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**STATUS REPORT – NOVEMBER 2017 THROUGH DECEMBER 2018
MANHATTAN VILLAGE SHOPPING CENTER AND HARRIS PROPERTIES
NORMANDY PARK, WASHINGTON**

Dear Mr. Grant and Mr. Bloch:

PES Environmental, Inc. (PES) has prepared this letter to summarize the remediation system operation and maintenance (O&M) activities through December 2018 and groundwater monitoring and sampling events performed in January, April, July, and October 2018 for the Manhattan Village Shopping Center (MVSC) property located at 17835 First Avenue South (the “MVSC property”) and the Harris property located at 17817 – 17825 First Avenue South in Normandy Park, Washington (the “Harris property”), collectively referred to as the “Property.” This letter also presents the results of the supplemental investigation conducted in April 2018. The location and current features of the Property are shown on Figures 1 and 2. The O&M and sampling was conducted in accordance the Remedial Action Work Plan (RAWP¹) and the Operations and Maintenance Plan (O&M Plan)². A Sampling and Analysis Plan (SAP) is included as Appendix H to the RAWP.

REMEDICATION SYSTEM O&M

Air Sparging and Soil Vapor Extraction System Description

The air sparging (AS) and soil vapor extraction (SVE) system includes 22 SVE wells, 31 AS wells, and a remediation equipment enclosure containing the AS and SVE mechanical equipment and controls (Figure 3). The AS/SVE system was started up in October 2016. The SVE system

¹ PES Environmental, Inc. 2016. *Remedial Action Work Plan, Manhattan Village Shopping Center and Harris Properties, VCP NW1873, Normandy Park, Washington*. October.

² PES Environmental, Inc. 2016. *Operations and Maintenance Plan, Manhattan Village Shopping Center and Harris Properties, VCP NW1873, Normandy Park, Washington*. December.

consists of a well manifold, positive displacement blower, inline silencers, moisture knockout, condensate storage and transfer pumps, and discharge stack. The SVE manifold includes a vacuum gauge, and each leg of the manifold includes a balancing valve, sampling port, and flow and vacuum monitoring port. The discharge stack includes a temperature gauge, flow meter, sampling port, and an inline silencer. The AS system consists of a well manifold, positive displacement blower, inline silencers, and a heat exchanger. Each leg of the manifold includes a pressure gauge, flow meter, and balancing valve. The AS blower and heat exchanger include pressure and temperature gauges. The SVE blower, AS blower, and heat exchanger are mounted inside insulated enclosures to dampen the equipment noise.

The AS wells are designed to target the sand and silty sand aquifer directly above the silt and clay layer that has been encountered at depths of 46.5 to 50 feet below ground surface (ft bgs) on the Harris property and 55 to 56 ft bgs on the MVSC property. The SVE wells are installed at two levels within the vadose zone. Shallow screened wells (5 to 20 ft bgs) target the upper vadose zone, and deeper screened wells (20 to 30 ft bgs on Harris property and 20 to 35 ft bgs on MVSC property) target the lower vadose zone. Detailed descriptions of the AS/SVE system, remediation wells, as-built drawings, and O&M procedures are included in the O&M Plan.

Air Sparging and Soil Vapor Extraction System O&M

O&M activities during the reporting period included field inspections, testing, and O&M of AS/SVE components monthly. Specific work included documenting and maintaining the operational status of the AS/SVE equipment, general operating conditions (leaks, breakage, alarms), monitoring water levels and dissolved oxygen (DO) concentrations within the AS zone of influence (ZOI), monitoring and balancing AS wells (flow rate, pressure), monitoring and balancing SVE wells (flow rate, vacuum), monitoring field volatile organic compound (VOC) concentrations from SVE wells and the discharge stack, and responding to system alarms. Annual brush cutting on Harris property to maintain access to remediation and monitoring wells was conducted in October 2018.

Performance vapor samples were collected each month from the SVE discharge stack, and the samples were analyzed by ALS Environmental (an accredited laboratory) for VOCs by United States Environmental Protection Agency (EPA) Method TO-15 to evaluate mass removed and to verify compliance with Puget Sound Clean Air Agency (PSCAA) and Washington State Department of Ecology (Ecology) discharge criteria. The April 2018 sample was collected but not analyzed due to a faulty summa canister valve.

The system operated with an uptime of approximately 91% during this reporting period, with most of the down time due to the shutdowns for the routine performance groundwater sampling events. The entire system was shut down in January and June for routine maintenance (oil change, bearing and belt maintenance, filter replacement), and the remaining down time was due to power outages. The heat exchanger fan motor and one of the two condensate transfer pumps were replaced in mid-May. The AS system was down for two weeks in May prior to replacement of the heat exchanger fan motor. The remediation system was temporarily shut down on December 13, 2018 to evaluate potential rebound conditions in groundwater. The SVE

system operating data is summarized in Table 1, and the AS system operating data is summarized in Table 2.

The SVE system operated with a total flow rate of between 790 and 892 standard cubic feet per minute (scfm) and vacuums of 20 to 35 inches of water column (in.w.c.) on the SVE well field. Individual SVE wells operated between approximately 14 to 46 scfm per well, with an average flow of 39 scfm per well. The AS system operated at pressures between approximately 5 and 10 pounds per square inch (psi), and individual AS wells operated at approximately 10 scfm.

SVE Sampling. The PCE concentrations in the SVE effluent stack were between 130 (March 2018) to 400 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$; August 2018). The average PCE stack concentration during the reporting period was approximately $220 \mu\text{g}/\text{m}^3$. There appears to be a seasonal component to the SVE system concentrations, with the highest concentrations occurring in the late summer and early fall months in both 2017 and 2018.

The PCE removal rates ranged from 0.009 pounds per day (lbs/day) to 0.031 lbs/day, and a total of 6.5 pounds of PCE was removed between October 17, 2017 and December 13, 2018. A total of 117.7 pounds of PCE have been removed throughout the lifetimes of the SVE systems that operated from September 2009 through December 13, 2018. The PCE mass removal rate has continued to decline, and removal during the reporting period is roughly half compared to the previous year. Charts showing SVE effluent PCE concentrations and cumulative PCE mass removal are included as Attachments A1 and A2.

Samples from each of the 22 SVE wells are collected annually for VOC analysis using EPA Method TO-15. Samples were collected on December 28, 2017 and September 27, 2018.

- **December 2017 SVE Well Sampling.** PCE concentrations were between $5.9 \mu\text{g}/\text{m}^3$ (SVE-17) to $350 \mu\text{g}/\text{m}^3$ (SVE-7) on the Harris property, and between $24 \mu\text{g}/\text{m}^3$ (SVE-11B) to $310 \mu\text{g}/\text{m}^3$ (SVE-16) on the MVSC property. SVE wells with the highest concentrations were SVE-7, SVE-8, and SVE-10 on the Harris property (290 to $350 \mu\text{g}/\text{m}^3$), and SVE-12A and SVE-16 on the MVSC property (both $310 \mu\text{g}/\text{m}^3$). The average PCE concentration of all wells was approximately one-third of the average concentration in December 2016, and SVE-6 ($150 \mu\text{g}/\text{m}^3$) was a factor of 10 times lower compared to December 2016 ($1,490 \mu\text{g}/\text{m}^3$).
- **September 2018 SVE Well Sampling.** PCE concentrations were between $3.3 \mu\text{g}/\text{m}^3$ (SVE-17) to $750 \mu\text{g}/\text{m}^3$ (SVE-3) on the Harris property and between $68 \mu\text{g}/\text{m}^3$ (SVE-11B) to $950 \mu\text{g}/\text{m}^3$ (SVE-6) on the MVSC Property. SVE wells with the highest concentrations were SVE-3 ($750 \mu\text{g}/\text{m}^3$), SVE-7 ($400 \mu\text{g}/\text{m}^3$), and SVE-10 ($270 \mu\text{g}/\text{m}^3$) on the Harris property, and SVE-6 ($950 \mu\text{g}/\text{m}^3$) and SVE-16 ($330 \mu\text{g}/\text{m}^3$) on the MVSC property. The average PCE concentration of all wells was approximately 1.5 times the average concentration in December 2017. The increase in concentrations appears seasonal, with the highest concentrations occurring in the late summer and early fall months.

The annual SVE well sampling results are summarized in Tables 3 and 4, and historical results are included in Attachment A3. Copies of the laboratory analytical reports and data validation memorandum are included in Attachment B.

The SVE system discharge is in compliance with the PSCAA exemption limits (e.g., less than 500 lb/year of total VOCs), and is below the Ecology small quantity emission rate of 32.4 lb/year of PCE.

SVE System Capture Zone Evaluation. The SVE-10 capture zone (CZ) was evaluated in January 2018 during a routine O&M inspection of the AS/SVE system. Routine SVE system monitoring parameters were measured to verify normal operating conditions prior to starting the CZ test. Baseline conditions were established by shutting off SVE-10, nearby SVE-7, SVE-8, and SVE-9, and measuring baseline vacuum in the off-line SVE wells and nearby monitoring wells DC-11, DC-12, DC-13, DC-18, DC-20, and MW-2. The rest of the SVE system remained operational during the SVE-10 test, and the blower speed was temporarily slowed to maintain normal operating conditions in the SVE wellfield. The SVE-10 test included opening the well and adjusting the flow and vacuum to its pre-test conditions, allowing SVE-10 to operate for approximately 10 minutes, and measuring a single round of vacuums in the nearby off-line SVE wells and monitoring wells. The SVE-10 flow and vacuum were rechecked at the end of the test to verify that they had not changed significantly. Following testing, the SVE wells were placed back online, the blower speed was readjusted to its normal level, and the well-field was rebalanced.

Since residual vacuum levels were measured during baseline monitoring, the baseline vacuums were subtracted from the vacuums measured during the SVE-10 test to determine the differential/additive effects from running SVE-10. The following is a summary of the individual SVE-10 CZ test:

- **SVE-10.** Well screen interval is 10 – 30 ft bgs. The test was performed at approximately 16 in.w.c vacuum and 46 scfm flow. Monitoring points were between 14 and 172 feet from SVE-10, and normalized vacuums were between 0.6 and 6.1 percent of the test vacuum.

The vacuum influence measurements from the test were normalized to the test well vacuum and plotted on a semi-log chart for purposes of estimating a capture zone. Common practice considers normalized vacuum between 1 and 10 percent to be adequate for designing SVE well CZ. Vacuum influence during testing was observed more than 100 feet from SVE-10. Based on experience, however, a CZ of more than 100 feet is generally not practical, and a CZ of between 50 and 60 feet is likely to be more representative of site conditions. Normalized vacuum curves and site maps showing vacuums measured before, during, and after the CZ evaluation are included in Attachment C.

Dissolved Oxygen Monitoring. The DO concentrations have increased since startup of the AS system in October 2016 from an average of 6.4 milligrams per liter (mg/L). The average DO concentration during the reporting period was approximately 11.2 mg/L within the AS ZOI. Average DO concentrations in monitoring wells downgradient of the AS ZOI to the south side of

SW 178th Street were approximately 10.5 mg/L indicating distribution of oxygenated water downgradient. Routine DO and associated water level monitoring data are summarized in Attachment A4.

PERFORMANCE GROUNDWATER MONITORING AND SAMPLING

Four quarterly rounds of groundwater performance monitoring and sampling were conducted during the reporting period. The scope included water level monitoring in all shallow wells (40 total) and select deep wells, and sampling shallow wells per the RAWP. The April and October events included a full round of 30 monitoring wells. The January and July events consisted of select wells including (1) those within the air sparging ZOI which had been below the PCE cleanup level (CUL) for less than four consecutive quarters, and (2) those which were above the CUL.

- January 2018 performance sampling consisted of 10 monitoring wells including MW-7, MW-11, DC-7, DC-8, DC-10A, DC-14, DC-15, DC-17, KMW-3, and KMW-8;
- April 2018 performance sampling consisted of 30 monitoring wells including MW-2, MW-3, MW-4, MW-7, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, DC-3, DC-4, DC-7, DC-8, DC-10A, DC-11, DC-12, DC-13, DC-14, DC-15, DC-17, DC-18, DC-20, KMW-2, KMW-3, KMW-7, KMW-8, and KMW-9;
- July 2018 performance sampling consisted of 10 monitoring wells including MW-2, MW-7, DC-7, DC-8, DC-10A, DC-14, DC-15, DC-17, KMW-3, and KMW-8;
- October 2018 performance sampling consisted of 28 monitoring wells including MW-2, MW-3, MW-4, MW-7, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, DC-3, DC-4, DC-7, DC-8, DC-11, DC-12, DC-13, DC-15, DC-17, DC-18, DC-20, KMW-2, KMW-3, KMW-7, KMW-8, and KMW-9. DC-10A was not sampled due to low water levels, and DC-14 was not sampled because it had been buried beneath a temporary road constructed by a utility contractor.

The AS/SVE system was shut down approximately one to two days prior to collecting groundwater samples within the AS influence area during each of the sampling events.

Groundwater Level Monitoring

Groundwater level monitoring was conducted on January 24, 2018, April 17, 2018, July 18, 2018, and on October 15, 2018, in all shallow monitoring wells. Depth to water was measured from the surveyed top of casing (TOC) to the nearest 0.01 foot using an electronic water level probe. MW-14, DC-1, and DC-20 were not monitored in July due to access restrictions, and DC-14 was not monitored in October because it was covered.

Groundwater Sampling

Groundwater samples were collected using low-flow sampling techniques. For each sampling event, a bladder pump with a dedicated bladder was lowered into each well. Groundwater was purged prior to sample collection until parameters stabilized. Field parameters measured during sampling consisted of temperature, pH, specific conductance, DO, and oxidation reduction potential (ORP). The pump intake was set at approximately two to three feet below the static water level, generally consistent with previous sampling events. For wells with completed submerged screened intervals, the pump intake was typically set within approximately one to two feet below the top of the screen, except for DC-4 in April 2018, where the intake was mistakenly set approximately 2.3 feet above the top of the screen inside the blank well casing.

Samples were collected into preserved 40-ml VOA sampling containers and submitted to ESC Lab Sciences (ESC) in Mt. Juliet, TN (an Ecology accredited laboratory) for analysis of VOCs by EPA Method 8260C.

Quality Assurance/Quality Control

Equipment blank, trip blank, and field duplicate samples were collected in accordance with the 2016 Sampling and Analysis Plan (included as Appendix H of the RAWP). Equipment blank and field duplicate samples are to be collected at a rate of approximately one per twenty samples, and a trip blank is to be submitted with each cooler. Equipment blank and field blank samples were collected and analyzed at the appropriate frequency during the reporting period. One trip blank was analyzed per cooler, except in October 2018, when the trip blank in the third cooler was inadvertently not analyzed. Duplicate samples collected during the reporting period were from MW-4 (April), MW-7 (January, April and October), DC-15 (July), and KMW-3 (October).

GROUNDWATER MONITORING RESULTS

Groundwater Level Monitoring

Water level measurements and groundwater elevations for the four sampling events in 2018 are summarized in Table 5, and field parameter measurements are summarized in Table 6.

Groundwater elevations in the shallow wells on the Property vary seasonally, with the lowest levels in fall and highest levels in spring to early summer. The average difference in the high and low water elevations during the reporting period was approximately 1.3 feet per well in 2018. Groundwater elevations in 2018 were lowest in October, ranging from 253.57 to 273.02 feet above North American Vertical Datum of 1988 (NAVD 88), and highest in April, ranging from 254.54 to 274.39 feet NAVD 88.

Groundwater elevations in July 2017 were at or near their highest since 1999 and declined in 2018. On average, the 2018 groundwater elevations were approximately 0.9 feet lower compared to the average seasonal high elevations and the average seasonal low elevations in 2017. The groundwater elevations in October 2018 were 0.4 feet lower compared to elevations measured in October 2016 during AS/SVE system startup.

Groundwater gradients in 2018 remained generally consistent with historical results, with a north-northeast directional component on the Property and a more northerly component across SW 178th Street. The gradient across the Property (0.004 ft/ft) is approximately an order of magnitude lower than the gradient to the north of the Property (0.03 ft/ft). The on-Property gradient is estimated from MW-12 to DC-7 and KMW-9 to DC-8, and the off-Property gradient is estimated from MW-7 and KMW-8 to MW-9. Groundwater elevations in KMW-7 in January and DC-13 in April were not used for contouring because they were inconsistent with surrounding water levels. The 2018 groundwater elevations and elevation contours are shown on Figures 4 through 7. Monitoring well details are included as Attachment D1, and a complete summary of historical groundwater elevations is included as Attachment D2.

Groundwater Analytical Results

The laboratory analytical results from the January, April, July, and October 2018 sampling events for PCE are summarized on Table 7 and shown on Figures 4 through 7. A complete summary of historical PCE concentrations in groundwater monitoring wells is included as Attachment D3.

The results from the January 2018 sampling event (10 wells) are summarized as follows:

- PCE was below Ecology's Model Toxics Control Act (MTCA) Method A CUL (5 µg/L) in three wells, including MW-11, DC-10A, and KMW-3; and
- PCE was above the CUL in seven wells, including MW-7, DC-7, DC-8, DC-14, DC-15, DC-17, and KMW-8 at concentrations between 5.89 and 12.1 µg/L.

The results from the April 2018 sampling event (30 wells) are summarized as follows:

- PCE was below the laboratory method reporting limit (MRL) in six wells, including MW-4, MW-9, MW-12, MW-13, DC-4, and KMW-2;
- PCE was below the CUL in sixteen wells including MW-2, MW-3, MW-10, MW-11, MW-14, MW-15, MW-16, DC-3, DC-10A, DC-11, DC-12, DC-13, DC-18, DC-20, KMW-7, and KMW-9; and
- PCE was above the CUL in eight wells including MW-7, DC-7, DC-8, DC-14, DC-15, DC-17, KMW-3, and KMW-8 at concentrations between 5.14 and 13.0 µg/L.

The results from the July 2018 sampling event (10 wells) are summarized as follows:

- PCE was below the CUL in two wells including MW-2 and DC-10A; and
- PCE remained above the CUL in eight wells including MW-7, DC-7, DC-8, DC-14, DC-15, DC-17, KMW-3, and KMW-8 at concentrations between 5.17 and 12.3 µg/L.

The results from the October 2018 sampling event (28 wells) are summarized as follows:

- PCE was below the laboratory MRL in twelve wells including MW-3, MW-4, MW-9, MW-10, MW-12, MW-13, MW-14, MW-15, DC-3, DC-4, KMW-2, and KMW-9;

- PCE was below the CUL in wells nine wells including MW-2, MW-11, MW-16, DC-11, DC-12, DC-13, DC-18, DC-20, and KMW-7; and
- PCE was above the CUL in seven wells including MW-7, DC-7, DC-8, DC-15, DC-17, KMW-3, and KMW-8 at concentrations between 5.26 and 12.1 µg/L. DC-14, which had been above the CUL earlier in 2018, was not sampled because it was inaccessible.

Discussion of Groundwater Monitoring Results

By the October sampling event, PCE had been below the CUL for at least six consecutive sampling events in all wells within the air sparging ZOI. Time trend plots showing the PCE concentration and water table elevation over time for wells MW-2, MW-4, MW-7, DC-3, DC-4, DC-7, DC-8, DC-13, DC-14, DC-15, DC-17, KMW-3, KMW-8, and KMW-9 are presented in Attachment E. The time trend plots indicate the following:

- A correlation between increasing PCE concentrations and higher groundwater elevations is evident in most of the time trend plots. PCE concentrations tended to be higher in January and April compared to July and October;
- PCE concentrations on the MVSC property remained below the CUL. DC-3 and DC-4, within the AS ZOI, remained near or below the laboratory MRL;
- PCE concentrations on the southern half of the Harris property remained below the CUL. PCE concentrations in the northern half of the Harris property and in SW 178th Street remained above the CUL in DC-7, DC-8, DC-14, DC-15, DC-17, KMW-3, and KMW-8;
- PCE concentrations in the northwest quarter of the Harris property were slightly higher compared to the prior reporting period in DC-7, DC-8, DC-15, and DC-17. PCE in KMW-3 in SW 178th Street northwest of the Harris property has had a slight increasing trend since 2014, and PCE was just above the CUL during the reporting period; and
- PCE concentrations in downgradient well MW-7 on the Dunn Lumber property continued to decline and was at its historical low concentration in October (5.79 µg/L). PCE has never been detected above the laboratory MRL in the furthest downgradient monitoring well MW-9.

Laboratory Data Validation

The laboratory analytical reports were validated in accordance with the EPA guidelines for organic data review³. All of the data were judged to be acceptable for their intended use. Copies of the laboratory analytical reports and data validation memoranda are included in Attachment B.

³ EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-P PB99-963506 EPA540/R-99/008, October.

SUPPLEMENTAL INVESTIGATION

A supplemental soil and groundwater assessment was conducted in April 2018 for the purposes of (1) collecting confirmation soil samples as described in Section 6.2.1 of the RAWP, and (2) evaluating the PCE groundwater plume south of DC-8 and DC-15 on the Harris property. The work included drilling 16 borings for confirmation soil sampling and 8 borings for groundwater sampling. Soil samples were collected to evaluate soil conditions adjacent to the 13 locations where prior soil results above the MTCA Method A CUL (0.050 milligrams per kilogram [mg/kg]) had not previously been confirmed. The confirmation soil sampling locations were within or downgradient of the ZOI of the AS/SVE system. The sampling locations are shown on Figure 8.

The locations of prior soil samples were not surveyed; their locations on the figures have been estimated based on review of prior consultants site maps and on field evidence of decommissioned boreholes.

Field Activities

On April 16 through April 26, 2018, PES oversaw the drilling of 24 direct-push borings including SB-10 through SB-30 and SB-13A, SB-13B, and SB-14A. Holt Services, Inc. (Holt), a Washington State licensed drilling company, was subcontracted to drill the borings with a track-mounted direct-push drilling rig. The direct-push borings were advanced to evaluate shallow soil and groundwater conditions at the following locations:

- SB-10, SB-11, and SB-12 were drilled on the MVSC property near borings BH-5, AS-19, and BH-7 where PCE in soil had exceeded the CUL at 6, 8, and 1 ft bgs, respectively. These locations are presumed to be near the estimated alignment of a former sanitary sewer line, which drained into a former septic tank. These features are shown as estimated on the figures as they have not been located in the field;
- SB-13, SB-13A, SB-13B, SB-14, SB-14A, and SB-15 were drilled in the area northeast of the Four Star Cleaners on the MVSC property and Harris property near borings KGP-1, KGP-2, and monitoring well KMW-9. PCE soil had previously exceeded the CUL at multiple depths including KGP-1 (4 to 38 ft bgs), KGP-2 (4 to 20 ft bgs), and KMW-9 (14 to 40.5 ft bgs).

