabilized. The final purge volume will be at least as great as the volume of water in the well casing above the tubing intake and tubing volume. All measured water levels and pumping rate changes will be recorded on a Groundwater Sampling Form.

Field Parameter Measurements. Field indicator parameters will be measured approximately every 3 to 5 minutes during purging. Field parameters will include pH, specific conductance, temperature, dissolved oxygen (DO), and ORP. Measurements will be recorded to the following standards:

- pH to ±0.01 units;
- Specific conductance to ±1 micromho;
- Temperature to ±0.1^{o}C;
- DO to ±0.1 milligrams per liter (mg/L); and
- ORP to ±1 mV.

Samples will not be collected until these parameters have stabilized for three consecutive readings to the following criteria:

- pH to ±0.1 pH unit;
- Conductivity to ±3 percent;
- Temperature to ±3 percent; and

- DO to ±10 percent.

ORP measurements will not be used to determine stability. If field parameters do not stabilize after 1 hour of pumping, a sample will be collected. Well purging data will be recorded on a Groundwater Sampling Form. Field instruments will be calibrated using known, standard solutions, a minimum of once per day.

Sample Collection. Upon completion of purging, samples will be collected from the discharge end of the pump tubing. The same pump rate used at the end of well purging will be used during sample collection. VOC samples will be collected by allowing the sample water to pour down the inside of the VOA vials without splashing onto the base. All sample containers will be prepared and provided by the analytical laboratory (Table 1).

After collection of the sample from each well, the tubing will be removed from the well, the well cap will be replaced, and the well cap or monument locked. Decontamination and purge water will be handled in accordance with Section 2.8 of this SAP.

2.4 Laboratory Analytical Procedures

All samples will be submitted to a Washington State-accredited laboratory. The laboratory methods shown in Table 1 will be used. Groundwater samples will be analyzed for the following HVOCs by EPA Method 8260C: PCE, trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride.

2.5 Sample Labeling, Shipping, and Chain-of-Custody

Sample labeling, shipping, and chain-of-custody will be performed consistent with the procedures described below.

2.5.1 Sample Labeling and Nomenclature

Sample container labels will be completed immediately before or immediately following sample collection. Container labels will include the following information:

- Project name;
- Groundwater Sample Name: well identification number. For example, the sample name for a groundwater sample collected at MW-1 would be “MW-1”;
- Initials of collector;
- Date and time of collection; and
- Analysis requested.

2.5.2 Sample Shipping

Samples will be shipped to the analytical laboratory using the following procedures:

- Sample containers will be place in a sealed, iced cooler or other suitable shipping container after sample collection. This container will be used for transporting the samples to the analytical laboratory;
- In each shipping container, glass bottles will be separated by a shock absorbing material to prevent breakage and leakage;
- Ice sealed in separate plastic bags or "gel ice" packs, will be placed into each shipping container with the samples;
- All sample shipments will be accompanied by a chain-of-custody form (COC). The completed form will be sealed in a plastic bag, which will be taped to the inside lid of the shipping container;
- Signed and dated COC seals will be placed on all shipping containers; and
- The name and address of the analytical laboratory, along with sampler's name and office (return) address, will be placed on each shipping container prior to shipping.

2.5.3 Chain-of-Custody

Once a sample is collected, it will remain in the custody of the sampler or other PES personnel until shipment to the laboratory. Upon transfer of sample possession to subsequent custodians, a COC will be signed by the persons transferring custody of the sample container. A signed and dated COC seal will be placed on each shipping container prior to shipping. COC records will be included in the analytical report prepared by the laboratory.

2.6 Decontamination

Decontamination procedures will be performed consistent with the procedures described in this section. All non-disposable sampling equipment will be decontaminated prior to initial use, between sampling locations, and at the completion of the site-specific sampling.

The following decontamination procedure will be used for non-dedicated and non-disposable sampling equipment:

- Tap water rinse;
- Non-phosphatic detergent (e.g., Liquinox) and tap water wash;
- Tap water rinse; and
- Distilled water rinse.

