

August 16, 2016

1246.038.03

Gerrity Retail Fund 2, Inc.
c/o: Gerrity Group, LLC
973 Lomas Santa Fe Drive
Solana Beach, California 92075

Attention: Mr. John Waters

**SUMMARY OF PHASE II INVESTIGATION RESULTS
LAKE STEVENS MARKETPLACE SHOPPING CENTER
LAKE STEVENS, WASHINGTON**

Dear Mr. Waters:

PES Environmental, Inc. (PES) has prepared this letter report to summarize the procedures and results of a Phase II subsurface environmental investigation conducted at 303 91st Avenue NE, Lake Stevens, Washington (Site; Plate 1). Gerrity Retail Fund 2, Inc. (Gerrity) retained PES to conduct this Phase II subsurface investigation to evaluate current environmental conditions associated with a former dry cleaner business that operated in Suite C-302, in the Lake Stevens Marketplace Shopping Center at the Site. The dry cleaner began operating in 1993 using dry cleaning solvents containing tetrachloroethene (PCE). The dry cleaner ceased operations in late 2014 or early 2015, and the tenant suite is currently unoccupied.

The purpose of the Phase II investigation was to refine the understanding of the nature and extent of contamination associated with the former dry cleaning operations and to address several data gaps identified in review of previous Site investigations.

PREVIOUS INVESTIGATIONS

On behalf of previous property owners, Galloway Environmental, Inc. (GEI) performed several environmental investigations, and conducted remedial actions at the Site from 2013 to 2015.

Based on available site history information, investigation of the dry cleaner tenant suite began in 2013. GEI collected shallow soil and soil-gas samples near former and existing dry cleaning units (DCU) and outside the eastern building wall (behind the suite). PCE was detected above the State of Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup level (CUL) of 50 micrograms per kilogram ($\mu\text{g}/\text{kg}$) and the MTCA soil gas screening level of 4.2 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)¹.

In October 2014, GEI collected soil and groundwater samples from direct-push borings drilled around the dry cleaner and adjacent tenant suites. PCE was detected in groundwater north and

¹ *Preliminary Subsurface Investigation Report for Lake Stevens Cleaners*. Prepared by ADR Environmental Group, Inc. December 17, 2013.

east of the dry cleaner tenant suite at concentrations above the MTCA Method A CUL². In January 2015, GEI installed four groundwater monitoring wells (MW-1 through MW-4) around the dry cleaner and adjacent tenant suites and collected soil and groundwater samples. PCE was detected in groundwater north of the dry cleaner tenant suite in well MW-2 at a concentration above the MTCA Method A CUL³.

In March 2015, GEI oversaw injection of microbial bioremediation products into the soil beneath the DCU. In April 2015, GEI oversaw excavation of approximately 63 tons of soil from beneath the former DCU and east of the dry cleaner suite⁴. Soil was excavated to 6 feet below ground surface (bgs) inside the former DCU and to 7 feet bgs east of the dry cleaner suite⁴. Soil samples were collected at the extent of the excavations and contained concentrations of PCE below the MTCA Method A CUL⁴.

Groundwater monitoring has been performed quarterly since January 2015. Groundwater levels indicate a predominately northwest groundwater flow direction with occasional flow to the northeast. Groundwater samples collected from MW-2, north of the dry cleaner suite, have consistently contained concentrations of PCE above the MTCA Method A groundwater CUL⁵.

On behalf of Gerrity, PES conducted a limited site investigation prior to Gerrity's acquisition of the property. In March 2016, PES collected samples of indoor air and sub-slab soil gas from the former dry cleaner tenant suite, and collected two soil and two groundwater samples from exterior borings located northeast of the former dry cleaner suite. PCE was detected in sub-slab soil gas at concentrations above Ecology's Method B screening level in two locations⁶. No volatile organic compounds (VOCs) were detected at concentrations above the MTCA Method A CULs in indoor air⁶. The soil and groundwater samples collected northeast of the former dry cleaner suite did not contain concentrations of VOCs above the practical quantitation limit (PQL)⁶.

SCOPE OF WORK

As part of this investigation, PES evaluated vapor intrusion within the suite north of the former dry cleaner suite (currently occupied by BECU Credit Union) by collecting one indoor air sample and one ambient (background) 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 cleaner suite using push-rod transmitters and video camera inspections. Additionally, PES advanced five soil

² *Focused Phase II Environmental Site Assessment at the Lake Stevens Cleaners*. Prepared by Galloway Environmental, Inc. November 11, 2014.

³ *Remedial Investigation/Feasibility Study at the Lake Stevens Cleaners*. Prepared by Galloway Environmental, Inc. March 23, 2015.

⁴ *Environmental Cleanup Report at the Lake Stevens Cleaners*. Prepared by Galloway Environmental, Inc. May 27, 2015.

⁵ *Groundwater Monitoring Report, Lake Stevens Marketplace Shopping Center, 303 91st Avenue NE, Suite C-302, Everett, Washington*. Prepared by Galloway Environmental, Inc. April 19, 2016.

⁶ *Summary of Limited Phase II Investigation Results, Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington*. Prepared by PES Environmental, Inc. March 29, 2016.

borings and installed four temporary wells, 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 three monitoring wells (including one deep well) 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 water 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 cleaner suite.

Indoor Air Sampling

PES collected one indoor air sample (Indoor-070716) from within the credit union adjacent to the former dry cleaner suite and one ambient air sample (Ambient-070716) on the northeast corner of the roof of the former dry cleaner building, upwind of the suite's heating, ventilating, and air conditioning system. Sampling procedures and methods were performed consistent with Ecology's guidance⁷. 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 United States Environmental Protection Agency (EPA) Method TO-15 with selective ion monitoring (SIM).

Utility Location

On July 1, 2016, under subcontract to PES, Applied Professional Services, Inc. (APS), of North Bend, Washington, located subsurface utilities around the former dry cleaner suite and planned drilling locations. APS conducted a radio-frequency locate for private utilities, identified the utility alignments with ground penetrating radar (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, under subcontract to PES, Lanktree Land Surveying, Inc. (Lanktree), of Auburn, Washington surveyed utility lines, vault alignments and rim/invert elevations, existing monitoring wells 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 polyvinyl chloride (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.

⁷ *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action.* Washington State Department of Ecology. October, 2009.

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 dry cleaner suite on July 7, 2016. The direct-push borings were installed by PES's subcontractor Environmental Services Network Northwest, Inc. (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 2.

The soil borings were cleared for utilities by ESN using an airknife 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 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. 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.

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 3/4-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 was located immediately behind the former dry cleaner 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 millimeters per minute (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 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. Sample bottles were sealed, labeled, and placed in coolers on ice and transported 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 Washington Administrative Code (WAC). The top of the abandoned borings were completed with concrete.

The boring logs are provided in Attachment 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 dry cleaner 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 2.

The soil boring was cleared for utilities by Cascade using an airknife 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 20 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 Attachment 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 dry cleaner building on July 12, 2016. The wells were installed by PES's subcontractor Cascade Drilling, L.P. (Cascade). The well locations are shown on Plate 2.

The soil borings were cleared for utilities by Cascade using an airknife 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 during drilling using split-spoon samplers. 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 and transported 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 were 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 Attachment 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, dissolved oxygen (DO), and oxidation reduction potential (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 Attachment B

Residual Soil and Water Management

Residual soil from drilling and sampling was placed in nine steel drums, labeled, and stored in a parking stall behind the tenant suites west of the former dry cleaner. Residual drilling fluids, decontamination liquids, and purge water were placed in two steel drums and stored with the soil drums. A sample of the water was collected and submitted to Fremont for VOC analysis using EPA Method 8260. A sample of the soil was collected and submitted to Fremont for metals analysis using EPA Method 7471/6020. The drums will remain on-site until the wastes are profiled and transported to an appropriate off-site disposal facility.

Surveying

In addition to the surveying performed during the utility evaluation, the locations and elevations of the new monitoring wells (MW-5 through MW-7) were surveyed on July 26, 2016 by Lanktree. The horizontal datum used in the survey was NAD 83, and the vertical datum used was NAVD 88. The survey results are presented in Table 1.

DISCUSSION OF RESULTS

Subsurface Utilities

The utility corridor in the driveway north of MW-2 contains a natural gas pipeline, power and telecommunication lines, 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 lines 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 wide 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 wide 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 water into the pipes was apparent. Standing water was observed in the eastern portion of the storm drain. It had not rained in the area in 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 Plates 2 and 3. A cross section showing groundwater and utility line depths is presented in Plate 3.

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 five 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 as backfill of the exterior excavation. 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 casing (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). Plate 4 presents a groundwater contour map of the July 26, 2016 groundwater elevations in the shallow monitoring wells (all wells but deeper well MW-5). As seen on Plate 4, the highest groundwater elevation (353.11 feet) was at MW-4 and the lowest groundwater elevation was at MW-7

(351.36 feet). Groundwater flow appears to be north-northwest, with flow curving toward MW-6 and MW-7.

Groundwater depths and elevations are presented in Table 2. Groundwater contours are shown on Plate 4.

Field Screening Results

Field PID measurements of the retrieved soil samples were typically less than 20 parts per million (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 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 681 µg/kg in the sample collected at 7.5 feet bgs in MW-5 and 112 µg/kg in the sample collected at eight feet bgs in SB-5. These concentrations are above Ecology's MTCA Method A CUL for soil of 50 µg/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 cleaner 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 summarizes 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 micrograms per liter (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 from collected from MW-6 at a concentration of 1.68 µg/L. Other VOCs detected include dichlorodifluoromethane (CFC-12) in samples collected from MW-3 and MW-4, chloroform in the sample collected from MW-5, and ethylbenzene and xylenes in TW-6. CFC-12, chloroform, ethylbenzene, and xylenes were measured at concentrations significantly below their respective MTCA Method A or B CULs.

Table 4 summarizes groundwater sample field parameters. Table 5 summarizes the groundwater analytical results, and PCE concentrations in groundwater are presented on Plate 5.

Indoor Air

A total of eight VOCs were detected above their PQLs in the indoor air sample, all of which were detected at similar concentrations in the ambient (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.

Data Validation Review

PES conducted a data quality review of the investigation chemistry data consistent with USEPA data review guidelines. 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. No VOCs were detected in the trip blank submitted with the soil and water samples.

The laboratory reports and data validation memorandum are included in Attachment C.

CONCLUSIONS

Based on the sampling conducted around the former dry cleaner suite in July 2016, the following conclusions can be made:

- The measured concentration of PCE in indoor air in the Boeing Employees Credit Union is well below its 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 cleaner 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 dry cleaner 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 cleaner suite is likely associated with the release that prompted removal of impacted soil by GEI in that area.
- 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 “till” layer effectively limits downward migration of contaminants.

- 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.
- The sanitary sewer and storm drain pipe trenches north of the former dry cleaner suite appear to be at a depth that intersects the groundwater table. Although the historical groundwater flow direction has been northwest, the distribution of PCE in groundwater may indicate preferential migration of contaminants to the northeast along the utility corridor.