SB-13, SB-13A, and SB-14 met drilling refusal in the alley at 29, 33, and 31.5 ft bgs, respectively. SB-13B was drilled approximately 11 feet away on the north side of the retaining wall because there was limited space in the alley due to buried utilities, overhead power, the building, and the retaining wall. There is an approximate -4 ft grade change to the north across the retaining wall in this area;

- SB-16, SB-17, SB-18, and SB-28 were drilled west and northwest of the former Manhattan Cleaners and Coin-Op Laundry on the Harris property near borings KB-1, KB-2, KB-4, and KB-5. PCE in soil had previously exceeded the CUL at multiple

depths including KB-1 (25 to 36 ft bgs), KB-2 (25 to 36 ft bgs), KB-4 (19 to 20 ft bgs), and KB-5 (35 to 36 ft bgs);

- Borings SB-26 and SB-27 were drilled south of the former septic tank behind the former Manhattan Cleaners and Coin-Op Laundry on the Harris property, near test pit samples TP-2-south and TP-5, where PCE had previously exceeded the CUL at 2.5 and 4 ft bgs, respectively. SB-26 and SB-27 were drilled to a depth of 40 ft bgs, to be consistent with surrounding supplemental investigation borings;
- Boring SB-30 was drilled adjacent to monitoring well DC-17 on the Harris property where PCE had previously exceeded the CUL at 35-36.5 ft bgs; and
- Borings SB-19 through SB-25 and SB-29 were drilled on the Harris property to evaluate groundwater north of monitoring well MW-15 and south of DC-8 and DC-15. Borings SB-19, SB-20, SB-21, and SB-22 were positioned along the heavily vegetated northern edge of the northeast/southwest gravel access road to the remediation equipment. Borings SB-23, SB-24, SB-25, SB-29 were positioned in a largely east/west oriented row located slightly north of MW-15. PCE in monitoring wells located upgradient and within the sampling area had been below the CUL for several years, while PCE in DC-8 and DC-15 had consistently been above the CUL.

Field Methods

SB-10, SB-11, and SB-12 were drilled to 11, 15, and 11 ft bgs, respectively. The remaining borings were drilled to 40 ft bgs, except for SB-13, SB-13A, and SB-14, which encountered refusal at 29, 33, and 31.5 ft bgs, respectively. The 40 ft bgs samples were collected in soil that is saturated for at least part of the year. Drilling locations were cleared for utilities prior to drilling, and the first 3 ft of each boring was advanced with a hand auger. Continuous soil samples were collected using five-foot-long core barrels lined with new acetate sleeves. Each soil core was screened with a photoionization detector (PID) for the presence of VOCs and observed for lithology. Lithologic observations and PID readings were recorded on field boring log forms (Attachment F).

Soil samples were collected from SB-10 through SB-18, SB-26 through SB-28, and SB-30 to characterize soil at and below depths that had previously exceeded the PCE CUL. Samples were collected consistent with EPA Method 5035 and were placed in laboratory supplied containers, sealed, labeled, and placed in a cooler on ice under chain-of-custody protocols for delivery to Fremont Analytical Laboratory (Fremont), a Washington State accredited analytical laboratory.

Groundwater samples were collected from SB-19, SB-20, SB-21, SB-22, SB-23, SB-24, SB-25, and SB-29 by pushing a 4-ft long temporary stainless steel screen to approximately 5 feet into groundwater and exposing the screen at the targeted water table zone (36 to 40 ft bgs). Depth to water was measured in nearby monitoring wells to provide a reference point for saturated soil and groundwater samples. New and non-reactive disposable polyethylene tubing was attached to a foot-valve and inserted into the screen. Groundwater was purged from each temporary well by raising and lowering the polyethylene tubing to actuate the foot-valve. Approximately 3 to 5

gallons of water was purged from each temporary well over a period of 15 minutes to an hour to improve the water clarity (turbidity was not measured). As with the soil samples, each groundwater sample was placed in laboratory supplied containers, sealed, labeled, and placed in a cooler on ice under chain-of-custody protocols for delivery to Fremont.

All drilling and non-dedicated sampling equipment was decontaminated between each drilling location. Upon completion of the soil and groundwater sampling activities, the borings were filled from the bottom of the boring to the surface with bentonite chips and sealed at the surface to match the surrounding surface conditions, consistent with WAC 173-160. Soil and water generated during the field investigation was placed in drums and stored on-site pending disposal.

Boring locations were surveyed on May 1, 2018, by Lanktree Surveying, Inc., a licensed Washington State surveyor. The survey coordinates and boring details are included in Attachment D1.

Subsurface Conditions

Soil encountered during the subsurface investigation consisted predominantly of sand, sand with silt, silty sands, sandy silts, and silt with sand, all with variable gravel. Fill material composed of silty sand and sandy silt was encountered in the upper 3 to 10 ft bgs, consistent with previous investigations. The fill was underlain by a fine to medium sand, sand with silt, and silty sand to the maximum depth of exploration (40 ft bgs). The sand layer contained discontinuous layers of silty sand and silt and became denser below approximately 20 to 25 ft bgs. Coarser sand and pockets of gravel were also encountered below 20 to 25 ft bgs. Other features, including gradational grain size variation, bedding, and fining upward sequences, appear to be consistent with previous interpretations of these units as recessional outwash. The presence of gravel caused difficult drilling conditions in several locations and resulted in drilling refusal in SB-13, SB-13A, and SB-14.

No odors were detected in any of the borings. Field PID readings were variable, ranging from less than 1 to 22 parts per million by volume (ppmv). Similar to previous drilling on the Property, the field PID readings did not tend to correlate with laboratory results.

Wet soil was generally encountered at between 37 to 40 ft bgs in the borings, and water in temporary well screens installed in SB-19 through SB-25 and SB-29 equilibrated between approximately 35 to 36 ft bgs. Water depths were consistent with nearby monitoring wells.

Shallow wet or moist-to-wet soil was also observed at varying depths within the upper 10 ft bgs in SB-13B, SB-14, SB-14A, SB-15, SB-16, SB-17, SB-18, SB-20, SB-21, SB-22, SB-23, SB-25, SB-25, SB-28, and SB-29. The source of elevated soil moisture is assumed to be related to surface runoff in the alley (SB-14 and SB-14A) or accumulation on unpaved soil (the remaining borings). A catch basin is located in the alley behind Four Star Cleaners near SB-13 and SB-13A and the storm line currently runs to the west along the south side of the retaining wall. Utility markings indicate that the storm line may also extend to the east for an unknown distance either currently or historically.

Soil Analytical Results

Multiple confirmation soil samples were collected from each boring at predetermined depths. A total of 48 soil samples were submitted to the lab for analysis of VOCs by EPA Method 8260C. PCE exceeded the CUL (0.050 mg/kg) in at least one depth in all borings except for SB-11, SB-17, and SB-18. Soil results are summarized on Table 8 and shown on Figure 8. Historical soil data is included in Attachment D4.

- **West of the QFC on MVSC Property.** This area was assessed to investigate soil exceeding the CUL at depths ranging between 1 to 8 ft bgs near the estimated alignment of the former sanitary sewer line. Samples were collected from SB-10 (6 and 10 ft), SB-11 (8 and 15 ft), and SB-12 (1, 5, and 10 ft). The results indicated that samples exceeded the CUL in SB-10 at 6 ft (0.193 mg/kg) and in SB-12 at 5 ft (0.138 mg/kg). The samples from SB-11 and the remaining samples from SB-10 and SB-12 were below the laboratory MRL.
- **Northeast of the Four Star Cleaners on MVSC Property and Harris Property.** This area was assessed to investigate soil exceeding the CUL at depths ranging from 4 to 40.5 ft bgs. Samples were collected from SB-13 and SB-13B (5, 10, 20, 29, 36, and 40 ft), SB-14 and SB-14A (5, 10, 20, 30, and 40 ft), and SB-15 (10, 20, 30, and 40 ft). The results indicated that samples exceeded the CUL in SB-13 and SB-13B between 10 and 40 ft (0.0829 to 6.03 mg/kg), in SB-14 and SB-14A at 30 and 40 ft (0.105 to 0.109 mg/kg), and in SB-15 between 20 and 40 ft (0.0645 to 0.132 mg/kg). The remaining samples were below the laboratory MRL.
- **West of the Former Manhattan Cleaners and Coin-Op Laundry on Harris Property.** This area was assessed to investigate soil exceeding the CUL at depths ranging from 19 to 36 ft bgs. Samples were collected from SB-16 (20, 30, and 40 ft), SB-17 (20, 30, and 40 ft), SB-18 (30 and 40 ft), and SB-28 (20, 30, and 40 ft). The results indicated that samples exceeded the CUL in SB-16 at 30 and 40 ft (0.0505 to 0.0575 mg/kg) and in SB-28 at 30 ft (0.0784 mg/kg). The remaining samples from SB-16, SB-17, SB-18, and SB-28 were below the CUL.
- **Near the Former Septic Tank West of the Former Manhattan Cleaners and Coin-Op Laundry on Harris Property.** This area was assessed to investigate soil exceeding the CUL in shallow soil between 2 to 4.5 ft bgs and to assess deeper soil at depths similar to those in surrounding borings. Samples were collected from SB-26 and SB-27 at 2, 4, 10, 20, 30, and 40 ft. The results indicated that samples exceeded the CUL in SB-26 at 2, 20, and 30 ft (0.0647 to 0.0960 mg/kg) and in SB-27 at 2, 20, 30, and 40 ft (0.0800 to 0.169 mg/kg). The remaining samples were below the laboratory MRL.
- **Plume area on West Side of Harris Property.** This area was assessed to investigate soil exceeding the CUL near the water table in DC-17 at 35 to 36.5 ft bgs. Samples were collected from SB-30 at 30, 35, and 40 ft bgs. The results indicated that

samples exceeded the CUL in SB-30 at 35 and 40 ft (0.0665 to 0.142 mg/kg) and was below the laboratory MRL at 30 ft.

Groundwater Analytical Results

A total of 8 groundwater samples (SB-19 through SB-25 and SB-29) were submitted to the lab for analysis of VOCs by EPA Method 8260C. Groundwater results are summarized on Table 9 and shown on Figure 9.

PCE exceeded the CUL (5 µg/L) in all samples except SB-25 (1.65 µg/L). PCE in the southern line of samples decreased from west to east including SB-29 (13.7 µg/L), SB-24 (10.8 µg/L), SB-23 (6.78 µg/L), and SB-25 (1.65 µg/L). PCE in the northern line of samples also decreased from west to east including SB-19 (14.8 µg/L), SB-20 (10.8 µg/L), SB-22 (8.91 µg/L), and SB-21 (8.18 µg/L). The groundwater samples were visibly turbid and PES suspects that the turbidity may have biased the PCE results high.

Laboratory Data Validation

The final laboratory analytical reports were validated in accordance with the EPA guidelines for organic data review. All of the soil and groundwater data were judged to be acceptable for their intended use. Copies of the laboratory analytical reports and data validation memoranda are included in Attachment B.

Residuals Management and Disposal

Residuals accumulated during the reporting period included SVE system condensate, groundwater sampling purge and decontamination water, and supplemental investigation derived soil. SVE system condensate is managed within the operating SVE system until sufficient volume can be generated for disposal and a waste profile sample is collected shortly prior to disposal. Groundwater sampling purge water, decontamination water, and supplemental investigation soil cuttings were placed in 55-gallon drums and temporarily stored adjacent to the remediation system enclosure. Waste profile samples were collected at the end of each sampling event. Copies of laboratory reports containing waste profile data are included in Attachment B, and copies of disposal documentation are included in Attachment G.

- **Wastewater Disposal.** 1,100 gallons of SVE system condensate and 100 gallons of groundwater sampling purge water were disposed of as non-hazardous wastewater by Marine Vacuum Service, Inc. (MarVac) on December 28, 2017. Approximately 150 gallons of wastewater related to the supplemental investigation and groundwater sampling was disposed of as hazardous waste at the Clean Harbors Grassy Mountain facility in Utah on August 17, 2018.
- **Soil Disposal.** Approximately 1,600 pounds of soil cuttings contaminated with PCE (F002-listed soil) was generated during the supplemental investigation. The soil was disposed as hazardous waste at the Clean Harbors Grassy Mountain facility in Utah on July 19, 2018.

SUMMARY AND CONCLUSIONS

Remediation System

Notable findings from operating the AS and SVE system are as follows:

- The AS and SVE systems continued to operate as designed with 91 percent uptime. Most of the down-time was related to planned shut-downs during groundwater monitoring and for equipment maintenance. The remediation system was temporarily shut down on December 13, 2018 to evaluate the potential for rebound in groundwater in 2019;
- SVE CZ testing on SVE-10 was performed in January 2018 and suggested a CZ of approximately 50 to 60 feet. This is similar to prior CZ testing in other wells;
- Overall PCE concentrations in the SVE discharge stack samples have continued to decline. Increased concentrations in late summer and early fall were observed again in 2018, although the magnitude of the increase was lower compared to 2017. PCE in the individual SVE wells in September 2018 were the highest in SVE-3, SVE-6, SVE-7, SVE-10, and SVE-16;
- Approximately 6.5 pounds of PCE was removed by the SVE system during the reporting period. This is roughly half of the removal rate compared to the previous year; and
- Operation of the AS system continued to elevate groundwater DO within the AS ZOI and in downgradient wells indicating that treated water continues to move through the western portion of the Site.

Groundwater Sampling

Groundwater PCE concentrations throughout the Site have generally continued to improve.

Notable findings include the following:

- PCE concentrations in southern half of the Harris property and in all wells on MVSC property are below the CUL. PCE has been below the CUL in all monitoring wells within the AS ZOI for at least six consecutive sampling events. The other monitoring wells in these areas have been below the CUL since at least 2013 (except for MW-2, which was above the CUL during the March 2017 sampling event); and
- The only wells that currently exceed the CUL are DC-7, DC-8, DC-15, and DC-17 on the Harris property; DC-14, KMW-3, and KMW-8 in the SW 178th Street right-of-way; and MW-7 on the Dunn Lumber property. PCE in wells on the Harris property were highest in April, when seasonal groundwater elevations were highest, and declined in the summer and fall. PCE in wells in the SW 178th Street right-of-way remained only slightly above the CUL. PCE in downgradient monitoring well MW-7

on the Dunn Lumber property continued its gradual decline and was at a historical low concentration in October 2018.

- Several of the wells that contain PCE concentrations greater than the groundwater CUL are located hydraulically downgradient of the AS system. Since elevated DO concentrations show that treated groundwater is moving through this area, the downgradient PCE concentrations greater than the CUL indicate that residual PCE within the zone of groundwater fluctuation and the saturated zone beneath the Harris property continues to leach to the groundwater. The continued operation of the AS system will not likely reduce the downgradient PCE concentrations to below the groundwater CUL within a reasonable period of time.

Supplemental Investigation in April 2018

PCE was detected above the cleanup level in at least one soil sample collected at every confirmation sampling location except for SB-11 (located behind the QFC building) and SB-17 and SB-18 (located approximately 30 ft east of the former septic tank on the Harris property). PCE in soil was highest in SB-13 at 20 ft bgs (6.03 mg/kg). The remaining soil CUL exceedances were between 0.051 and 0.193 mg/kg. Overall, soil sampling indicates a significant reduction in vadose zone PCE concentrations over time due to operation of the SVE system.

Other notable findings include the following:

- PCE exceeded the soil CUL in 5 and 6 ft bgs vadose zone samples collected west of the QFC building near the former sanitary sewer alignment and former septic tank (SB-10 and SB-12). PCE concentrations in the shallow samples were approximately three to four times the CUL, and deeper samples collected from each boring at 10 ft bgs were below the laboratory MRL. These results indicate that there is a significant separation between the shallow soil contamination and groundwater at approximately 37 to 40 ft bgs;
- PCE exceeded the soil CUL in vadose zone samples in SB-13, SB-13B, and SB-14 located in the vicinity of SVE-6 in the alley behind the Four Star Cleaners. The highest concentration in SB-13 was detected at 20 ft bgs (6.03 mg/kg) and is well below the maximum concentration detected in nearby KGP-1 in 2007 (59 mg/kg at 8 ft bgs). PCE at 5 ft (SB-13 and SB-14) was below the laboratory MRL. Sampling in this area indicates that SVE-6 (screened 5 to 10 ft bgs) has likely been effective at treating vadose zone soil above 10 ft bgs and less effective at treating soil deeper than 10 ft;
- PCE exceeding the soil CUL in the 40 ft bgs samples (i.e., saturated for at least part of the year) does not appear to be causing groundwater to exceed its CUL near the Four Star Cleaners (SB-13B, SB-14A, SB-15) and near the former Manhattan Cleaners and Coin-Op Laundry (SB-16 and SB-27). Nearby groundwater monitoring wells MW-15, DC-2, DC-12, DC-13, and KMW-9 have been below the CUL for several years;

- PCE exceeding the soil CUL in the 40 ft bgs sample collected from SB-30 appears to be related to the long term PCE groundwater plume. Monitoring well DC-17 has exceeded the groundwater CUL for several years. PCE in the vadose zone at 30 ft bgs was below the laboratory MRL, suggesting that this area is not an original source;
- PCE exceeded the soil CUL in vadose zone samples in SB-16, SB-26, SB-27, and SB-28 located within approximately 20 feet of the former septic tank on the Harris property behind the former Manhattan Cleaners and Coin-Op Laundry. Operation of SVE-10 (screened from 10 to 30 ft bgs) appears to have been effective at treating PCE between 4 and 10 ft bgs near the former septic tank (SB-26 and SB-27), to 20 ft near SB-16 and SB-28, to the water table near SB-17 and SB-18. Shallow soil just below ground surface near the septic tank (2 ft bgs in SB-26 and SB-27) and deeper vadose zone soil in SB-16, SB-26, SB-27, and SB-28 remain above the CUL; and
- Groundwater samples collected from temporary wells in the center of the Harris property exceeded the PCE CUL in 7 of the 8 locations at concentrations up to three times the CUL. Concentrations were highest in the western locations and lowest in the eastern locations. PCE concentrations in monitoring wells located slightly upgradient and near the temporary wells have been below the CUL for several years, including MW-15, MW-16, MW-18, and KMW-9. Monitoring well MW-2, located roughly in the middle of the temporary wells, has also been below the CUL for several years except for a one-time exceedance in March 2017.
- The temporary wells were developed to remove turbidity prior to sampling. However, the narrow diameter well screens and natural filter pack did not allow the temporary wells to be developed as thoroughly as a permanent monitoring well would be developed, and the temporary well samples were visibly turbid with fines from the saturated soil matrix. We believe that PCE sorbed to fines in the saturated soil matrix, a result of a long term PCE groundwater plume, could have caused PCE in temporary well samples to be higher compared to the surrounding groundwater concentrations.

Mr. Grant and Mr. Bloch
July 2, 2019
Page 17 of 17

PES Environmental, Inc.

PES appreciates the opportunity to conduct these groundwater monitoring activities. If you have any questions regarding this report, or need any additional information, please feel free to contact either of us at (206) 529-3980.

Sincerely,
PES ENVIRONMENTAL, INC.



Chris DeBoer
Senior Staff Geologist



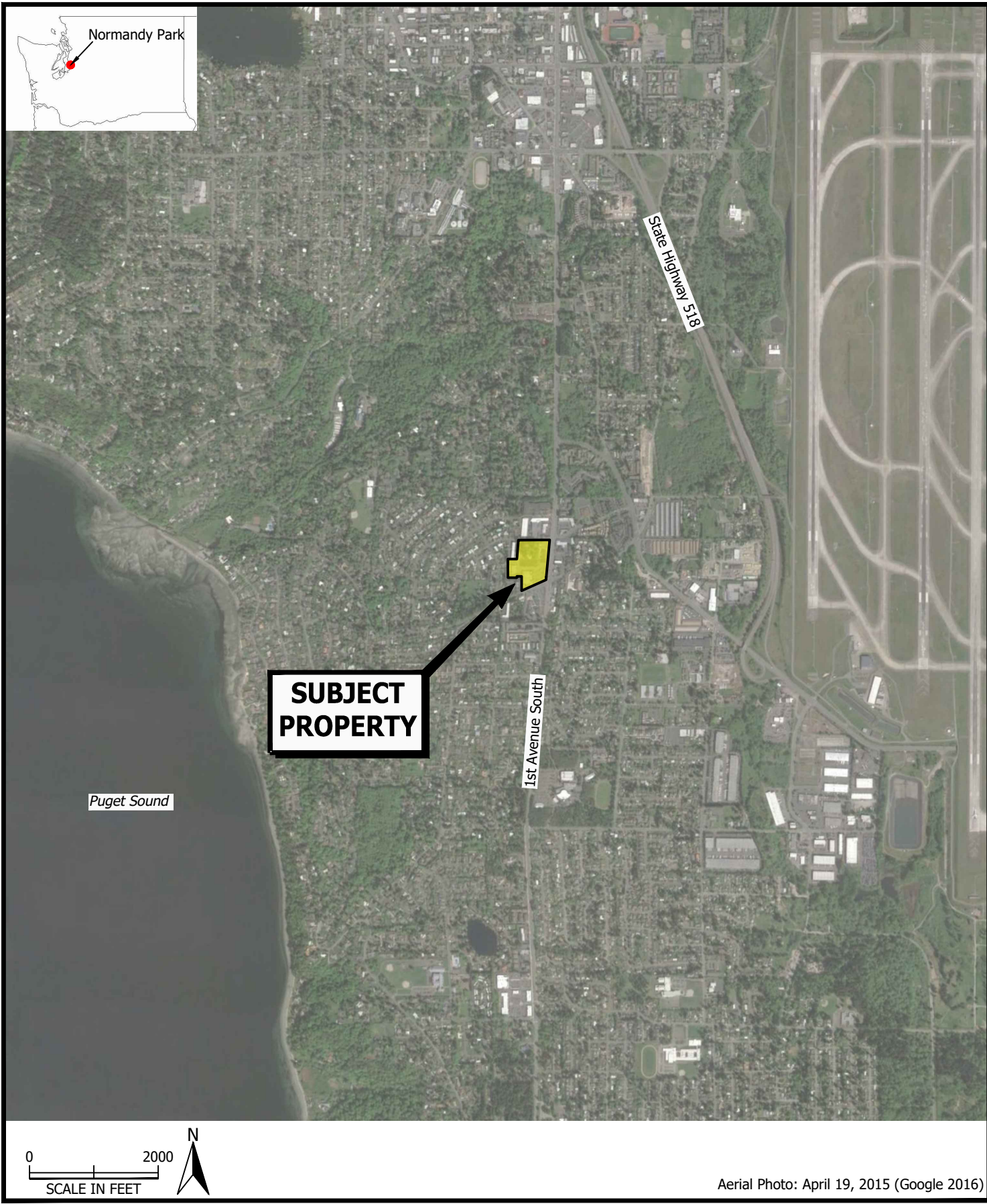
Matthew V. Dahl, P.E.
Senior Engineer

Attachments:

Figures 1 through 10
Tables 1 through 9
Attachment A through G

ILLUSTRATIONS

- Figure 1– Site Location Map
- Figure 2 – Site Plan
- Figure 3 – Remediation Well Locations
- Figure 4 – Groundwater Elevations and PCE Concentrations – January 2018
- Figure 5 – Groundwater Elevations and PCE Concentrations – April 2018
- Figure 6 – Groundwater Elevations and PCE Concentrations – July 2018
- Figure 7 – Groundwater Elevations and PCE Concentrations – October 2018
- Figure 8 – Well and Boring Location Map
- Figure 9 – Supplemental Investigation - Soil Results April 2018
- Figure 10 – Supplemental Investigation – Groundwater Results April 2018



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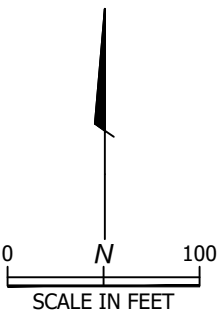
Subject Property Location Map
Manhattan Village/Harris Properties
17817, 17825, and 17835 1st Avenue South
Normandy Park, Washington

FIGURE
1



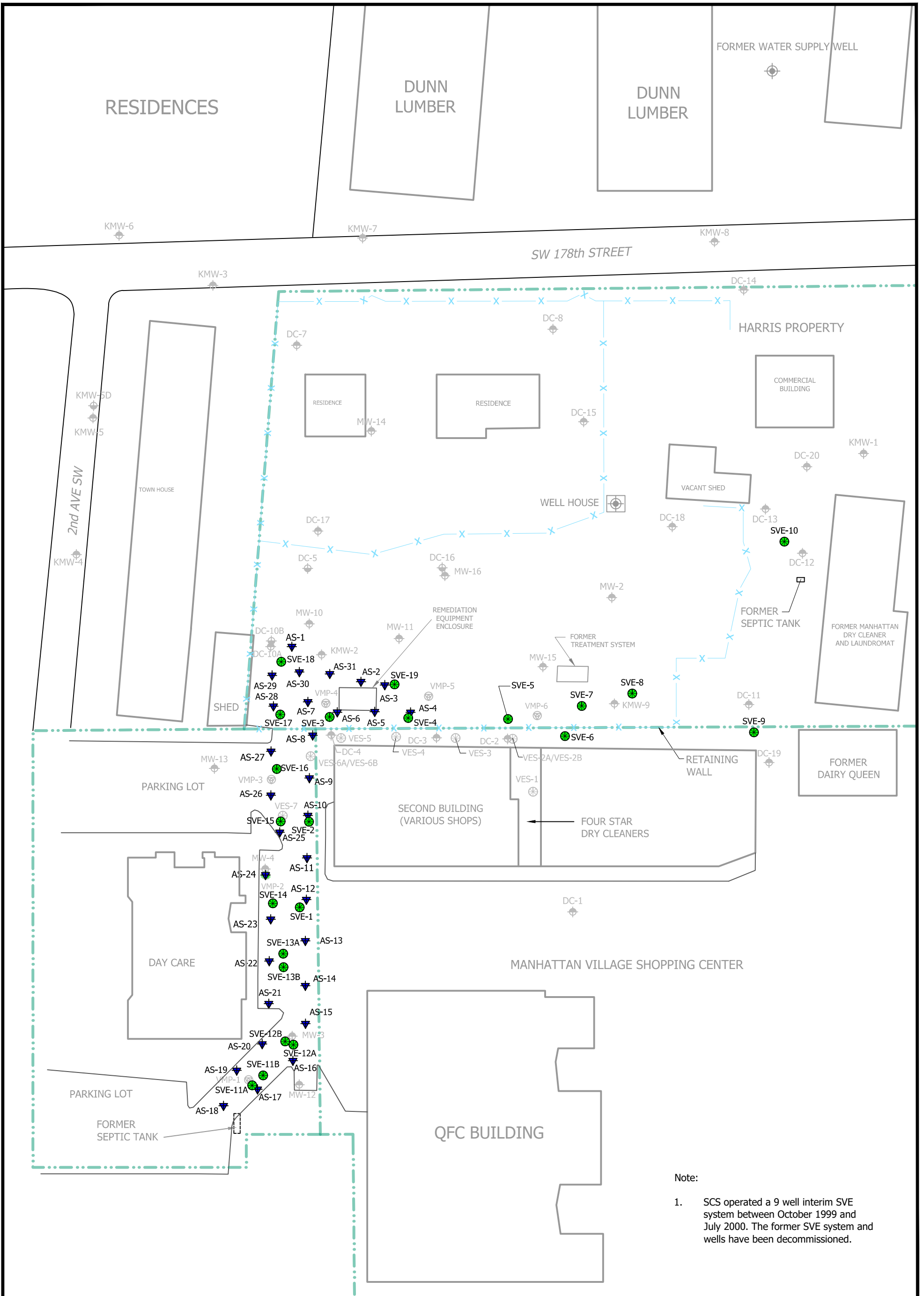
EXPLANATION

- - - - - Approximate Property Boundary
- - - - - Sanitary Sewer
- - - - - Storm Drain
- - - - - Natural Gas
- - - - - Water
- - - - - Overhead Electrical
- - - - - Buried Electrical
- - - - - Telephone



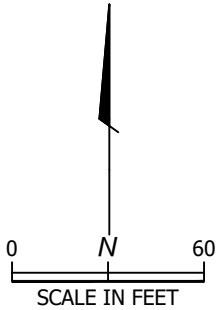
Site Plan
 Manhattan Village/Harris Properties
 17817, 17825, and 17835 1st Avenue South
 Normandy Park, Washington

FIGURE
2



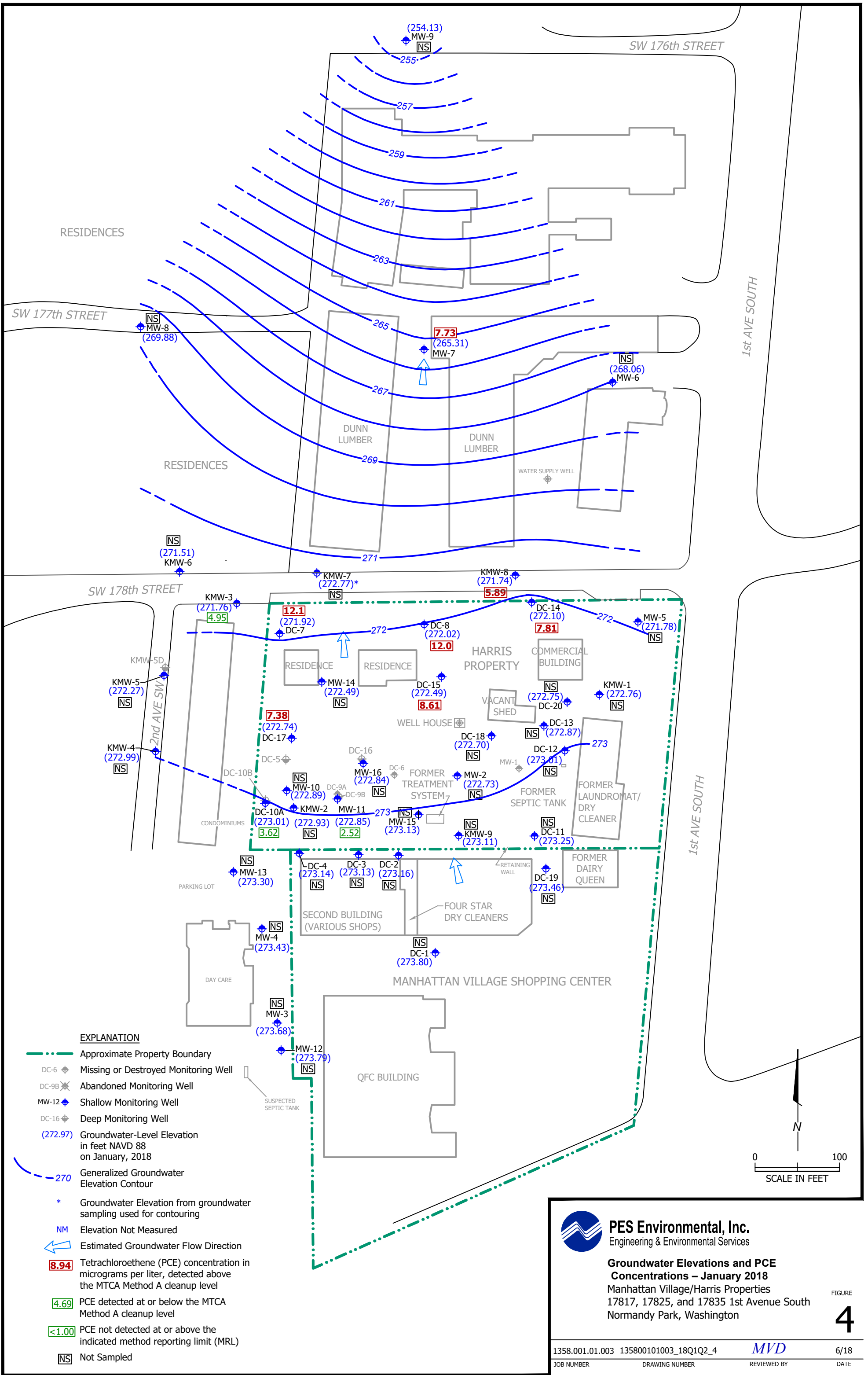
Note:
 1. SCS operated a 9 well interim SVE system between October 1999 and July 2000. The former SVE system and wells have been decommissioned.

- EXPLANATION**
- Approximate Property Boundary
 - Shallow Monitoring Well
 - Deep Monitoring Well
 - Air Sparge Well
 - Soil Vapor Extraction Well
 - Decommissioned Soil Vapor Extraction Well (SCS, 1999)
 - Vapor Monitoring Probe



Remediation Well Locations
 Manhattan Village/Harris Properties
 17817, 17825, and 17835 1st Avenue South
 Normandy Park, Washington

FIGURE
3



EXPLANATION

- - - Approximate Property Boundary
- DC-6 Missing or Destroyed Monitoring Well
- DC-9B Abandoned Monitoring Well
- MW-12 Shallow Monitoring Well
- DC-16 Deep Monitoring Well
- (272.97) Groundwater-Level Elevation in feet NAVD 88 on January, 2018
- - - 270 Generalized Groundwater Elevation Contour
- * Groundwater Elevation from groundwater sampling used for contouring
- NM Elevation Not Measured
- Estimated Groundwater Flow Direction
- 8.94 Tetrachloroethene (PCE) concentration in micrograms per liter, detected above the MTCA Method A cleanup level
- 4.69 PCE detected at or below the MTCA Method A cleanup level
- <1.00 PCE not detected at or above the indicated method reporting limit (MRL)
- NS Not Sampled

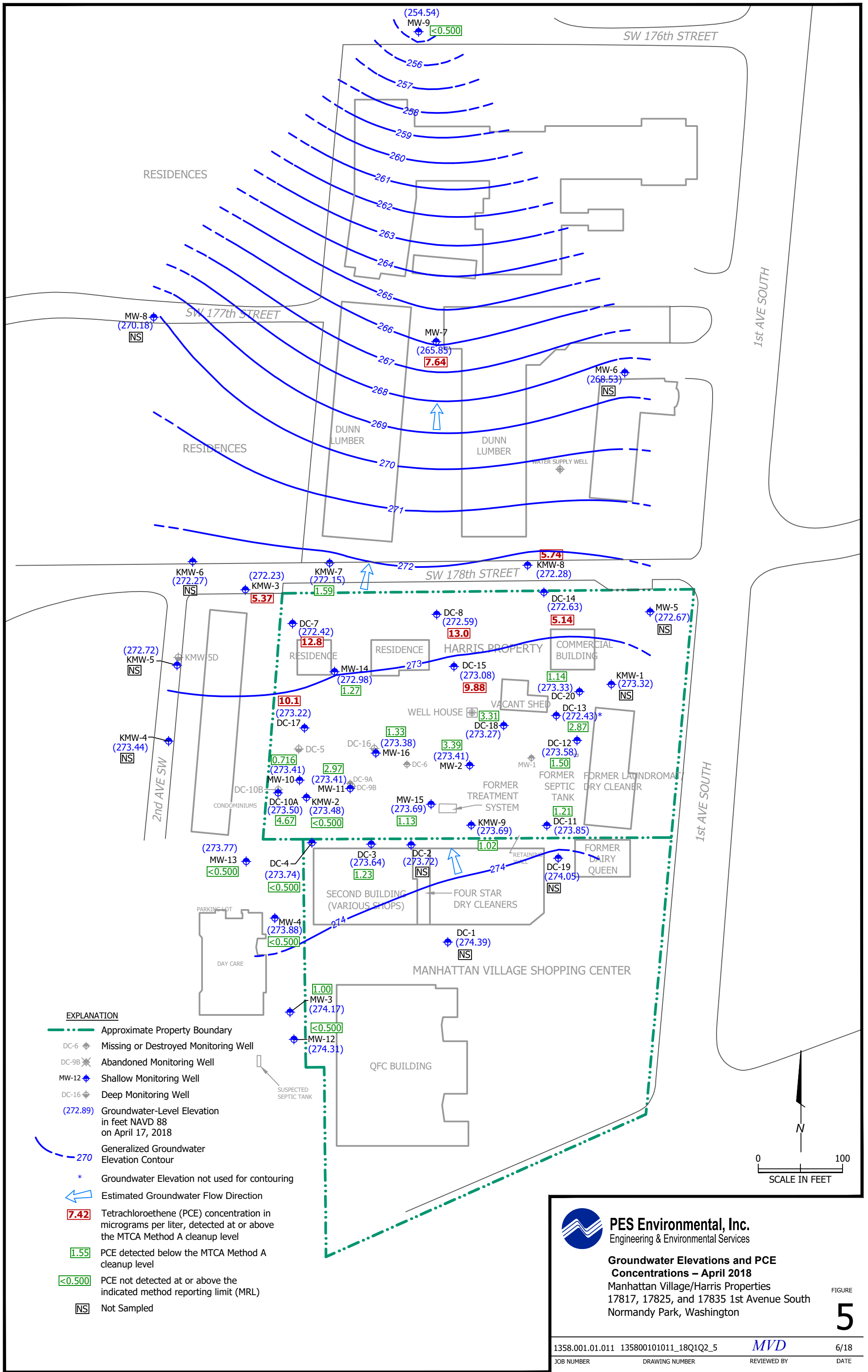
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Groundwater Elevations and PCE Concentrations – January 2018
Manhattan Village/Harris Properties
17817, 17825, and 17835 1st Avenue South
Normandy Park, Washington

FIGURE **4**

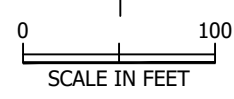
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JOB NUMBER DRAWING NUMBER REVIEWED BY DATE



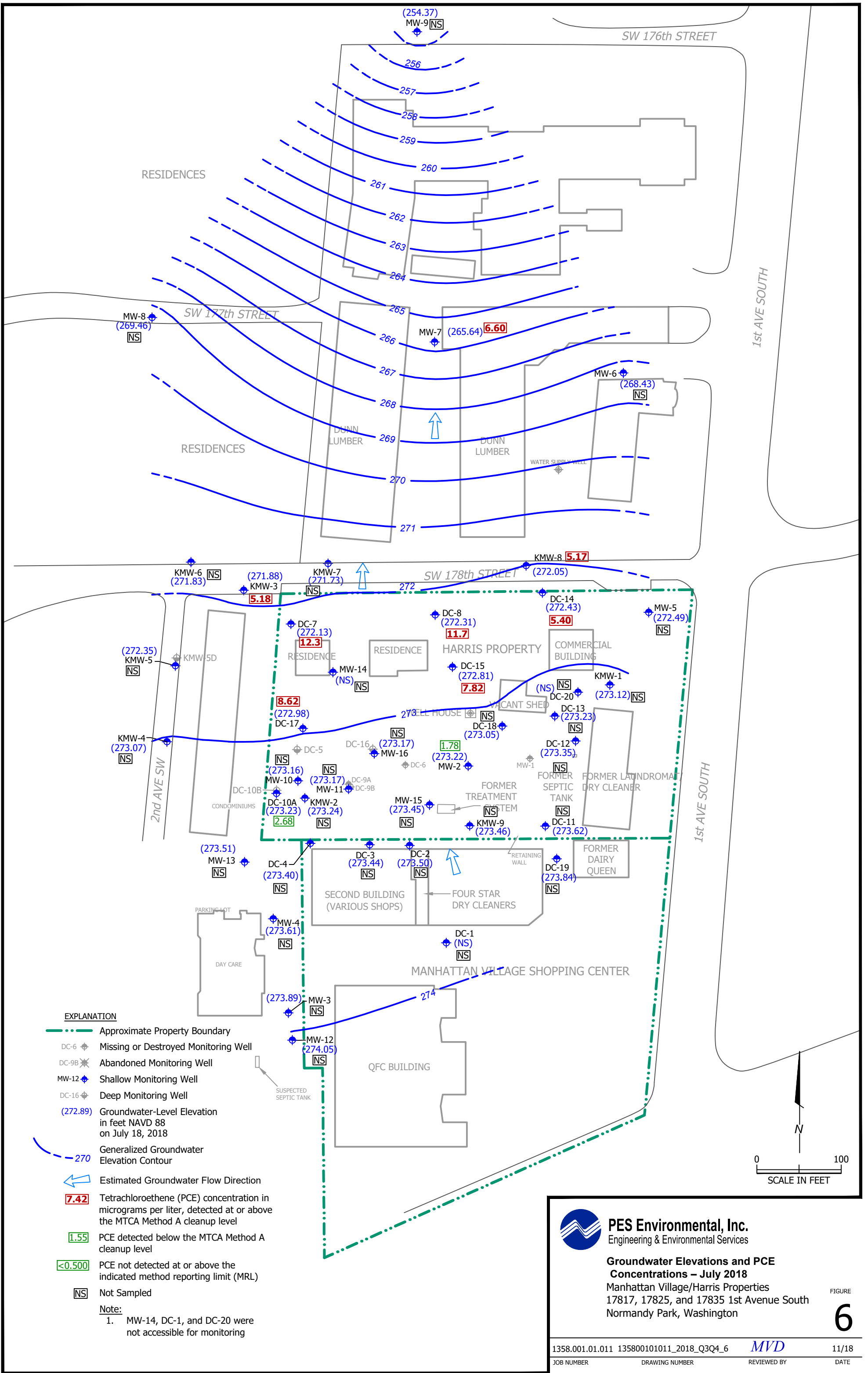
EXPLANATION

- Approximate Property Boundary
- DC-6 Missing or Destroyed Monitoring Well
- DC-9B Abandoned Monitoring Well
- MW-12 Shallow Monitoring Well
- DC-16 Deep Monitoring Well
- (272.89) Groundwater-Level Elevation in feet NAVD 88 on April 17, 2018
- 270 Generalized Groundwater Elevation Contour
- * Groundwater Elevation not used for contouring
- Estimated Groundwater Flow Direction
- 7.42** Tetrachloroethene (PCE) concentration in micrograms per liter, detected at or above the MTCA Method A cleanup level
- 1.55** PCE detected below the MTCA Method A cleanup level
- <0.500** PCE not detected at or above the indicated method reporting limit (MRL)
- NS** Not Sampled



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Groundwater Elevations and PCE Concentrations – April 2018
Manhattan Village/Harris Properties
17817, 17825, and 17835 1st Avenue South
Normandy Park, Washington



EXPLANATION

- - - Approximate Property Boundary
- DC-6 Missing or Destroyed Monitoring Well
- DC-9B Abandoned Monitoring Well
- MW-12 Shallow Monitoring Well
- DC-16 Deep Monitoring Well
- (272.89) Groundwater-Level Elevation in feet NAVD 88 on July 18, 2018
- - - 270 Generalized Groundwater Elevation Contour
- Estimated Groundwater Flow Direction
- 7.42 Tetrachloroethene (PCE) concentration in micrograms per liter, detected at or above the MTCA Method A cleanup level
- 1.55 PCE detected below the MTCA Method A cleanup level
- <0.500 PCE not detected at or above the indicated method reporting limit (MRL)
- NS Not Sampled

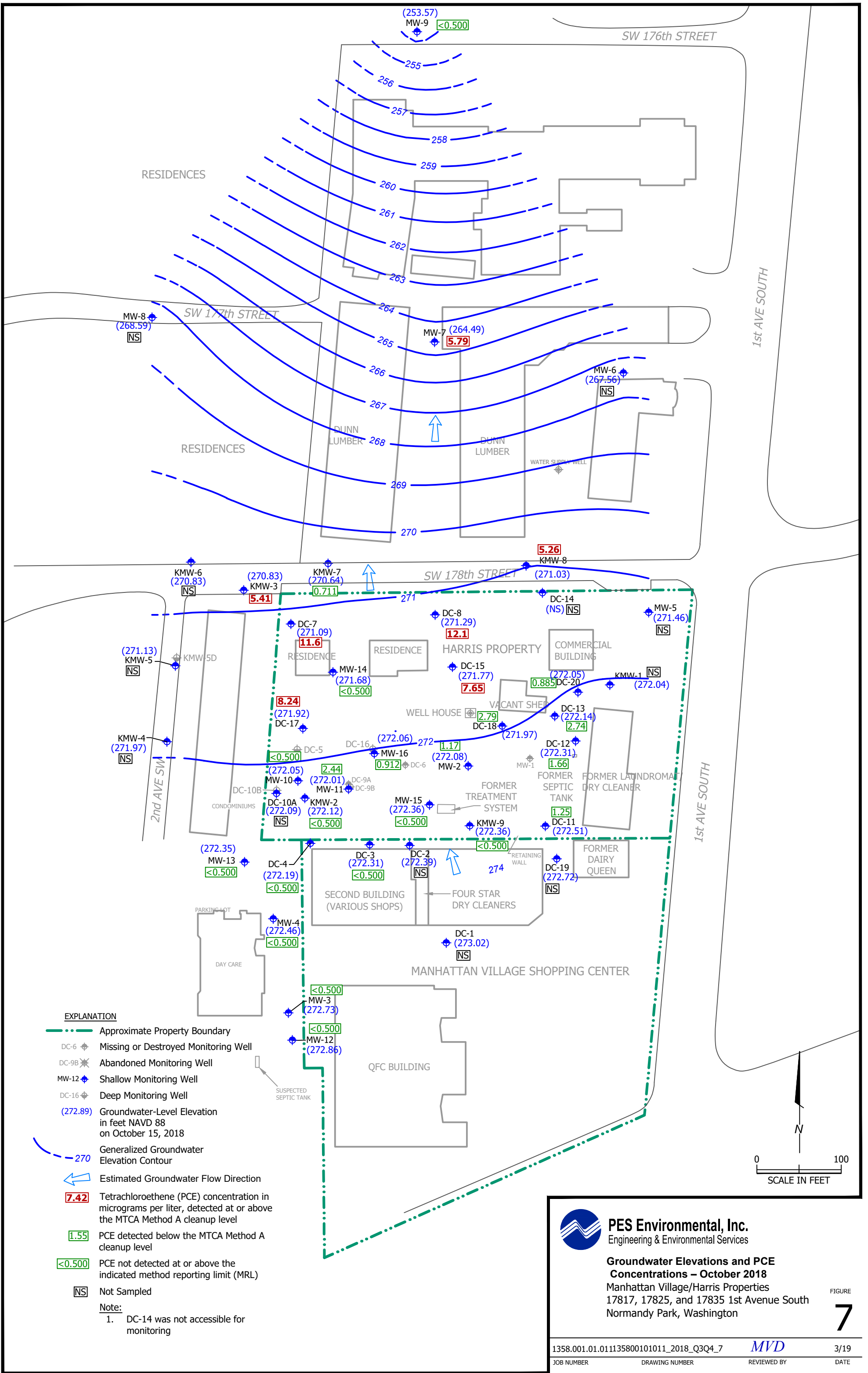
Note:
 1. MW-14, DC-1, and DC-20 were not accessible for monitoring



