



February 14, 2017

**1246.038.03**

Lake Stevens GRF2, LLC  
c/o: Gerrity Group, LLC  
973 Lomas Santa Fe Drive  
Solana Beach, California 92075

Attention: Mr. John Waters

**SUMMARY OF GROUNDWATER SAMPLING RESULTS – JANUARY 2017  
LAKE STEVENS MARKETPLACE SHOPPING CENTER  
LAKE STEVENS, WASHINGTON**

Dear Mr. Waters:

PES Environmental, Inc. (PES) has prepared this letter report to summarize the results of the January 2017 groundwater sampling conducted at 303 91<sup>st</sup> Avenue NE, Lake Stevens, Washington (Site; Plate 1). Lake Stevens GRF2, LLC (Gerrity) retained PES to conduct this groundwater sampling event to evaluate groundwater conditions associated with a former dry cleaner business that operated in Suite C-302 of 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 groundwater sampling event was to continue to understand and define the extent of the PCE-contaminated shallow groundwater plume.

**BACKGROUND**

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 Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A groundwater cleanup level (CUL).

In July 2016, PES installed one deep monitoring well (MW-5) and two shallow monitoring wells (MW-6 and MW-7). The well completion details are summarized in Table 1. In July and October of 2016, PES monitored the new wells concurrent with four existing wells and collected groundwater samples from wells MW-1 through MW-7. The purpose of the 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<sup>1,2</sup>. Based on the results of the well installation and groundwater sampling, PES recommended conducting an additional groundwater sampling event in January 2017.

## **GROUNDWATER SAMPLING FIELD PROCEDURES**

The depth to water in monitoring wells MW-1 through MW-7 was measured on January 19, 2017. 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, and the wells were allowed to vent for approximately one hour. The probe was decontaminated with a distilled water rinse between wells.

PES collected groundwater samples from monitoring wells MW-1 through MW-7 on January 19, 2017. 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. The DO meter malfunctioned during the sampling event, and DO measurements are not available for some of the monitoring wells. Each well was purged at approximately 50 to 80 milliliters per minute (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 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 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 Analytical, Inc., in Seattle, Washington. Groundwater sampling forms are included in Attachment A.

## **GROUNDWATER SAMPLING RESULTS**

The depth to water and groundwater elevations (relative to North American Vertical Datum [NAVD 88]) are presented in Table 2. The stabilized depth to water measured in the deep well (MW-5) was approximately 19 feet below the top of casing (TOC). The stabilized depth to water measured in the shallow wells ranged from approximately 1.2 to 8.6 feet below the TOC (surface elevation varies across the Site). Plate 2 presents a groundwater contour map of the January 19, 2017 groundwater elevations in the shallow monitoring wells (all wells but deeper well MW-5). As seen on Plate 2, the highest groundwater elevation (356.44 feet) was at MW-4 and the lowest groundwater elevation was at MW-7 (352.20 feet). Groundwater flow appears to be northwest.

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<sup>1</sup> PES Environmental, Inc. 2016. *Summary of Phase II Investigation Results. Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington.* August 16.

<sup>2</sup> PES Environmental, Inc. 2016. *Summary of Groundwater Sampling Results – October 2016. Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington.* October 28.

PCE was not detected at or above the practical quantitation limit (PQL) in the samples collected from MW-1, MW-3, MW-4, and MW-5. Concentrations of PCE were measured at 114, 1.44, and 126 micrograms per liter ( $\mu\text{g/L}$ ) in water samples collected from MW-2, MW-6, and MW-7, respectively. These concentrations in MW-2 and MW-7 are above the MTCA Method A CUL for groundwater of 5  $\mu\text{g/L}$ . The PCE concentration in MW-2 is within the range of concentrations detected during the quarterly sampling conducted in 2015 and 2016. A graph showing the MW-2 PCE concentrations and groundwater elevations versus time is presented on Plate 3. The PCE concentration in MW-7 is greater than the July and October 2016 results. Other VOCs detected include low levels of dichlorodifluoromethane (CFC-12) in MW-3 and chloroform in the sample collected from MW-7.

Table 3 summarizes groundwater sample field parameters. Table 4 summarizes the groundwater analytical results, and PCE concentrations in groundwater from the last three rounds of sampling are presented on Plate 2.

### **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, and method blanks were reviewed. PES assigned the following data qualifiers, as needed:

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

No data were rejected based on the data validation review, and PES judged all of the data acceptable for use.

The laboratory report and data validation memorandum are included in Attachment B.

### **CONCLUSIONS**

Based on the sampling conducted around the former dry cleaner suite in July and October 2016 and January 2017, the following conclusions can be made:

- PCE was again 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; and
- PCE was detected at concentrations above the MTCA Method A CUL for groundwater in samples collected from MW-2 and MW-7.

PES recommends continued quarterly sampling in accordance with the Cleanup Action Plan<sup>3</sup> dated February 14, 2017, to confirm that the downward trend in PCE concentrations in groundwater at MW-2 continues, and to document the effects of the previous source treatment<sup>4</sup> further downgradient at MW-7. 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 Completion Details  
Table 2 – Groundwater Elevations  
Table 3 – Groundwater Sample Field Parameters  
Table 4 – PCE Groundwater Analytical Results  
Plate 1 – Site Location Map  
Plate 2 – PCE Concentrations and GW Elevation Contour Map – January 2017  
Plate 3 – MW-2 PCE Concentrations vs. Time  
Attachment A – Field Sampling Forms  
Attachment B – Laboratory Report and Data Validation Memorandum

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<sup>3</sup> PES Environmental, Inc. 2017. *Cleanup Action Plan, Former Lake Stevens Cleaners, Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington, Site Identification Number: FS 11757, Cleanup Site ID Number: 13076.* February 14.

<sup>4</sup> Galloway Environmental, Inc. 2015. *Environmental Cleanup Report at the Lake Stevens Cleaners Site.* Prepared for Lake Stevens Marketplace, LLC c/o Powers & Therrien, P.S. May 27.

**Table 1**

**Monitoring Well Completion Details  
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

Well	Ecology Well Tag Number	Date Installed	Northing	Easting	Monitoring Point Elevation	Surface Casing Rim Elevation	Ground Surface Elevation	Boring Depth	Screen Depth	Filter Pack Depth	Bentonite Seal Depth	Surface Concrete Depth
<b>Shallow Monitoring Wells</b>												
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
<b>Deep Monitoring Well</b>												
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
<b>Notes:</b>												
<ol style="list-style-type: none"> <li>1. Northing/Easting in feet relative to the WA State Plane System North Zone (NAD 83)</li> <li>2. Elevations in feet relative to the North American Vertical Datum (NAVD 88)</li> <li>3. All depths shown in feet below ground surface</li> <li>4. Monitoring point = top of the PVC well casing; all wells completed flush with grade</li> <li>5. Surveyed locations = north side of completion or the ground surface to the north of completion</li> </ol>												

**Table 2**

**Groundwater Elevations  
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

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

**Table 2**

**Groundwater Elevations**  
**Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

<b>Location</b>	<b>Date</b>	<b>Time</b>	<b>Depth to Water</b>	<b>Monitoring Point Elevation</b>	<b>Water Elevation</b>
MW-6	07/26/16	6:43	9.31	360.77	351.46
	10/18/16	8:24	8.63	360.77	352.14
	01/19/17	8:34	8.58	360.77	352.19
MW-7	07/26/16	6:47	7.58	358.94	351.36
	10/18/16	8:28	6.81	358.94	352.13
	01/19/17	8:33	6.74	358.94	352.20
<b>Deep monitoring Well</b>					
MW-5	07/26/16	6:46	20.68	360.00	339.32
	10/18/16	9:26	20.67	360.00	339.33
	01/19/17	8:31	18.92	360.00	341.08
<b>Notes:</b>					
<ol style="list-style-type: none"> <li>1. Data collected prior to 7/1/16 provided by Galloway Environmental, Inc.</li> <li>2. Elevations in feet relative to the North American Vertical Datum (NAVD 88)</li> <li>3. All depths shown in feet below monitoring point</li> <li>4. Monitoring point elevation = top of the north side of the PVC casing (wells)</li> </ol>					