Water level probes will be decontaminated by rinsing with distilled or de-ionized water. Decontamination of personnel involved in sampling activities will be accomplished as described in a site-specific health and safety plan.

2.7 Sampling Residuals

The following procedures will be used for the sampling residuals, including groundwater sampling purge water and decontamination water:

- Purge water and decontamination water generated during the investigation activities will be placed in 55-gallon drums and securely stored on site. A representative sample collected and analyzed for disposal characterization. Based on the results, the water will be profiled and disposed of at an appropriate facility; and
- Disposable clothing and equipment will be placed in plastic bags and disposed of as solid waste.

3.0 QUALITY ASSURANCE PROJECT PLAN

This quality assurance project plan (QAPP) describes the measures undertaken so that the data collected during the project are acceptable for their intended use(s) and includes the elements from Ecology's QAPP guidance document (Ecology, 2004).

3.1 Quality Assurance Project Plan Objectives

The overall QAPP objective for measurement data is to provide data of known and acceptable quality. All measurements will be made to yield accurate and precise results representative of the media and conditions measured. Chemical analyses will be performed in accordance with the requirements of the analytical methods. All sample results will be calculated and reported in consistent units to allow comparison of the sample data with regulatory criteria and federal, state, and local databases. QAPP objectives for precision, accuracy, and completeness have been established for each measurement variable, where possible, and are discussed below.

3.2 Chemical Analyses

Analysis of environmental samples will be performed in accordance with the laboratory analytical methods summarized in Table 1. The laboratory will report the results to levels less than or equal to the cleanup levels, using method reporting limits (MRLs) or MDLs as necessary to meet the cleanup levels. Any special analytical methods or modifications to methods will be determined with laboratory concurrence prior to beginning sample analysis.

3.3 Laboratory Quality Control

This section presents quality control (QC) requirements for the analytical laboratory. The purpose of this QC program is to produce data of known quality meeting project objectives and the requirements of the standard methods of analysis. Laboratory QC samples will include laboratory control samples (LCSs), matrix spike/matrix spike duplicate (MS/MSD) samples, laboratory duplicates, and method blanks. Laboratory QC samples (e.g., blanks and LCSs) will be included in the preparation batch with the field samples. An analytical batch is a number of samples (not to exceed 20, including the associated laboratory QC samples, MSs and MSDs) that are from a similar matrix and extracted or digested at the same time, analyzed sequentially, and with the same lot of reagents.

The identity of each analytical batch will be reported with the analyses so that a reviewer can identify the QC samples and the associated environmental samples. Samples that do not need separate extraction or digestion (e.g., volatile analyses by purge and trap) are included in each analytical batch.

All sample preparation and analysis will be completed within the method-required holding times. The holding time begins at the time of sample collection. If holding times are exceeded and the analyses are performed, the data will be qualified during the data review, in accordance with USEPA Functional Guidelines (USEPA, 1999 and 2002).

3.4 Field Quality Assurance

Field QC samples will be collected during groundwater sampling and will include trip blanks and field duplicates. Field QC samples will be collected at the frequency specified in Table 2 and described below.

3.4.1 Trip Blanks

A trip blank consists of a set of VOA vials filled in the laboratory with reagent-grade water, transported to the sampling site, handled under the same conditions as an environmental sample, and returned to the laboratory for analysis. Trip blanks are not opened in the field. Trip blanks are prepared only when volatile samples are collected and are analyzed only for volatile analytes. Trip blanks are used to assess the potential introduction of contaminants from sample containers or during the transportation and storage procedures. One trip blank per sampling day or per cooler will be included with the shipment of soil and water samples to the laboratory if VOC analyses are requested and will be analyzed for VOCs. If an analyte is detected in a trip blank, the data will be qualified during the data review per USEPA Functional Guidelines for Organics (USEPA, 1999).

3.4.2 Field Duplicates

A field duplicate sample is a second sample collected at the same location as the original sample. Duplicate samples are collected simultaneously or in immediate succession, using identical sampling techniques, and treated in an identical manner during storage, transportation, and analysis. The sample containers are assigned an identification number in the field so that they cannot be identified (blind duplicate) as duplicate samples by laboratory personnel performing the analysis. Duplicate sample results are used to assess precision of the sample collection process. One duplicate sample will be collected for approximately every 20 project samples.