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Groundwater Elevations and PCE Concentrations – July 2018
 Manhattan Village/Harris Properties
 17817, 17825, and 17835 1st Avenue South
 Normandy Park, Washington

FIGURE
6



EXPLANATION

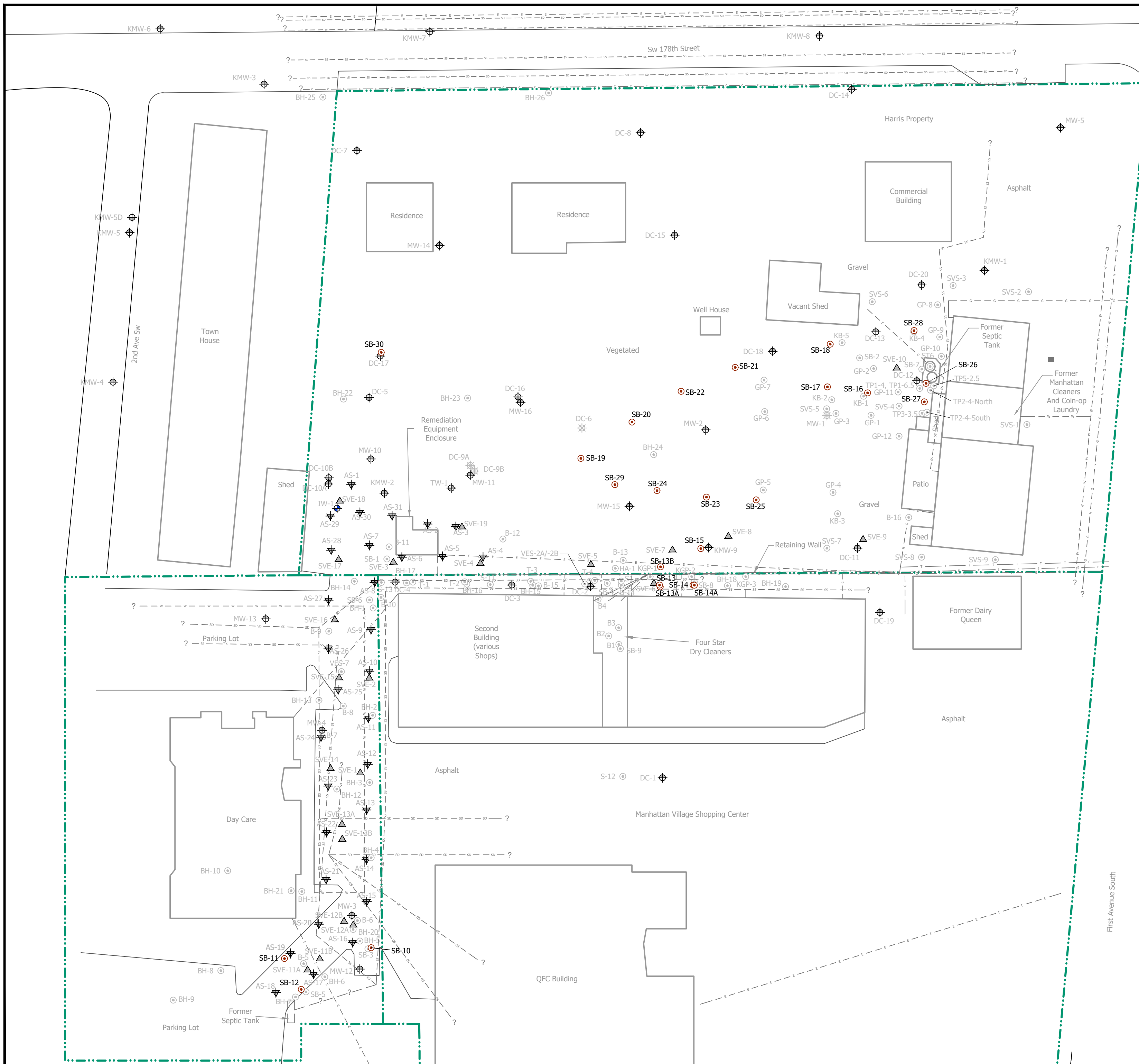
- - - Approximate Property Boundary
- DC-6 Missing or Destroyed Monitoring Well
- DC-9B Abandoned Monitoring Well
- MW-12 Shallow Monitoring Well
- DC-16 Deep Monitoring Well
- (272.89) Groundwater-Level Elevation in feet NAVD 88 on October 15, 2018
- - - 270 Generalized Groundwater Elevation Contour
- Estimated Groundwater Flow Direction
- 7.42 Tetrachloroethene (PCE) concentration in micrograms per liter, detected at or above the MTCA Method A cleanup level
- 1.55 PCE detected below the MTCA Method A cleanup level
- <0.500 PCE not detected at or above the indicated method reporting limit (MRL)
- NS Not Sampled

Note:
 1. DC-14 was not accessible for monitoring



Groundwater Elevations and PCE Concentrations – October 2018
 Manhattan Village/Harris Properties
 17817, 17825, and 17835 1st Avenue South
 Normandy Park, Washington

FIGURE
7



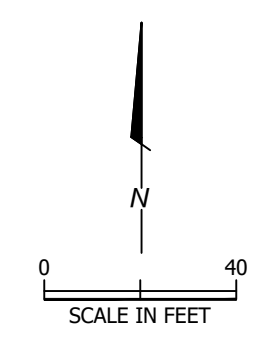
- EXPLANATION**
- Approximate Property Boundary
 - DC-6 ☼ Decommissioned or Missing Monitoring Well
 - DC-15 ⊕ Shallow Monitoring Well
 - DC-16 ⊕ Deep Monitoring Well
 - SVE-1 ▲ Soil Vapor Extraction Well
 - AS-1 ▼ Air Sparge Well
 - TW-1 ⊕ Pilot Test Well (Kane 2006, ERM 2011)
 - KB-3 ⊙ Boring Location by Others (See Identification List)
 - SB-24 ⊙ Soil Boring (PES, 2018)

Boring Identification List

Consultant	Boring IDs	Year
SCS	B1 - B4 / S1 - S13 / BH-1 - BH-26 / T-1 - T-4	1998-2000
ADAPT	HA-1	1999
Farallon	SVS-1 - SVS-9 / GP-1 - GP-12 / TP1 - TP5	2005 - 2008
Kane	KB-1 - KB-5 / KGP-1 - KGP-3 / ST6	2005 - 2007
ERM	B-5 - B-18 / SB-1 - SB-9	2008 - 2012
PES	SB-10 - SB-30	2018

- W — Water
- SS — Sanitary Sewer
- E — Electrical Line
- SD — Storm Drain
- G — Gas
- C — Communication
- T — Telephone

- Notes:**
- Borings drilled from 1998 through 2012 were not surveyed. Locations are estimated from prior consultants' site maps.
 - Investigation borings B-5, B-7, B-9, B-11, B-12, and B-13 were completed as vapor monitoring probes VMP-1 through VMP-6.
 - The temporary SVE system installed in 1999 included nine wells which operated for approximately one year, and were subsequently decommissioned. Six SVE wells were installed in investigation borings B-1 (VES-1), BH-1 (VES6A/6B), BH-15 (VES-5), BH-16 (VES-4), and BH-17 (VES-3). The other three wells (VES-2A/2B and VES-7) were installed in separate locations.
 - The former septic tank on Harris Property was removed in April 2006. Four sidewall and two bottom samples were collected. Bottom sample ST6 represents the only detection in the 6 samples.
 - SCS borings B-1, B-2, and B-3 were completed as 1-inch diameter vapor monitoring probes in 1998. Well construction details are not available.



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Well and Boring Location Map
Manhattan Village/Harris Properties
17817, and 17825, and 17835 1st Avenue South
Normandy Park, Washington

FIGURE
8



- EXPLANATION**
- Approximate Property Boundary
 - DC-6 ☼ Decommissioned or Missing Monitoring Well
 - DC-15 ⊕ Shallow Monitoring Well
 - DC-16 ⊕ Deep Monitoring Well
 - SVE-1 ▲ Soil Vapor Extraction Well
 - AS-1 ▼ Air Sparge Well
 - TW-1 ⊕ Pilot Test Well (Kane 2006, ERM 2011)
 - KB-3 ⊙ Boring Location by Others (See Identification List)
 - SB-24 ⊙ Soil Boring (PES, 2018)

Boring Identification List

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ADAPT	HA-1	1999
Farallon	SVS-1 - SVS-9 / GP-1 - GP-12 / TP1 - TP5	2005 - 2008
Kane	KB-1 - KB-5 / KGP-1 - KGP-3 / ST6	2005 - 2007
ERM	B-5 - B-18 / SB-1 - SB-9	2008 - 2012
PES	SB-10 - SB-30	2018

Notes:
 Detections are shown in **bold**
 U = Not Detected
 Detections above CUL are shaded
 CUL = MTCA Method A Cleanup Level (0.050 mg/kg)
 PCE = Tetrachloroethene (mg/kg)
 30 ft = Depth of Sample in Feet Below Ground Surface

SB-11 PCE

8 ft	0.0347 U
15 ft	0.0353 U

SB-10 PCE

6 ft	0.193
10 ft	0.0359U

SB-12 PCE

1 ft	0.0348 U
5 ft	0.138
10 ft	0.0325 U

SB-13B PCE

36 ft	0.0829
40 ft	0.128

SB-13 PCE

5 ft	0.0350 U
10 ft	0.128
20 ft	6.03
29 ft	0.110

SB-15 PCE

10 ft	0.0334 U
20 ft	0.0781
30 ft	0.0645
40 ft	0.132

SB-14 PCE

5 ft	0.0317 U
10 ft	0.0298 U
20 ft	0.0253 U
30 ft	0.109

SB-14A PCE

40 ft	0.105
-------	-------

SB-18 PCE

30 ft	0.0429
40 ft	0.0284

SB-17 PCE

20 ft	0.0435
30 ft	0.0281 U
40 ft	0.0286

SB-26 PCE

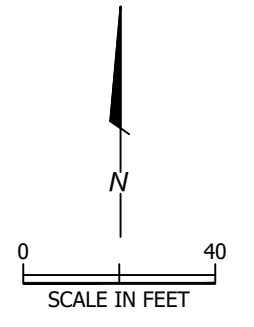
2 ft	0.0960
4 ft	0.0292 U
10 ft	0.0433 U
20 ft	0.0763
30 ft	0.0647
40 ft	0.034 U

SB-28 PCE

20 ft	0.0323 U
30 ft	0.0784
40 ft	0.0325 U

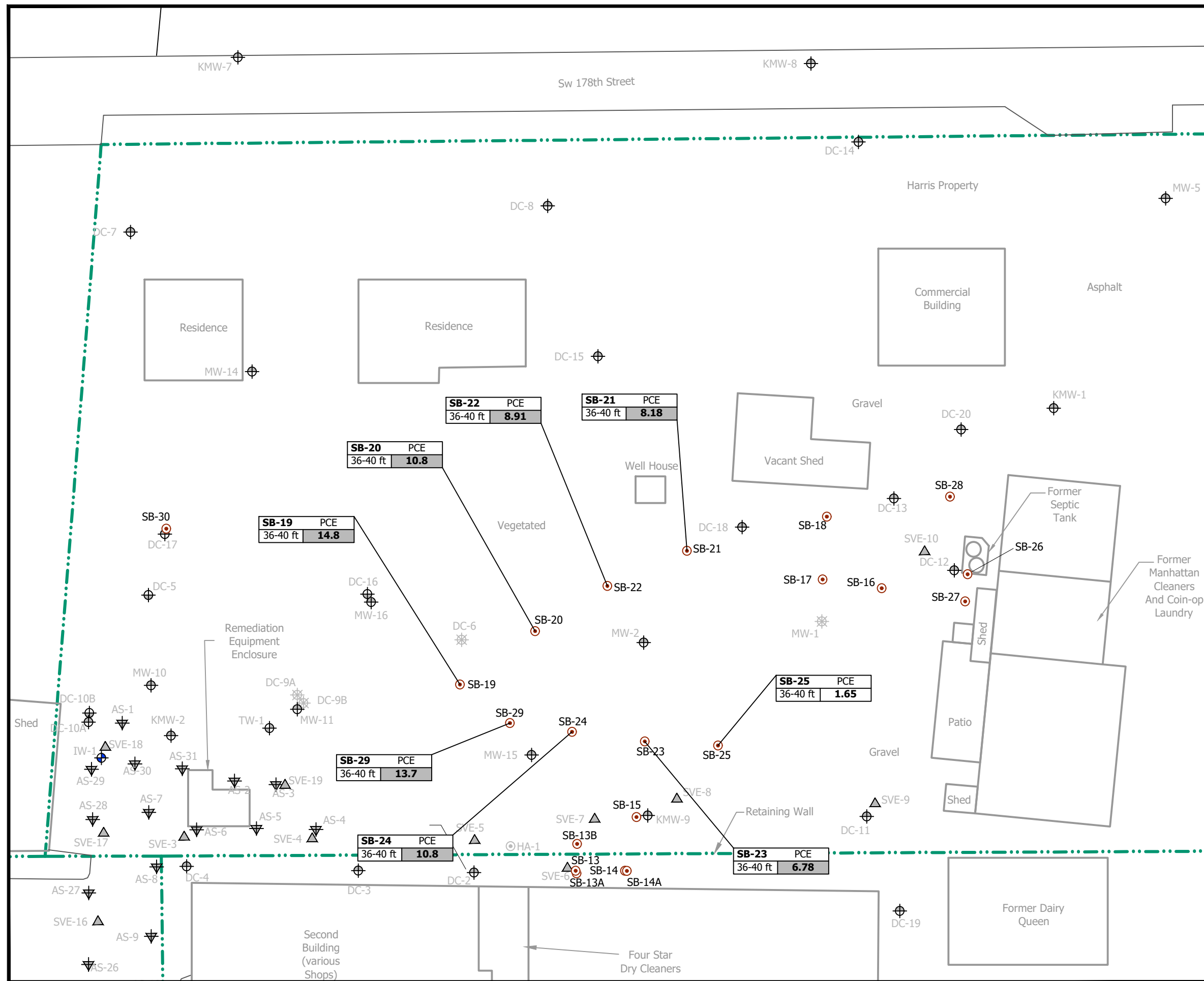
SB-27 PCE

2 ft	0.0800
4 ft	0.0426 U
10 ft	0.0339 U
20 ft	0.0942
30 ft	0.118
40 ft	0.169



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Supplemental Investigation - Soil Results April 2018
 Manhattan Village/Harris Properties
 17817, and 17825, and 17835 1st Avenue South
 Normandy Park, Washington



EXPLANATION

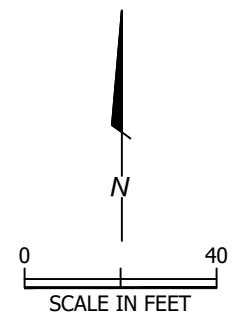
- Approximate Property Boundary
- DC-6 Decommissioned or Missing Monitoring Well
- DC-15 Shallow Monitoring Well
- DC-16 Deep Monitoring Well
- SVE-1 Soil Vapor Extraction Well
- AS-1 Air Sparge Well
- TW-1 Pilot Test Well (Kane 2006, ERM 2011)
- KB-3 Boring Location by Others (See Identification List)
- SB-24 Soil Boring (PES, 2018)

Boring Identification List

Consultant	Boring IDs	Year
SCS	B1 - B4 / S1 - S13 / BH-1 - BH-26 / T-1 - T-4	1998-2000
ADAPT	HA-1	1999
Farallon	SVS-1 - SVS-9 / GP-1 - GP-12 / TP1 - TP5	2005 - 2008
Kane	KB-1 - KB-5 / KGP-1 - KGP-3 / ST6	2005 - 2007
ERM	B-5 - B-18 / SB-1 - SB-9	2008 - 2012
PES	SB-10 - SB-30	2018

Notes:

- Detections are shown in **bold**
- U = Not Detected
- Detections above CUL are shaded
- CUL = MTCA Method A Cleanup Level (5 µg/L)
- PCE = Tetrachloroethene (µg/L)
- 30 ft = Depth of Sample in Feet Below Ground Surface



Note: The original version of this figure includes color-designated features. A black and white copy of the figure may not accurately represent the information originally presented.



PES Environmental, Inc.
Engineering & Environmental Services

Supplemental Investigation - Groundwater Results April 2018
Manhattan Village/Harris Properties
17817, and 17825, and 17835 1st Avenue South
Normandy Park, Washington

FIGURE

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**Table 1
SVE System Operation and Maintenance Data
Manhattan Village/Harris Properties
Normandy Park, Washington**

Date	Time	Operating Days (days)	System Down Time (days)	Electric Meter (KWH)	Blower				Vacuum		SVE Wells ⁶	Stack				PCE Removal Rate ⁴ (lb/day)	PCE Mass Removed ⁵ (lbs)	Condensate		Notes
					Speed (hz)	Electric Meter (KWH)	Run Time (hr)	Temp. Out (deg F)	Blower (in. w.c.)	Manifold (in. w.c.)		DP (in. w.c.)	Flow ¹ (scfm)	VOC ² (ppm)	Lab PCE ³ (µg/m ³)			DAT Tank (gal)	Holding Tank (gal)	
10/19/16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97.5	-	-	per PES previous O&M Data Tables	
10/19/16	11:30	0	-	-	51	-	-	85	42	19	1 to 19	2.25	830	-	-	-	-	-	SVE system startup, balance wells	
10/21/16	-	2	-	-	50	-	-	85	48	25	1 to 19	2.10	800	2.96	-	-	-	-	AS system startup, balance wells, noise testing	
10/25/16	10:32	6	-	1,274	51	1,285	159	86	42	20	1 to 19	2.15	830	2.39	2,100	0.157	98.5	169	90	Balance SVE and AS wells, stack TO-15 sample
11/2/16	9:00	14	-	-	51	2,859	349	85	45	20	1 to 19	2.3	840	2.51	1,310	0.099	99.6	92	160	Startup monitoring, stack TO-15 sample
11/10/16	10:30	22	-	-	51	4,318	390	80	35	15	1 to 19	2.5	880	1.25	966	0.076	99.7	-	325	Startup monitoring, stack TO-15 sample
11/16/16	10:30	28	-	-	51	5,418	688	80	35	16	1 to 19	2.0	790	2.57	942	0.067	100.6	60	340	Startup monitoring, stack TO-15 sample
11/23/16	9:00	35	-	-	51	6,655	853	75	30	15	1 to 19	-	-	0.86	-	-	-	120	425	Check AS, clean debris from transfer pump
11/30/16	7:00	42	-	-	51	7,914	1,020	75	33	10	1 to 19	2.0	790	-	-	-	-	75	490	Check AS, clean debris from transfer pump
12/12/16	9:00	54	-	3,398	51	10,209	1,312	75	35	10	1 to 19	2.4	860	1.31	288	0.022	101.7	10	580	O&M, stack TO-15 sample, shutdown for GW sampling
12/15/16	-	57	3	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	Restarted system after GW sampling
12/20/16	8:00	59	-	3,704	51	11,115	1,430	75	34	9	1 to 19	2.0	790	-	-	-	-	90	520	Changed blower and compressor oil, check belts
12/28/16	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	750	Respond to DAT Alarm, reset, system operating
1/1/17	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	System down on power outage alarm
1/3/17	13:35	-	2	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	Responded to alarm, system off - frozen equipment
1/9/17	12:15	72	9	4,444	51	13,211	1,723	65	30	8	1 to 19	2.3	850	-	-	-	-	80	825	Test and restart system after power outage
1/10/17	9:45	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	System check after restart
1/18/17	11:00	81	-	4,976	51	14,751	1,936	75	32	6	1 to 19	2.3	845	0.5	359	0.027	102.4	0	5	O&M and TO-15 sample, condensate disposal
1/29/17	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	Reset alarm, system running
2/1/17	6:45	95	-	5,801	51	17,171	2,269	70	32	10	1 to 19	2.2	-	-	-	-	-	85	220	Install check valve, repair transfer pump leak
2/6/17	5:20	-	1	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	Power outage. Restarted system.
2/14/17	11:00	107	-	6,558	51	19,370	2,573	75	32	2	1 to 19	2.3	845	1.1	248	0.019	103.0	85	350	O&M, stack TO-15 sample, clean level switches
2/16/17	15:30	-	-	6,685	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	140	365	System check
3/2/17	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	Respond to DAT Alarm, reset, system operating
3/10/17	9:00	131	-	8,006	51	23,567	3,146	75	35	26	1 to 19	2.3	845	0.2	275	0.021	103.5	100	565	O&M, stack TO-15 sample, shutdown for GW sampling
3/17/17	-	-	7	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	Restarted system after GW sampling
4/8/17	9:40	152	1	9,229	-	27,115	3,653	75	30	24	1 to 19	2.3	845	-	-	-	-	95	670	Power bump/surge, blower low flow alarm, restarted
4/20/17	12:00	-	-	10,022	51	29,101	3,942	75	32	25	1 to 19	2.4	865	0.3	477 EJ	0.037	104.4	93	670	O&M, stack TO-15 sample
4/22/17	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	Power bump/surge, blower low flow alarm
4/23/17	15:40	166	1	10,136	51	29,398	3,985	75	30	25	1 to 19	2.3	845	-	-	-	-	92	670	Restarted system
5/29/17	12:00	202	-	12,283	51	35,228	4,845	85	32	32	All except 13A & 14	2.3	835	0.3	137	0.010	105.3	80	680	Closed SVE13A & SVE14, Closed AS10 to AS26
6/16/17	11:00	-	-	-	-	-	-	-	-	-	All except 13A & 14	-	-	-	-	-	-	-	-	Power bump/surge, low flow alarm. Restarted system
6/20/17	8:00	223	-	13,352	51	38,915	5,359	85	34	32	All except 13A & 14	2.3	835	0.4	246	0.018	105.6	68	686	O&M, changed blower and compressor oil, check belts
7/15/17	10:00	248	-	14,596	51	43,192	5,959	94	35	30	All except 13A & 14	2.4	845	0.3	745	0.057	106.6	50	686	O&M, stack TO-15 sample, shut down for GW sampling
7/20/17	14:00	248	5	14,607	51	43,227	5,963	100	40	32	All except 13A & 14	2.3	830	-	-	-	-	48	686	Restarted system after GW sampling, ROI evaluation
8/18/17	9:15	277	-	16,061	51	48,555	6,655	90	38	30	All except 13A & 14	2.3	835	2.4	910	0.068	108.4	20	686	O&M, stack TO-15 sample
9/22/17	10:30	312	-	17,766	51	54,570	7,495	80	40	30	All except 13A & 14	2.4	860	2.0	590	0.046	110.4	10	686	O&M, stack TO-15 sample
10/17/17	8:15	337	-	18,992	51	58,991	8,097	80	40	30	All except 13A & 14	2.3	845	1.3	310	0.024	111.2	0	686	O&M, stack TO-15 sample
10/18/17	-	-	-	-	-	-	-	-	-	-	All except 13A & 14	-	-	-	-	-	-	-	-	Power bump/surge during storm, blower low flow alarm
10/19/17	11:00	339	1	-	51	-	8,127	-	-	-	All except 13A & 14	-	-	-	-	-	-	-	-	Inspect/test system, leave down for GW sampling
10/27/17	10:00	-	8	-	-	-	-	-	-	-	All except 13A & 14	-	-	-	-	-	-	-	-	Restarted system after GW sampling