Table 3

**Groundwater Sample Field Parameters**  
**Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

Sample	Date Collected	Approximate Sample Depth	pH	Specific Conductance (µS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	ORP (mv)
<b>Shallow Monitoring Wells</b>							
MW-1	7/26/16	12	6.14	508.3	17.9	2.33	144.5
	10/18/16	10	6.02	213	14.7	1.09	64.3
	1/19/17	10	7.65	850	10.2	1.87	22.3
MW-2	7/26/16	12	6.45	378.2	19.6	1.74	156.7
	10/18/16	10	5.96	379.8	14.7	2.96	106.2
	1/19/17	10	7.27	421.3	9.4	NA	18.6
MW-3	7/26/16	10	6.90	211.5	21.0	3.20	129.6
	10/18/16	10	6.30	190.6	14.4	3.81	110.4
	1/19/17	8	6.84	223.0	8.1	2.49	47
MW-4	7/26/16	10	6.57	203.4	19.7	3.05	157.6
	10/18/16	10	6.27	136.4	14.8	1.03	113.2
	1/19/17	8	7.78	363.2	8.2	NA	36.3
MW-6	7/26/16	12	6.88	676.0	17.4	6.16	143.0
	10/18/16	10	6.11	649.0	14.0	2.56	71.7
	1/19/17	10	8.66	583.9	7.5	NA	31.8
MW-7	7/26/16	12	7.36	373.8	18.1	5.69	135.2
	10/18/16	10	6.00	250.9	13.8	1.96	85.7
	1/19/17	10	8.96	344.8	8.6	NA	27.0
<b>Deeper Monitoring Well</b>							
MW-5	7/26/16	35	9.68	485.1	19.1	1.05	162.7
	10/18/16	35	6.82	203.3	14.2	1.07	96.6
	1/19/17	35	7.70	216.2	10.4	NA	-4.1
<b>Notes:</b>							
1. Sample depths relative to ground surface							
2. µS/cm = micro-Siemens per centimeter							
3. °C = degrees Celsius							
4. mg/L = milligrams per liter							
5. mv = millivolts							
6. ORP = oxidation-reduction potential							
7. NA = not available							



Table 4

**Groundwater Analytical Results**  
**Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

Well ID	Date Sampled	Tetrachloroethene (micrograms per liter)	
<b>Shallow Monitoring Wells</b>			
MW-1	01/31/15	0.20	U
	04/29/15	0.20	U
	07/21/15	0.20	U
	10/06/15	0.20	U
	01/21/16	0.20	U
	04/08/16	0.20	U
	07/26/16	1.00	U
	10/18/16	1.00	U
	01/19/17	1.00	U
MW-2	01/31/15	<b>450</b>	
	04/29/15	<b>110</b>	
	07/21/15	<b>320</b>	
	10/06/15	<b>370</b>	
	01/21/16	<b>100</b>	
	04/08/16	<b>71</b>	
	07/26/16	<b>128</b>	
	10/18/16	<b>214</b>	
	01/19/17	<b>114</b>	
MW-3	01/31/15	0.20	U
	04/29/15	0.20	U
	07/21/15	0.20	U
	10/06/15	0.20	U
	01/21/16	0.20	U
	04/08/16	0.20	U
	07/26/16	1.00	U
	10/18/16	1.00	U
	01/19/17	1.00	U
MW-4	01/31/15	0.20	U
	04/29/15	0.20	U
	07/21/15	0.20	U
	10/06/15	0.20	U
	01/21/16	0.20	U
	04/08/16	0.20	U
	07/26/16	1.00	U
	10/18/16	1.00	U
	01/19/17	1.00	U
MW-6	07/26/16	<b>1.68</b>	
	10/18/16	1.00	U
	01/19/17	<b>1.44</b>	
MW-7	07/26/16	<b>43.5</b>	
	10/18/16	<b>10.6</b>	
	01/19/17	<b>126</b>	

**Table 4**

**Groundwater Analytical Results  
Lake Stevens Marketplace Shopping Center, Lake Stevens, Washington**

<b>Well ID</b>	<b>Date Sampled</b>	<b>Tetrachloroethene (micrograms per liter)</b>	
<b>Deeper Monitoring Well</b>			
MW-5	07/26/16	1.00	U
	10/18/16	1.00	U
	01/19/17	1.00	U
MTCA Method A		5.0	
<b>Notes:</b>			
<ol style="list-style-type: none"> <li>1. Data collected prior to 7/1/16 provided by Galloway Environmental, Inc.</li> <li>2. U = result is less than the practical quantitation limit (PQL)</li> <li>3. PCE = tetrachloroethene</li> <li>4. Bold indicates compound detected above the PQL</li> <li>5. Shading indicates the concentration exceeds the MTCA Method A cleanup level</li> <li>6. Selected VOCs are summarized in this table; see laboratory analytical reports for entire VOC analytical results</li> </ol>			