We are continuing to evaluate the information collected during this investigation and will be in contact with you to discuss the next steps for this site. If you have any questions, please feel free to contact either of the undersigned.

Sincerely,
PES ENVIRONMENTAL, INC.



Brian O'Neal, P.E.
Associate Engineer



Robert Creps
Principal Engineer

Attachments: Table 1 – Monitoring Well and Temporary Well Completion Details
Table 2 – Groundwater Elevations
Table 3 – Summary of Soil Analytical Results
Table 4 – Groundwater Sample Field Parameters
Table 5 – PCE Groundwater Analytical Results
Table 6 – Summary of Select VOCs in Indoor Air
Plate 1 – Site Location Map
Plate 2 – Site Plan and Vicinity
Plate 3 – Hydrogeologic Cross Section
Plate 4 – Groundwater Elevation and Contours
Plate 5 – Groundwater Analytical Results – PCE
Attachment A – Boring Logs
Attachment B – Field Sampling Forms
Attachment C – Laboratory Reports and Data Validation Memoranda

Table 1

**Monitoring Well and Temporary Well Completion Details
Phase II Environmental Investigation
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-3	–	7/7/16	–	–	–	–	–	11	6 - 11	6 - 11	–	–
TW-5	–	7/7/16	–	–	–	–	–	14	9 - 14	8 - 14	–	–
TW-6	–	7/7/16	–	–	–	–	–	10.5	4.5 - 10.5	3.5 - 14.5	–	–
TW-7	–	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
Phase II Environmental Investigation
Marketplace Shopping Center, Lake Steven**

Location	Date	Time	Depth to Water	Monitoring Point Elevation	Water Elevation
Shallow Monitoring Wells					
MW-1	1/31/15	-	7.45	361.34	353.89
	4/29/15	-	7.73	361.34	353.61
	7/21/15	-	9.81	361.34	351.53
	10/6/15	-	10.26	361.34	351.08
	1/21/16	-	6.58	361.34	354.76
	4/8/16	-	7.90	361.34	353.44
	7/1/16	823	8.90	361.34	352.44
	7/26/16	642	9.35	361.34	351.99
MW-2	1/31/15	-	6.14	359.92	353.78
	4/29/15	-	6.48	359.92	353.44
	7/21/15	-	8.70	359.92	351.22
	10/6/15	-	9.04	359.92	350.88
	1/21/16	-	5.91	359.92	354.01
	4/8/16	-	7.01	359.92	352.91
	7/1/16	824	8.15	359.92	351.77
	7/26/16	645	8.44	359.92	351.48
MW-3	1/31/15	-	2.25	356.98	354.73
	4/29/15	-	2.51	356.98	354.47
	7/21/15	-	5.71	356.98	351.27
	10/6/15	-	4.99	356.98	351.99
	1/21/16	-	2.62	356.98	354.36
	4/8/16	-	3.15	356.98	353.83
	7/1/16	826	4.21	356.98	352.77
	7/26/16	900	4.81	356.98	352.17
MW-4	1/31/15	-	2.10	357.65	355.55
	4/29/15	-	2.46	357.65	355.19
	7/21/15	-	5.64	357.65	352.01
	10/6/15	-	4.83	357.65	352.82
	1/21/16	-	3.10	357.65	354.55
	4/8/16	-	3.16	357.65	354.49
	7/1/16	1001	3.55	357.65	354.10
	7/26/16	650	4.54	357.65	353.11
MW-6	7/26/16	643	9.31	360.77	351.46
MW-7	7/26/16	647	7.58	358.94	351.36

Table 2

**Groundwater Elevations
Phase II Environmental Investigation
Marketplace Shopping Center, Lake Steven**

Location	Date	Time	Depth to Water	Monitoring Point Elevation	Water Elevation
Deep monitoring Well					
MW-5	7/26/16	646	20.68	360.00	339.32
Temporary Wells					
TW-3	7/8/16	600	6.85	–	–
TW-5	7/8/16	620	9.80	–	–
TW-6	7/8/16	635	7.82	–	–
TW-7	7/8/16	–	DRY	–	–
Notes: <ol style="list-style-type: none"> 1. Data collected prior to 7/1/16 provided by Galloway Environmental, Inc. 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 monitoring point, except depth to water in temporary wells, which is shown relative to ground surface 4. Monitoring point elevation = top of the north side of the PVC casing (wells) 					

Table 3

**Summary of Soil Analytical Results
Phase II Environmental Investigation
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

Sample	Sample Location	Date Sampled	Sample Depth (feet bgs)	Detected Volatile Organic Compounds (µg/kg)	
				Tetrachloroethene	
Soil Boring					
SB-1a-8	TW-3a	7/7/16	8	20.8	U
SB-2-6	TW-4	7/7/16	6	21.0	U
SB-3-7	TW-5	7/7/16	7	19.7	U
SB-4-7	TW-6	7/7/16	7	22.4	U
SB-5-8	TW-7	7/7/16	8	112	
Monitoring Wells					
MW-5-7.5	MW-5	7/20/16	8	681	
MW-6-5	MW-6	7/21/16	5	23.5	U
MW-7-5	MW-7	7/21/16	5	26.8	U
Method A Unrestricted CUL				50	
Notes:					
1. bgs = below ground surface					
2. U = result is less than the laboratory detection limit (laboratory practical quantitation limit (PQL))					
3. µg/kg = micrograms per killogram					
4. MTCA Method A 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					

Table 4

**Groundwater Sample Field Parameters
Phase II Environmental Investigation
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

Sample	Date Collected	Approximate Sample Depth	pH	Specific Conductance ($\mu\text{S}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	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
MW-2	7/26/16	12	6.45	378.2	19.6	1.74	156.7
MW-3	7/26/16	10	6.90	211.5	21.0	3.20	129.6
MW-4	7/26/16	10	6.57	203.4	19.7	3.05	157.6
MW-6	7/26/16	12	6.88	676.0	17.4	6.16	143.0
MW-7	7/26/16	12	7.36	373.8	18.1	5.69	135.2
Deeper Monitoring Well							
MW-5	7/26/16	35	9.68	485.1	19.1	1.05	162.7
Notes: 1. Sample depths relative to ground surface 2. $\mu\text{S}/\text{cm}$ = micro-Siemens per centimeter 3. $^{\circ}\text{C}$ = degrees Celsius 4. mg/L = milligrams per liter 5. mv = millivolts 6. ORP = oxidation-reduction potential							

Table 5

**PCE Groundwater Analytical Results
Phase II Environmental Investigation
Redondo Square Shopping Center, Des Moines, Washington**

Select Volatile Organic Compounds (micrograms per liter)			
Sample	Date Sampled	Tetrachloroethene	
Shallow Monitoring Wells			
MW-1	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
MW-2	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	
MW-3	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
MW-4	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
MW-6	7/26/16	1.68	
MW-7	7/26/16	43.5	

Table 5

**PCE Groundwater Analytical Results
Phase II Environmental Investigation
Redondo Square Shopping Center, Des Moines, Washington**

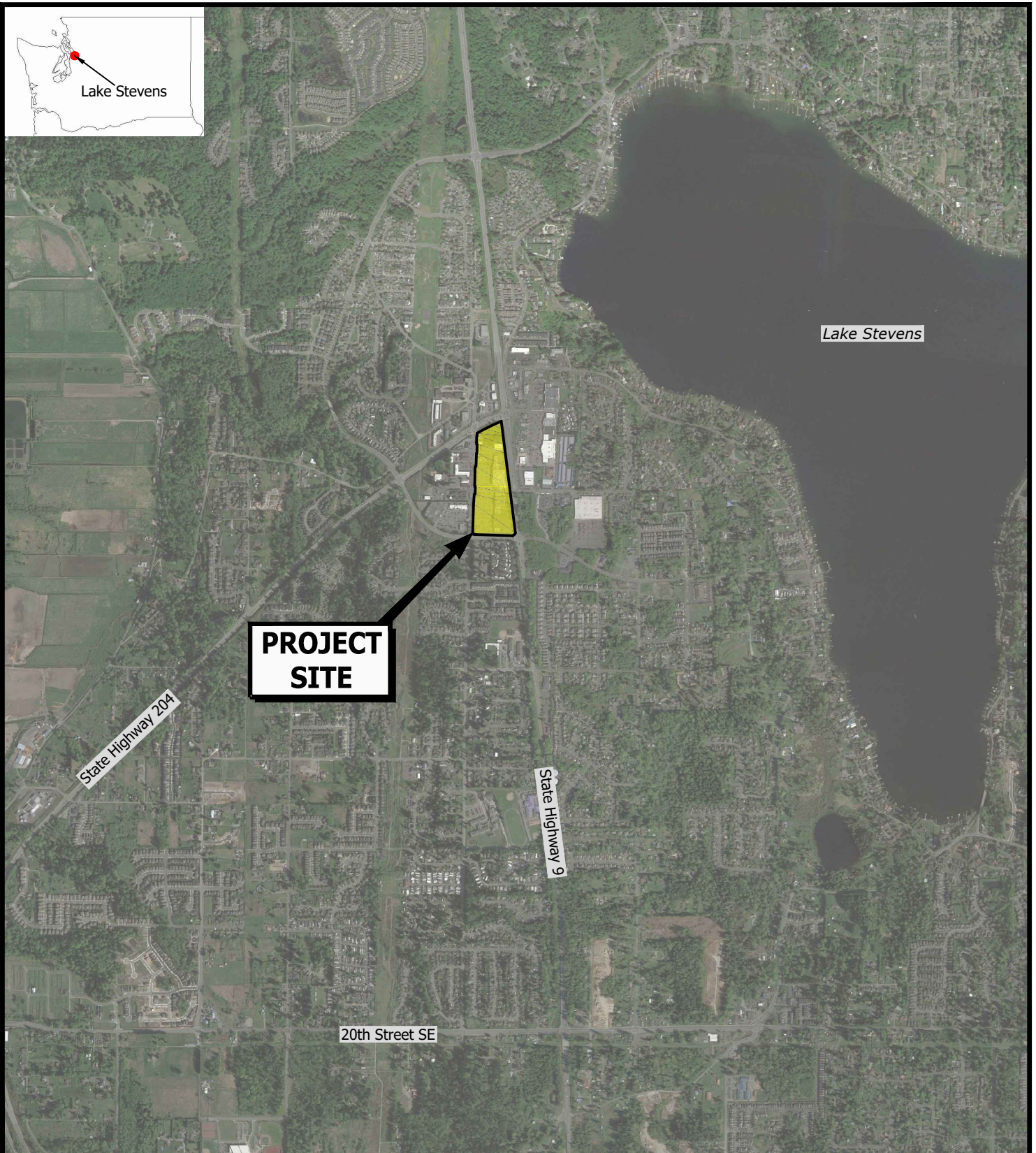
Select Volatile Organic Compounds (micrograms per liter)			
Sample	Date Sampled	Tetrachloroethene	
Deeper Monitoring Well			
MW-5	7/26/16	1.00	U
Temporary Monitoring Wells			
TW-3	7/8/16	1.00	U
TW-5	7/8/16	1.00	U
TW-6	7/8/16	1.00	U
MTCA Method A		5	
MTCA Method B		20.8	
Notes:			
1. bgs = below ground surface			
2. U = result is less than the practical quantitation limit (PQL)			
3. -- = not available			
4. PCE =			
5. CFC-12 = dichlorodifluoromethane			
6. MTCA Method A groundwater cleanup levels obtained from Ecology's CLARC database 2016			
7. MTCA Method B groundwater cleanup levels obtained from Ecology's CLARC database 2016			
8. Bold indicates compound detected above the PQL			
9. Shading indicates the concentration exceeds the MTCA Method A or B cleanup level			
10. Selected VOCs are summarized in this table; see laboratory analytical report for entire VOC analytical results			