**Table 1
SVE System Operation and Maintenance Data
Manhattan Village/Harris Properties
Normandy Park, Washington**

Date	Time	Operating Days (days)	System Down Time (days)	Electric Meter (KWH)	Blower				Vacuum		SVE Wells ⁶	Stack				PCE Removal Rate ⁴ (lb/day)	PCE Mass Removed ⁵ (lbs)	Condensate		Notes	
					Speed (hz)	Electric Meter (KWH)	Run Time (hr)	Temp. Out (deg F)	Blower (in. w.c.)	Manifold (in. w.c.)		DP (in. w.c.)	Flow ¹ (scfm)	VOC ² (ppm)	Lab PCE ³ (µg/m ³)			DAT Tank (gal)	Holding Tank (gal)		
11/14/17	9:00	-	1	-	-	-	-	-	-	-	All except 13A & 14	-	-	-	-	-	-	-	-	Power bump/surge, blower low flow alarm, restarted	
11/16/17	7:00	357	-	20,098	51	62,657	8,576	75	40	32	All except 13A & 14	2.2	825	0.4	230	0.017	111.7	80	775	O&M, stack TO-15 sample	
12/7/17	14:00	378	-	21,269	51	66,675	9,084	-	-	-	All except 13A & 14	-	-	-	-	-	-	-	-	DAT tank high level alarm, system running upon arrival	
12/27/17	12:30	-	-	-	-	-	-	-	-	-	All except 13A & 14	-	-	-	-	-	-	-	-	-	Measure water levels and DO only
12/28/17	7:00	399	-	22,800	51	70,712	9,585	75	35	30	1 to 19	2.2	810	0.2	160	0.012	112.3	90	1100	O&M, stack & SVE well TO-15 samples, disposal	
1/4/18	8:30	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	O&M, changed blower and compressor oil, check belts
1/5/18	6:45	407	-	22,836	53	72,115	9,773	75	35	27	1 to 19	2.2	810	-	-	-	-	80	80	SVE-10 ROI test, repair transfer pump seal	
1/17/18	8:00	419	-	23,641	53	74,327	10,057	-	-	-	1 to 19	-	-	-	-	-	-	80	150	Replace bearings on compressor, belts on both units	
1/23/18	10:30	425	-	24,040	53	75,464	10,205	75	35	30	1 to 19	2.3	850	0.2	200	0.015	112.6	80	210	O&M, stack TO-15 sample, shutdown for GW sampling	
1/29/18	12:20	425	6	-	-	-	10,205	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Restarted system after GW sampling
2/20/18	-	-	3	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Power outage on 2/18, equipment frozen, restarted
2/21/18	6:45	445	-	25,223	53	79,279	10,685	70	36	29	1 to 19	2.4	860	0.2	200	0.015	112.9	80	340	O&M, stack TO-15 sample	
3/10/18	-	-	1	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Power outage on 3/9, blower low flow alarm, restarted
3/27/18	10:15	478	-	27,159	53	85,473	11,479	76	38	30	1 to 19	2.1	810	0.5	130	0.009	113.3	95	340	O&M, stack TO-15 sample	
4/16/18	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Shut down system for GW sampling
4/20/18	-	-	4	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Restarted system after GW sampling
4/25/18	10:00	502	1	28,566	53	89,903	12,055	80	35	32	1 to 19	2.0	790	0.3	-	-	-	90	340	O&M, stack sample not analyzed - summa faulty.	
5/3/18	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Heat exchanger failure. Shut off air sparging.
5/16/18	-	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Replace heat exchanger motor and transfer pump
5/21/18	8:00	528	1	29,555	53	94,640	12,675	80	35	35	1 to 19	2.1	825	0.3	220	0.016	114.0	82	340	O&M, stack TO-15 sample, raise motor speeds	
6/6/18	9:15	-	-	30,403	53	-	-	80	35	26	1 to 19	2.3	845	-	-	-	-	78	340	Respond to heat exchanger alarm, restart	
6/7/18	13:35	-	-	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Repond to heat exchanger alarm, rewire, restart
6/18/18	13:35	556	-	31,063	53	99,732	13,344	100	30	26	1 to 19	2.5	865	0.4	240	0.019	114.5	82	340	O&M, stack TO-15 sample, blower & comp service	
7/16/18	8:00	584	-	32,742	53	104,750	14,013	100	36	21	1 to 19	2.5	845	0.2	240	0.018	115.0	82	340	O&M, stack TO-15 sample, shutdown for GW sampling	
7/23/18	8:00	584	7	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Restarted system after GW sampling
8/17/18	6:30	609	-	34,231	53	109,213	14,611	80	36	20	1 to 19	2.5	860	0.2	400	0.031	115.6	55	340	O&M, stack TO-15 sample	
9/12/18	8:00	-	0.5	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Power outage on 9/11, blower low flow alarm, restarted
9/27/18	8:30	649	-	36,633	53	116,536	15,587	80	36	26	1 to 19	2.5	879	0.8	210	0.017	116.5	55	340	O&M, stack and SVE well TO-15 samples	
10/13/18	14:00	666	-	-	-	-	15,973	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Shut down system for GW sampling
10/23/18	17:00	666	8	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Restarted system after GW sampling
10/31/18	8:30	676	-	38,132	53	121,512	16,225	65	40	25	1 to 19	2.5	892	0.4	250	0.020	117.0	50	350	O&M, stack TO-15 sample	
11/9/18	8:00	-	-	38,678	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	440	Reset transfer pump level warning alarm.
11/21/18	6:30	697	-	39,416	53	125,554	16,727	80	42	25	1 to 19	2.4	861	0.4	200	0.015	117.4	90	510	O&M, stack TO-15 sample	
11/27/18	7:00	700	3	-	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	Restarted system after alarm on 11/24
11/28/18	11:30	700	1	39,584	-	-	-	-	-	-	1 to 19	-	-	-	-	-	-	-	-	640	Restarted system after power outage on 11/27
12/6/18	15:00	707	1	40,040	53	127,534	16,970	-	-	-	1 to 19	-	-	-	-	-	-	-	-	-	System down 12/5 - high knockout level. Restart.
12/13/18	16:00	714	-	40,456	-	128,865	17,132	-	-	-	1 to 19	-	-	-	-	-	117.7	-	845	-	Power out alarm. Leave down for rebound evaluation.

**Table 1
SVE System Operation and Maintenance Data
Manhattan Village/Harris Properties
Normandy Park, Washington**

Date	Time	Operating Days (days)	System Down Time (days)	Electric Meter (KWH)	Blower				Vacuum		SVE Wells ⁶	Stack				PCE Removal Rate ⁴ (lb/day)	PCE Mass Removed ⁵ (lbs)	Condensate		Notes
					Speed (hz)	Electric Meter (KWH)	Run Time (hr)	Temp. Out (deg F)	Blower (in. w.c.)	Manifold (in. w.c.)		DP (in. w.c.)	Flow ¹ (scfm)	VOC ² (ppm)	Lab PCE ³ (µg/m ³)			DAT Tank (gal)	Holding Tank (gal)	
<p><u>Notes:</u></p> <p>1. Calculated flow rate based on velocity measurements in feet per minute, converted to cfm based on pipe cross sectional area, and normalized to standard conditions</p> <p>2. As measured with a photoionization detector (PID) adjusted using 0.57 correction factor for PCE</p> <p>3. SVE system discharge samples analyzed for VOCs using United States Environmental Protection Agency Method TO-15; see laboratory reports for the complete analytical list.</p> <p>4. Mass Removal Rate = [flow (scfm) * PCE (µg/m³) * 28.3168 (L/cf) / 1,000 (L/m³) / 453,592,370 (µg/lb) * 60 (min/hour) * 24 (hour/day)]</p> <p>5. Cumulative mass removed = average mass removal rates from previous and current O&M visit * period run time.</p> <p>6. SVE wells operating. The numbers refer to the SVE well number: SVE-1, SVE-2, SVE-3, SVE-4, SVE-5, SVE-6, SVE-7, SVE-8, SVE-9, SVE-10, SVE-11a, SVE-11b, SVE-12a, SVE-12b, SVE-13a, SVE-14, SVE-15, SVE-16, SVE-17, SVE-18, and SVE-19.</p> <p>KWH = Kilowatt Hours NM = not measured VOC = Volatile Organic Compounds DP = Differential Pressure in. w.c. = inches of water column PCE = tetrachloroethene µg/m³ = micrograms per cubic meter EJ = estimated value scfm = standard cubic feet per minute ppm = parts per million lb/day = pounds per day deg F = degrees Fahrenheit DAT = diffused aeration tank Temp. = Temperature</p>																				

Table 2
AS System Operation and Maintenance Data
Manhattan Village/Harris Properties
Normandy Park, Washington

Date	Air Sparging System							
	Operating Wells ¹	Flow ² (scfm)	Speed (hz)	Electric Meter (KWH)	Run Time (hr)	Compressor Temp (deg F)	Heat Exchanger	
							Temp (deg F)	Pressure (psi)
10/19/16	-	-	-	-	-	-	-	-
10/21/16	1 to 31	286	-	-	-	-	-	-
10/25/16	1 to 31	274	43.2	1,482	110	180	77	6.5
11/2/16	1 to 31	282	43.2	4,210	301	174	68	8.0
11/10/16	1 to 31	285	43.2	7,052	301	175	69	8.0
11/16/16	1 to 31	288	43.2	9,151	639	160	66	8.0
11/23/16	1 to 31	291	43.2	11,552	805	175	66	8.0
11/30/16	1 to 31	288	43.2	13,994	942	170	66	8.0
12/12/16	1 to 31	292	43.2	18,335	1,264	170	62	8.0
12/15/16	1 to 31	-	-	-	-	-	-	-
12/20/16	1 to 31	-	43.2	20,104	1,381	160	64	8.0
12/28/16	1 to 31	-	-	-	-	-	-	-
1/1/17	1 to 31	-	-	-	-	-	-	-
1/3/17	1 to 31	-	-	-	-	-	-	-
1/9/17	1 to 31	287	43.2	24,365	1,674	160	60	9.0
1/10/17	1 to 31	-	-	-	-	-	-	-
1/18/17	1 to 31	276	43.2	27,488	1,887	175	70	9.0
1/29/17	1 to 31	-	-	-	-	-	-	-
2/1/17	1 to 31	298	43.2	32,282	2,219	152	52	8.0
2/6/17	1 to 31	-	-	-	-	-	-	-
2/14/17	1 to 31	286	43.2	36,737	2,523	170	64	8.0
2/16/17	1 to 31	-	-	-	-	-	-	-
3/2/17	1 to 31	-	-	-	-	-	-	-
3/10/17	1 to 31	286	43.2	45,280	3,096	175	66	8.0
3/17/17	1 to 31	-	-	-	-	-	-	-
4/8/17	1 to 31	-	43.2	53,033	3,603	175	68	8.0
4/20/17	1 to 31	273	43.2	57,418	3,892	180	77	7.0
4/22/17	1 to 31	-	-	-	-	-	-	-
4/23/17	1 to 31	-	43.2	58,074	3,935	180	68	8.5
5/29/17	1 to 9, 27 to 31	200	36.0	71,190	4,794	175	76	6.0
6/20/17	1 to 9, 27 to 31	212	36.0	76,339	5,309	170	80	6.0
7/15/17	1 to 9, 27 to 31	214	36.0	82,992	5,908	170	92	6.0
7/20/17	1 to 9, 27 to 31	199	36.0	82,999	5,909	185	100	8.0
8/18/17	1 to 9, 27 to 31	217	36.0	90,120	6,600	165	105	8.0
9/22/17	1 to 9, 27 to 31	216	36.0	98,643	7,441	155	110	8.0
10/17/17	1 to 9, 27 to 31	224	39.0	104,636	8,042	160	120	8.0
11/16/17	1 to 9, 27 to 31	242	39.0	110,362	8,521	150	104	8.0
12/7/17	1 to 9, 27 to 31	-	39.0	116,351	9,029	-	-	-
12/28/17	1 to 9, 27 to 31	250	39.0	122,314	9,530	145	100	8.0
1/5/18	1 to 31	309	48.0	124,529	9,718	175	140	8.0
1/23/18	1 to 31	336	45.0	131,522	10,150	160	130	8.0
2/21/18	1 to 31	341	43.0	138,401	10,624	140	90	9.0
3/27/18	1 to 31	308	43.0	149,085	11,417	155	126	8.0
4/25/18	1 to 31	283	43.0	156,863	11,994	183	150	6.0
5/21/18	1 to 31	309	47.0	160,776	12,285	180	90	8.0

Table 3
SVE Leg Monitoring and Analytical Data
December 28, 2017
Manhattan Village/Harris Properties
Normandy Park, Washington

SVE Well	Date	Screen Depth (ft bgs)	Velocity (fpm)	Vacuum (in.w.c.)	Temp. (deg F)	Flow ¹ (scfm)	PID (ppmv)	Sample ID	Lab PCE ² (µg/m ³)
SVE-1	12/28/17	10-35	2,650	17	60	44	0.2	SVE-1-122817	120
SVE-2	12/28/17	10-35	2,300	10	60	39	0.2	SVE-2-122817	210
SVE-3	12/28/17	10-30	2,225	7	60	38	0.1	SVE-3-122817	50
SVE-4	12/28/17	10-30	1,500	7	60	26	0.1	SVE-4-122817	59
SVE-5	12/28/17	10-30	1,150	6	60	20	0.2	SVE-5-122817	170
SVE-6	12/28/17	5-10	2,800	14	60	47	0.3	SVE-6-122817	150
SVE-7	12/28/17	10-30	1,900	13	60	32	0.2	SVE-7-122817	350
SVE-8	12/28/17	10-30	1,050	5	60	18	0.1	SVE-8-122817	320
SVE-9	12/28/17	10-30	1,000	3	60	17	0.1	SVE-9-122817	170
SVE-10	12/28/17	10-30	2,500	18	60	42	0.2	SVE-10-122817	290
SVE-11A	12/28/17	5-19.98	2,800	17	60	47	0.2	SVE-11A-122817	68
SVE-11B	12/28/17	20-35	2,200	16	60	37	0.1	SVE-11B-122817	24
SVE-12A	12/28/17	5-19.98	2,000	20	60	33	0.1	SVE-12A-122817	310
SVE-12B	12/28/17	20-35	2,100	14	60	35	0.1	SVE-12B-122817	54
SVE-13A	12/28/17	5-19.98	2,600	16	60	43	0.1	SVE-13A-122817	36
SVE-13B	12/28/17	20-35	2,800	16	60	47	0.2	SVE-13B-122817	180
SVE-14	12/28/17	19.63-34.63	2,300	16	60	38	0.1	SVE-14-122817	120
SVE-15	12/28/17	20.61-34.96	1,800	13	60	30	0.1	SVE-15-122817	190
SVE-16	12/28/17	20.49-34.79	2,600	10	60	44	0.1	SVE-16-122817	310
SVE-17	12/28/17	19.91-29.91	2,150	23	60	35	0.3	SVE-17-122817	5.9
SVE-18	12/28/17	19.79-29.79	2,900	17	60	48	0.2	SVE-18-122817	59
SVE-19	12/28/17	19.99-29.99	2,900	15	60	49	0.3	SVE-19-122817	39
Total Flow						810		SYS-1217	160
Air Sparging Flow						250	scfm		
Ratio of SVE to AS						2.5			
Average SVE flow within AS ZOI						40	scfm		
Average SVE flow outside AS ZOI						29	scfm		
Notes:									
1. Flow calculated for 2" diameter Sch 40 PVC pipe = velocity (fpm) x 0.023 sq.ft. cross section area, then normalized to standard conditions and adjusted for the total SVE flow at the stack.									
2. Samples analyzed for VOCs using USEPA Method TO-15; see laboratory reports for the complete analytical list.									
3. SVE wells inside AS ZOI: SVE-1, SVE-2, SVE-3, SVE-4, SVE-11A, SVE-11B, SVE-12A, SVE-12B, SVE-13A, SVE-13B, SVE-14, SVE-15, SVE-16, SVE-17, SVE-18, and SVE-19.									
scfm = standard cubic feet per minute					lb/yr = pounds per year				
fpm = feet per minute					PID = photoionization detector				
in.w.c. = inches of water column					AS = air sparging				
deg F = degrees Fahrenheit					ZOI = zone of influence				

Table 4
SVE Leg Monitoring and Analytical Data
September 27, 2018
Manhattan Village/Harris Properties
Normandy Park, Washington

SVE Well	Date	Screen Depth (ft bgs)	Velocity (fpm)	Vacuum (in.w.c.)	Temp. (deg F)	Flow ¹ (scfm)	PID (ppmv)	Sample ID	Lab PCE ² (µg/m ³)
SVE-1	9/27/18	10-35	2,600	10.5	60	48	0.5	SVE-1-092718	160
SVE-2	9/27/18	10-35	2,300	9	60	43	0.5	SVE-2-092718	240
SVE-3	9/27/18	10-30	2,500	5	60	47	0.6	SVE-3-092718	750
SVE-4	9/27/18	10-30	2,200	5	60	41	0.6	SVE-4-092718	130
SVE-5	9/27/18	10-30	2,800	6.5	60	53	0.6	SVE-5-092718	270
SVE-6	9/27/18	5-10	2,100	15	60	39	1.1	SVE-6-092718	950
SVE-7	9/27/18	10-30	1,600	5	60	30	0.6	SVE-7-092718	400
SVE-8	9/27/18	10-30	2,700	6	60	51	0.7	SVE-8-092718	210
SVE-9	9/27/18	10-30	1,200	3.5	60	23	0.9	SVE-9-092718	170
SVE-10	9/27/18	10-30	2,600	14	60	48	0.9	SVE-10-092718	270
SVE-11A	9/27/18	5-19.98	2,500	17	60	46	0.4	SVE-11A-092718	100
SVE-11B	9/27/18	20-35	2,200	14	60	41	0.4	SVE-11B-092718	68
SVE-12A	9/27/18	5-19.98	1,700	17	60	31	0.3	SVE-12A-092718	110
SVE-12B	9/27/18	20-35	2,000	14	60	37	0.4	SVE-12B-092718	160
SVE-13A	9/27/18	5-19.98	2,500	13	60	46	0.5	SVE-13A-092718	94
SVE-13B	9/27/18	20-35	2,200	12	60	41	0.3	SVE-13B-092718	96
SVE-14	9/27/18	19.63-34.63	2,400	14	60	44	0.4	SVE-14-092718	110
SVE-15	9/27/18	20.61-34.96	2,100	8	60	39	0.4	SVE-15-092718	170
SVE-16	9/27/18	20.49-34.79	1,900	5.5	60	36	0.4	SVE-16-092718	330
SVE-17	9/27/18	19.91-29.91	600	19	60	11	0.5	SVE-17-092718	3.3
SVE-18	9/27/18	19.79-29.79	2,200	19	60	40	0.6	SVE-18-092718	110
SVE-19	9/27/18	19.99-29.99	2,400	11	60	45	0.7	SVE-19-092718	71
Total Flow						879		SYS-092718	210
Air Sparging Flow						327	scfm		
Ratio of SVE to AS						1.9			
Average SVE flow within AS ZOI						40	scfm		
Average SVE flow outside AS ZOI						40	scfm		
Notes:									
1. Flow calculated for 2" diameter Sch 40 PVC pipe = velocity (fpm) x 0.023 sq.ft. cross section area, then normalized to standard conditions and adjusted for the total SVE flow at the stack.									
2. Samples analyzed for VOCs using USEPA Method TO-15; see laboratory reports for the complete analytical list.									
3. SVE wells inside AS ZOI: SVE-1, SVE-2, SVE-3, SVE-4, SVE-11A, SVE-11B, SVE-12A, SVE-12B, SVE-13A, SVE-13B, SVE-14, SVE-15, SVE-16, SVE-17, SVE-18, and SVE-19.									
scfm = standard cubic feet per minute					lb/yr = pounds per year				
fpm = feet per minute					PID = photoionization detector				
in.w.c. = inches of water column					AS = air sparging				
deg F = degrees Fahrenheit					ZOI = zone of influence				