**PES Environmental, Inc.**  
Engineering & Environmental Services

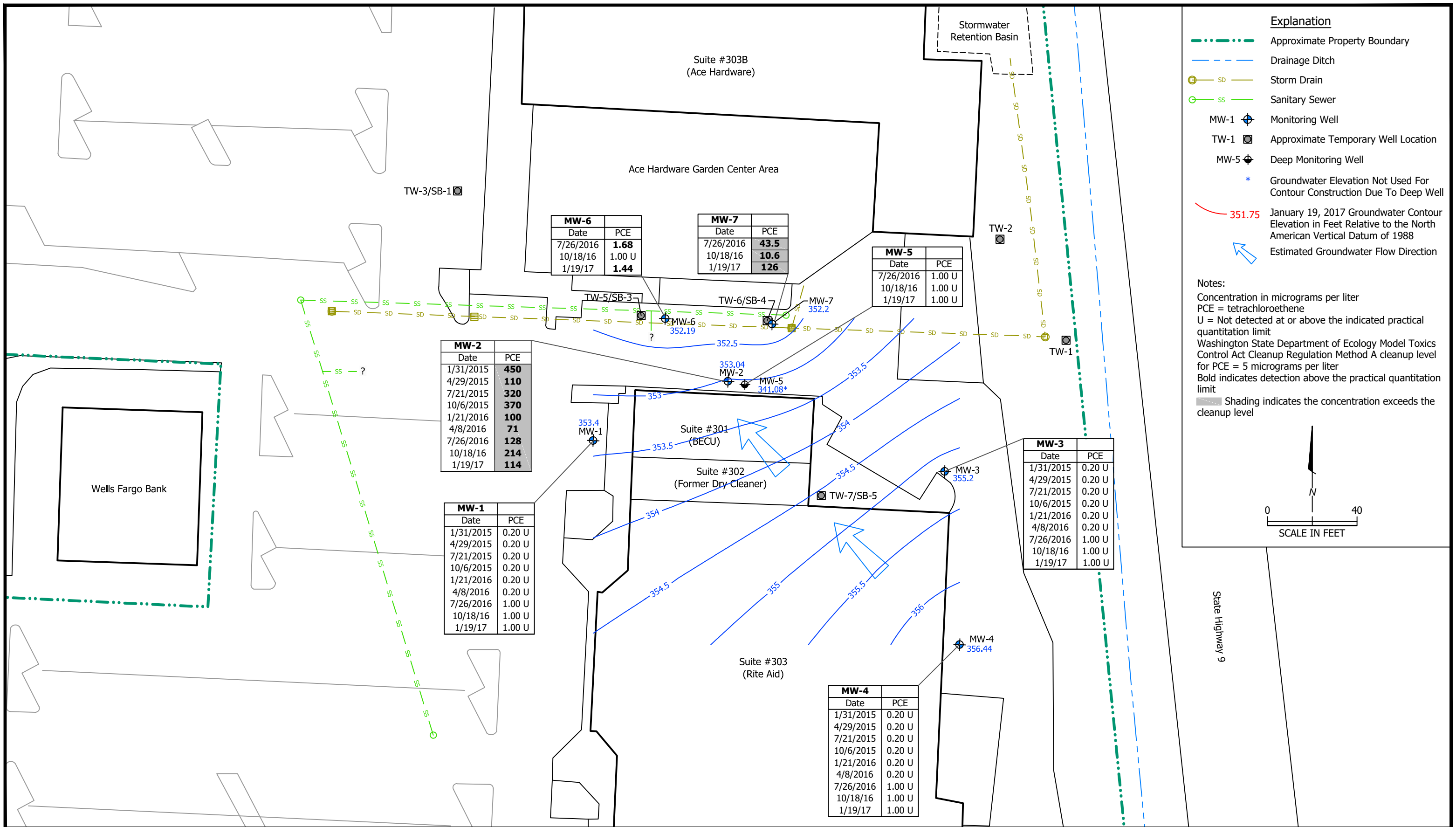
**Site Location**

Lake Stevens Marketplace Shopping Center  
Lake Stevens, Washington

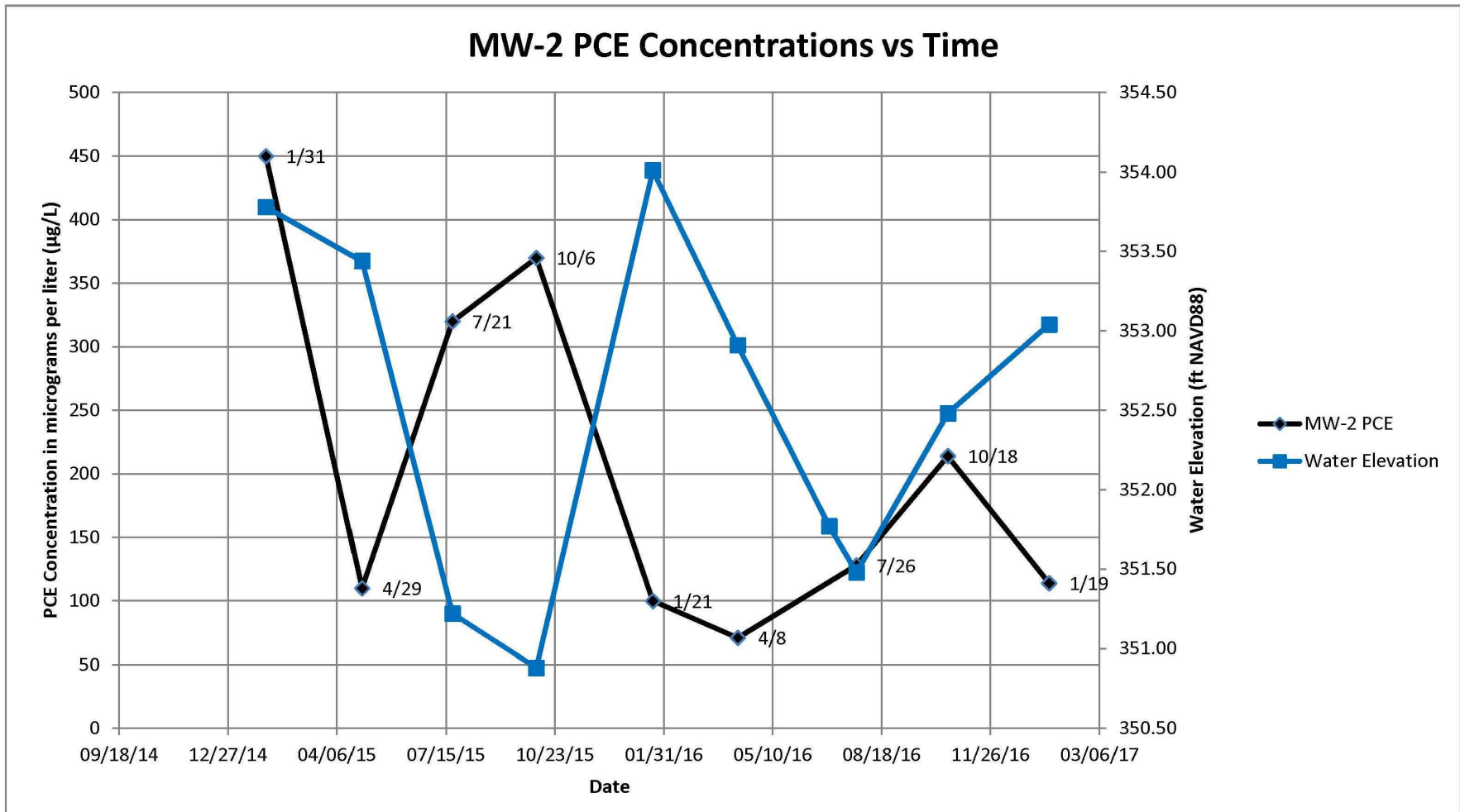
PLATE

**1**





### MW-2 PCE Concentrations vs Time





# PES GROUNDWATER SAMPLING PROTOCOLS

<b>Facility:</b> Lake Stevens Shopping Center	<b>Well I.D. :</b> <i>MU-1</i>
<b>Project No.:</b> 1246.038.03.001	<b>Date:</b> 1/19/17

**Location Description**  Monitoring Well  Extraction Well  Borehole  Spring/Creek  Pond/Lagoon  Outfall  Other:

Air Temp: *40's*  °C  °F Weather: *overcast*

Well Locked?  yes  no Damaged/Repairs Needed: *none*

TOC  MP Description of MP (e.g., well monument at grade surface):

TOC/MP Stickup:  ft  m above/below ground Well Inside Diameter (ID):  2-inch  4-inch Other:

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

<input type="checkbox"/> E-Tape, # <i>314044</i> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge <sup>1</sup> Initial	Pre-Purge <sup>2</sup> Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	<i>8:44</i>		<i>8:44</i>				
Depth to Water	<i>7.74</i>						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

<sup>1</sup>First round of water levels; <sup>2</sup>Water level prior to purging

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

Casing Volume: [\_\_\_\_(TD) - \_\_\_\_ (WL)] \* [\_\_\_\_ (Well ID)]<sup>2</sup> \* [\_\_\_\_ (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		Temp		D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input checked="" type="checkbox"/> SC	<input type="checkbox"/> EC	<input checked="" type="checkbox"/> °C	<input type="checkbox"/> °F			
<i>2.25</i>	<i>8.04</i>	<i>8:51</i>	<i>7.34</i>	<i>945</i>		<i>10.5</i>		<i>10.58</i>	<i>3.7</i>	<i>mm</i>
<i>2.5</i>	<i>8.08</i>	<i>8:57</i>	<i>7.86</i>	<i>913</i>		<i>10.5</i>		<i>2.70</i>	<i>12.3</i>	
<i>2.75</i>	<i>8.11</i>	<i>9:01</i>	<i>7.68</i>	<i>879</i>		<i>10.7</i>		<i>2.12</i>	<i>19.0</i>	
<i>2.100</i>	<i>8.14</i>	<i>9:07</i>	<i>7.66</i>	<i>867</i>		<i>10.4</i>		<i>2.00</i>	<i>16.4</i>	
<i>2.1.25</i>	<i>8.17</i>	<i>9:13</i>	<i>7.66</i>	<i>856</i>		<i>10.2</i>		<i>1.88</i>	<i>15.9</i>	
<i>2.1.5</i>	<i>8.21</i>	<i>9:18</i>	<i>7.65</i>	<i>850</i>		<i>10.2</i>		<i>1.87</i>	<i>22.3</i>	

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
<i>MW-1-011917</i>	<i>P0</i>	<i>1/19/17</i>	<i>9:20</i>	<i>3</i>	<i>Y (N)</i>	<i>VA</i>	<i>(Y) N</i>	<i>HCl</i>
					<i>Y N</i>		<i>Y N</i>	
					<i>Y N</i>		<i>Y N</i>	

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

*\* slowed pump rate*



# PES GROUNDWATER SAMPLING PROTOCOLS

<b>Facility:</b> Lake Stevens Shopping Center	<b>Well I.D.:</b> MW-2
<b>Project No.:</b> 1246.038.03.001	<b>Date:</b> 1/19/17

**Location Description**  Monitoring Well  Extraction Well  Borehole  Spring/Creek  Pond/Lagoon  Outfall  Other:

Air Temp: 40  °C  °F      Weather: overcast

Well Locked?  yes  no      Damaged/Repairs Needed: none

TOC  MP Description of MP (e.g., well monument at grade surface):

TOC/MP Stickup: 2.3  ft  m above/below ground<sup>3</sup>      Well Inside Diameter (ID):  2-inch  4-inch Other:

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

<input checked="" type="checkbox"/> E-Tape, # <u>234244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge <sup>1</sup> Initial	Pre-Purge <sup>2</sup> Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	<u>9:30</u>		<u>9:32</u>				
Depth to Water	<u>6.87</u>						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

<sup>1</sup>First round of water levels; <sup>2</sup>Water level prior to purging

**Field Water Quality Data**      Purge Depth:  Top  Mid  Bottom       Grab  Bailer  Pump      Description: Per

Casing Volume: [\_\_\_\_(TD) - \_\_\_\_ (WL)] \* [\_\_\_\_ (Well ID)]<sup>2</sup> \* [\_\_\_\_ (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		Temp		D. O (mg/L) *	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input checked="" type="checkbox"/> SC	<input type="checkbox"/> EC	°C	°F			
<u>2.3</u>	<u>6.97</u>	<u>9:37</u>	<u>7.03</u>	<u>439.8</u>		<u>9.4</u>	<u>0.41</u>	<u>7.9</u>		
<u>2.55</u>	<u>7.02</u>	<u>9:42</u>	<u>7.14</u>	<u>436.5</u>		<u>9.6</u>	—	<u>17.7</u>		
<u>2.8</u>	<u>7.06</u>	<u>9:47</u>	<u>7.23</u>	<u>440.1</u>		<u>9.5</u>	—	<u>19.4</u>		
<u>2.105</u>	<u>7.10</u>	<u>9:52</u>	<u>7.26</u>	<u>424.6</u>		<u>9.3</u>	—	<u>36.0</u>		
<u>2.13</u>	<u>7.15</u>	<u>9:57</u>	<u>7.28</u>	<u>422.4</u>		<u>9.4</u>	—	<u>17.8</u>		
<u>2.55</u>	<u>7.19</u>	<u>10:02</u>	<u>7.27</u>	<u>422.3</u>		<u>9.4</u>	—	<u>18.6</u>		

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

Meter Used YSI Pro Plus

**Sample Data**      Sample Depth: 210 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-2-011917</u>	<u>P0</u>	<u>01/19/17</u>	<u>1005</u>	<u>5</u>	<u>Y N</u>	<u>VOA</u>	<u>Y N</u>	<u>HCl</u>
					<u>Y N</u>		<u>Y N</u>	
					<u>Y N</u>		<u>Y N</u>	

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

\* DO - meter read blank



# PES GROUNDWATER SAMPLING PROTOCOLS

<b>Facility:</b> Lake Stevens Shopping Center	<b>Well I.D.:</b> MW-50
<b>Project No.:</b> 1246.038.03.001	<b>Date:</b> 1/19/17