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

Constituent	Indoor Air	Ambient Air	Indoor Air	Method B Indoor Air Cleanup Level (µg/m3)
	Indoor-070716	Ambient-070716	Corrected for Ambient	
	7/7/2016	7/7/2016	7/7/2016	
	8-hour (µg/m ³)	8-hour (µg/m ³)	8-hour (µg/m ³)	
Benzene	0.511	0.319	0.192	0.321
Carbon Tetrachloride	0.503	0.503	0.000	0.417
Ethylbenzene	2.56	2.43	0.13	457
m,p-Xylene	2.08	1.91	0.17	45.7
o-Xylene	2.30	2.17	0.13	45.7
Toluene	3.32	2.26	1.06	2,290
Dichlorodifluoromethane	1.48 U	1.48 U	NC	45.7
Methylene Chloride	2.56	0.695	1.87	250
Trichloroethene	0.0914 U	0.0914 U	NC	0.370
Tetrachloroethene	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. Method B cleanup levels obtained from Ecology's CLARC database, August 2016. 7. Measured indoor air concentrations corrected for ambient air concentrations consistent Ecology's Draft Vapor Intrusion Guidance, 2009. 8. NC = Not calculable. Indicates measured indoor air concentration less than ambient air concentrations.				



Lake Stevens

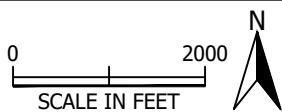


Lake Stevens

State Highway 204

State Highway 9

20th Street SE



Aerial Photo: April 19, 2015 (Google 2016)

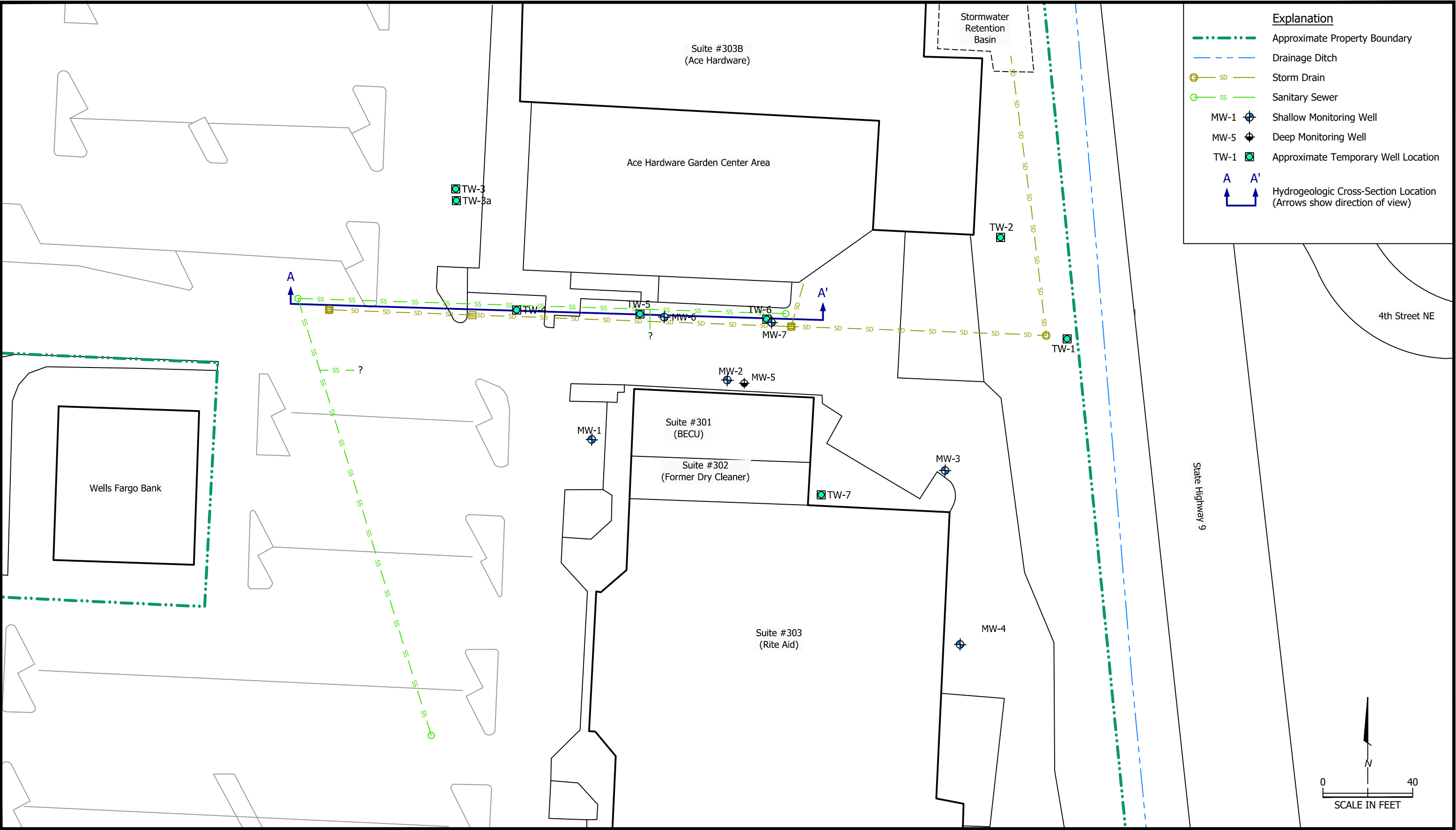


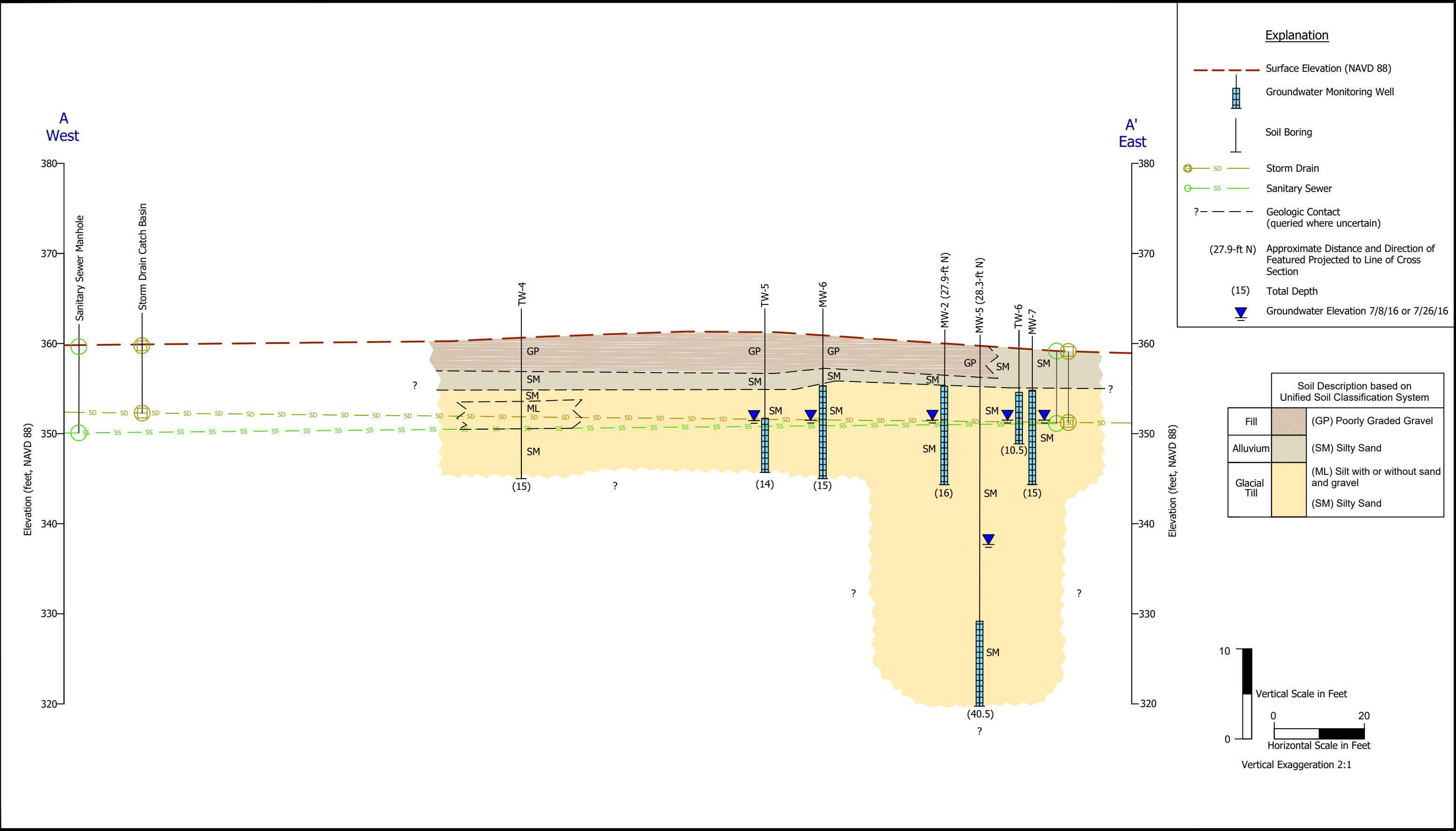
PES Environmental, Inc.
Engineering & Environmental Services