Table 5

**Groundwater Elevations
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Monument Type	Top of Casing Elevation (feet, NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet)	Groundwater Elevation (feet, NAVD88)
January 2018 Event						
MW-2	1/24/2018	Flush	308.34	32.22-42.22	35.61	272.73
MW-3	1/24/2018	Flush	311.41	35.67-45.67	37.73	273.68
MW-4	1/24/2018	Flush	310.47	33.45-43.45	37.04	273.43
MW-5	1/24/2018	Flush	310.38	35.6-45.6	38.60	271.78
MW-6	1/24/2018	Flush	304.14	34.46-44.46	36.08	268.06
MW-7	1/24/2018	Flush	302.64	34.47-44.47	37.33	265.31
MW-8	1/24/2018	Flush	280.68	12.71-22.71	10.80	269.88
MW-9	1/24/2018	Flush	284.97	31.6-41.6	30.84	254.13
MW-10	1/24/2018	Flush	306.71	31.52-41.52	33.82	272.89
MW-11	1/24/2018	Flush	307.62	31.56-41.56	34.77	272.85
MW-12	1/24/2018	Flush	312.80	35.7-45.7	39.01	273.79
MW-13	1/24/2018	Flush	308.75	34.58-44.58	35.45	273.30
MW-14	1/24/2018	Flush	303.82	27.6-37.6	31.33	272.49
MW-15	1/24/2018	AG	312.44	37.14-47.14	39.31	273.13
MW-16	1/24/2018	AG	310.37	29.45-44.65	37.53	272.84
DC-1	1/24/2018	Flush	312.82	39.5-44.5	39.02	273.80
DC-2	1/24/2018	Flush	312.92	41.22-46.22	39.76	273.16
DC-3	1/24/2018	Flush	313.11	42.32-47.32	39.98	273.13
DC-4	1/24/2018	Flush	312.35	43.36-48.36	39.21	273.14
DC-7	1/24/2018	Flush	302.61	34.35-39.35	30.69	271.92
DC-8	1/24/2018	Flush	306.23	36.64-41.64	34.21	272.02
DC-10A	1/24/2018	Flush	307.73	32.01-37.01	34.72	273.01
DC-11	1/24/2018	Flush	311.25	31.6-41.6	38.00	273.25
DC-12	1/24/2018	Flush	311.25	31.7-41.7	38.24	273.01
DC-13	1/24/2018	Flush	310.20	31.7-41.7	37.33	272.87
DC-14	1/24/2018	Flush	308.94	34.4-44.4	36.84	272.10
DC-15	1/24/2018	Flush	307.89	30.7-40.7	35.40	272.49
DC-17	1/24/2018	Flush	305.16	29.81-39.81	32.42	272.74
DC-18	1/24/2018	Flush	309.51	31.58-41.58	36.81	272.70
DC-19	1/24/2018	Flush	313.62	36.8-46.8	40.16	273.46
DC-20	1/24/2018	Flush	310.92	33.8-43.8	38.17	272.75
KMW-1	1/24/2018	Flush	311.59	36.8-51.8	38.83	272.76
KMW-2	1/24/2018	Flush	307.04	29.91-39.91	34.11	272.93
KMW-3	1/24/2018	Flush	296.92	24.6-34.6	25.16	271.76
KMW-4	1/24/2018	Flush	299.57	23.79-33.79	26.58	272.99
KMW-5	1/24/2018	Flush	297.22	23.66-33.66	24.95	272.27
KMW-6	1/24/2018	Flush	294.81	25.73-40.73	23.30	271.51
KMW-7	1/24/2018	Flush	301.43	28.78-43.78	28.66	272.77
KMW-8	1/24/2018	Flush	308.15	28.69-43.69	36.41	271.74
KMW-9	1/24/2018	Flush	310.33	33.5-43.5	37.22	273.11

Table 5

**Groundwater Elevations
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Monument Type	Top of Casing Elevation (feet, NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet)	Groundwater Elevation (feet, NAVD88)
April 2018 Event						
MW-2	4/17/2018	Flush	308.34	32.22-42.22	34.93	273.41
MW-3	4/17/2018	Flush	311.41	35.67-45.67	37.24	274.17
MW-4	4/17/2018	Flush	310.47	33.45-43.45	36.59	273.88
MW-5	4/17/2018	Flush	310.38	35.6-45.6	37.71	272.67
MW-6	4/17/2018	Flush	304.14	34.46-44.46	35.61	268.53
MW-7	4/17/2018	Flush	302.64	34.47-44.47	36.79	265.85
MW-8	4/17/2018	Flush	280.68	12.71-22.71	10.50	270.18
MW-9	4/17/2018	Flush	284.97	31.6-41.6	30.43	254.54
MW-10	4/17/2018	Flush	306.71	31.52-41.52	33.30	273.41
MW-11	4/17/2018	Flush	307.62	31.56-41.56	34.21	273.41
MW-12	4/17/2018	Flush	312.80	35.7-45.7	38.49	274.31
MW-13	4/17/2018	Flush	308.75	34.58-44.58	34.98	273.77
MW-14	4/17/2018	Flush	303.82	27.6-37.6	30.84	272.98
MW-15	4/17/2018	AG	312.44	37.14-47.14	38.75	273.69
MW-16	4/17/2018	AG	310.37	29.45-44.65	36.99	273.38
DC-1	4/17/2018	Flush	312.82	39.5-44.5	38.43	274.39
DC-2	4/17/2018	Flush	312.92	41.22-46.22	39.20	273.72
DC-3	4/17/2018	Flush	313.11	42.32-47.32	39.47	273.64
DC-4	4/18/2018	Flush	312.35	43.36-48.36	38.61	273.74
DC-7	4/17/2018	Flush	302.61	34.35-39.35	30.19	272.42
DC-8	4/17/2018	Flush	306.23	36.64-41.64	33.64	272.59
DC-10A	4/17/2018	Flush	307.73	32.01-37.01	34.23	273.50
DC-11	4/17/2018	Flush	311.25	31.6-41.6	37.40	273.85
DC-12	4/17/2018	Flush	311.25	31.7-41.7	37.67	273.58
DC-13	4/17/2018	Flush	310.20	31.7-41.7	37.77	272.43
DC-14	4/17/2018	Flush	308.94	34.4-44.4	36.31	272.63
DC-15	4/17/2018	Flush	307.89	30.7-40.7	34.81	273.08
DC-17	4/17/2018	Flush	305.16	29.81-39.81	31.94	273.22
DC-18	4/17/2018	Flush	309.51	31.58-41.58	36.24	273.27
DC-19	4/17/2018	Flush	313.62	36.8-46.8	39.57	274.05
DC-20	4/17/2018	Flush	310.92	33.8-43.8	37.59	273.33
KMW-1	4/17/2018	Flush	311.59	36.8-51.8	38.27	273.32
KMW-2	4/17/2018	Flush	307.04	29.91-39.91	33.56	273.48
KMW-3	4/17/2018	Flush	296.92	24.6-34.6	24.69	272.23
KMW-4	4/17/2018	Flush	299.57	23.79-33.79	26.13	273.44
KMW-5	4/17/2018	Flush	297.22	23.66-33.66	24.50	272.72
KMW-6	4/17/2018	Flush	294.81	25.73-40.73	22.54	272.27
KMW-7	4/17/2018	Flush	301.43	28.78-43.78	29.28	272.15
KMW-8	4/17/2018	Flush	308.15	28.69-43.69	35.87	272.28
KMW-9	4/17/2018	Flush	310.33	33.5-43.5	36.64	273.69

Table 5

**Groundwater Elevations
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Monument Type	Top of Casing Elevation (feet, NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet)	Groundwater Elevation (feet, NAVD88)
July 2018 Event						
MW-2	7/18/2018	Flush	308.34	32.22-42.22	35.12	273.22
MW-3	7/18/2018	Flush	311.41	35.67-45.67	37.52	273.89
MW-4	7/18/2018	Flush	310.47	33.45-43.45	36.86	273.61
MW-5	7/18/2018	Flush	310.38	35.6-45.6	37.89	272.49
MW-6	7/18/2018	Flush	304.14	34.46-44.46	35.71	268.43
MW-7	7/18/2018	Flush	302.64	34.47-44.47	37.00	265.64
MW-8	7/18/2018	Flush	280.68	12.71-22.71	11.22	269.46
MW-9	7/18/2018	Flush	284.97	31.6-41.6	30.60	254.37
MW-10	7/18/2018	Flush	306.71	31.52-41.52	33.55	273.16
MW-11	7/18/2018	Flush	307.62	31.56-41.56	34.45	273.17
MW-12	7/18/2018	Flush	312.80	35.7-45.7	38.75	274.05
MW-13	7/18/2018	Flush	308.75	34.58-44.58	35.24	273.51
MW-14	7/18/2018	Flush	303.82	27.6-37.6	--	--
MW-15	7/18/2018	AG	312.44	37.14-47.14	38.99	273.45
MW-16	7/18/2018	AG	310.37	29.45-44.65	37.20	273.17
DC-1	7/18/2018	Flush	312.82	39.5-44.5	--	--
DC-2	7/18/2018	Flush	312.92	41.22-46.22	39.42	273.50
DC-3	7/18/2018	Flush	313.11	42.32-47.32	39.67	273.44
DC-4	7/18/2018	Flush	312.35	43.36-48.36	38.95	273.40
DC-7	7/18/2018	Flush	302.61	34.35-39.35	30.48	272.13
DC-8	7/18/2018	Flush	306.23	36.64-41.64	33.92	272.31
DC-10A	7/18/2018	Flush	307.73	32.01-37.01	34.50	273.23
DC-11	7/18/2018	Flush	311.25	31.6-41.6	37.63	273.62
DC-12	7/19/2018	Flush	311.25	31.7-41.7	37.90	273.35
DC-13	7/18/2018	Flush	310.20	31.7-41.7	36.97	273.23
DC-14	7/18/2018	Flush	308.94	34.4-44.4	36.51	272.43
DC-15	7/18/2018	Flush	307.89	30.7-40.7	35.08	272.81
DC-17	7/18/2018	Flush	305.16	29.81-39.81	32.18	272.98
DC-18	7/18/2018	Flush	309.51	31.58-41.58	36.46	273.05
DC-19	7/18/2018	Flush	313.62	36.8-46.8	39.78	273.84
DC-20	7/18/2018	Flush	310.92	33.8-43.8	--	--
KMW-1	7/18/2018	Flush	311.59	36.8-51.8	38.47	273.12
KMW-2	7/18/2018	Flush	307.04	29.91-39.91	33.80	273.24
KMW-3	7/18/2018	Flush	296.92	24.6-34.6	25.04	271.88
KMW-4	7/18/2018	Flush	299.57	23.79-33.79	26.50	273.07
KMW-5	7/18/2018	Flush	297.22	23.66-33.66	24.87	272.35
KMW-6	7/18/2018	Flush	294.81	25.73-40.73	22.98	271.83
KMW-7	7/18/2018	Flush	301.43	28.78-43.78	29.70	271.73
KMW-8	7/18/2018	Flush	308.15	28.69-43.69	36.10	272.05
KMW-9	7/18/2018	Flush	310.33	33.5-43.5	36.87	273.46

Table 5

**Groundwater Elevations
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Monument Type	Top of Casing Elevation (feet, NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet)	Groundwater Elevation (feet, NAVD88)
October 2018 Event						
MW-2	10/15/2018	Flush	308.34	32.22-42.22	36.26	272.08
MW-3	10/15/2018	Flush	311.41	35.67-45.67	38.68	272.73
MW-4	10/15/2018	Flush	310.47	33.45-43.45	38.01	272.46
MW-5	10/15/2018	Flush	310.38	35.6-45.6	38.92	271.46
MW-6	10/15/2018	Flush	304.14	34.46-44.46	36.58	267.56
MW-7	10/23/2018	Flush	302.64	34.47-44.47	38.15	264.49
MW-8	10/16/2018	Flush	280.68	12.71-22.71	12.09	268.59
MW-9	10/16/2018	Flush	284.97	31.6-41.6	31.40	253.57
MW-10	10/15/2018	Flush	306.71	31.52-41.52	34.66	272.05
MW-11	10/19/2018	Flush	307.62	31.56-41.56	35.61	272.01
MW-12	10/15/2018	Flush	312.80	35.7-45.7	39.94	272.86
MW-13	10/15/2018	Flush	308.75	34.58-44.58	36.40	272.35
MW-14	10/15/2018	Flush	303.82	27.6-37.6	32.14	271.68
MW-15	10/15/2018	AG	312.44	37.14-47.14	40.08	272.36
MW-16	10/15/2018	AG	310.37	29.45-44.65	38.31	272.06
DC-1	10/15/2018	Flush	312.82	39.5-44.5	39.80	273.02
DC-2	10/15/2018	Flush	312.92	41.22-46.22	40.53	272.39
DC-3	10/15/2018	Flush	313.11	42.32-47.32	40.80	272.31
DC-4	10/15/2018	Flush	312.35	43.36-48.36	40.16	272.19
DC-7	10/15/2018	Flush	302.61	34.35-39.35	31.52	271.09
DC-8	10/15/2018	Flush	306.23	36.64-41.64	34.94	271.29
DC-10A	10/15/2018	Flush	307.73	32.01-37.01	35.64	272.09
DC-11	10/15/2018	Flush	311.25	31.6-41.6	38.74	272.51
DC-12	10/15/2018	Flush	311.25	31.7-41.7	38.94	272.31
DC-13	10/15/2018	Flush	310.20	31.7-41.7	38.06	272.14
DC-14	--	Flush	308.94	34.4-44.4	--	--
DC-15	10/15/2018	Flush	307.89	30.7-40.7	36.12	271.77
DC-17	10/15/2018	Flush	305.16	29.81-39.81	33.24	271.92
DC-18	10/15/2018	Flush	309.51	31.58-41.58	37.54	271.97
DC-19	10/15/2018	Flush	313.62	36.8-46.8	40.90	272.72
DC-20	10/15/2018	Flush	310.92	33.8-43.8	38.87	272.05
KMW-1	10/15/2018	Flush	311.59	36.8-51.8	39.55	272.04
KMW-2	10/15/2018	Flush	307.04	29.91-39.91	34.92	272.12
KMW-3	10/15/2018	Flush	296.92	24.6-34.6	26.09	270.83
KMW-4	10/15/2018	Flush	299.57	23.79-33.79	27.60	271.97
KMW-5	10/31/2018	Flush	297.22	23.66-33.66	26.09	271.13
KMW-6	10/15/2018	Flush	294.81	25.73-40.73	23.98	270.83
KMW-7	10/23/2018	Flush	301.43	28.78-43.78	30.79	270.64
KMW-8	10/15/2018	Flush	308.15	28.69-43.69	37.12	271.03
KMW-9	10/15/2018	Flush	310.33	33.5-43.5	37.97	272.36

**Groundwater Elevations
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Monument Type	Top of Casing Elevation (feet, NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet)	Groundwater Elevation (feet, NAVD88)
<p><u>NOTES:</u></p> <ol style="list-style-type: none"> 1. '--' = not measured or not applicable. 2. Well monument types: flush grade monuments and above ground (AG) monuments. 3. Depth to water is measured from top of well casing. 4. Elevations are reported relative to North American Vertical Datum of 1988 (NAVD 88). 5. Top of casing (TOC) elevations were surveyed by D.R. Strong Consulting Engineers, Inc. in February and May 2013 and by Lanktree Land Surveying, Inc. in July 2015. 6. Screened interval depth is estimated using from surveyed elevations (top of casing elevations, ground surface, and monument rim) and field measurements at the time of drilling. 7. Screened intervals completely submerged are shaded. 8. DC-4, DC-8, and DC-15: Recorded depth to water on day of sampling (4/18/2018). 9. MW-14, DC-1, and DC-20: Wells were not accessible for monitoring in July 2018. 10. MW-7, MW-11, KMW-7: Recorded depth to water on day of sampling in October 2018. KMW-5: water level was not consistent with historical data and was remeasured on 10/31/2018 during routine monthly O&M. DC-14: monument was not found in October due to recent utility construction activity nearby. 						

Table 6

PES Environmental, Inc.

**Groundwater Field Sampling Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Depth to Water (feet TOC)	pH (units)	Specific Conductivity (µS/cm)	Temp (°C)	DO (mg/L)	ORP (mV)
January 2018 Event							
MW-7	1/26/2018	37.31	6.32	179	10.2	9.1	455
MW-11	1/25/2018	34.74	6.59	122	10.6	12.3	340
DC-7	1/26/2018	30.64	6.55	136	9.8	13.0	446
DC-8	1/24/2018	34.21	6.43	155	11.5	7.8	25
DC-10A	1/25/2018	34.71	6.20	148	10.8	10.6	344
DC-14	2/2/2018	36.71	5.85	143	12.1	7.1	624
DC-15	1/24/2018	35.41	5.93	158	11.7	8.6	90
DC-17	1/26/2018	32.38	6.70	131	11.3	12.1	466
KMW-3	1/25/2018	25.13	6.21	175	12.0	10.1	386
KMW-8	1/25/2018	36.42	6.14	147	11.4	9.1	313
April 2018 Event							
MW-2	4/19/2018	33.78	6.32	123	14.0	8.1	107
MW-3	4/20/2018	37.02	7.03	73	12.4	13.7	108
MW-4	4/20/2018	36.41	7.30	135	12.3	2.7	118
MW-7	4/20/2018	36.73	6.45	173	12.8	2.2	112
MW-9	4/18/2018	30.38	6.21	149	11.8	2.0	88
MW-10	4/18/2018	33.21	6.86	132	12.5	2.8	73
MW-11	4/19/2018	34.04	6.85	85	13.7	11.8	108
MW-12	4/18/2018	38.38	7.16	198	12.4	2.8	73
MW-13	4/18/2018	34.86	6.56	193	13.5	2.3	72
MW-14	4/20/2018	30.69	6.41	123	12.3	14.2	109
MW-15	4/19/2018	38.61	6.28	93	14.6	7.9	119
MW-16	4/19/2018	36.83	6.76	143	13.3	10.3	120
DC-3	4/19/2018	39.34	7.01	244	12.6	2.6	92
DC-4	4/18/2018	38.61	6.94	124	12.6	2.8	75
DC-7	4/20/2018	30.03	6.49	93	12.4	14.2	107
DC-8	4/18/2018	33.62	6.48	122	11.7	2.1	67
DC-10A	4/20/2018	34.02	6.35	98	13.8	12.1	126
DC-11	4/19/2018	37.30	6.23	158	13.3	1.6	108
DC-12	4/20/2018	37.54	6.26	201	13.6	1.6	122
DC-13	4/20/2018	36.66	6.17	142	12.6	2.3	125
DC-14	4/19/2018	36.24	6.35	131	11.0	2.2	102
DC-15	4/18/2018	34.81	6.60	135	11.7	2.2	69
DC-17	4/20/2018	31.73	6.45	75	12.3	14.1	100
DC-18	4/20/2018	36.06	6.09	120	13.3	9.5	116
DC-20	4/19/2018	37.49	6.46	176	13.5	0.4	100
KMW-2	4/18/2018	33.47	6.89	131	12.4	0.3	65
KMW-3	4/20/2018	24.60	6.42	193	12.2	2.4	114
KMW-7	4/19/2018	29.34	6.53	180	11.9	1.4	94
KMW-8	4/19/2018	35.79	6.37	141	12.2	2.2	98
KMW-9	4/18/2018	36.56	6.33	157	13.1	2.2	84

Table 6

**Groundwater Field Sampling Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Depth to Water (feet TOC)	pH (units)	Specific Conductivity (µS/cm)	Temp (°C)	DO (mg/L)	ORP (mV)
July 2018 Event							
MW-2	7/17/2018	35.17	6.16	182	13.2	8.0	59
MW-7	7/19/2018	37.02	6.14	157	14.4	7.7	118
DC-7	7/20/2018	30.51	6.51	166	12.6	11.0	107
DC-8	7/18/2018	33.92	6.02	110	12.9	9.2	115
DC-10A	7/17/2018	34.52	6.52	141	16.4	8.9	60
DC-14	7/19/2018	36.54	6.00	138	13.4	8.2	92
DC-15	7/18/2018	35.08	5.91	125	12.7	8.8	102
DC-17	7/20/2018	32.20	6.26	130	12.2	10.5	101
KMW-3	7/19/2018	25.08	6.08	201	13.4	8.6	127
KMW-8	7/19/2018	36.13	6.01	138	13.5	8.3	129
October 2018 Event							
MW-2	10/18/2018	36.27	5.80	210	12.9	7.1	149
MW-3	10/16/2018	38.67	7.15	164	13.9	8.5	110
MW-4	10/16/2018	38.02	6.66	165	13.5	9.0	141
MW-7	10/23/2018	38.14	6.16	186	13.4	6.7	161
MW-9	10/17/2018	31.44	6.27	174	12.0	7.2	136
MW-10	10/18/2018	34.69	6.15	158	12.9	9.9	143
MW-11	10/19/2018	35.61	6.29	149	12.7	10.0	175
MW-12	10/16/2018	39.96	6.88	235	14.5	9.2	115
MW-13	10/16/2018	36.40	6.38	205	14.0	9.0	129
MW-14	10/23/2018	32.25	6.14	228	12.4	8.3	162
MW-15	10/18/2018	40.10	6.11	232	13.6	6.7	145
MW-16	10/18/2018	38.32	6.25	269	12.9	8.6	140
DC-3	10/17/2018	40.81	6.67	240	13.5	9.3	124
DC-4	10/17/2018	40.08	6.76	257	15.1	8.9	151
DC-7	10/23/2018	31.61	6.28	192	12.1	9.5	163
DC-8	10/18/2018	34.98	6.01	135	12.1	7.9	145
DC-10A	10/19/2018	35.67	--	--	--	--	--
DC-11	10/18/2018	38.78	5.95	231	13.3	5.9	146
DC-12	10/19/2018	39.03	5.94	250	13.1	4.9	168
DC-13	10/19/2018	38.14	5.82	195	12.6	4.8	164
DC-14	10/15/2018	--	--	--	--	--	--
DC-15	10/18/2018	36.17	5.99	161	12.1	8.0	148
DC-17	10/19/2018	33.33	6.03	206	11.9	10.0	162
DC-18	10/19/2018	37.61	5.91	188	12.8	6.5	165
DC-20	10/19/2018	38.93	6.00	259	13.1	0.4	155
KMW-2	10/16/2018	34.95	7.00	275	13.4	11.3	109
KMW-3	10/23/2018	26.19	6.05	207	12.6	8.0	171
KMW-7	10/23/2018	30.79	6.53	242	12.4	7.3	146
KMW-8	10/23/2018	37.22	6.09	172	12.6	7.2	160
KMW-9	10/18/2018	38.02	5.84	203	13.3	7.4	152

Table 6

**Groundwater Field Sampling Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Depth to Water (feet TOC)	pH (units)	Specific Conductivity (µS/cm)	Temp (°C)	DO (mg/L)	ORP (mV)
<p><u>NOTES:</u></p> <ol style="list-style-type: none">1. TOC = top of casing.2. units: pH standard units reported to 0.01.3. µS/cm = microsiemens per centimeter @ 25 degrees Celsius (°C).4. Dissolved Oxygen (DO) reported to 0.1 milligrams per liter (mg/L). DO measured on January 24 during water level monitoring.5. ORP = oxidation-reduction potential.6. mV = millivolts.7. '-- = not sampled DC-10A: water level was too low to collect sample with the bladder pump in October. DC-14: monument was not found in October, possibly due to recent utility construction activity nearby.							