**Location Description**  Monitoring Well  Extraction Well  Borehole  Spring/Creek  Pond/Lagoon  Outfall  Other:

Air Temp: 45 °C  °F Weather: overcast  
 Well Locked?  yes  no Damaged/Repairs Needed:  
 TOC  MP Description of MP (e.g., well monument at grade surface):  
 TOC/MP Stickup: 3 ft  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, # 104, 244 <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge <sup>1</sup> Initial	Pre-Purge <sup>2</sup> Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	10:05		10:05				
Depth to Water	17.92						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

<sup>1</sup>First round of water levels; <sup>2</sup>Water level prior to purging

**Field Water Quality Data** Purge Depth:  Top  Mid  Bottom  Grab  Bailer  Pump Description: Peristaltic

Casing Volume: [ ] (TD) - [ ] (WL) * [ ] (Well ID) * [ ] (Conversion Factor) = [ ] 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		Temp °C <input type="checkbox"/> °F	D. O (mg/L) *	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input checked="" type="checkbox"/> SC	<input type="checkbox"/> EC				
7.25	17.96	10:10	7.00	236.3		11.0	-	23.8	cm
10.5	18.03	10:15	7.16	223.4		11.0	-	14.7	
13.75	19.09	10:20	7.23	213.9		10.7	-	2.1	
17.0	19.05	10:25	7.68	214.3		10.8	-	-2.2	
20.25	19.15	10:30	7.69	200.0		10.4	-	-2.2	
23.5	19.25	10:35	7.70	216.2		10.4	-	-4.1	
Pump Rate (ml/min) 50-80			Color/Tint/Odor clear, colorless						
Meter Used YSI Pro Plus									

**Sample Data** Sample Depth: 35 ft.  Grab  Bailer  Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-5-011917	P0	1/19/17	1040	3	Y <input checked="" type="checkbox"/> N	104	Y <input checked="" type="checkbox"/> N	Rel
					Y <input type="checkbox"/> N		Y <input type="checkbox"/> N	
					Y <input type="checkbox"/> N		Y <input type="checkbox"/> N	

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

\* D.O. meter read blank

# PES GROUNDWATER SAMPLING PROTOCOLS

<b>Facility:</b> Lake Stevens Shopping Center	<b>Well I.D. :</b> MW-6
<b>Project No.:</b> 1246.038.03.001	<b>Date:</b> 1/19/17

**Location Description**  Monitoring Well  Extraction Well  Borehole  Spring/Creek  Pond/Lagoon  Outfall  Other:

Air Temp: 45  °C  °F Weather: overcast

Well Locked?  yes  no Damaged/Repairs Needed: none

TOC  MP Description of MP (e.g., well monument at grade surface):

TOC/MP Stickup: 2.3  ft  m above/below ground Well Inside Diameter (ID):  2-inch  4-inch Other:

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

<input checked="" type="checkbox"/> E-Tape, # 254244 <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge <sup>1</sup> Initial	Pre-Purge <sup>2</sup> Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	10:44		1044				
Depth to Water	8.60						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

<sup>1</sup>First round of water levels; <sup>2</sup>Water level prior to purging

**Field Water Quality Data** Purge Depth:  Top  Mid  Bottom  Grab  Bailer  Pump Description: Per

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		Temp		D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input type="checkbox"/> SC	<input type="checkbox"/> EC	°C	°F			
2.3	8.68	10:49	8.52	567.4		7.7		-	33.4	
~.6	8.71	10:54	8.52	586.2		7.5		-	35.1	
~.25	8.74	10:59	8.66	588.4		7.2		-	34.0	
~1.2	8.76	11:04	8.62	584.6		7.3		-	33.2	
~6.5	8.78	11:09	8.64	585.3		7.5		-	32.5	
~1.75	8.80	11:14	8.66	583.1		7.5		-	31.8	
Pump Rate (ml/min)	50-60		Color/Tint/Odor clear, colorless							
Meter Used	YSI Pro Plus									

**Sample Data** Sample Depth: 10.44  Grab  Bailer  Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-6-04917	P0	1/19/17	1630	3	Y <input checked="" type="checkbox"/> N	VIA	<input checked="" type="checkbox"/> N	ACL
					Y N		Y N	
					Y N		Y N	

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

# PES GROUNDWATER SAMPLING PROTOCOLS

<b>Facility:</b> Lake Stevens Shopping Center	<b>Well I.D.:</b> <u>4007-</u>
<b>Project No.:</b> 1246.038.03.001	<b>Date:</b> 1/19/17

**Location Description**  Monitoring Well  Extraction Well  Borehole  Spring/Creek  Pond/Lagoon  Outfall  Other:

Air Temp: 45  °C  °F Weather: overcast

Well Locked?  yes  no Damaged/Repairs Needed: none

TOC  MP Description of MP (e.g., well monument at grade surface):

TOC/MP Stickup: 2.3  ft  m above/below ground Well Inside Diameter (ID):  2-inch  4-inch Other:

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

<input checked="" type="checkbox"/> E-Tape, # <u>204 244</u> <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge <sup>1</sup> Initial	Pre-Purge <sup>2</sup> Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	<u>11:22</u>		<u>11:30</u>				
Depth to Water	<u>6.75</u>						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

<sup>1</sup>First round of water levels; <sup>2</sup>Water level prior to purging

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

Casing Volume: [____(TD) - ____ (WL)] • [____ (Well ID)] <sup>2</sup> • [____ (Conversion Factor)] = ____ 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		Temp <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input checked="" type="checkbox"/> SC	<input type="checkbox"/> EC				
<u>~.25</u>	<u>6.83</u>	<u>11:28</u>	<u>9.44</u>	<u>352.0</u>		<u>7.7</u>	<u>—</u>	<u>28.1</u>	<u>NR</u>
<u>~.5</u>	<u>6.84</u>	<u>11:33</u>	<u>9.04</u>	<u>352.4</u>		<u>8.0</u>	<u>—</u>	<u>28.7</u>	
<u>~.75</u>	<u>6.92</u>	<u>11:38</u>	<u>9.01</u>	<u>340.5</u>		<u>8.5</u>	<u>—</u>	<u>28.5</u>	
<u>~1.0</u>	<u>6.95</u>	<u>11:43</u>	<u>9.06</u>	<u>343.2</u>		<u>8.5</u>	<u>—</u>	<u>28.1</u>	
<u>~1.3</u>	<u>6.98</u>	<u>11:48</u>	<u>8.94</u>	<u>344.0</u>		<u>8.6</u>	<u>—</u>	<u>27.9</u>	
<u>~1.6</u>	<u>7.00</u>	<u>11:53</u>	<u>8.96</u>	<u>344.8</u>		<u>8.6</u>	<u>—</u>	<u>27.0</u>	
Pump Rate (ml/min) <u>50-80</u>			Color/Tint/Odor <u>clear, colorless</u>						
Meter Used <u>YSI Pro Plus</u>									

**Sample Data** Sample Depth: ~10  Grab  Bailer  Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
<u>MW-7-011417</u>	<u>P0</u>	<u>1/19/17</u>	<u>11:55</u>	<u>3</u>	<u>Y (N)</u>	<u>VQA</u>	<u>(Y) N</u>	<u>HCl</u>
					<u>Y N</u>		<u>Y N</u>	
					<u>Y N</u>		<u>Y N</u>	

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



# PES GROUNDWATER SAMPLING PROTOCOLS

<b>Facility:</b> Lake Stevens Shopping Center	<b>Well I.D.:</b> mw-3
<b>Project No.:</b> 1246.038.03.001	<b>Date:</b> 1/19/17

**Location Description**  Monitoring Well  Extraction Well  Borehole  Spring/Creek  Pond/Lagoon  Outfall  Other:

<b>Air Temp:</b> 45 <input type="checkbox"/> °C <input checked="" type="checkbox"/> °F	<b>Weather:</b> overcast
<b>Well Locked?</b> <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	<b>Damaged/Repairs Needed:</b> none
<input type="checkbox"/> TOC <input type="checkbox"/> MP <b>Description of MP</b> (e.g., well monument at grade surface):	
<b>TOC/MP Stickup:</b> 73 <input checked="" type="checkbox"/> ft <input type="checkbox"/> m above/below ground	<b>Well Inside Diameter (ID):</b> <input checked="" type="checkbox"/> 2-inch <input type="checkbox"/> 4-inch <input type="checkbox"/> Other:

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

<input checked="" type="checkbox"/> E-Tape, # 224244 <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge <sup>1</sup> Initial	Pre-Purge <sup>2</sup> Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	12:01		12:01				
Depth to Water	1.72						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

<sup>1</sup>First round of water levels; <sup>2</sup>Water level prior to purging