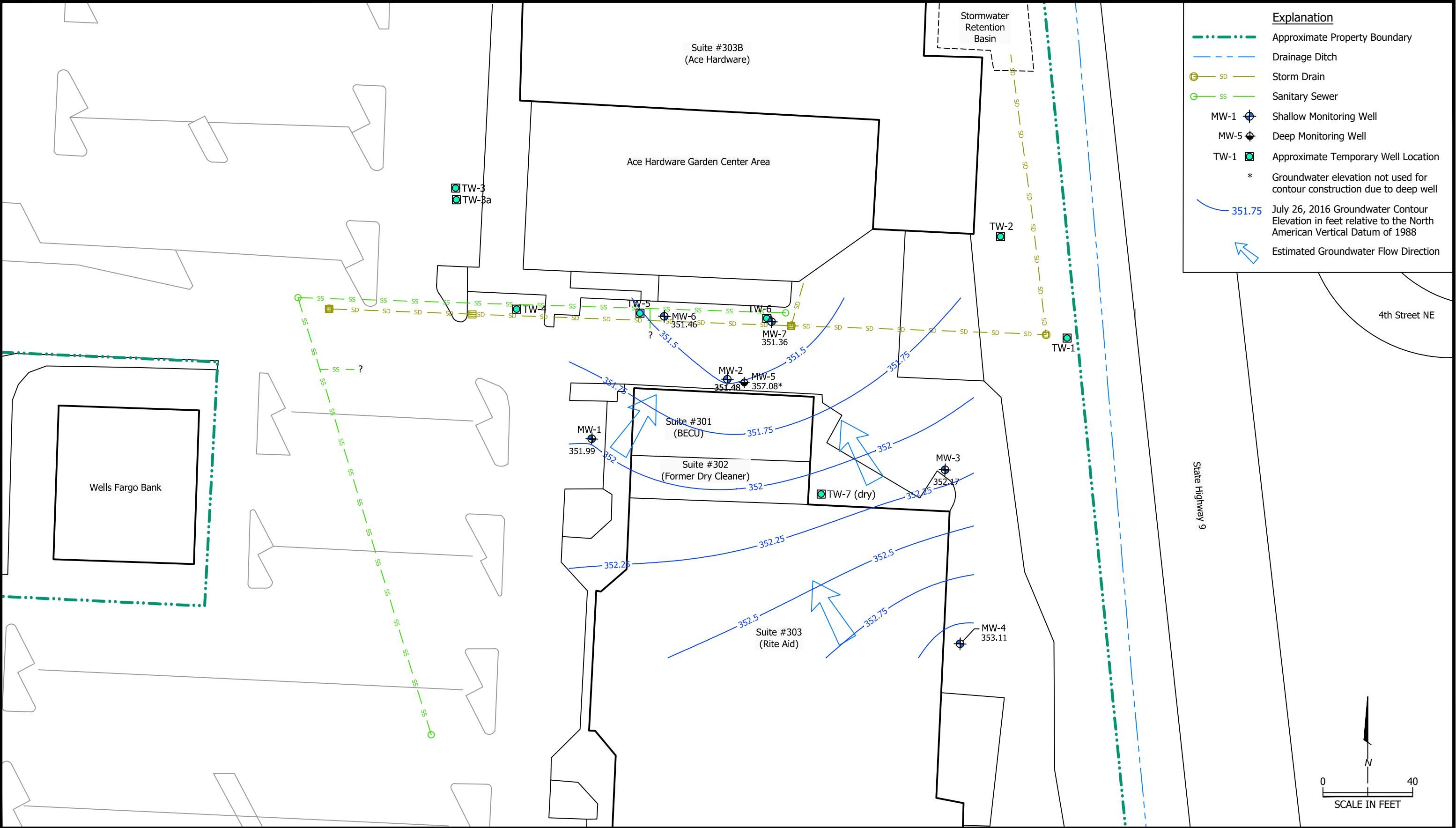
Site Location
Phase II Environmental Site Assessment
Lake Stevens Marketplace Shopping Center
Lake Stevens, Washington

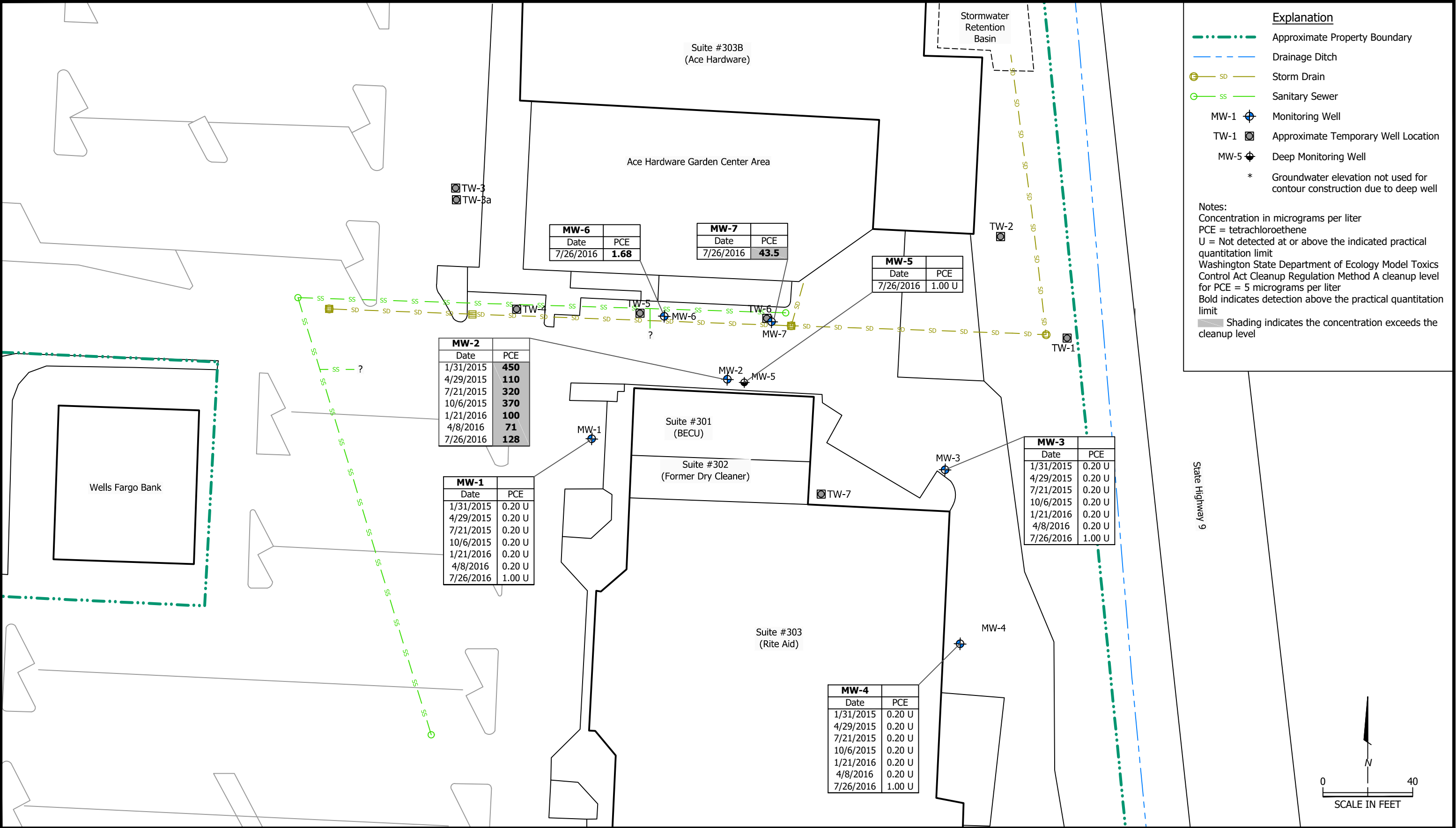
PLATE

1











Well Completion	PID (PPM)	Sample ID	Blow Count	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
						0		Asphalt (4 inches thick)
						2		angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 5 feet bgs) at 1 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, (cleared with air-knife to 5 feet bgs)
						6		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		
	7.5		50/6	6		14		
	5.5		50/6	6		16		
	3.4		50/6	6		18		
						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		<p>GRAY SILTY SAND (SM), moist, fine to medium, some fines, few to little subangular to subrounded gravel up to 3-inch diameter</p> <p>at 32 feet bgs: higher moisture content</p> <p>at 35 feet bgs: wet, little fines</p> <p>at 37.5 feet bgs: moist</p>
	15.8		50/6	5		28		
	3.2		50/6	6		30		
	2.6		50/6	6		32		
	1.3		50/6	6		34		
	2.3		50/6	6		36		
	1.6		50/6	6		38		
						40		
						42		
						44		
						46		<p>MONITORING WELL COMPLETION DETAILS: Bottom of boring at 40.5 feet.</p> <p>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.</p> <p>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</p> <p>Note: 10 inch i.d. auger drilled to 25 feet, and 4 inch i.d. auger advanced to bottom of boring</p>
						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

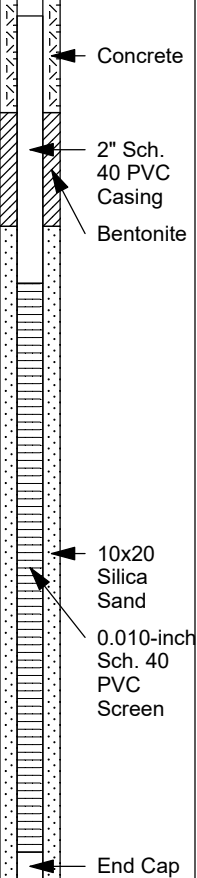


Well Completion	PID (PPM)	Sample ID	Blow Count	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
<p>Concrete</p> <p>2" Sch. 40 PVC Casing</p> <p>Bentonite</p> <p>10x20 Silica Sand</p> <p>0.010-inch Sch. 40 PVC Screen</p> <p>End Cap</p>						0		Asphalt (4 inches thick)
						2		Angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 4.5 feet bgs)
						4		at 3.5 feet bgs: black geotextile fabric
	60.5	MW-6-5	7 13 14	14		6		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)
	48.7		17 50/6	12		8		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
								at 7.5 feet bgs: very dense, no staining
	53.2		50/6	6		10		at 10 feet bgs: rare orange staining on gravel surfaces
	7.6		50/6	6		12		
						14		
	5.0		50/6	6		16		
<p>MONITORING WELL COMPLETION DETAILS: Bottom of boring at 15.5 feet.</p> <p>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.</p> <p>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: BJJ 108</p>								
						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

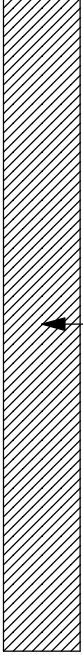







Well Completion	PID (PPM)	Sample ID	Blow Count	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
						0		Asphalt (4 inches thick)
						2		ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, abundant mottling, (cleared with air-knife to 5 feet bgs)
						4		
	0.8	MW-7-5	13			6		BROWN SILTY SAND (SM), moist, dense, fine to medium, some fines, few up to little subrounded to rounded gravel to 2-inch diameter
			13					
			17					
	0.2		30			8		at 7.5 feet bgs: very dense, no staining, fine to coarse
			50/6					
	0.5		50/6			10		at 10 feet bgs: rare orange staining, rare rootlets
	0.7		30			12		at 12.5 feet bgs: moist to wet, no rootlets
			30					
			25			14		
	0.5		50/6					
						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: BJJ 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