Table 7

**Tetrachloroethene Concentrations in Groundwater
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Screened Interval Depth (feet TOC)	Depth to Water (feet TOC)	Pump Intake Depth (feet TOC)	PCE (µg/l)
MTCA Method A Ground Water Cleanup Level					5
January 2018 Event					
MW-7	1/26/2018	34.47-44.47	37.31	40	7.73
MW-11	1/25/2018	31.56-41.56	34.74	38	2.52
DC-7	1/26/2018	34.35-39.35	30.64	36	12.1
DC-8	1/24/2018	36.64-41.64	34.21	37	12.0
DC-10A	1/25/2018	32.01-37.01	34.71	36	3.62
DC-14	2/2/2018	34.4-44.4	36.70	40	7.81
DC-15	1/24/2018	30.7-40.7	35.41	38	8.61
DC-17	1/26/2018	29.81-39.81	32.38	36	7.38
KMW-3	1/25/2018	24.6-34.6	25.13	28	4.95
KMW-8	1/25/2018	28.69-43.69	36.42	39	5.89
April 2018 Event					
MW-2	4/19/2018	32.22-42.22	34.78	37	3.39
MW-3	4/20/2018	35.67-45.67	37.02	39	1.00
MW-4	4/20/2018	33.45-43.45	36.41	38.5	0.500 U
MW-7	4/20/2018	34.47-44.47	36.73	38	7.64
MW-9	4/18/2018	31.6-41.6	30.38	32.5	0.500 U
MW-10	4/18/2018	31.52-41.52	33.21	35	0.716
MW-11	4/19/2018	31.56-41.56	34.04	36	2.97
MW-12	4/18/2018	35.7-45.7	38.38	40.5	0.500 U
MW-13	4/18/2018	34.58-44.58	34.86	37	0.500 U
MW-14	4/20/2018	27.6-37.6	30.69	33	1.27
MW-15	4/19/2018	37.14-47.14	38.61	41	1.13
MW-16	4/19/2018	29.45-44.65	36.83	38	1.33
DC-3	4/19/2018	42.32-47.32	39.34	43.5	1.23
DC-4	4/18/2018	43.36-48.36	38.61	41	0.500 U
DC-7	4/20/2018	34.35-39.35	30.03	35.5	12.8
DC-8	4/18/2018	36.64-41.64	33.62	37.5	13.0
DC-10A	4/20/2018	32.01-37.01	34.02	36	4.67
DC-11	4/19/2018	31.6-41.6	37.30	39.5	1.21
DC-12	4/20/2018	31.7-41.7	37.54	39.5	1.50
DC-13	4/20/2018	31.7-41.7	36.66	38.5	2.87
DC-14	4/19/2018	34.4-44.4	36.24	38	5.14
DC-15	4/18/2018	30.7-40.7	34.81	36	9.88
DC-17	4/20/2018	29.81-39.81	31.73	34	10.1
DC-18	4/20/2018	31.58-41.58	36.06	38	3.31
DC-20	4/19/2018	33.8-43.8	37.44	39.5	1.14
KMW-2	4/18/2018	29.91-39.91	33.47	35.5	0.500 U
KMW-3	4/20/2018	24.6-34.6	24.60	26.5	5.37
KMW-7	4/19/2018	28.78-43.78	29.34	35.5	1.59
KMW-8	4/19/2018	28.69-43.69	35.79	37.5	5.74
KMW-9	4/18/2018	33.5-43.5	36.56	38.5	1.02

Table 7

**Tetrachloroethene Concentrations in Groundwater
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Screened Interval Depth (feet TOC)	Depth to Water (feet TOC)	Pump Intake Depth (feet TOC)	PCE (µg/l)
MTCA Method A Ground Water Cleanup Level					5
July 2018 Event					
MW-2	7/17/2018	32.22-42.22	35.17	37	1.78
MW-7	7/19/2018	34.47-44.47	37.02	38.5	6.60
DC-7	7/20/2018	34.35-39.35	30.51	35.5	12.3
DC-8	7/18/2018	36.64-41.64	33.92	38	11.7
DC-10A	7/17/2018	32.01-37.01	34.52	36	2.68
DC-14	7/19/2018	34.4-44.4	36.54	38.5	5.40
DC-15	7/18/2018	30.7-40.7	35.08	37	7.82
DC-17	7/20/2018	29.81-39.81	32.20	34	8.62
KMW-3	7/19/2018	24.6-34.6	25.08	26.5	5.18
KMW-8	7/19/2018	28.69-43.69	36.13	38	5.17
October 2018 Event					
MW-2	10/18/2018	32.22-42.22	36.27	39	1.17
MW-3	10/16/2018	35.67-45.67	38.67	40.9	0.500 U
MW-4	10/16/2018	33.45-43.45	38.02	40.2	0.500 U
MW-7	10/23/2018	34.47-44.47	38.14	41	5.79
MW-9	10/17/2018	31.6-41.6	31.44	34.0	0.500 U
MW-10	10/18/2018	31.52-41.52	34.69	36.8	0.500 U
MW-11	10/19/2018	31.56-41.56	35.61	38	2.44
MW-12	10/16/2018	35.7-45.7	39.96	41.9	0.500 U
MW-13	10/16/2018	34.58-44.58	36.4	38.2	0.500 U
MW-14	10/23/2018	27.6-37.6	32.25	35	0.500 U
MW-15	10/18/2018	37.14-47.14	40.1	42.5	0.500 U
MW-16	10/18/2018	29.45-44.65	38.32	40	0.912
DC-3	10/17/2018	42.32-47.32	40.81	44.8	0.500 U
DC-4	10/17/2018	43.36-48.36	40.08	44.2	0.500 U
DC-7	10/23/2018	34.35-39.35	31.61	36.5	11.6
DC-8	10/18/2018	36.64-41.64	34.98	38.5	12.1
DC-10A	--	32.01-37.01	35.67	--	--
DC-11	10/18/2018	31.6-41.6	38.78	40.7	1.25
DC-12	10/19/2018	31.7-41.7	39.03	39.9	1.66
DC-13	10/19/2018	31.7-41.7	38.14	40.3	2.74
DC-14	--	34.4-44.4	--	--	--
DC-15	10/18/2018	30.7-40.7	36.17	38	7.65
DC-17	10/19/2018	29.81-39.81	33.33	36	8.24
DC-18	10/19/2018	31.58-41.58	37.61	39.6	2.79
DC-20	10/19/2018	33.8-43.8	38.93	40.9	0.885
KMW-2	10/16/2018	29.91-39.91	34.95	36.6	0.500 U
KMW-3	10/23/2018	24.6-34.6	26.19	29.0	5.41
KMW-7	10/23/2018	28.78-43.78	30.79	33.5	0.711
KMW-8	10/23/2018	28.69-43.69	37.22	40.0	5.26
KMW-9	10/18/2018	33.5-43.5	38.02	39.9	0.500 U

Table 7

**Tetrachloroethene Concentrations in Groundwater
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	Screened Interval Depth (feet TOC)	Depth to Water (feet TOC)	Pump Intake Depth (feet TOC)	PCE (µg/l)
MTCA Method A Ground Water Cleanup Level					5
<p><u>NOTES:</u></p> <ol style="list-style-type: none"> 1. Tetrachloroethene (PCE) concentrations in micrograms per liter (µg/l). 2. Groundwater samples analyzed using USEPA Method 8260C. 3. U = concentration not detected at or above the laboratory practical quantitation limit (PQL). 4. J = the identification of the analyte is acceptable; the reported value is an estimate 5. Detected concentrations are shown in bold. 6. Concentrations exceeding the cleanup level are bold and shaded. 7. Screened interval depth is estimated using from surveyed elevations (top of casing elevations, ground surface, and monument rim) and field measurements at the time of drilling. 8. Pump intake depth and depth to water is measured in feet below the top of casing (TOC). 9. Screened intervals completely submerged are shaded. 10. '-- = not sampled DC-10A: water level was too low to collect sample with the bladder pump in October. DC-14: monument was not found in October due to recent utility construction activity nearby. 					

Table 8

**Tetrachloroethene in Soil – April 2018 Supplemental Investigation
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Boring ID	Depth (ft bgs)	Date	PCE (mg/kg)
MTCA Method A Cleanup Level			0.050
SB-10	6	4/16/2018	0.193
SB-10	10	4/16/2018	0.0359 U
SB-11	8	4/16/2018	0.0347 U
SB-11	15	4/16/2018	0.0353 U
SB-12	1	4/16/2018	0.0348 U
SB-12	5	4/16/2018	0.138
SB-12	10	4/16/2018	0.0325 U
SB-13	5	4/16/2018	0.0350 U
SB-13	10	4/16/2018	0.128
SB-13	20	4/16/2018	6.03
SB-13	29	4/16/2018	0.110
SB-13b	36	4/25/2018	0.0829
SB-13b	40	4/25/2018	0.128
SB-14	5	4/16/2018	0.0317 U
SB-14	10	4/16/2018	0.0298 U
SB-14	20	4/16/2018	0.0253 U
SB-14	30	4/16/2018	0.109
SB-14a	40	4/25/2018	0.105
SB-15	10	4/17/2018	0.0334 U
SB-15	20	4/17/2018	0.0781
SB-15	30	4/17/2018	0.0645
SB-15	40	4/17/2018	0.132
SB-16	20	4/17/2018	0.0366 U
SB-16	30	4/17/2018	0.0505
SB-16	40	4/17/2018	0.0575
SB-17	20	4/18/2018	0.0435
SB-17	30	4/18/2018	0.0281 U
SB-17	40	4/18/2018	0.0286
SB-18	30	4/18/2018	0.0429
SB-18	40	4/18/2018	0.0284

Table 8

**Tetrachloroethene in Soil – April 2018 Supplemental Investigation
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Boring ID	Depth (ft bgs)	Date	PCE (mg/kg)
MTCA Method A Cleanup Level			0.050
SB-26	2	4/24/2018	0.0960
SB-26	4	4/24/2018	0.0292 U
SB-26	10	4/24/2018	0.0433 U
SB-26	20	4/24/2018	0.0763
SB-26	30	4/24/2018	0.0647
SB-26	40	4/24/2018	0.0340 U
SB-27	2	4/24/2018	0.0800
SB-27	4	4/24/2018	0.0426 U
SB-27	10	4/24/2018	0.0339 U
SB-27	20	4/24/2018	0.0942
SB-27	30	4/24/2018	0.118
SB-27	40	4/24/2018	0.169
SB-28	20	4/24/2018	0.0323 U
SB-28	30	4/24/2018	0.0784
SB-28	40	4/24/2018	0.0325 U
SB-30	30	4/25/2018	0.0395 U
SB-30	35	4/25/2018	0.142
SB-30	40	4/25/2018	0.0665
NOTES:			
1. Depths measured from ground surface.			
2. Tetrachloroethene (PCE) concentrations in milligrams per kilogram (mg/kg).			
3. Soil samples analyzed using USEPA Method 8260C.			
4. U = concentration not detected at or above the laboratory practical quantitation limit (PQL).			
5. Detected concentrations are shown in bold .			
6. Concentrations exceeding the PCE MTCA Method A cleanup level of 0.050 mg/kg are bold and shaded .			

Table 9

**Tetrachloroethene in Groundwater – April 2018 Supplemental Investigation
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Boring ID	Sample Depth (ft)	Depth to Water (ft)	Date	PCE (µg/L)	Other Detected VOCs (µg/L)
MTCA Method A Cleanup Level				5.0	
SB-19	36-40	35.2	4/19/2018	14.8	
SB-20	36-40	36.2	4/19/2018	10.8	
SB-21	36-40	35.8	4/19/2018	8.18	
SB-22	36-40	36	4/20/2018	8.91	
SB-23	36-40	35.8	4/20/2018	6.78	
SB-24	36-40	35.8	4/23/2018	10.8	
SB-25	36-40	35.4	4/23/2018	1.65	m,p-Xylene = 1.64 o-Xylene = 1.24
SB-29	36-40	36	4/24/2018	13.7	

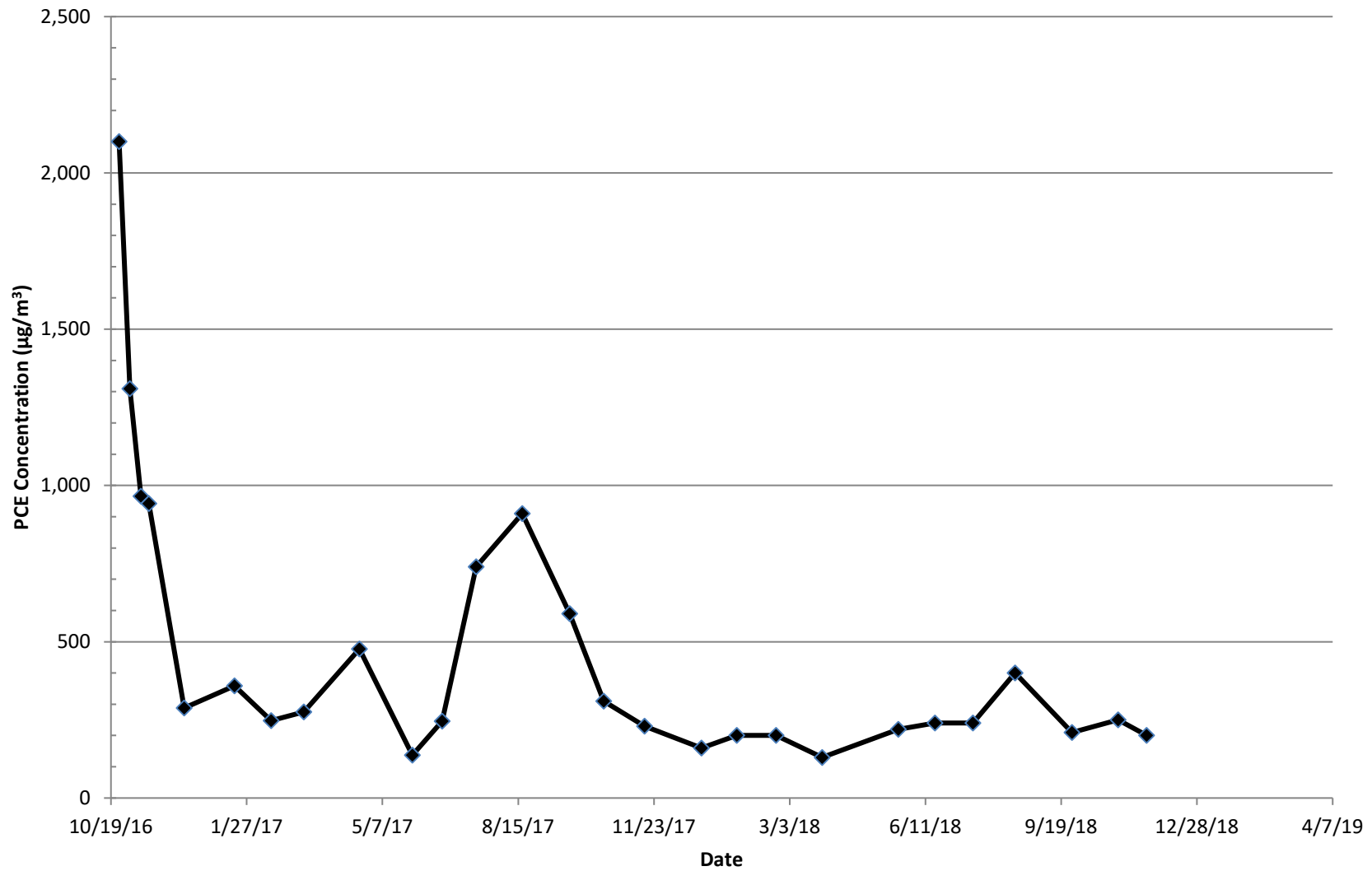
NOTES:

- Groundwater samples collected from temporary well screen.
- Depths measured from ground surface.
- Tetrachloroethene (PCE) concentrations in micrograms per liter (µg/l).
- Groundwater samples analyzed using USEPA Method 8260C.
- U = concentration not detected at or above the laboratory practical quantitation limit (PQL).
- J = the identification of the analyte is acceptable; the reported value is an estimate
- Detected concentrations are shown in **bold**.
- Concentrations exceeding the cleanup level are **bold and shaded**.
- Xylenes in SB-25 were the only other detected volatile organic compounds (VOCs) besides PCE. The xylene concentrations in SB-25 are well below the MTCA Method A cleanup level (1,000 µg/L).

ATTACHMENT A
O&M CHARTS AND SUMMARY TABLES

- Chart A1 – SVE Discharge PCE Concentrations
- Chart A2 – Cumulative PCE Removed
- Table A3 – Historical AVE Leg Analytical Results
- Table A4 – Air Sparging Groundwater Monitoring Parameters

Attachment A1
SVE Discharge PCE Concentrations
Manhattan Village/Harris Properties



**Table A3
Historical SVE Leg Analytical Results
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

SVE Well	Screen Depth (ft bgs)	PCE Concentration						
		06/04/10	01/26/11	12/09/11	11/05/13	12/12/16	12/28/17	09/27/18
SVE-1	10-35	3,900	1,300	1,600	1,010	499	120	160
SVE-2	10-35	740	1,600	1,300	977	374	210	240
SVE-3	10-30	7,100	2,900	2,500	1,920	338	50	750
SVE-4	10-30	330	870	910	412	332	59	130
SVE-5	10-30	5,100	2,500	1,200	499	716	170	270
SVE-6	5-10	17,000	4,400	2,900	827	1,490	150	950
SVE-7	10-30	3,300	1,700	1,400	723	1,130	350	400
SVE-8	10-30	590	800	6	448	703	320	210
SVE-9	10-30	880	740	750	325	379	170	170
SVE-10	10-30	1,300	1,100	1,300	709	398	290	270
SVE-11A	5-19.98	--	--	--	--	136	68	100
SVE-11B	20-35	--	--	--	--	149	24	68
SVE-12A	5-19.98	--	--	--	--	217	310	110
SVE-12B	20-35	--	--	--	--	295	54	160
SVE-13A	5-19.98	--	--	--	--	145	36	94
SVE-13B	20-35	--	--	--	--	241	180	96
SVE-14	19.63-34.63	--	--	--	--	144	120	110
SVE-15	20.61-34.96	--	--	--	--	373	190	170
SVE-16	20.49-34.79	--	--	--	--	587	310	330
SVE-17	19.91-29.91	--	--	--	--	65.1	5.9	3.3
SVE-18	19.79-29.79	--	--	--	--	380	59	110
SVE-19	19.99-29.99	--	--	--	--	147	39	71

Notes:

1. Concentrations in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
MW-2	09/21/16	308.34	32.22-42.22	35.65	272.69	--
MW-2	10/22/16	308.34	32.22-42.22	35.95	272.39	9.0
MW-2	10/25/16	308.34	32.22-42.22	35.91	272.43	7.0
MW-2	11/02/16	308.34	32.22-42.22	36.00	272.34	8.6
MW-2	11/10/16	308.34	32.22-42.22	35.99	272.35	7.9
MW-2	11/16/16	308.34	32.22-42.22	36.07	272.27	8.0
MW-2	12/12/16	308.34	32.22-42.22	36.02	272.32	8.1
MW-2	02/14/17	308.34	32.22-42.22	37.01	271.33	7.2
MW-2	03/10/17	308.34	32.22-42.22	35.00	273.34	8.7
MW-2	04/20/17	308.34	32.22-42.22	33.90	274.44	--
MW-2	05/29/17	308.34	32.22-42.22	34.20	274.14	8.9
MW-2	06/20/17	308.34	32.22-42.22	35.31	273.03	7.0
MW-2	07/15/17	308.34	32.22-42.22	33.98	274.36	5.6
MW-2	08/18/17	308.34	32.22-42.22	34.41	273.93	7.4
MW-2	09/22/17	308.34	32.22-42.22	34.99	273.35	8.4
MW-2	10/17/17	308.34	32.22-42.22	35.38	272.96	9.5
MW-2	11/16/17	308.34	32.22-42.22	37.81	270.53	9.7
MW-2	12/27/17	308.34	32.22-42.22	35.72	272.62	8.0
MW-2	01/23/18	308.34	32.22-42.22	35.49	272.85	7.9
MW-2	01/24/18	308.34	32.22-42.22	35.61	272.73	9.2
MW-2	02/21/18	308.34	32.22-42.22	35.01	273.33	8.3
MW-2	03/27/18	308.34	32.22-42.22	34.82	273.52	7.9
MW-2	04/17/18	308.34	32.22-42.22	34.93	273.41	6.4
MW-2	05/21/18	308.34	32.22-42.22	34.71	273.63	9.0
MW-2	06/18/18	308.34	32.22-42.22	34.88	273.46	8.0
MW-2	07/16/18	308.34	32.22-42.22	35.19	273.15	8.6
MW-2	10/15/18	308.34	32.22-42.22	36.26	272.08	8.7
MW-2	10/31/18	308.34	32.22-42.22	36.42	271.92	8.7
MW-2	11/21/18	308.34	32.22-42.22	36.69	271.65	8.6
MW-3	09/21/16	311.41	35.67-45.67	37.91	273.50	--
MW-3	10/22/16	311.41	35.67-45.67	38.22	273.19	9.6
MW-3	10/25/16	311.41	35.67-45.67	38.21	273.20	11.0
MW-3	11/02/16	311.41	35.67-45.67	38.29	273.12	11.2
MW-3	11/10/16	311.41	35.67-45.67	38.25	273.16	10.9
MW-3	11/16/16	311.41	35.67-45.67	38.35	273.06	11.0
MW-3	12/12/16	311.41	35.67-45.67	38.32	273.09	10.8
MW-3	02/14/17	311.41	35.67-45.67	37.91	273.50	8.7
MW-3	03/10/17	311.41	35.67-45.67	37.15	274.26	10.9
MW-3	04/20/17	311.41	35.67-45.67	36.00	275.41	10.9
MW-3	05/29/17	311.41	35.67-45.67	35.55	275.86	11.0
MW-3	06/20/17	311.41	35.67-45.67	35.95	275.46	11.1
MW-3	07/15/17	311.41	35.67-45.67	36.22	275.19	12.8
MW-3	08/18/17	311.41	35.67-45.67	36.66	274.75	11.8
MW-3	09/22/17	311.41	35.67-45.67	37.30	274.11	9.0
MW-3	10/17/17	311.41	35.67-45.67	37.65	273.76	9.8
MW-3	11/16/17	311.41	35.67-45.67	37.92	273.49	9.8