**Field Water Quality Data** Purge Depth:  Top  Mid  Bottom  Grab  Bailer  Pump Description: Peristaltic

Casing Volume: [____(TD) - ____ (WL)] * [____ (Well ID)] <sup>2</sup> * [____ (Conversion Factor)] = ____ gal <input type="checkbox"/> liters							Dry While Purging <input type="checkbox"/>			
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		Temp		D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input type="checkbox"/> SC	<input type="checkbox"/> EC	°C	°F			
2.25	1.70	12:10	7.27	219.7		8.3		3.31	34.4	0.2
2.5	2.10	12:15	7.13	227.9		8.3		2.70	40.4	
2.75	2.18	12:20	7.07	227.6		8.2		2.54	42.0	
2.0	2.30	12:25	6.83	224.4		8.5		2.43	51.6	
2.25	2.28	12:30	6.78	224.6		8.2		2.31	47.1	
2.5	2.26	12:35	6.84	223.0		8.1		2.49	47.0	
<b>Pump Rate</b> (ml/min) 50-80			<b>Color/Tint/Odor</b> clear colorless							
<b>Meter Used</b> YSI Pro Plus										

**Sample Data** Sample Depth: ~8 ft  Grab  Bailer  Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-3-011917	P0	1/19/17	12:40	3	Y N	VOA	Y N	Met
					Y N		Y N	
					Y N		Y N	

<b>Sampler's Name</b> (print) Chris DeBoer	<b>Signature</b> <i>Chris DeBoer</i>
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*# slowed pump rate*

**PES GROUNDWATER SAMPLING PROTOCOLS**

<b>Facility:</b> Lake Stevens Shopping Center	<b>Well I.D.:</b> MW-4
<b>Project No.:</b> 1246.038.03.001	<b>Date:</b> 1/19/17

**Location Description**  Monitoring Well  Extraction Well  Borehole  Spring/Creek  Pond/Lagoon  Outfall  Other:

Air Temp: 45-50 °C  °F Weather: overcast

Well Locked?  yes  no Damaged/Repairs Needed: none

TOC  MP Description of MP (e.g., well monument at grade surface):

TOC/MP Stickup: 2.3  ft  m above/below ground Well Inside Diameter (ID):  2-inch  4-inch Other:

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

<input checked="" type="checkbox"/> E-Tape, # 229244 <input type="checkbox"/> Steel Tape <input type="checkbox"/> Other	Pre-Purge <sup>1</sup> Initial	Pre-Purge <sup>2</sup> Confirmation	Purging Start	During Purging	Purging End	After Sampling	Remarks
Time (hh:mm; 24-hr clock)	12:44		12:44				
Depth to Water	1.15						
Depth to Bottom							
Water Level (WL)							
Product Thickness							
Product Recovery <input type="checkbox"/> gallons <input type="checkbox"/> liters							

<sup>1</sup>First round of water levels; <sup>2</sup>Water level prior to purging

**Field Water Quality Data** Purge Depth:  Top  Mid  Bottom  Grab  Bailer  Pump Description: Perist

Casing Volume: [\_\_\_\_(TD) - \_\_\_\_ (WL)] \* [\_\_\_\_ (Well ID)]<sup>2</sup> \* [\_\_\_\_ (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		Temp		D. O (mg/L)	ORP (mV)	Turbidity <input type="checkbox"/> NTU
				<input checked="" type="checkbox"/> SC	<input type="checkbox"/> EC	°C	°F			
2.25	1.18	12:49	8.36	399.3		8.4	-	111.0	nm	
2.5	1.24	12:54	8.04	386.3		8.4	-	83.9		
2.75	1.28	12:59	7.96	373.4		8.3	-	61.1		
3.0	1.31	13:04	7.84	368.9		8.2	-	53.3		
2.25	1.36	13:09	7.80	366.3		8.3	-	42.7		
2.5	1.40	13:14	7.78	363.2		8.2	-	36.3		

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

Meter Used YSI Pro Plus

**Sample Data** Sample Depth: 8 ft  Grab  Bailer  Pump Description: Peristaltic

Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	# of Bottles (total to lab)	Metals Filtered	Bottles (type)	Preservative	Notes
MW-4-01017	P0	1/19/17	13:15	3	Y <input checked="" type="checkbox"/>	10A	<input checked="" type="checkbox"/> N	Hel
					Y N		Y N	
					Y N		Y N	

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



**PES Environmental, Inc.**

Brian O'Neal  
1215 Fourth Avenue, Suite 1350  
Seattle, WA 98161

**RE: Lake Stevens Shopping Center**

**Work Order Number: 1701202**

January 26, 2017

**Attention Brian O'Neal:**

Fremont Analytical, Inc. received 8 sample(s) on 1/19/2017 for the analyses presented in the following report.

***Volatile Organic Compounds by EPA Method 8260C***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward  
Project Manager



Date: 01/26/2017

**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Work Order:** 1701202

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701202-001	MW-1-011917	01/19/2017 9:20 AM	01/19/2017 2:00 PM
1701202-002	MW-2-011917	01/19/2017 10:05 AM	01/19/2017 2:00 PM
1701202-003	MW-5-011917	01/19/2017 10:40 AM	01/19/2017 2:00 PM
1701202-004	MW-6-011917	01/19/2017 11:20 AM	01/19/2017 2:00 PM
1701202-005	MW-7-011917	01/19/2017 11:55 AM	01/19/2017 2:00 PM
1701202-006	MW-3-011917	01/19/2017 12:40 PM	01/19/2017 2:00 PM
1701202-007	MW-4-011917	01/19/2017 1:15 PM	01/19/2017 2:00 PM
1701202-008	Trip Blank	01/11/2017 12:04 PM	01/19/2017 2:00 PM

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**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

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**I. SAMPLE RECEIPT:**

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

**II. GENERAL REPORTING COMMENTS:**

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

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

**III. ANALYSES AND EXCEPTIONS:**

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



### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-001  
**Client Sample ID:** MW-1-011917

**Collection Date:** 1/19/2017 9:20:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Volatile Organic Compounds by EPA Method 8260C</u></b>					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:00:53 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:00:53 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:00:53 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:00:53 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-001  
**Client Sample ID:** MW-1-011917

**Collection Date:** 1/19/2017 9:20:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:00:53 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:00:53 AM
Surr: Toluene-d8	96.7	40.1-139		%Rec	1	1/24/2017 6:00:53 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 6:00:53 AM

**NOTES:**

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



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-002  
**Client Sample ID:** MW-2-011917

**Collection Date:** 1/19/2017 10:05:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:58:11 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:58:11 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:58:11 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Tetrachloroethene (PCE)	114	10.0	D	µg/L	10	1/24/2017 2:23:23 PM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:58:11 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-002  
**Client Sample ID:** MW-2-011917

**Collection Date:** 1/19/2017 10:05:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:58:11 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:58:11 AM
Surr: Toluene-d8	97.2	40.1-139		%Rec	1	1/24/2017 6:58:11 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	64.2-128		%Rec	1	1/24/2017 6:58:11 AM

**NOTES:**

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



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-003  
**Client Sample ID:** MW-5-011917

**Collection Date:** 1/19/2017 10:40:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Volatile Organic Compounds by EPA Method 8260C</u></b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 7:26:47 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 7:26:47 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 7:26:47 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 7:26:47 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-003  
**Client Sample ID:** MW-5-011917

**Collection Date:** 1/19/2017 10:40:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:26:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:26:47 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:26:47 AM
Surr: 1-Bromo-4-fluorobenzene	94.7	64.2-128		%Rec	1	1/24/2017 7:26:47 AM

**NOTES:**

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



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-004  
**Client Sample ID:** MW-6-011917

**Collection Date:** 1/19/2017 11:20:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Volatile Organic Compounds by EPA Method 8260C</u></b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 7:55:24 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 7:55:24 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 7:55:24 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Tetrachloroethene (PCE)	1.44	1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 7:55:24 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM





**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-004  
**Client Sample ID:** MW-6-011917

**Collection Date:** 1/19/2017 11:20:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:55:24 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:55:24 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:55:24 AM
Surr: 1-Bromo-4-fluorobenzene	95.4	64.2-128		%Rec	1	1/24/2017 7:55:24 AM

**NOTES:**

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



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-005  
**Client Sample ID:** MW-7-011917

**Collection Date:** 1/19/2017 11:55:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Volatile Organic Compounds by EPA Method 8260C</u></b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 8:24:06 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 8:24:06 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroform	1.04	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 8:24:06 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Tetrachloroethene (PCE)	126	10.0	D	µg/L	10	1/24/2017 2:52:05 PM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 8:24:06 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-005  
**Client Sample ID:** MW-7-011917

**Collection Date:** 1/19/2017 11:55:00 AM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:24:06 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:24:06 AM
Surr: Toluene-d8	98.5	40.1-139		%Rec	1	1/24/2017 8:24:06 AM
Surr: 1-Bromo-4-fluorobenzene	93.7	64.2-128		%Rec	1	1/24/2017 8:24:06 AM

**NOTES:**

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



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-006  
**Client Sample ID:** MW-3-011917

**Collection Date:** 1/19/2017 12:40:00 PM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Volatile Organic Compounds by EPA Method 8260C</u></b>					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	2.95	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 8:52:47 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 8:52:47 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 8:52:47 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 8:52:47 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-006  
**Client Sample ID:** MW-3-011917

**Collection Date:** 1/19/2017 12:40:00 PM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:52:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:52:47 AM
Surr: Toluene-d8	99.1	40.1-139		%Rec	1	1/24/2017 8:52:47 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 8:52:47 AM