3.5 Data Reporting and Data Validation Review

The laboratory performing sample analyses will be required to submit summary data and QA information to permit independent determination of data quality. The determination of data quality will be performed using the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999) and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA, 2002) as guidelines for data review.

Laboratory deliverable requirements are outlined below and included in Table 3:

- Narrative cover letters for each sample batch will include a summary of any QC, sample, shipment, or analytical problems, and will document all internal decisions. Problems will be outlined, and final solutions documented;
- A copy of the signed chain-of-custody form for each batch of samples will be included in the results packet;

- Sample concentrations will be reported on standard data sheets in proper units and to the appropriate number of significant figures. For undetected values, the lower limit of detection for each compound will be reported separately for each sample. Dates of sample extraction or preparation and analysis must be included;
- A method blank summary will be included;
- Surrogate percent recovery will be calculated and reported;
- LCS results will be included;
- MS/MSD percent recoveries, spike level, and relative percent difference will be included; and
- Laboratory duplicate results will be included.

All chemistry data will be validated per USEPA data review guidelines (USEPA, 1999 and 2002). Data validation will include a review of holding times, method blank results, surrogate recovery results, LCSs, MS/MSDs, field and laboratory duplicates, completeness, detection limits, and chain-of-custody forms. Data validation memos will be prepared summarizing the reviews and any assigned data qualifiers.

4.0 DATA EVALUATION

Data generated during the remedial action, including the performance and confirmation monitoring programs, will be reviewed, summarized, and evaluated.

4.1 Field Documentation

Field sampling documentation and procedures, and issues (if any) will be reviewed and summarized, and maps will be prepared showing updated sampling locations.

4.2 Nature and Extent of Contamination

Chemistry data collected in connection with performance and confirmation sampling programs will be validated, tabulated, and summarized on maps of the Property. Maps will be updated with groundwater elevation data and contours and validated groundwater analytical data. After site-specific remedial action objectives have been achieved, data will be compared to the remedial action objectives and points of compliance.

4.3 Other Regulatory Requirements

Consistent with WAC 173-340-700(3), applicable state and federal laws, cross-media contamination, risk assessment procedures, and natural background and analytical procedures will be taken into consideration. If applicable, the process described above may be modified to account for these other requirements.

5.0 REFERENCES

PES Environmental, Inc. (PES). 2017. *Cleanup Action Plan, Lake Stevens Shopping Center, Lake Stevens, Washington*. February 17.

U.S. Environmental Protection Agency (USEPA). 1999. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA 540/R-99/008. USEPA Office of Emergency and Remedial Response. October.

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Washington State Department of Ecology. 2004. *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies.* Publication No. 04-03-030. July.

TABLES

Table 1

Analytical Methods and Sample Handling Details
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington

Analyses	Analytical Method	Sample Container	Preservation	Maximum Holding Time
Groundwater Sample Laboratory Analyses				
Selected chlorinated volatile organic compounds	EPA 8260	3 x 40 mL VOA vial	Cool, 4°C, HCL (pH < 2), no headspace	14 days
Groundwater Field Parameters				
pH	Probe/EPA 150.1	–	–	–
Specific conductance	Probe/EPA 120.1	–	–	–
Temperature	Probe/EPA 170.1	–	–	–
Dissolved oxygen (DO)	Probe/SM 4500	–	–	–
Oxidation/reduction potential (ORP)	Probe	–	–	–

NOTES:
EPA = US Environmental Protection Agency
SM = Standard Methods for the Examination of Water and Wastewater
HCL = hydrochloric acid

Table 2

Field and Laboratory Quality Control Sample Summary
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington

Matrix	QA/QC Analyses	Frequency
Field		
Water	Trip blank	1 per sampling day or cooler when samples are analyzed for CVOCs
Water	Field duplicate	1 per 20 project samples (approximately)
Laboratory		
Water	Laboratory control sample (LCS)	Every analytical batch
Water	MS/MSD	1 per 20 project samples
Water	Method blank	Every analytical batch