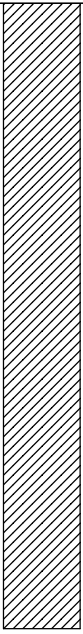








Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
 Bentonite					0		Asphalt (4 inches thick)
					0.7		BROWN SILTY SAND (SM), moist, fine to coarse, little fines, trace subangular gravel up to 1-inch diameter, (cleared with air-knife to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

Project: Lake Stevens Phase II
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Sample Method: Direct Push

Total Boring Depth: 11.5 feet
Diameter of Boring: 2.25 inches
Date Drilled: 7/7/16
Drilled By: ESN Northwest, Inc.
Drill Method: Direct Push

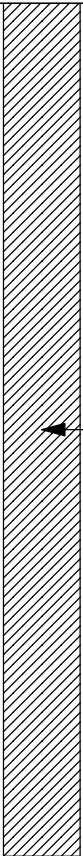






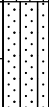


Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
	SB-1a-8				0		Asphalt (4 inches thick)
		0.0			37		DARK GRAY SILT (ML), moist, few angular to round gravel up to 0.5-inch diameter, few fine to coarse sand, abundant orange staining
							at 1 foot bgs: color change to brown, gravel percentage decreases and sand percentage increases
		0.0			5		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		
		0.0					
		0.0			36		
		0.0			10		at 9 feet bgs: percentage of fines and sand size vary over 6-inch thick horizons
					15		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
					20		
					25		

Project: Lake Stevens Phase II
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Sample Method: Direct Push

Total Boring Depth: 11 feet
Diameter of Boring: 2.25 inches
Date Drilled: 7/7/16
Drilled By: ESN Northwest, Inc.
Drill Method: Direct Push

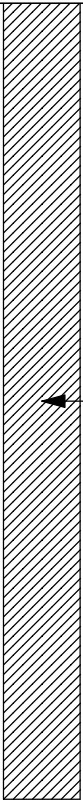










Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
 Bentonite	SB-2-6				0		Asphalt (4 inches thick)
							Angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 4.5 feet bgs)
							at 2.5 feet bgs: black geotextile fabric
		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
		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
					36		
		0.1					
					10		
		0.0					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			60		
		0.0					
		0.0			15		Bottom of boring at 15 feet (refusal) Boring abandoned with hydrated bentonite chips
					20		
					25		

Project: Lake Stevens Phase II
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Sample Method: Direct Push

Total Boring Depth: 15 feet
Diameter of Boring: 2.25 inches
Date Drilled: 7/7/16
Drilled By: ESN Northwest, Inc.
Drill Method: Direct Push

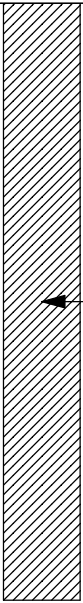


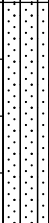



Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
 Bentonite	SB-3-7				0		Asphalt (4 inches thick)
							Angular rocks up to 6-inch diameter, (FILL; cleared with air-knife to 4.5 feet bgs)
							at 0.75 feet bgs: black geotextile fabric
							at 3.5 feet bgs: black geotextile fabric
		0.0					
					6		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)
		0.0			5		
					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					
		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
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Sample Method: Direct Push

Total Boring Depth: 14 feet
Diameter of Boring: 2.25 inches
Date Drilled: 7/7/16
Drilled By: ESN Northwest, Inc.
Drill Method: Direct Push

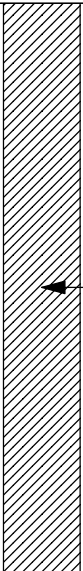




Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
 Bentonite	SB-4-7				0		Asphalt (4 inches thick)
		0.0					ORANGE-BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little rounded gravel up to 0.25-inch diameter, little fines, abundant mottling, (cleared with air-knife to 5 feet bgs)
		0.0			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
		0.0			10		Bottom of boring at 10.5 feet (refusal)
					10.5		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
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Sample Method: Direct Push

Total Boring Depth: 10.5 feet
Diameter of Boring: 2.25 inches
Date Drilled: 7/7/16
Drilled By: ESN Northwest, Inc.
Drill Method: Direct Push



Completion Details	Sample ID	PID (ppm)	Sample Interval	Recovery (Inches)	Depth (Feet)	Symbol	Lithologic Description
 Bentonite	SB-5-8	0.0		12	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)
		0.4		50	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
		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
Project Number: 1246.038.03.001
Site Location: Lake Stevens, WA
Logged By: Chris DeBoer
Sample Method: Direct Push

Total Boring Depth: 10 feet
Diameter of Boring: 2.25 inches
Date Drilled: 7/7/16
Drilled By: ESN Northwest, Inc.
Drill Method: Direct Push

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	Well I.D.: TW-3
Project No.: 1246.038.03	Date: 7/8/16

Site Description		<input type="checkbox"/> Monitoring Well	<input type="checkbox"/> Extraction Well	<input type="checkbox"/> Borehole	<input type="checkbox"/> Spring/Creek	<input type="checkbox"/> Pond/Lagoon	<input type="checkbox"/> Outfall	<input checked="" type="checkbox"/> Other: Temp
Air Temp:	70	<input type="checkbox"/> °C	<input checked="" type="checkbox"/> °F	Weather: Sun				
Well Locked?	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no	Damaged/Repairs Needed: none					
<input checked="" type="checkbox"/> TOC	<input type="checkbox"/> MP	Description of MP (e.g., well monument at grade surface):						
TOC/MP Stickup:	0	<input checked="" type="checkbox"/> ft	<input type="checkbox"/> m	above/below ground		Well Inside Diameter (ID): <input checked="" type="checkbox"/> 2-inch <input type="checkbox"/> 4-inch Other: 3/4"		

Water Level Data		Measurement Units: <input checked="" type="checkbox"/> ft <input type="checkbox"/> m						
<input checked="" type="checkbox"/> E-Tape, # <u>224 244</u>	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks	
Time (hh:mm; 24-hr clock)	<u>6:00</u>							
Depth to Water	<u>6.85</u>							
Depth to Bottom								
Water Level (WL)								
Product Thickness								
Product Recovery								
<input type="checkbox"/> gallons <input type="checkbox"/> liters								

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data			Purge Depth: <input type="checkbox"/> Top <input type="checkbox"/> Mid <input checked="" type="checkbox"/> Bottom			<input type="checkbox"/> Grab <input type="checkbox"/> Bailor <input checked="" type="checkbox"/> Pump		Description: <u>feri</u>		
Casing Volume: [<u> </u> (TD) - <u> </u> (WL)] • [<u> </u> (Well ID)] ² • [<u> </u> (Conversion Factor)] = <u> </u> <input type="checkbox"/> gal <input type="checkbox"/> 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 <input checked="" type="checkbox"/>		
Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity		Temp		D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input type="checkbox"/> SC	<input type="checkbox"/> EC	<input type="checkbox"/> °C	<input type="checkbox"/> °F			
Collected 3 40ml VOA's of water. Well pumped dry when trying to measure in water quality data.										
Pump Rate (ml/min) <u>50-80</u>			Color/Tint/Odor <u>cloudy</u>							
Meter Used <u>NA</u>										

Sample Data		Sample Depth:	<input type="checkbox"/> Grab <input type="checkbox"/> Baller <input checked="" type="checkbox"/> Pump			Description:		
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	P0	7/8/16	6:10	3	Y <input checked="" type="radio"/> N	VOA	<input checked="" type="radio"/> N	HCl
					Y N		Y N	
					Y N		Y N	
Sampler's Name (print) Chris DeBoer					Signature Chris DeBoer			

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: <u>Lake Stevens Market place</u>	Location I.D.: <u>TW-5</u>
Project No.: <u>1246 038.03</u>	Date: <u>7-8-16</u>

Location Description <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Borehole <input type="checkbox"/> Spring/Creek <input type="checkbox"/> Pond/Lagoon <input type="checkbox"/> Outfall <input checked="" type="checkbox"/> Other: <u>Temp</u>	
Air Temp: <u>65</u> <input type="checkbox"/> °C <input checked="" type="checkbox"/> °F	Weather: <u>sun</u>
Well Locked? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Damaged/Repairs Needed:
<input checked="" type="checkbox"/> TOC <input type="checkbox"/> MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: <u>0</u> <input checked="" type="checkbox"/> ft <input type="checkbox"/> m above/below ground	Well Inside Diameter (ID): <input type="checkbox"/> 2-inch <input type="checkbox"/> 4-inch Other: <u>3/4"</u>

Water Level Data

Measurement Units: ☒ ft ☐ m

<input checked="" type="checkbox"/> E-Tape, # <u>921244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	<u>6:20</u>						
Depth to Water	<u>9.80</u>						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data

Purge Depth: ☐ Top ☐ Mid ☒ Bottom

☐ Grab ☐ Bailor ☒ Pump

Description: feri

Casing Volume: [____(TD) - ____ (WL)] * [____ (Well ID)] * [____ (Conversion Factor)] = ____ <input type="checkbox"/> gal <input type="checkbox"/> 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 <input checked="" type="checkbox"/>	
Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp <input type="checkbox"/> °C <input type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU	
<u>Collected 3 40ml VOAs before collecting water quality parameters. Well pumped dry before water quality parameters could be measured.</u>									
Pump Rate (ml/min) <u>50-80</u>			Color/Tint/Odor <u>cloudy, brown</u>						
Meter Used <u>YSI ProPlus (NA)</u>									

Sample Data

Sample Depth: 14

☐ Grab ☐ Bailor ☒ 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
<u>TW-5-070916</u>	<u>P0</u>	<u>7/8/16</u>	<u>630</u>	<u>3</u>	<u>Y</u> <u>N</u>	<u>VOA</u>	<u>Y</u> <u>N</u>	<u>HCl</u>
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	
Sampler's Name (print) <u>Chris DeBoer</u>					Signature <u>Chris DeBoer</u>			

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: Lake Stevens Marketplace	Location I.D. : TW-6
Project No.: 1246.038.04	Date: 7/8/16

Location Description		<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Borehole <input type="checkbox"/> Spring/Creek <input type="checkbox"/> Pond/Lagoon <input type="checkbox"/> Outfall <input checked="" type="checkbox"/> Other: <i>Temp</i>	
Air Temp: <i>65</i>	<input type="checkbox"/> °C <input checked="" type="checkbox"/> °F	Weather: <i>sun</i>	
Well Locked?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Damaged/Repairs Needed: <i>none</i>	
<input type="checkbox"/> TOC <input checked="" type="checkbox"/> MP	Description of MP (e.g., well monument at grade surface): <i>ground surface</i>		
TOC/MP Stickup: <i>0</i>	<input type="checkbox"/> ft <input checked="" type="checkbox"/> m	Well Inside Diameter (ID): <input checked="" type="checkbox"/> 2-inch <input type="checkbox"/> 4-inch Other:	

Water Level Data Measurement Units: ☒ ft ☐ m

<input checked="" type="checkbox"/> E-Tape, # <u>244 244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	<u>6:40</u>						
Depth to Water	<u>7.82</u>						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Flow