**NOTES:**

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



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-007  
**Client Sample ID:** MW-4-011917

**Collection Date:** 1/19/2017 1:15:00 PM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 9:21:39 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 9:21:39 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 9:21:39 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 9:21:39 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM



**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-007  
**Client Sample ID:** MW-4-011917

**Collection Date:** 1/19/2017 1:15:00 PM  
**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 9:21:39 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 9:21:39 AM
Surr: Toluene-d8	99.2	40.1-139		%Rec	1	1/24/2017 9:21:39 AM
Surr: 1-Bromo-4-fluorobenzene	94.8	64.2-128		%Rec	1	1/24/2017 9:21:39 AM

**NOTES:**

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

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID	LCS-16001	SampType:	LCS	Units:	µg/L	Prep Date:	1/23/2017	RunNo:	34032		
Client ID:	LCSW	Batch ID:	16001	Analysis Date:	1/23/2017	SeqNo:	647759				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	19.1	1.00	20.00	0	95.7	43	136				
Chloromethane	19.9	1.00	20.00	0	99.3	40.4	150				
Vinyl chloride	20.1	0.200	20.00	0	100	48	145				
Bromomethane	15.2	1.00	20.00	0	76.2	43.2	166				
Trichlorofluoromethane (CFC-11)	20.0	1.00	20.00	0	100	43.5	149				
Chloroethane	20.8	1.00	20.00	0	104	43.8	168				
1,1-Dichloroethene	20.2	1.00	20.00	0	101	65.6	136				
Methylene chloride	20.7	1.00	20.00	0	104	67.1	131				
trans-1,2-Dichloroethene	20.5	1.00	20.00	0	102	71.7	129				
Methyl tert-butyl ether (MTBE)	22.3	1.00	20.00	0	112	67.7	131				
1,1-Dichloroethane	20.5	1.00	20.00	0	103	67.9	134				
2,2-Dichloropropane	19.2	2.00	20.00	0	96.0	33.7	152				
cis-1,2-Dichloroethene	20.5	1.00	20.00	0	103	70.2	139				
Chloroform	20.4	1.00	20.00	0	102	66.3	131				
1,1,1-Trichloroethane (TCA)	20.5	1.00	20.00	0	103	71	131				
1,1-Dichloropropene	20.5	1.00	20.00	0	102	69.9	124				
Carbon tetrachloride	20.8	1.00	20.00	0	104	66.2	134				
1,2-Dichloroethane (EDC)	21.2	1.00	20.00	0	106	67	126				
Benzene	20.4	1.00	20.00	0	102	69.3	132				
Trichloroethene (TCE)	20.0	0.500	20.00	0	100	65.2	136				
1,2-Dichloropropane	20.9	1.00	20.00	0	105	70.5	130				
Bromodichloromethane	19.9	1.00	20.00	0	99.6	67.2	137				
Dibromomethane	20.8	1.00	20.00	0	104	75.5	126				
cis-1,3-Dichloropropene	19.6	1.00	20.00	0	98.0	62.6	137				
Toluene	20.7	1.00	20.00	0	103	61.3	145				
trans-1,3-Dichloropropylene	20.0	1.00	20.00	0	100	56.5	163				
1,1,2-Trichloroethane	21.0	1.00	20.00	0	105	71.7	131				
1,3-Dichloropropane	21.0	1.00	20.00	0	105	73.5	127				
Tetrachloroethene (PCE)	20.9	1.00	20.00	0	104	47.5	147				
Dibromochloromethane	20.5	1.00	20.00	0	102	67.2	134				
1,2-Dibromoethane (EDB)	21.6	0.0600	20.00	0	108	73.6	125				





**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID	LCS-16001	SampType:	LCS	Units:	µg/L	Prep Date:	1/23/2017	RunNo:	34032		
Client ID:	LCSW	Batch ID:	16001	Analysis Date:	1/23/2017	SeqNo:	647759				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.1	1.00	20.00	0	101	73.9	126				
1,1,1,2-Tetrachloroethane	20.5	1.00	20.00	0	102	76.8	124				
Ethylbenzene	20.1	1.00	20.00	0	101	72	130				
m,p-Xylene	40.5	1.00	40.00	0	101	70.3	134				
o-Xylene	20.0	1.00	20.00	0	100	72.1	131				
Styrene	20.3	1.00	20.00	0	101	64.3	140				
Isopropylbenzene	20.3	1.00	20.00	0	101	73.9	128				
Bromoform	20.4	1.00	20.00	0	102	55.3	141				
1,1,2,2-Tetrachloroethane	21.6	1.00	20.00	0	108	62.9	132				
n-Propylbenzene	20.4	1.00	20.00	0	102	74.5	127				
Bromobenzene	20.7	1.00	20.00	0	104	71	131				
1,3,5-Trimethylbenzene	20.4	1.00	20.00	0	102	73.1	128				
2-Chlorotoluene	20.2	1.00	20.00	0	101	70.8	130				
4-Chlorotoluene	20.4	1.00	20.00	0	102	70.1	131				
tert-Butylbenzene	20.4	1.00	20.00	0	102	68.2	131				
1,2,3-Trichloropropane	22.8	1.00	20.00	0	114	67.7	131				
1,2,4-Trichlorobenzene	21.6	2.00	20.00	0	108	51.8	152				
sec-Butylbenzene	20.4	1.00	20.00	0	102	72	129				
4-Isopropyltoluene	20.2	1.00	20.00	0	101	69.2	130				
1,3-Dichlorobenzene	20.8	1.00	20.00	0	104	71	115				
1,4-Dichlorobenzene	20.7	1.00	20.00	0	103	66.8	119				
n-Butylbenzene	21.0	1.00	20.00	0	105	73.8	127				
1,2-Dichlorobenzene	20.8	1.00	20.00	0	104	69.7	119				
1,2-Dibromo-3-chloropropane	22.0	1.00	20.00	0	110	63.1	136				
1,2,4-Trimethylbenzene	20.5	1.00	20.00	0	103	73.4	127				
Hexachloro-1,3-butadiene	20.8	4.00	20.00	0	104	58.6	138				
Naphthalene	23.2	1.00	20.00	0	116	41.8	165				
1,2,3-Trichlorobenzene	21.9	4.00	20.00	0	110	48.7	156				
Surr: Dibromofluoromethane	26.0		25.00		104	45.4	152				
Surr: Toluene-d8	25.4		25.00		102	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128				

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID <b>LCS-16001</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>16001</b>		Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647759</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID <b>LCS-16001</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>							
Client ID: <b>LCSW02</b>	Batch ID: <b>16001</b>		Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647758</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	18.6	1.00	20.00	0	93.0	43	136	19.14	2.90	20	
Chloromethane	19.9	1.00	20.00	0	99.4	40.4	150	19.85	0.136	20	
Vinyl chloride	19.8	0.200	20.00	0	99.1	48	145	20.08	1.27	20	
Bromomethane	19.0	1.00	20.00	0	95.1	43.2	166	15.24	22.1	20	R
Trichlorofluoromethane (CFC-11)	19.5	1.00	20.00	0	97.5	43.5	149	20.02	2.67	20	
Chloroethane	20.3	1.00	20.00	0	101	43.8	168	20.77	2.50	20	
1,1-Dichloroethene	19.9	1.00	20.00	0	99.6	65.6	136	20.20	1.40	20	
Methylene chloride	20.3	1.00	20.00	0	102	67.1	131	20.70	1.84	20	
trans-1,2-Dichloroethene	20.5	1.00	20.00	0	102	71.7	129	20.46	0.0473	20	
Methyl tert-butyl ether (MTBE)	22.1	1.00	20.00	0	110	67.7	131	22.33	1.16	20	
1,1-Dichloroethane	20.3	1.00	20.00	0	102	67.9	134	20.54	1.12	20	
2,2-Dichloropropane	18.6	2.00	20.00	0	93.2	33.7	152	19.19	2.95	20	
cis-1,2-Dichloroethene	20.4	1.00	20.00	0	102	70.2	139	20.51	0.738	20	
Chloroform	20.4	1.00	20.00	0	102	66.3	131	20.38	0.0210	20	
1,1,1-Trichloroethane (TCA)	20.2	1.00	20.00	0	101	71	131	20.54	1.44	20	
1,1-Dichloropropene	20.0	1.00	20.00	0	100	69.9	124	20.46	2.30	20	
Carbon tetrachloride	19.9	1.00	20.00	0	99.3	66.2	134	20.85	4.89	20	
1,2-Dichloroethane (EDC)	21.0	1.00	20.00	0	105	68.8	123	21.18	0.850	20	
Benzene	20.2	1.00	20.00	0	101	69.3	132	20.37	1.04	20	
Trichloroethene (TCE)	20.0	0.500	20.00	0	100	65.2	136	20.02	0.0107	20	
1,2-Dichloropropane	20.7	1.00	20.00	0	103	70.5	130	20.94	1.15	20	
Bromodichloromethane	19.8	1.00	20.00	0	99.2	74.6	127	19.93	0.451	20	
Dibromomethane	20.4	1.00	20.00	0	102	75.5	126	20.78	1.72	20	
cis-1,3-Dichloropropene	19.2	1.00	20.00	0	96.1	62.6	137	19.60	2.02	20	
Toluene	20.1	1.00	20.00	0	101	61.3	145	20.66	2.66	20	