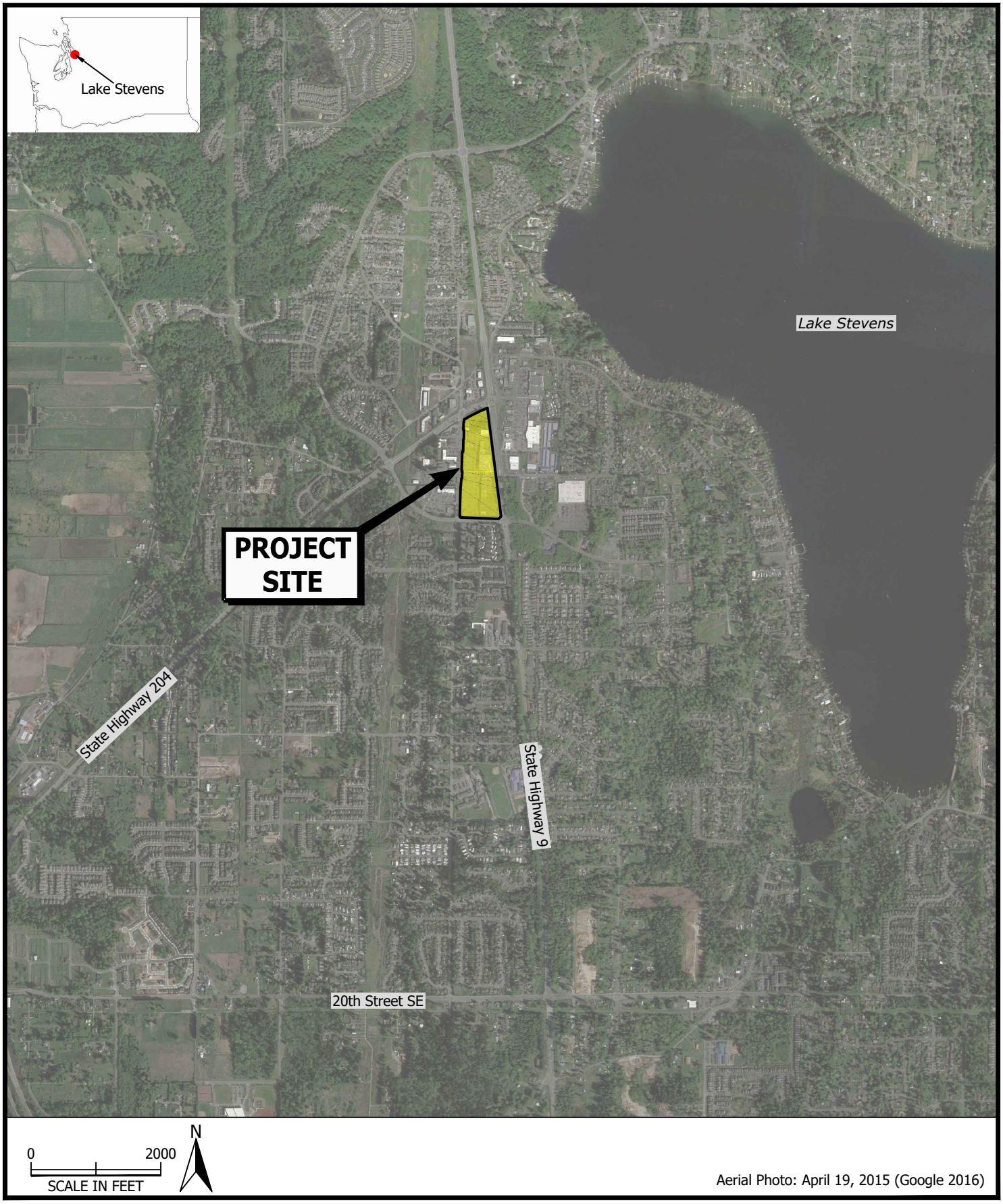
Table 3

Laboratory Deliverables
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington

The following deliverables will be required from the laboratory:

- A transmittal letter and case narrative which includes information about receipt of the samples, the analytical results, and any significant problems in any aspect of sample analysis (e.g., deviation from methodologies or quality control).
- Sample analytical results:
  - Water results in mg/L or µg/L
  - Method detection limit (MDL) or Method Reporting limit (MRL) for undetected values reported for each analyte on a sample-by-sample basis
  - Date of sample receipt
  - Date of sample preparation/extraction
  - Date of sample analysis
  - Method blank results, including the samples associated with each blank
  - As applicable:
    - Surrogate recovery results, reported as percent recoveries, including actual spike levels
    - Duplicate results
    - Matrix Spike (MS)/ Matrix Spike Duplicate (MSD) results reported as percent recoveries, including actual spike levels
    - Laboratory control sample (LCS) results
- Copies of signed chain-of-custody forms

PLATES



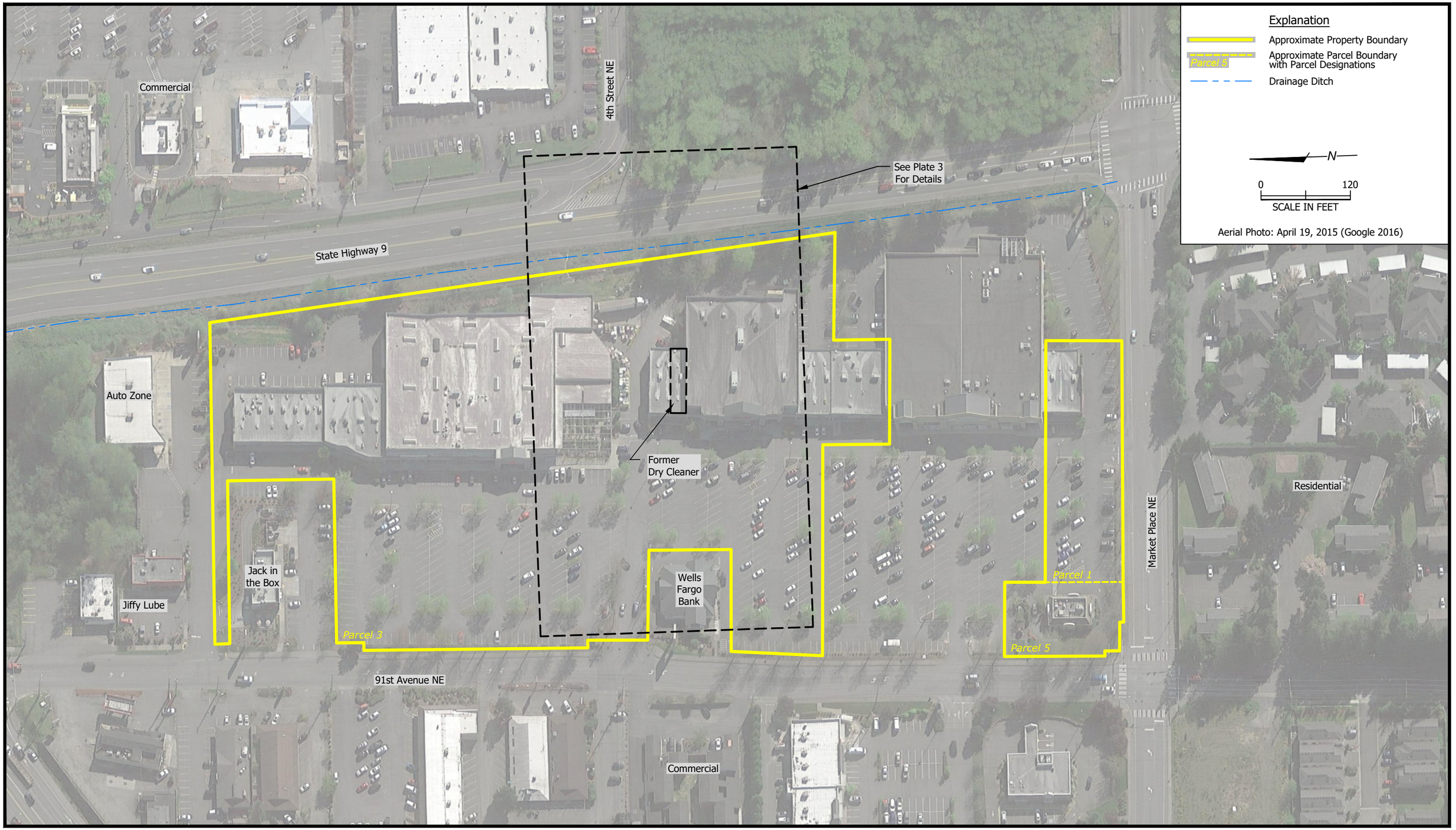
Aerial Photo: April 19, 2015 (Google 2016)