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 <input checked="" type="checkbox"/>	
Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input type="checkbox"/> SC <input type="checkbox"/> EC ($\mu\text{S/cm}$)	Temp <input type="checkbox"/> °C <input type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU	
Pump Rate (ml/min)	50-80		Color/Tint/Odor cloudy, brown						
Meter Used	NA								

Sample Data Sample Depth: 10 ☐ Grab ☐ Bailer ☒ Pump Description: Perisalt

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-6-070816	P0	7/8/16	645	3	Y N	Vot	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: <u>Lake Stevens Marketplace</u>	Well I.D.: <u>MW-1</u> <u>BID 972</u>
Project No.: <u>1246.038.03</u>	Date: <u>7/26/16</u>

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

<input checked="" type="checkbox"/> E-Tape, # <u>124744</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	<u>7:04</u>		<u>7:04</u>		<u>7:48</u>		
Depth to Water	<u>9.35</u>				<u>9.70</u>		
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailer ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____ (WL)] * [____ (Well ID)] * [____ (Conversion Factor)] = ____ <input type="checkbox"/> gal <input type="checkbox"/> 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 <input type="checkbox"/>	
Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input checked="" type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp <input type="checkbox"/> °C <input checked="" type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input checked="" type="checkbox"/> NTU	
<u>~.25</u>	<u>9.44</u>	<u>7:08</u>	<u>5.62</u>	<u>739</u>	<u>17.7</u>	<u>11.15</u>	<u>144.0</u>	<u>nm</u>	
<u>~.5</u>	<u>9.49</u>	<u>7:13</u>	<u>5.88</u>	<u>582</u>	<u>17.7</u>	<u>3.88</u>	<u>135.2</u>		
<u>~.75</u>	<u>9.53</u>	<u>7:18</u>	<u>5.97</u>	<u>538.6</u>	<u>17.8</u>	<u>3.00</u>	<u>139.0</u>		
<u>~1.00</u>	<u>9.56</u>	<u>7:23</u>	<u>6.01</u>	<u>520.0</u>	<u>17.8</u>	<u>2.66</u>	<u>143.4</u>		
<u>~1.25</u>	<u>9.59</u>	<u>7:28</u>	<u>6.06</u>	<u>510.4</u>	<u>17.9</u>	<u>2.39</u>	<u>143.4</u>		
<u>~1.5</u>	<u>9.63</u>	<u>7:33</u>	<u>6.10</u>	<u>505.8</u>	<u>17.7</u>	<u>2.36</u>	<u>143.5</u>		
<u>~1.75</u>	<u>9.68</u>	<u>7:38</u>	<u>6.13</u>	<u>507.2</u>	<u>17.8</u>	<u>2.41</u>	<u>144.6</u>		
<u>~2.0</u>	<u>9.70</u>	<u>7:41</u>	<u>6.14</u>	<u>508.3</u>	<u>17.9</u>	<u>2.33</u>	<u>144.5</u>		
Pump Rate <u>as slow as the pump</u> (ml/min) runs <u>~50-80</u>			Color/Tint/Odor <u>clear, colorless</u>						
Meter Used <u>YSI Pro Plus</u>									

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
<u>MW-1-072616</u>	<u>P0</u>	<u>7/26/16</u>	<u>7:45</u>	<u>3</u>	<u>Y</u> <input checked="" type="checkbox"/> <u>N</u>	<u>VOA</u>	<input checked="" type="checkbox"/> <u>N</u>	<u>HCl</u>
					<u>Y</u> <input type="checkbox"/> <u>N</u>		<u>Y</u> <input type="checkbox"/> <u>N</u>	
					<u>Y</u> <input type="checkbox"/> <u>N</u>		<u>Y</u> <input type="checkbox"/> <u>N</u>	

Sampler's Name (print) <u>Chris DeBoer</u> <u>* slowed pump rate.</u>	Signature <u>Chris DeBoer</u>
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PES GROUNDWATER SAMPLING PROTOCOLS

Facility: <u>Lake Stevens Market place</u>	Well I.D.: <u>MW-2-072616</u> <u>BID 973</u>
Project No.: <u>1246.038.03</u>	Date:

Site Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: 30 °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

<input checked="" type="checkbox"/> E-Tape, # <u>284244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge Initial	Pre-Purge Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	<u>11:45</u>		<u>1145</u>			<u>1233</u>	
Depth to Water	<u>8.45</u>					<u>8.68</u>	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery							
<input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailor ☒ Pump Description: Peri

Casing Volume: [____(TD) - ____ (WL)] * [____ (Well ID)] * [____ (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? <input type="checkbox"/>)	Conductivity <input checked="" type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp °C °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
<u>~.25</u>	<u>8.54</u>	<u>11:47</u>	<u>6.67</u>	<u>362.8</u>	<u>19.3</u>	<u>2.6.1</u>	<u>151.2</u>	<u>NM</u>
<u>~.5</u>	<u>8.59</u>	<u>1152</u>	<u>6.60</u>	<u>363.9</u>	<u>19.7</u>	<u>2.17</u>	<u>151.2</u>	
<u>~.75</u>	<u>8.63</u>	<u>1157</u>	<u>6.58</u>	<u>367.4</u>	<u>19.5</u>	<u>1.95</u>	<u>152.0</u>	
<u>~1</u>	<u>8.66</u>	<u>1200</u>	<u>6.53</u>	<u>370.3</u>	<u>19.5</u>	<u>1.88</u>	<u>153.7</u>	
<u>~1.25</u>	<u>8.67</u>	<u>1217</u>	<u>6.48</u>	<u>372.4</u>	<u>19.6</u>	<u>1.83</u>	<u>154.1</u>	
<u>~1.5</u>	<u>8.68</u>	<u>1222</u>	<u>6.46</u>	<u>376.6</u>	<u>19.5</u>	<u>1.77</u>	<u>155.7</u>	
<u>~1.75</u>	<u>8.69</u>	<u>1227</u>	<u>6.45</u>	<u>378.2</u>	<u>19.6</u>	<u>1.74</u>	<u>156.7</u>	

Pump Rate (ml/min) 50-80. Color/Tint/Odor clear colorless

Meter Used YSI Pro Plus

Sample Data Sample Depth: 12ft ☐ Grab ☐ Bailor ☒ 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
<u>MW-2-072616</u>	<u>P0</u>	<u>7/26/16</u>	<u>1230</u>	<u>3</u>	<u>Y</u> <input checked="" type="checkbox"/> <u>N</u>	<u>V0A</u>	<input checked="" type="checkbox"/> <u>N</u>	<u>HCl</u>
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: <u>Lake Stevens Market place</u>	Well I.D.: <u>MW-3</u> <u>BID 975</u>
Project No.: <u>1246038.03</u>	Date: <u>7/26/16</u>

Site Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

Air Temp: <u>70</u> <input type="checkbox"/> °C <input checked="" type="checkbox"/> °F	Weather: <u>overcast</u>
Well Locked? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Damaged/Repairs Needed: <u>none</u>
<input checked="" type="checkbox"/> TOC <input type="checkbox"/> MP Description of MP (e.g., well monument at grade surface):	
TOC/MP Stickup: <u>1.3</u> <input checked="" type="checkbox"/> ft <input type="checkbox"/> m above/below ground	
Well Inside Diameter (ID): <input checked="" type="checkbox"/> 2-inch <input type="checkbox"/> 4-inch Other:	

Water Level Data Measurement Units: ☒ ft ☐ m

<input checked="" type="checkbox"/> E-Tape, # <u>94244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm, 24-hr clock)	<u>9:50</u>		<u>9:50</u>			<u>10:40</u>	
Depth to Water	<u>4.81</u>					<u>5.04</u>	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water 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)] = ____ <input type="checkbox"/> gal <input type="checkbox"/> 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 <input type="checkbox"/>	
Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp <input type="checkbox"/> °C <input type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU	
<u>1.25</u>	<u>4.87</u>	<u>9:57</u>	<u>7.30</u>	<u>212.6</u>	<u>20.5</u>	<u>4.48</u>	<u>212.5</u>		
<u>1.5</u>	<u>4.92</u>	<u>10:03</u>	<u>7.15</u>	<u>212.5</u>	<u>20.4</u>	<u>3.62</u>	<u>125.6</u>		
<u>1.75</u>	<u>4.94</u>	<u>10:07</u>	<u>7.07</u>	<u>211.4</u>	<u>20.3</u>	<u>3.50</u>	<u>125.9</u>		
<u>1.0</u>	<u>4.99</u>	<u>10:12</u>	<u>6.99</u>	<u>211.9</u>	<u>20.4</u>	<u>3.31</u>	<u>126.9</u>		
<u>1.25</u>	<u>5.01</u>	<u>10:17</u>	<u>6.95</u>	<u>212.8</u>	<u>20.7</u>	<u>3.48</u>	<u>127.9</u>		
<u>1.5</u>	<u>5.03</u>	<u>10:22</u>	<u>6.92</u>	<u>211.0</u>	<u>21.0</u>	<u>3.33</u>	<u>128.8</u>		
<u>1.75</u>	<u>5.05</u>	<u>10:27</u>	<u>6.90</u>	<u>211.5</u>	<u>21.0</u>	<u>3.20</u>	<u>129.6</u>		
Pump Rate <u>as slow as the pump runs</u> <u>50-86</u> (ml/min)			Color/Tint/Odor <u>clear colorless</u>						
Meter Used <u>YSI Pro Plus</u>									

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
<u>MW-3-072616</u>	<u>P0</u>	<u>7/26/16</u>	<u>1035</u>	<u>3</u>	<u>Y</u> <u>(R)</u>	<u>VOA</u>	<u>DN</u>	<u>HCl</u>
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	
Sampler's Name (print) <u>Chris DeBoer</u>								
Signature <u>Chris DeBoer</u>								

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: <u>Lake Stevens Marketplace</u>	Well I.D.: <u>MW-4</u> 60
Project No.: <u>1246.038.03</u>	Date: <u>7/26/16</u> BIP 974

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, # <u>11444</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm, 24-hr clock)	<u>10:41</u>		<u>1041</u>			<u>4:30</u>	
Depth to Water	<u>4.54</u>					<u>1137</u>	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data Purge Depth: ☐ Top ☐ Mid ☒ Bottom ☐ Grab ☐ Bailor ☒ 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