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID	LCSD-16001	SampType:	LCSD	Units:	µg/L	Prep Date:	1/23/2017	RunNo:	34032		
Client ID:	LCSW02	Batch ID:	16001	Analysis Date:	1/23/2017	SeqNo:	647758				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	19.5	1.00	20.00	0	97.6	56.5	163	20.05	2.68	20	
1,1,2-Trichloroethane	20.5	1.00	20.00	0	103	71.7	131	21.02	2.34	20	
1,3-Dichloropropane	20.6	1.00	20.00	0	103	73.5	127	20.98	1.74	20	
Tetrachloroethene (PCE)	20.4	1.00	20.00	0	102	47.5	147	20.88	2.16	20	
Dibromochloromethane	19.9	1.00	20.00	0	99.6	67.2	134	20.47	2.77	20	
1,2-Dibromoethane (EDB)	21.0	0.0600	20.00	0	105	73.6	125	21.58	2.92	20	
Chlorobenzene	20.0	1.00	20.00	0	100	73.9	126	20.12	0.397	20	
1,1,1,2-Tetrachloroethane	20.1	1.00	20.00	0	100	76.8	124	20.45	1.84	20	
Ethylbenzene	19.9	1.00	20.00	0	99.6	72	130	20.12	0.995	20	
m,p-Xylene	40.1	1.00	40.00	0	100	70.3	134	40.50	0.896	20	
o-Xylene	19.8	1.00	20.00	0	99.0	72.1	131	20.04	1.23	20	
Styrene	20.0	1.00	20.00	0	100	64.3	140	20.29	1.33	20	
Isopropylbenzene	19.9	1.00	20.00	0	99.3	73.9	128	20.26	1.96	20	
Bromoform	19.7	1.00	20.00	0	98.6	55.3	141	20.38	3.30	20	
1,1,1,2,2-Tetrachloroethane	21.0	1.00	20.00	0	105	62.9	132	21.63	2.97	20	
n-Propylbenzene	20.0	1.00	20.00	0	99.9	74.5	127	20.43	2.21	20	
Bromobenzene	20.4	1.00	20.00	0	102	71	131	20.73	1.56	20	
1,3,5-Trimethylbenzene	20.1	1.00	20.00	0	100	73.1	128	20.40	1.63	20	
2-Chlorotoluene	20.0	1.00	20.00	0	99.8	70.8	130	20.17	1.03	20	
4-Chlorotoluene	20.2	1.00	20.00	0	101	70.1	131	20.39	1.14	20	
tert-Butylbenzene	19.9	1.00	20.00	0	99.5	68.2	131	20.38	2.45	20	
1,2,3-Trichloropropane	22.1	1.00	20.00	0	111	67.7	131	22.83	3.24	20	
1,2,4-Trichlorobenzene	21.8	2.00	20.00	0	109	51.8	152	21.63	0.600	20	
sec-Butylbenzene	19.9	1.00	20.00	0	99.6	72	129	20.37	2.24	20	
4-Isopropyltoluene	19.9	1.00	20.00	0	99.5	69.2	130	20.17	1.35	20	
1,3-Dichlorobenzene	20.6	1.00	20.00	0	103	71	115	20.78	0.663	20	
1,4-Dichlorobenzene	20.5	1.00	20.00	0	103	66.8	119	20.66	0.664	20	
n-Butylbenzene	20.9	1.00	20.00	0	104	73.8	127	20.97	0.548	20	
1,2-Dichlorobenzene	20.7	1.00	20.00	0	104	69.7	119	20.80	0.227	20	
1,2-Dibromo-3-chloropropane	21.7	1.00	20.00	0	109	63.1	136	21.98	1.25	20	
1,2,4-Trimethylbenzene	20.4	1.00	20.00	0	102	73.4	127	20.55	0.817	20	

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID <b>LCSD-16001</b>	SampType: <b>LCSD</b>	Units: <b>µg/L</b>				Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>				
Client ID: <b>LCSW02</b>	Batch ID: <b>16001</b>					Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647758</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	20.4	4.00	20.00	0	102	58.6	138	20.83	2.11	20	
Naphthalene	23.8	1.00	20.00	0	119	41.8	165	23.15	2.88	20	
1,2,3-Trichlorobenzene	22.1	4.00	20.00	0	110	48.7	156	21.90	0.750	20	
Surr: Dibromofluoromethane	26.0		25.00		104	45.4	152		0		
Surr: Toluene-d8	25.4		25.00		101	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128		0		

Sample ID <b>MB-16001</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>				Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>				
Client ID: <b>MBLKW</b>	Batch ID: <b>16001</b>					Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647760</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									Q
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									Q
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID <b>MB-16001</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>
Client ID: <b>MBLKW</b>	Batch ID: <b>16001</b>		Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647760</b>

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropylene	ND	1.00									Q
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									
1,1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID <b>MB-16001</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>16001</b>		Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647760</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	25.2		25.00		101	45.4	152				
Surr: Toluene-d8	25.0		25.00		99.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.3		25.00		97.1	64.2	128				

**NOTES:**

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

Sample ID <b>1701155-006ADUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>16001</b>		Analysis Date: <b>1/24/2017</b>	SeqNo: <b>647741</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	1.61	1.00						1.593	1.31	30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	Q
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	Q



Date: 1/26/2017

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID <b>1701155-006ADUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>16001</b>		Analysis Date: <b>1/24/2017</b>	SeqNo: <b>647741</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	1.65	1.00						1.674	1.17	30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	Q
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	

**Work Order:** 1701202  
**CLIENT:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID <b>1701155-006ADUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34032</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>16001</b>		Analysis Date: <b>1/24/2017</b>	SeqNo: <b>647741</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	25.3		25.00		101	45.4	152		0		
Surr: Toluene-d8	24.2		25.00		96.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.1		25.00		96.3	64.2	128		0		

**NOTES:**

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



Client Name: **PES**

Work Order Number: **1701202**

Logged by: **Erica Silva**

Date Received: **1/19/2017 2:00:00 PM**

### Chain of Custody

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

### Log In

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Required
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >0°C to 10.0°C\* Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

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

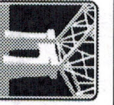
Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Cooler	1.5
Sample	6.2
Temp Blank	2.4

\* 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: 11/17

Laboratory Project No (Internal):

1701202

Page: 1 of 1

Client:

Address:

City, State, zip:

Telephone:

DES Environmental Inc  
1215 4th Ave Suite 1350  
Seattle WA 98161  
Tel: (206) 529-3950 Fax: (206) 529-3985

Project Name:

Project No:

Location:

Report To (PM):

PM Email:

Lake Stevens Shopping Center  
1046 038.03.001  
Lake Stevens, WA  
Brian O'Neal  
bneal@desenv.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)*	Analytical Parameters													Comments	
				VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCS (EPA 8270 / 625)	PAHs (EPA 8270 - SIM / 625)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (C)***	EDB (801)		
1 MW-1-011917	11/17	930	GW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2 MW-2-011917		1005																
3 MW-5-011917		1040																
4 MW-6-011917		1120																
5 MW-7-011917		1155																
6 MW-3-011917		1240																
7 MW-4-011917		1315																
8 TRIP BLANK																		
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 Tl U V Zn

\*\*\*Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day.

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 11/17 1400 Received Date/Time 11/17 1400

## MEMORANDUM

**TO:** Project File **DATE:** January 27, 2017  
**FROM:** Jessie Compeau  
**SUBJECT:** Laboratory Data Validation Review  
**PROJECT:** Lake Stevens Marketplace  
**PROJECT #:** 1246.038.004  
**TASK:** January 19, 2017 Groundwater Samples  
**LAB:** Fremont Analytical Service Request No. 1701202

---

Seven groundwater samples and a trip blank were collected at the Lake Stevens Marketplace Site in Snohomish County on January 19, 2017. The samples were collected as part of a Limited Phase II Investigation at the Site. The samples were delivered to Fremont Analytical (Fremont) of Seattle, Washington for laboratory analysis. Samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260C. The results were reported in Fremont Lab Package 1701202.

The quality assurance review of the laboratory data is summarized below.

### **DATA QUALIFICATIONS**

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2014).

### **DATA VALIDATION**

#### **Sample Receipt, Preservation and Handling**

The samples were delivered to the project laboratory in coolers under standard chain-of-custody protocols. Review of Fremont's Sample Log-In Check List Form indicates that all samples were received in good condition slightly above the recommended preservation temperature of less than 6.0°C. No action is taken since samples were collected and delivered to the laboratory on the same day and did not have sufficient time to cool. The sample receipt log indicated that the samples in the coolers were received properly stored in a cooler, preserved, and cooled with ice/gel packs and in good condition at the time of laboratory receipt. No data qualifications were assigned due to temperature preservation issues.

Trip blank was placed on hold per PES's chain of custody request.