PES Environmental, Inc.
Engineering & Environmental Services

Site Location
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
1

1246.038.03.002	124603803002_ESA_1	KLR	2/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

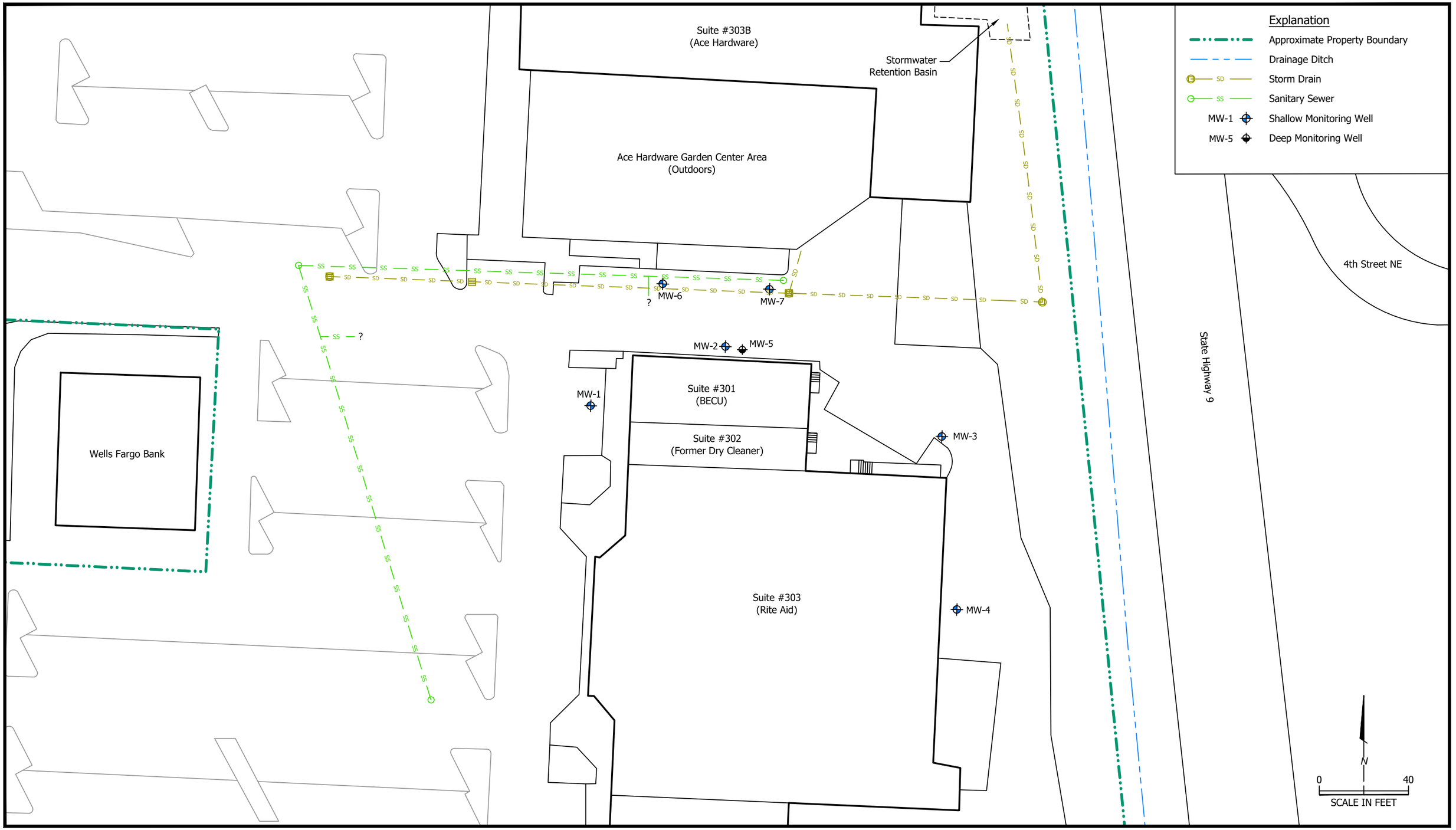


PES Environmental, Inc.
Engineering & Environmental Services

Site Vicinity Map
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
2

1246.038.03.002	124603803002_ESA_2	*KLR*	2/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



PES Environmental, Inc.
Engineering & Environmental Services

Site Plan
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

PLATE
3

1246.038.03.002	124603803002_ESA_3	*KLR*	2/17
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

APPENDIX A

FIELD FORMS

PES Environmental, Inc.
Engineering & Environmental Services

PAGE	OF
DATE:	

DAILY FIELD REPORT

PROJECT:
JOB No:
PROJECT MANAGER:
RECORDED BY:

TIME	DESCRIPTION, COMMENTS, NOTES, ETC.

ATTACHMENTS: ☐ NO ☐ YES

DESCRIPTION: SIGNATURE

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PES Environmental, Inc.
Engineering & Environmental Services

WATER LEVEL DATA FORM

PROJECT:
JOB No:
FIELD PERSONNEL:

MEASURING INSTRUMENT: ☐ ELECTRONIC SOUNDER ☐ OTHER-TYPE INSTRUMENT | RECORDED BY:
TIME ON-SITE: TIME OFF-SITE: | MEASURING POINT: TOP of PVC
WEATHER : Temperature: Precipitation:

Well I.D.	Total Well Depth (feet)	Time	Depth to Water (feet)	Time	Depth to Water (feet)	Time	Depth to Water (feet)	Comments

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Last up-dated: 1/13/2011