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input checked="" type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
<u>2.25</u>	<u>4.62</u>	<u>10:51</u>	<u>6.99</u>	<u>206.0</u>	<u>19.5</u>	<u>4.56</u>	<u>139.6</u>	<u>nm</u>
<u>2.5</u>	<u>4.67</u>	<u>10:53</u>	<u>6.88</u>	<u>207.6</u>	<u>19.8</u>	<u>3.17</u>	<u>139.0</u>	
<u>2.75</u>	<u>4.72</u>	<u>11:00</u>	<u>6.76</u>	<u>198.8</u>	<u>19.4</u>	<u>3.25</u>	<u>141.8</u>	
<u>3.0</u>	<u>4.74</u>	<u>11:05</u>	<u>6.68</u>	<u>199.6</u>	<u>19.7</u>	<u>3.15</u>	<u>144.0</u>	
<u>3.25</u>	<u>4.76</u>	<u>11:10</u>	<u>6.65</u>	<u>201.3</u>	<u>19.6</u>	<u>3.13</u>	<u>148.3</u>	
<u>3.50</u>	<u>4.77</u>	<u>11:15</u>	<u>6.62</u>	<u>202.0</u>	<u>19.6</u>	<u>3.10</u>	<u>153.6</u>	
<u>3.75</u>	<u>4.78</u>	<u>11:20</u>	<u>6.59</u>	<u>202.9</u>	<u>19.6</u>	<u>3.08</u>	<u>157.2</u>	
<u>4.00</u>	<u>4.80</u>	<u>11:25</u>	<u>6.57</u>	<u>203.4</u>	<u>19.7</u>	<u>3.05</u>	<u>158.0</u>	

Pump Rate (ml/min): 50-80 Color/Tint/Odor: clear, colorless

Meter Used: YSI Pro Plus

Sample Data Sample Depth: 10 ft. ☐ Grab ☐ Bailor ☒ 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
<u>MW-4-072616</u>	<u>P0</u>	<u>7/26/16</u>	<u>1135</u>	<u>3</u>	<u>Y</u> <input checked="" type="checkbox"/>	<u>VOA</u>	<input checked="" type="checkbox"/> N	<u>HCl</u>
					<u>Y</u> N		<u>Y</u> N	
					<u>Y</u> N		<u>Y</u> N	

Sampler's Name (print) Chris DeBoer Signature Chris DeBoer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: <u>Lake Stevens Marketplace</u>	Well I.D.: <u>MW-5</u> <u>B57 102</u>
Project No.: <u>1246.038.03</u>	Date: <u>7/26/16</u>

Site Description ☒ Monitoring Well ☐ Extraction Well ☐ Borehole ☐ Spring/Creek ☐ Pond/Lagoon ☐ Outfall ☐ Other:

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: 0.3 ☒ ft ☐ m above/below ground **Well Inside Diameter (ID):** ☒ 2-inch ☐ 4-inch **Other:**

Water Level Data **Measurement Units:** ☒ ft ☐ m

<input checked="" type="checkbox"/> E-Tape, # <u>484244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm, 24-hr clock)	<u>12:53</u>		<u>1253</u>			<u>21:32</u>	
Depth to Water	<u>20.68</u>					<u>1332</u>	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data **Purge Depth:** ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailor ☒ 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

Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp <input type="checkbox"/> °C <input type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
<u>~0.5</u>	<u>20.85</u>	<u>12:55</u>	<u>8.19</u>	<u>445.3</u>	<u>18.8</u>	<u>5.12</u>	<u>127.4</u>	<u>NM</u>
<u>~1.5</u>	<u>20.95</u>	<u>13:00</u>	<u>9.27</u>	<u>486.7</u>	<u>19.0</u>	<u>3.10</u>	<u>143.7</u>	
<u>~2.75</u>	<u>21.02</u>	<u>13:05</u>	<u>9.46</u>	<u>483.7</u>	<u>19.1</u>	<u>2.71</u>	<u>148.9</u>	
<u>~1.0</u>	<u>21.16</u>	<u>13:15</u>	<u>9.53</u>	<u>483.9</u>	<u>19.1</u>	<u>2.06</u>	<u>153.7</u>	
<u>~1.85</u>	<u>21.20</u>	<u>13:20</u>	<u>9.64</u>	<u>484.3</u>	<u>19.1</u>	<u>1.53</u>	<u>158.7</u>	
<u>~2.5</u>	<u>21.29</u>	<u>13:25</u>	<u>9.68</u>	<u>485.1</u>	<u>19.1</u>	<u>1.05</u>	<u>162.7</u>	
		<u>13:25</u>						

Pump Rate (ml/min) 50-80 **Color/Tint/odor** clear, faintly cloudy

Meter Used YSI Pro Plus

Sample Data **Sample Depth:** 35 ☐ Grab ☐ Bailor ☒ 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
<u>MW-5-072616</u>	<u>P0</u>	<u>7/26/16</u>	<u>1330</u>	<u>3</u>	<u>Y</u> <input checked="" type="checkbox"/>	<u>VAA</u>	<u>N</u>	<u>HCl</u>
					<u>Y</u> <input type="checkbox"/>		<u>N</u>	
					<u>Y</u> <input type="checkbox"/>		<u>N</u>	

Sampler's Name (print) Chris De Boer **Signature** Chris De Boer

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: <u>Lake Stevens Marketplace</u>	Well I.D.: <u>MW-6</u> <u>BDY 108</u>
Project No.: <u>1246-038.03</u>	Date: <u>7/26/16</u>

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: 1.3 ☒ ft ☐ m above/below ground **Well Inside Diameter (ID):** ☒ 2-inch ☐ 4-inch Other:

Water Level Data **Measurement Units:** ☒ ft ☐ m

<input checked="" type="checkbox"/> E-Tape, # <u>224244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm, 24-hr clock)	<u>7:51</u>		<u>751</u>			<u>844</u>	
Depth to Water	<u>9.30</u>					<u>84 9.60</u>	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water level prior to purging

Field Water Quality Data **Purge Depth:** ☐ Top ☒ Mid ☐ Bottom ☐ Grab ☐ Bailor ☒ Pump **Description:** Peri

Casing Volume: [____(TD) - ____ (WL)] * [____ (Well ID)] ² * [____ (Conversion Factor)] = ____ <input type="checkbox"/> gal <input type="checkbox"/> 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 <input type="checkbox"/>	
Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input checked="" type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp <input type="checkbox"/> °C <input checked="" type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input checked="" type="checkbox"/> NTU	
<u>1.25</u>	<u>9.41</u>	<u>7:58</u>	<u>6.55</u>	<u>667</u>	<u>18.0</u>	<u>6.4.9</u>	<u>145.3</u>		
<u>1.5</u>	<u>9.43</u>	<u>8:03</u>	<u>6.63</u>	<u>667</u>	<u>17.9</u>	<u>5.88</u>	<u>143.3</u>		
<u>1.75</u>	<u>9.46</u>	<u>8:08</u>	<u>6.70</u>	<u>667</u>	<u>18.0</u>	<u>5.71</u>	<u>143.6</u>		
<u>2.0</u>	<u>9.49</u>	<u>8:13</u>	<u>6.75</u>	<u>669</u>	<u>18.1</u>	<u>5.56</u>	<u>142.9</u>		
<u>2.25</u>	<u>9.51</u>	<u>8:18</u>	<u>6.78</u>	<u>671</u>	<u>18.1</u>	<u>5.54</u>	<u>142.8</u>		
<u>2.5</u>	<u>9.53</u>	<u>8:24</u>	<u>6.82</u>	<u>673</u>	<u>18.1</u>	<u>5.43</u>	<u>142.6</u>		
<u>2.75</u>	<u>9.55</u>	<u>8:29</u>	<u>6.84</u>	<u>682</u>	<u>17.9</u>	<u>6.20</u>	<u>143.0</u>		
<u>3.0</u>	<u>9.59</u>	<u>8:34</u>	<u>6.88</u>	<u>676</u>	<u>17.4</u>	<u>6.16</u>	<u>143.1</u>		
Pump Rate <u>as slow as the pump</u> Color/Tint/Odor <u>clear, colorless</u> (ml/min) <u>can run ~50-80</u>									
Meter Used		<u>VSI Pro Plus</u>							

Sample Data **Sample Depth:** ~12ft bgs ☐ Grab ☐ Bailor ☒ 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
<u>MW-6-072616</u>	<u>P0</u>	<u>7/26/16</u>	<u>840</u>	<u>3</u>	<u>Y</u> <input checked="" type="checkbox"/> <u>N</u>	<u>VOA</u>	<input checked="" type="checkbox"/> <u>N</u>	<u>HCI</u>
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	
					<u>Y</u> <u>N</u>		<u>Y</u> <u>N</u>	
Sampler's Name (print) <u>Chris DeBoer</u>					Signature <u>Chris DeBoer</u>			

PES GROUNDWATER SAMPLING PROTOCOLS

Facility: <u>Lake Stevens Marketplace</u>	Well I.D.: <u>MW-7</u> <u>BOY 109</u>
Project No.: <u>1248.038.03</u>	Date: <u>7/26/16</u>

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

<input checked="" type="checkbox"/> E-Tape, # <u>384544</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge ¹ Initial	Pre-Purge ² Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm, 24-hr clock)	<u>8:46</u>		<u>847</u>			<u>937</u>	
Depth to Water	<u>7.58</u>					<u>7.83</u>	
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

¹First round of water levels; ²Water 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)] = ____ <input type="checkbox"/> gal <input type="checkbox"/> 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 <input type="checkbox"/>	
Cumulative Vol. Purged (Liters)	Depth to Water	Time (hh:mm)	pH (Temp. Corrected? <input type="checkbox"/>)	Conductivity <input checked="" type="checkbox"/> SC <input type="checkbox"/> EC (µS/cm)	Temp °C <input checked="" type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU	
<u>1.25</u>	<u>7.69</u>	<u>8:53</u>	<u>7.38</u>	<u>362.1</u>	<u>18.3</u>	<u>6.92</u>	<u>134.1</u>	<u>om</u>	
<u>1.5</u>	<u>7.71</u>	<u>8:58</u>	<u>7.36</u>	<u>361.7</u>	<u>18.2</u>	<u>5.69</u>	<u>135.4</u>		
<u>1.75</u>	<u>7.75</u>	<u>9:03</u>	<u>7.34</u>	<u>362.5</u>	<u>18.6</u>	<u>5.70</u>	<u>135.6</u>		
<u>2.0</u>	<u>7.76</u>	<u>9:08</u>	<u>7.34</u>	<u>364.2</u>	<u>18.9</u>	<u>6.01</u>	<u>135.2</u>		
<u>2.25</u>	<u>7.77</u>	<u>9:13</u>	<u>7.35</u>	<u>365.7</u>	<u>18.8</u>	<u>5.68</u>	<u>134.5</u>		
<u>2.5</u>	<u>7.81</u>	<u>9:18</u>	<u>7.35</u>	<u>370.4</u>	<u>18.7</u>	<u>5.61</u>	<u>134.8</u>		
<u>2.75</u>	<u>7.84</u>	<u>9:23</u>	<u>7.36</u>	<u>373.9</u>	<u>18.2</u>	<u>5.61</u>	<u>134.9</u>		
<u>2</u>	<u>7.87</u>	<u>9:28</u>	<u>7.36</u>	<u>373.8</u>	<u>18.1</u>	<u>5.69</u>	<u>135.2</u>		
Pump Rate <u>as slow as the pump runs</u> <u>250-80</u> ml/min Meter Used <u>YSI Pro Plus</u>			Color/Tint/Odor <u>clear, colorless</u>						