### **Holding Times**

All samples were analyzed for VOCs within the USEPA recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

### **Initial and Continuing Calibration**

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. Case narrative notes and/or qualifiers indicate that continuing calibration criteria were not met for 2,2-dichloropropane, trans-1,3-dichloropropylene, and bromomethane (with associated QC). Continuing calibration %D was below Fremont's control limit criteria. No action was taken for bromomethane since this is associated with continuing calibration bracketing other samples and/or QC. **All associated 2,2-dichloropropane and trans-1,3-dichloropropylene sample results are non-detect and qualified as estimated (UJ).**

### **Method Blank Results**

A laboratory method blank was included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the method reporting limits (MRLs). No qualifications of the data were made due to the results of the method blank analyses.

### **Trip Blank Results**

A trip blank was collected but not analyzed. No action was taken other than to note this.

### **Laboratory Duplicate Analyses**

Laboratory duplicate sample analyses were performed on a non-client sample within the analytical batch. The primary/duplicate relative percent differences (RPDs) for VOCs were within the laboratory control limit of 30%. Duplicate data are acceptable.

### **Field Duplicate Analyses**

Field duplicate samples were not collected. Refer to laboratory duplicate data for precision data.

### **Surrogate Recoveries**

The surrogate recovery results for the samples, laboratory duplicates, laboratory control samples (LCS), and the method blank were within the laboratory surrogate control limits for all of the analyses.

### **Matrix Spike/ Matrix Spike Duplicates**

A matrix spike (MS) analysis was not performed. Refer to laboratory control samples and laboratory duplicate data for accuracy and precision.

### **Laboratory Control Samples**

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) was analyzed by USEPA Method 8260C. The LCS/LCSD percent recoveries (%R's) and RPDs for the all target compounds were within the laboratory control criteria for water with the following exception:

- VOC compound bromomethane RPD was elevated at 22% and slightly above acceptance criteria (20%). No action was taken since both LCS/LCSD %R's were within laboratory acceptance criteria.

### **Quantitation Limits**

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

### **Completeness**

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

### **Data Assessment**

The laboratory data reported for this project were reviewed based on laboratory control limit acceptance criteria and criteria outlined in:

- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2014)

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





# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-001  
Client Sample ID: MW-1-011917

Collection Date: 1/19/2017 9:20:00 AM  
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>Volatile Organic Compounds by EPA Method 8260C</b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:00:53 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:00:53 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:00:53 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:00:53 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM

*09/12/17*





# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

**Client:** PES Environmental, Inc.  
**Project:** Lake Stevens Shopping Center  
**Lab ID:** 1701202-001  
**Client Sample ID:** MW-1-011917

**Collection Date:** 1/19/2017 9:20:00 AM

**Matrix:** Groundwater

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

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:00:53 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:00:53 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:00:53 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:00:53 AM
Surr: Toluene-d8	96.7	40.1-139		%Rec	1	1/24/2017 6:00:53 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 6:00:53 AM

**NOTES:**

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

*Handwritten signature and date: 1/27/17*



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-002  
Client Sample ID: MW-2-011917

Collection Date: 1/19/2017 10:05:00 AM  
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>Volatile Organic Compounds by EPA Method 8260C</b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 6:58:11 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 6:58:11 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 6:58:11 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Tetrachloroethene (PCE)	114	10.0	D	µg/L	10	1/24/2017 2:23:23 PM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 6:58:11 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM

Original

*Handwritten signature and date: 1/26/17*



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-002  
Client Sample ID: MW-2-011917

Collection Date: 1/19/2017 10:05:00 AM

Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001

Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 6:58:11 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 6:58:11 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 6:58:11 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 6:58:11 AM
Surr: Toluene-d8	97.2	40.1-139		%Rec	1	1/24/2017 6:58:11 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	64.2-128		%Rec	1	1/24/2017 6:58:11 AM

**NOTES:**

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

*Handwritten signature and date: 1/27/17*





# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-003  
Client Sample ID: MW-5-011917

Collection Date: 1/19/2017 10:40:00 AM  
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001 Analyst: NG

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 7:26:47 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 7:26:47 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 7:26:47 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 7:26:47 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM

*Handwritten signature and date: NG 1/26/17*



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-003  
Client Sample ID: MW-5-011917

Collection Date: 1/19/2017 10:40:00 AM  
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:26:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:26:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:26:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:26:47 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:26:47 AM
Surr: 1-Bromo-4-fluorobenzene	94.7	64.2-128		%Rec	1	1/24/2017 7:26:47 AM

**NOTES:**

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

*Handwritten signature and date: 1/27/17*





# Analytical Report

Work Order: 1701202

Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
 Project: Lake Stevens Shopping Center  
 Lab ID: 1701202-004  
 Client Sample ID: MW-6-011917

Collection Date: 1/19/2017 11:20:00 AM

Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Volatile Organic Compounds by EPA Method 8260C</u></b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 7:55:24 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 7:55:24 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 7:55:24 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Tetrachloroethene (PCE)	1.44	1.00		µg/L	1	1/24/2017 7:55:24 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 7:55:24 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM

Original

*Handwritten signature and date: 1/23/17*



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-004  
Client Sample ID: MW-6-011917

Collection Date: 1/19/2017 11:20:00 AM  
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001 Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 7:55:24 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 7:55:24 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 7:55:24 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 7:55:24 AM
Surr: Toluene-d8	97.4	40.1-139		%Rec	1	1/24/2017 7:55:24 AM
Surr: 1-Bromo-4-fluorobenzene	95.4	64.2-128		%Rec	1	1/24/2017 7:55:24 AM

**NOTES:**

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

*Handwritten signature and date: 1/27/17*





# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-005  
Client Sample ID: MW-7-011917

Collection Date: 1/19/2017 11:55:00 AM

Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>Volatile Organic Compounds by EPA Method 8260C</b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 8:24:06 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 8:24:06 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Chloroform	1.04	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 8:24:06 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Tetrachloroethene (PCE)	126	10.0	D	µg/L	10	1/24/2017 2:52:05 PM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 8:24:06 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM

Original

*Handwritten signature and date: 1/27/17*



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-005  
Client Sample ID: MW-7-011917

Collection Date: 1/19/2017 11:55:00 AM

Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001 Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:24:06 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:24:06 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:24:06 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:24:06 AM
Surr: Toluene-d8	98.5	40.1-139		%Rec	1	1/24/2017 8:24:06 AM
Surr: 1-Bromo-4-fluorobenzene	93.7	64.2-128		%Rec	1	1/24/2017 8:24:06 AM

**NOTES:**

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

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# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-006  
Client Sample ID: MW-3-011917

Collection Date: 1/19/2017 12:40:00 PM  
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b><u>Volatile Organic Compounds by EPA Method 8260C</u></b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	2.95	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 8:52:47 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 8:52:47 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 8:52:47 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 8:52:47 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM

Original

*Handwritten signature and date: 1/27/17*



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-006  
Client Sample ID: MW-3-011917

Collection Date: 1/19/2017 12:40:00 PM  
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260C Batch ID: 16001      Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 8:52:47 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 8:52:47 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 8:52:47 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 8:52:47 AM
Surr: Toluene-d8	99.1	40.1-139		%Rec	1	1/24/2017 8:52:47 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128		%Rec	1	1/24/2017 8:52:47 AM

**NOTES:**

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

*Handwritten signature and date: 1/26/17*





# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-007  
Client Sample ID: MW-4-011917

Collection Date: 1/19/2017 1:15:00 PM

Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>Volatile Organic Compounds by EPA Method 8260C</b>						
					Batch ID: 16001	Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Vinyl chloride	ND	0.200		µg/L	1	1/24/2017 9:21:39 AM
Bromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methylene chloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	1/24/2017 9:21:39 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Chloroform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Carbon tetrachloride	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Benzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromodichloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromomethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Toluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
trans-1,3-Dichloropropylene	ND	1.00	Q	µg/L	1	1/24/2017 9:21:39 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Dibromochloromethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	1/24/2017 9:21:39 AM
Chlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Ethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
m,p-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
o-Xylene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Styrene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Isopropylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromoform	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM

Original

*Handwritten signature and date: 1/23/17*



# Analytical Report

Work Order: 1701202  
Date Reported: 1/26/2017

Client: PES Environmental, Inc.  
Project: Lake Stevens Shopping Center  
Lab ID: 1701202-007  
Client Sample ID: MW-4-011917

Collection Date: 1/19/2017 1:15:00 PM

Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 16001 Analyst: NG

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Propylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Bromobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
2-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Chlorotoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
tert-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	1/24/2017 9:21:39 AM
sec-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
n-Butylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Naphthalene	ND	1.00		µg/L	1	1/24/2017 9:21:39 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	1/24/2017 9:21:39 AM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	1/24/2017 9:21:39 AM
Surr: Toluene-d8	99.2	40.1-139		%Rec	1	1/24/2017 9:21:39 AM
Surr: 1-Bromo-4-fluorobenzene	94.8	64.2-128		%Rec	1	1/24/2017 9:21:39 AM

**NOTES:**

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

*Handwritten signature and date: 1/27/17*