PES Environmental, Inc.

Engineering & Environmental Services

Page:	of
Date/Time:	
Project Name:	
Job No:	
Recorded By:	
Sampled By:	

GROUNDWATER SAMPLING FORM

Well Type:	☐ Monitoring	☐ Extraction	☐ Other		Well No:
Well Material:	☐ PVC	☐ Stainless Steel	☐ Other		

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches)

☐ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____

Total Depth of Casing (TD in feet below top of casing): _____

Water-Level Depth (WL in feet below top of casing): _____

Pump rate: approximately _____ mL/minute

PURGING METHOD

☐ Bailer - type: _____

☐ Submersible ☐ Centrifugal ☐ Bladder

☐ Peristaltic - Type: _____

PUMP INTAKE SETTING

☐ Bottom ☐ Top ☐ Middle: _____

Depth in feet (BTOC): _____

Screen interval feet (BTOC) from _____ to _____

FIELD PARAMETER MEASUREMENTS

START TIME: _____ STOP TIME: _____ TOTAL GALLONS REMOVED: _____

Time	Gallons Removed	pH	Conductivity (µmhos/cm)	Temperature (ºC)	DTW (feet bgs)	ORP (mV)	DO (mg/L)	Observations (color, well condition, odor, cloudiness, etc.)

Notes:

WELL SAMPLING

☐ Bailer ☐ Peristalic

Sample No.	Time	Volume	Analyses	Bottle Type	Preservative

QUALITY CONTROL SAMPLES

Duplicate Sample No.	Time	Volume	Analyses	Bottle Type	Preservative
Field Blank Sample No.	**Time**	**Volume**	**Analyses**	**Bottle Type**	**Preservative**

Field Drum Inventory Form

PES PROJECT NUMBER:

JOB NAME:

ADDRESS:

PES FIELD REPRESENTATIVE:

Drum ID#	Generation Date	Waste Material (decon wtr, dv wtr, etc.)	Well ID(s)	Volume (gal)	Waste Description (decon water, development water, etc.)