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
<u>MW-7-072616</u>	<u>P0</u>	<u>7/26/16</u>	<u>935</u>	<u>3</u>	<u>Y</u> <input checked="" type="checkbox"/> <u>N</u>	<u>VOA</u>	<input checked="" type="checkbox"/> <u>N</u>	<u>HU</u>
					<u>Y</u> <input type="checkbox"/> <u>N</u>		<u>Y</u> <input type="checkbox"/> <u>N</u>	
					<u>Y</u> <input type="checkbox"/> <u>N</u>		<u>Y</u> <input type="checkbox"/> <u>N</u>	
Sampler's Name (print) <u>Chris DeBoer</u>					Signature <u>Chris DeBoer</u>			



Fremont
Analytical

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Seattle, WA 98103
T: (206) 352-3790
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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: 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

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
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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

Original



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
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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
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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
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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

Original



Analytical Report

WO#: 1607053

Date Reported: 7/14/2016

Client: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab ID: 1607053-002
Client Sample ID: SB-2-6

Collection Date: 7/7/2016 11:10:00 AM**Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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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
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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
<u>Volatile Organic Compounds by EPA Method 8260C</u>				Batch ID: 14232	Analyst: EM	
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

Original



Analytical Report

WO#: 1607053

Date Reported: 7/14/2016

Client: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab ID: 1607053-003
Client Sample ID: SB-3-7

Collection Date: 7/7/2016 12:20:00 PM**Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>				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
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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
<u>Volatile Organic Compounds by EPA Method 8260C</u>				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

Original



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
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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
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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
<u>Volatile Organic Compounds by EPA Method 8260C</u>				Batch ID: 14232	Analyst: EM	
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

Original



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
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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
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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	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				

Original



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				



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									



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											

Original



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	



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	

Original



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				

Original



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	

Original



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	

Original



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).



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**
Logged by: **Erica Silva**

Work Order Number: **1607053**
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 $>0^{\circ}\text{C}$ 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 $^{\circ}\text{C}$
Cooler	11.4
Sample	2.7

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

Original



COC 1.1-4516-1 of 2

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 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 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.



Fremont
Analytical

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: 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

DoD/ELAP Certification #L2371, ISO/ICC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

www.fremontanalytical.com



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

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:

- * - 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

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst
<u>Volatile Organic Compounds-EPA Method TO-15 (SIM)</u>							
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)			
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

Original



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
<u>Volatile Organic Compounds-EPA Method TO-15 (SIM)</u>					
	(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

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
<u>Volatile Organic Compounds-EPA Method TO-15 (SIM)</u>								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
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

Original



Client: PES Environmental, Inc.

WorkOrder: 1607054

Project: Lake Stevens Marketplace

Client Sample ID: Indoor_070716

Date Sampled: 7/7/2016

Lab ID: 1607054-002A

Date Received: 7/7/2016

Sample Type: Summa Canister

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



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				



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				
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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



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	



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**
Logged by: **Erica Silva**

Work Order Number: **1607054**
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 $>0^{\circ}\text{C}$ to 10.0°C * Yes ☐ No ☐ NA ☒
8. Sample(s) in proper container(s)? Yes ☒ No ☐
9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
10. Are samples properly preserved? Yes ☒ No ☐
11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
14. Does paperwork match bottle labels? Yes ☒ No ☐
15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
16. Is it clear what analyses were requested? Yes ☒ No ☐
17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☒ No ☐ NA ☐

Person Notified:	<input type="text" value="Chris DeBoer"/>	Date	<input type="text" value="7/7/2016"/>
By Whom:	<input type="text" value="Clare Griqas"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input checked="" type="checkbox"/> In Person
Regarding:	<input type="text" value="Confirming TO-15 SIM request - full list, + Freon12"/>		
Client Instructions:	<input type="text" value="Confirmed"/>		

19. Additional remarks:

Item Information

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

Original



3600 Fremont Ave N.
Seattle, WA 98103

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

Fremont

Analytical

Air Chain of Custody Record & Laboratory Services Agreement

Laboratory Project No (Internal):

1607054

Date: 7/7/16

Page: 1 of 1

Project Name:

Lake Stevens Market place

Project No:

1346.038.03.001

collected by: ASD

Location:

Lake Stevens WA

Reports To (PM):

Brian O'Neal

Email (PM):

boneal@seasau.com

Client: PES

Address: 1215 4th Ave Suite 1357

City, State, Zip: Seattle WA 98101

Telephone: (206) 529-3950

Fax: (206) 529-3485

* Gas Matrix Codes: 1 = 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		Equipment Certification Code	Field Initial Sample Pressure ("Hg)	Field Final Sample Pressure ("Hg)	Analysis Requested	Internal	
							Evacuation Pressure (mTorr)	Pressure at Time of Pick- up ("Hg)					Receipt Date	Final Pressure ("Hg)
Ambient - 070716	15422	0837		8hr	6L	Summa	10 mTorr 7/5/16 17:00	Pressure Date/Time	Container Regulator	-30 837	-5 1500	TD-15 + Freedom SIM	7/7	-6
Indoor - 070716	17244	0837		8hr	6L	Summa	10 mTorr 7/5/16 17:00	Pressure Date/Time	Container Regulator	-30 837	-5 1500	TD-15 + Freedom SIM	7/7	-6
	Canister	Date					Pressure Date/Time	Pressure Date/Time	Container Regulator	Pressure Date/Time	Pressure Date/Time			
	Flow Reg	Time												
	Canister	Date					Pressure Date/Time	Pressure Date/Time	Container Regulator	Pressure Date/Time	Pressure Date/Time			
	Flow Reg	Time												
	Canister	Date					Pressure Date/Time	Pressure Date/Time	Container Regulator	Pressure Date/Time	Pressure Date/Time			
	Flow Reg	Time												

Condition: Seals Intact: Y N N/A Turn-around times for samples received after 4:00pm will begin on the following business day.

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

7/7/16 4:50

Received

Date/Time

7/7 1651

Relinquished

Date/Time

7/7/16 4:50

Received

Date/Time

7/7 1651

TAT -> ASD Rush (specify)

Full TD-15 SIM VOC list,
plus Freedom 12 per
C. DeBar 7/7/16

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° 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.



Fremont
Analytical

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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

DoD/ELAP Certification #L2371, ISO/ICC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

www.fremontanalytical.com

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

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#: 1607063

Date Reported: 7/12/2016

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
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505

Analyst: NG

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

Original



Analytical Report

WO#: 1607063

Date Reported: 7/12/2016

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
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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



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
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505

Analyst: NG

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

Original



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
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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



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
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505

Analyst: NG

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

Original



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
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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



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
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: R30505

Analyst: NG

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

Original



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
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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				



Date: 7/12/2016

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				



Date: 7/12/2016

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											



Date: 7/12/2016

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	



Date: 7/12/2016

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		

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

Work Order Number: **1607063**
 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 ☒

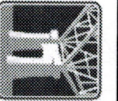
Person Notified: Date
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item Information

Item #	Temp °C
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



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: 7/8/16

Laboratory Project No (internal): 16070623

Page 23 of 23

Client: RES 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: 1846.038.03.001 Collected by: ASD
Location: Lake Stevens, WA
Report To (PM): Brian O'Neil
PM Email: beneal@resenv.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)	SVOGS (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 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.)

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 7/8/16 10:07 Received ☒ Date/Time 7/8/16 10:08

Remaindered ☒ Date/Time 7/8/16 10:07 Received ☒ Date/Time 7/8/16 10:08

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 Number 1607063 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 $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$. 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.



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
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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: 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

DoD/ELAP Certification #L2371, ISO/ICC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

www.fremontanalytical.com



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

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
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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

Original



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
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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
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Analytical Report

WO#: 1607216

Date Reported: 7/28/2016

Client: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab ID: 1607216-002
Client Sample ID: MW-6-5

Collection Date: 7/21/2016 8:40:00 AM

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>				Batch ID: 14376		Analyst: NG
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
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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
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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
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14376

Analyst: NG

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

Original



Analytical Report

WO#: 1607216

Date Reported: 7/28/2016

Client: PES Environmental, Inc.
Project: Lake Stevens Marketplace
Lab ID: 1607216-003
Client Sample ID: MW-7-5

Collection Date: 7/21/2016 11:00:00 AM**Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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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
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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				



Date: 7/28/2016

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				



Date: 7/28/2016

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									
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									

Q



Date: 7/28/2016

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).

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		

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

Work Order Number: **1607216**
 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 ☒

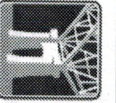
Person Notified: Date
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	9.7
Sample	2.3

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



Fremont

Chain of Custody Record and Laboratory Services Agreement

3600 Fremont Ave N.
Seattle, WA 98103

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

Client: DES 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: 1246.034-03
Location: Lake Stevens WA
Report To (PM): Brian O'Neil
PM Email: boneal@psenv.com

Date: 7/21/16

Laboratory Project No (internal): 116072116

Page: 1 of: 1

Page 25 of 25

*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 (C)***	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																	

****Metals Analysis (Circle):** MTCA-5 RCA-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 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.)

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 7/21/16 1426 Received ☒ Date/Time 7/21/16 1426

Relinquished ☒ Date/Time 7/21/16 1426 Received ☒ Date/Time 7/21/16 1426

TAT → SameDay[^] NextDay[^] 2 Day 3 Day STD

[^]Please coordinate with the lab in advance

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 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 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.



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
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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: 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

DoD/ELAP Certification #L2371, ISO/ICC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

www.fremontanalytical.com

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

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.
Project: Lake Stevens Marketplace
Lab ID: 1607286-001
Client Sample ID: Drum-S-072616

Collection Date: 7/26/2016 6:50:00 AM

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Mercury by EPA Method 7471</u>				Batch ID: 14415		Analyst: MW
Mercury	ND	0.249		mg/Kg-dry	1	8/1/2016 2:31:34 PM
<u>Total Metals by EPA Method 6020</u>				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
<u>Sample Moisture (Percent Moisture)</u>				Batch ID: R30817		Analyst: ME
Percent Moisture	8.82			wt%	1	7/27/2016 8:12:33 AM



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
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14381

Analyst: NG

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	7/28/2016 9:28:12 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

Original



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
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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).



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
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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

Original



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
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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).



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
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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

Original



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
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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).



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
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: 14381

Analyst: NG

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

Original



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
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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).



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
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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

Original



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
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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).



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
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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

Original



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
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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).



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
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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

Original



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
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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).



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
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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

Original



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
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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).



Date: 8/2/2016

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	



Date: 8/2/2016

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



Date: 8/2/2016

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										



Date: 8/2/2016

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	

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

Work Order Number: **1607286**
 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 °C
Cooler	8.4
Sample	9.4

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



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 $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$. 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.