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
MW-3	12/27/17	311.41	35.67-45.67	37.98	273.43	9.7
MW-3	01/23/18	311.41	35.67-45.67	37.55	273.86	11.8
MW-3	01/24/18	311.41	35.67-45.67	37.33	274.08	12.2
MW-3	02/21/18	311.41	35.67-45.67	37.03	274.38	10.4
MW-3	03/27/18	311.41	35.67-45.67	37.15	274.26	12.7
MW-3	04/17/18	311.41	35.67-45.67	37.24	274.17	9.6
MW-3	05/21/18	311.41	35.67-45.67	38.96	272.45	13.1
MW-3	06/18/18	311.41	35.67-45.67	37.01	274.40	12.0
MW-3	07/16/18	311.41	35.67-45.67	37.50	273.91	13.2
MW-3	10/15/18	311.41	35.67-45.67	38.68	272.73	12.1
MW-3	10/31/18	311.41	35.67-45.67	38.81	272.60	12.5
MW-3	11/21/18	311.41	35.67-45.67	39.19	272.22	11.3
MW-4	09/21/16	310.47	33.45-43.45	37.26	273.21	--
MW-4	10/22/16	310.47	33.45-43.45	37.55	272.92	9.9
MW-4	10/25/16	310.47	33.45-43.45	37.40	273.07	11.5
MW-4	11/02/16	310.47	33.45-43.45	37.52	272.95	11.1
MW-4	11/10/16	310.47	33.45-43.45	37.45	273.02	11.1
MW-4	11/16/16	310.47	33.45-43.45	37.59	272.88	10.7
MW-4	12/12/16	310.47	33.45-43.45	37.48	272.99	10.7
MW-4	01/18/17	310.47	33.45-43.45	37.42	273.05	11.4
MW-4	02/14/17	310.47	33.45-43.45	36.90	273.57	9.2
MW-4	03/10/17	310.47	33.45-43.45	35.91	274.56	11.3
MW-4	04/20/17	310.47	33.45-43.45	34.11	276.36	--
MW-4	05/29/17	310.47	33.45-43.45	32.80	277.67	11.1
MW-4	06/20/17	310.47	33.45-43.45	35.35	275.12	10.2
MW-4	07/15/17	310.47	33.45-43.45	35.55	274.92	12.1
MW-4	08/18/17	310.47	33.45-43.45	35.99	274.48	11.0
MW-4	09/22/17	310.47	33.45-43.45	36.61	273.86	10.1
MW-4	10/17/17	310.47	33.45-43.45	37.00	273.47	11.8
MW-4	11/16/17	310.47	33.45-43.45	37.22	273.25	10.8
MW-4	12/27/17	310.47	33.45-43.45	37.28	273.19	10.2
MW-4	01/23/18	310.47	33.45-43.45	36.55	273.92	11.8
MW-4	01/24/18	310.47	33.45-43.45	37.04	273.43	12.5
MW-4	02/21/18	310.47	33.45-43.45	36.11	274.36	10.4
MW-4	03/27/18	310.47	33.45-43.45	35.91	274.56	12.2
MW-4	04/17/18	310.47	33.45-43.45	36.59	273.88	8.5
MW-4	05/21/18	310.47	33.45-43.45	35.11	275.36	12.8
MW-4	06/18/18	310.47	33.45-43.45	36.64	273.83	12.3
MW-4	07/16/18	310.47	33.45-43.45	35.85	274.62	12.7
MW-4	10/15/18	310.47	33.45-43.45	38.01	272.46	12.3
MW-4	10/31/18	310.47	33.45-43.45	37.94	272.53	11.7
MW-4	11/21/18	310.47	33.45-43.45	38.80	271.67	11.5

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
MW-5	01/24/18	310.84	35.6-45.6	38.60	272.24	8.7
MW-5	04/17/18	310.84	35.6-45.6	37.71	273.13	6.0
MW-5	07/18/18	310.84	35.6-45.6	37.89	272.95	8.8
MW-5	10/15/18	310.84	35.6-45.6	38.92	271.92	8.5
MW-6	01/24/18	304.14	34.46-44.46	36.08	268.06	5.6
MW-6	04/17/18	304.14	34.46-44.46	35.61	268.53	3.4
MW-6	07/18/18	304.14	34.46-44.46	35.71	268.43	5.2
MW-6	10/15/18	304.14	34.46-44.46	36.58	267.56	5.7
MW-7	01/24/18	302.64	34.47-44.47	37.33	265.31	9.1
MW-7	04/17/18	302.64	34.47-44.47	36.79	265.85	6.8
MW-7	07/18/18	302.64	34.47-44.47	37.00	265.64	9.5
MW-7	10/23/18	302.64	34.47-44.47	38.15	264.49	6.6
MW-8	01/24/18	280.68	12.71-22.71	10.80	269.88	8.0
MW-8	04/17/18	280.68	12.71-22.71	10.50	270.18	5.6
MW-8	07/18/18	280.68	12.71-22.71	11.22	269.46	6.6
MW-8	10/16/18	280.68	12.71-22.71	12.09	268.59	7.3
MW-9	01/24/18	284.97	31.6-41.6	30.84	254.13	8.8
MW-9	04/17/18	284.97	31.6-41.6	30.43	254.54	6.1
MW-9	07/18/18	284.97	31.6-41.6	30.60	254.37	0.3
MW-9	10/16/18	284.97	31.6-41.6	31.40	253.57	4.2
MW-10	09/21/16	306.71	31.52-41.52	33.89	272.82	--
MW-10	10/22/16	306.71	31.52-41.52	34.25	272.46	11.0
MW-10	10/25/16	306.71	31.52-41.52	34.25	272.46	10.0
MW-10	11/02/16	306.71	31.52-41.52	34.33	272.38	11.7
MW-10	11/10/16	306.71	31.52-41.52	34.31	272.40	11.3
MW-10	11/16/16	306.71	31.52-41.52	34.41	272.30	11.9
MW-10	12/12/16	306.71	31.52-41.52	34.31	272.40	11.8
MW-10	01/18/17	306.71	31.52-41.52	34.25	272.46	8.2
MW-10	02/14/17	306.71	31.52-41.52	33.98	272.73	10.1
MW-10	03/10/17	306.71	31.52-41.52	33.21	273.50	11.4
MW-10	04/20/17	306.71	31.52-41.52	32.11	274.60	--
MW-10	05/29/17	306.71	31.52-41.52	32.27	274.44	11.1
MW-10	06/20/17	306.71	31.52-41.52	32.75	273.96	8.5
MW-10	07/15/17	306.71	31.52-41.52	32.35	274.36	13.4
MW-10	08/18/17	306.71	31.52-41.52	32.82	273.89	13.6
MW-10	09/22/17	306.71	31.52-41.52	33.41	273.30	12.8
MW-10	10/17/17	306.71	31.52-41.52	33.80	272.91	12.6
MW-10	11/16/17	306.71	31.52-41.52	35.01	271.70	9.2
MW-10	12/27/17	306.71	31.52-41.52	34.17	272.54	11.3
MW-10	01/23/18	306.71	31.52-41.52	33.78	272.93	12.0
MW-10	01/24/18	306.71	31.52-41.52	33.82	272.89	12.7
MW-10	02/21/18	306.71	31.52-41.52	34.20	272.51	10.6

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
MW-10	03/27/18	306.71	31.52-41.52	33.29	273.42	11.3
MW-10	04/17/18	306.71	31.52-41.52	33.30	273.41	9.4
MW-10	05/21/18	306.71	31.52-41.52	34.07	272.64	11.6
MW-10	06/18/18	306.71	31.52-41.52	32.98	273.73	11.0
MW-10	07/16/18	306.71	31.52-41.52	33.61	273.10	12.4
MW-10	10/15/18	306.71	31.52-41.52	34.66	272.05	12.9
MW-10	10/31/18	306.71	31.52-41.52	34.83	271.88	10.4
MW-10	11/21/18	306.71	31.52-41.52	35.16	271.55	10.9
MW-11	09/21/16	307.62	31.56-41.56	34.82	272.80	--
MW-11	10/22/16	307.62	31.56-41.56	35.31	272.31	9.7
MW-11	10/25/16	307.62	31.56-41.56	35.21	272.41	9.3
MW-11	11/02/16	307.62	31.56-41.56	35.24	272.38	10.5
MW-11	11/10/16	307.62	31.56-41.56	35.19	272.43	10.4
MW-11	11/16/16	307.62	31.56-41.56	35.32	272.30	9.7
MW-11	12/12/16	307.62	31.56-41.56	35.28	272.34	9.6
MW-11	01/18/17	307.62	31.56-41.56	35.30	272.32	10.1
MW-11	02/14/17	307.62	31.56-41.56	34.96	272.66	9.2
MW-11	03/10/17	307.62	31.56-41.56	34.20	273.42	9.8
MW-11	04/20/17	307.62	31.56-41.56	33.10	274.52	--
MW-11	05/29/17	307.62	31.56-41.56	33.97	273.65	9.7
MW-11	06/20/17	307.62	31.56-41.56	32.97	274.65	8.5
MW-11	07/15/17	307.62	31.56-41.56	33.25	274.37	11.5
MW-11	08/18/17	307.62	31.56-41.56	33.71	273.91	11.8
MW-11	09/22/17	307.62	31.56-41.56	34.30	273.32	11.3
MW-11	10/17/17	307.62	31.56-41.56	34.84	272.78	10.7
MW-11	11/16/17	307.62	31.56-41.56	34.06	273.56	12.8
MW-11	12/27/17	307.62	31.56-41.56	35.05	272.57	11.2
MW-11	01/23/18	307.62	31.56-41.56	35.73	271.89	10.9
MW-11	01/24/18	307.62	31.56-41.56	34.77	272.85	12.3
MW-11	02/21/18	307.62	31.56-41.56	33.21	274.41	11.1
MW-11	03/27/18	307.62	31.56-41.56	34.18	273.44	10.5
MW-11	04/17/18	307.62	31.56-41.56	34.21	273.41	8.8
MW-11	05/21/18	307.62	31.56-41.56	33.11	274.51	13.4
MW-11	06/18/18	307.62	31.56-41.56	31.99	275.63	11.0
MW-11	07/16/18	307.62	31.56-41.56	34.56	273.06	12.1
MW-11	10/19/18	307.62	31.56-41.56	35.61	272.01	12.8
MW-11	10/31/18	307.62	31.56-41.56	35.92	271.70	11.4
MW-11	11/21/18	307.62	31.56-41.56	37.04	270.58	10.9
MW-12	09/21/16	312.80	35.7-45.7	39.19	273.61	--
MW-12	10/22/16	312.80	35.7-45.7	39.55	273.25	9.3
MW-12	10/25/16	312.80	35.7-45.7	--	--	--
MW-12	11/02/16	312.80	35.7-45.7	39.58	273.22	11.1
MW-12	11/10/16	312.80	35.7-45.7	39.52	273.28	11.3
MW-12	11/16/16	312.80	35.7-45.7	39.65	273.15	11.2
MW-12	12/12/16	312.80	35.7-45.7	39.80	273.00	11.1

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
MW-12	01/18/17	312.80	35.7-45.7	39.21	273.59	12.6
MW-12	02/14/17	312.80	35.7-45.7	39.21	273.59	8.8
MW-12	03/10/17	312.80	35.7-45.7	38.47	274.33	11.2
MW-12	04/20/17	312.80	35.7-45.7	37.20	275.60	--
MW-12	05/29/17	312.80	35.7-45.7	36.92	275.88	11.0
MW-12	06/20/17	312.80	35.7-45.7	37.20	275.60	10.3
MW-12	07/15/17	312.80	35.7-45.7	37.42	275.38	10.1
MW-12	08/18/17	312.80	35.7-45.7	38.00	274.80	9.6
MW-12	09/22/17	312.80	35.7-45.7	38.52	274.28	8.9
MW-12	10/17/17	312.80	35.7-45.7	38.90	273.90	9.6
MW-12	11/16/17	312.80	35.7-45.7	39.36	273.44	9.1
MW-12	12/27/17	312.80	35.7-45.7	39.25	273.55	8.8
MW-12	01/23/18	312.80	35.7-45.7	38.89	273.91	11.7
MW-12	01/24/18	312.80	35.7-45.7	39.01	273.79	13.2
MW-12	02/21/18	312.80	35.7-45.7	38.21	274.59	9.9
MW-12	03/27/18	312.80	35.7-45.7	38.50	274.30	12.0
MW-12	04/17/18	312.80	35.7-45.7	38.49	274.31	9.5
MW-12	05/21/18	312.80	35.7-45.7	38.23	274.57	13.0
MW-12	06/18/18	312.80	35.7-45.7	38.59	274.21	12.1
MW-12	07/16/18	312.80	35.7-45.7	38.80	274.00	12.5
MW-12	10/15/18	312.80	35.7-45.7	39.94	272.86	13.1
MW-12	10/31/18	312.80	35.7-45.7	40.03	272.77	11.9
MW-12	11/21/18	312.80	35.7-45.7	40.45	272.35	11.7
MW-13	09/21/16	308.75	34.58-44.58	35.66	273.09	--
MW-13	10/22/16	308.75	34.58-44.58	36.00	272.75	10.6
MW-13	10/25/16	308.75	34.58-44.58	35.95	272.80	10.4
MW-13	11/02/16	308.75	34.58-44.58	36.03	272.72	10.1
MW-13	11/10/16	308.75	34.58-44.58	36.00	272.75	9.6
MW-13	11/16/16	308.75	34.58-44.58	36.06	272.69	9.7
MW-13	12/12/16	308.75	34.58-44.58	36.00	272.75	9.6
MW-13	01/18/17	308.75	34.58-44.58	36.15	272.60	10.3
MW-13	02/14/17	308.75	34.58-44.58	35.60	273.15	7.0
MW-13	03/10/17	308.75	34.58-44.58	34.85	273.90	9.8
MW-13	04/20/17	308.75	34.58-44.58	33.80	274.95	--
MW-13	05/29/17	308.75	34.58-44.58	33.44	275.31	10.0
MW-13	06/20/17	308.75	34.58-44.58	33.85	274.90	9.4
MW-13	07/15/17	308.75	34.58-44.58	34.02	274.73	12.1
MW-13	08/18/17	308.75	34.58-44.58	34.48	274.27	8.8
MW-13	09/22/17	308.75	34.58-44.58	35.11	273.64	10.2
MW-13	10/17/17	308.75	34.58-44.58	35.50	273.25	9.3
MW-13	11/16/17	308.75	34.58-44.58	36.40	272.35	10.3
MW-13	12/27/17	308.75	34.58-44.58	35.72	273.03	9.8
MW-13	01/23/18	308.75	34.58-44.58	35.38	273.37	9.4
MW-13	01/24/18	308.75	34.58-44.58	35.45	273.30	10.1
MW-13	02/21/18	308.75	34.58-44.58	35.11	273.64	8.3
MW-13	03/27/18	308.75	34.58-44.58	34.56	274.19	8.8

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
MW-13	04/17/18	308.75	34.58-44.58	34.98	273.77	6.1
MW-13	05/21/18	308.75	34.58-44.58	34.69	274.06	11.2
MW-13	06/18/18	308.75	34.58-44.58	35.10	273.65	9.8
MW-13	07/16/18	308.75	34.58-44.58	35.28	273.47	10.8
MW-13	10/15/18	308.75	34.58-44.58	36.40	272.35	11.6
MW-13	10/31/18	308.75	34.58-44.58	38.56	270.19	11.9
MW-13	11/21/18	308.75	34.58-44.58	36.89	271.86	11.4
MW-14	01/24/18	303.82	27.6-37.6	31.33	272.49	11.4
MW-14	04/17/18	303.82	27.6-37.6	30.84	272.98	8.4
MW-14	07/18/18	303.82	27.6-37.6	--	--	--
MW-14	10/15/18	303.82	27.6-37.6	32.14	271.68	11.3
MW-15	09/21/16	312.44	37.14-47.14	39.38	273.06	--
MW-15	10/22/16	312.44	37.14-47.14	39.75	272.69	9.2
MW-15	10/25/16	312.44	37.14-47.14	39.72	272.72	8.0
MW-15	11/02/16	312.44	37.14-47.14	39.81	272.63	8.9
MW-15	11/10/16	312.44	37.14-47.14	39.77	272.67	8.8
MW-15	11/16/16	312.44	37.14-47.14	39.90	272.54	9.0
MW-15	12/12/16	312.44	37.14-47.14	39.85	272.59	8.9
MW-15	01/18/17	312.44	37.14-47.14	39.85	272.59	9.5
MW-15	02/14/17	312.44	37.14-47.14	40.55	271.89	7.0
MW-15	03/10/17	312.44	37.14-47.14	38.79	273.65	9.0
MW-15	04/20/17	312.44	37.14-47.14	37.71	274.73	--
MW-15	05/29/17	312.44	37.14-47.14	38.22	274.22	9.1
MW-15	06/20/17	312.44	37.14-47.14	37.61	274.83	7.7
MW-15	07/15/17	312.44	37.14-47.14	37.77	274.67	8.4
MW-15	08/18/17	312.44	37.14-47.14	38.25	274.19	8.5
MW-15	09/22/17	312.44	37.14-47.14	38.78	273.66	7.9
MW-15	10/17/17	312.44	37.14-47.14	39.14	273.30	8.0
MW-15	11/16/17	312.44	37.14-47.14	39.49	272.95	7.8
MW-15	12/27/17	312.44	37.14-47.14	39.55	272.89	8.5
MW-15	01/23/18	312.44	37.14-47.14	39.29	273.15	8.3
MW-15	01/24/18	312.44	37.14-47.14	39.31	273.13	9.2
MW-15	02/21/18	312.44	37.14-47.14	39.82	272.62	7.4
MW-15	03/27/18	312.44	37.14-47.14	38.69	273.75	7.1
MW-15	04/17/18	312.44	37.14-47.14	38.75	273.69	5.6
MW-15	05/21/18	312.44	37.14-47.14	38.53	273.91	8.4
MW-15	06/18/18	312.44	37.14-47.14	38.81	273.63	8.1
MW-15	07/16/18	312.44	37.14-47.14	39.06	273.38	8.2
MW-15	10/15/18	312.44	37.14-47.14	40.08	272.36	8.5
MW-15	10/31/18	312.44	37.14-47.14	40.24	272.20	8.8
MW-15	11/21/18	312.44	37.14-47.14	40.51	271.93	11.2

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
MW-16	09/21/16	310.37	29.45-44.65	37.50	272.87	--
MW-16	10/22/16	310.37	29.45-44.65	38.00	272.37	9.2
MW-16	10/25/16	310.37	29.45-44.65	37.95	272.42	7.7
MW-16	11/02/16	310.37	29.45-44.65	38.03	272.34	8.6
MW-16	11/10/16	310.37	29.45-44.65	38.01	272.36	8.3
MW-16	11/16/16	310.37	29.45-44.65	38.10	272.27	8.8
MW-16	12/12/16	310.37	29.45-44.65	38.19	272.18	8.8
MW-16	01/18/17	310.37	29.45-44.65	37.91	272.46	12.0
MW-16	02/14/17	310.37	29.45-44.65	37.72	272.65	8.0
MW-16	03/10/17	310.37	29.45-44.65	37.01	273.36	9.0
MW-16	04/20/17	310.37	29.45-44.65	35.90	274.47	--
MW-16	05/29/17	310.37	29.45-44.65	36.41	273.96	9.3
MW-16	06/20/17	310.37	29.45-44.65	35.78	274.59	8.1
MW-16	07/15/17	310.37	29.45-44.65	36.05	274.32	13.0
MW-16	08/18/17	310.37	29.45-44.65	36.48	273.89	13.2
MW-16	09/22/17	310.37	29.45-44.65	37.03	273.34	12.4
MW-16	10/17/17	310.37	29.45-44.65	37.40	272.97	12.0
MW-16	11/16/17	310.37	29.45-44.65	37.72	272.65	12.2
MW-16	12/27/17	310.37	29.45-44.65	37.77	272.60	12.3
MW-16	01/23/18	310.37	29.45-44.65	37.30	273.07	11.3
MW-16	01/24/18	310.37	29.45-44.65	37.53	272.84	12.7
MW-16	02/21/18	310.37	29.45-44.65	37.03	273.34	10.4
MW-16	03/27/18	310.37	29.45-44.65	36.91	273.46	10.4
MW-16	04/17/18	310.37	29.45-44.65	36.99	273.38	8.9
MW-16	05/21/18	310.37	29.45-44.65	36.79	273.58	11.1
MW-16	06/18/18	310.37	29.45-44.65	36.61	273.76	11.1
MW-16	07/16/18	310.37	29.45-44.65	37.28	273.09	10.6
MW-16	10/15/18	310.37	29.45-44.65	38.31	272.06	10.9
MW-16	10/31/18	310.37	29.45-44.65	38.48	271.89	10.9
MW-16	11/21/18	310.37	29.45-44.65	38.59	271.78	10.4
DC-1	09/21/16	312.82	39.5-44.5	39.10	273.72	--
DC-1	10/22/16	312.82	39.5-44.5	39.45	273.37	9.5
DC-1	10/25/16	312.82	39.5-44.5	39.49	273.33	6.5
DC-1	11/02/16	312.82	39.5-44.5	39.49	273.33	9.4
DC-1	11/10/16	312.82	39.5-44.5	39.49	273.33	9.0
DC-1	11/16/16	312.82	39.5-44.5	39.60	273.22	9.0
DC-1	12/12/16	312.82	39.5-44.5	39.59	273.23	9.0
DC-1	01/18/17	312.82	39.5-44.5	39.59	273.23	6.0
DC-1	02/14/17	312.82	39.5-44.5	39.30	273.52	8.0
DC-1	03/10/17	312.82	39.5-44.5	38.59	274.23	7.0
DC-1	04/20/17	312.82	39.5-44.5	37.41	275.41	--
DC-1	05/29/17	312.82	39.5-44.5	36.94	275.88	7.1
DC-1	06/20/17	312.82	39.5-44.5	37.20	275.62	7.3
DC-1	07/15/17	312.82	39.5-44.5	37.40	275.42	7.0
DC-1	08/18/17	312.82	39.5-44.5	37.07	275.75	6.2
DC-1	09/22/17	312.82	39.5-44.5	38.49	274.33	8.8

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
DC-1	10/17/17	312.82	39.5-44.5	38.85	273.97	8.1
DC-1	11/16/17	312.82	39.5-44.5	39.43	273.39	8.0
DC-1	12/27/17	312.82	39.5-44.5	39.30	273.52	9.0
DC-1	01/23/18	312.82	39.5-44.5	39.03	273.79	8.7
DC-1	01/24/18	312.82	39.5-44.5	39.02	273.80	9.0
DC-1	02/21/18	312.82	39.5-44.5	38.51	274.31	7.7
DC-1	03/27/18	312.82	39.5-44.5	38.38	274.44	8.2
DC-1	04/17/18	312.82	39.5-44.5	38.43	274.39	6.6
DC-1	05/21/18	312.82	39.5-44.5	38.81	274.01	8.0
DC-1	06/18/18	312.82	39.5-44.5	38.51	274.31	7.1
DC-1	07/16/18	312.82	39.5-44.5	38.72	274.10	9.1
DC-1	10/15/18	312.82	39.5-44.5	39.80	273.02	9.2
DC-1	10/31/18	312.82	39.5-44.5	39.97	272.85	9.2
DC-1	11/21/18	312.82	39.5-44.5	40.21	272.61	9.2
DC-2	09/21/16	312.92	41.22-46.22	39.82	273.10	--
DC-2	10/22/16	312.92	41.22-46.22	40.20	272.72	9.0
DC-2	10/25/16	312.92	41.22-46.22	40.19	272.73	7.7
DC-2	11/02/16	312.92	41.22-46.22	40.24	272.68	8.4
DC-2	11/10/16	312.92	41.22-46.22	40.21	272.71	8.2
DC-2	11/16/16	312.92	41.22-46.22	40.32	272.60	8.3
DC-2	12/12/16	312.92	41.22-46.22	40.31	272.61	8.4
DC-2	01/18/17	312.92	41.22-46.22	40.35	272.57	9.1
DC-2	02/14/17	312.92	41.22-46.22	40.00	272.92	7.1
DC-2	03/10/17	312.92	41.22-46.22	39.30	273.62	8.5
DC-2	04/20/17	312.92	41.22-46.22	38.22	274.70	--
DC-2	05/29/17	312.92	41.22-46.22	38.78	274.14	8.2
DC-2	06/20/17	312.92	41.22-46.22	38.08	274.84	9.1
DC-2	07/15/17	312.92	41.22-46.22	38.19	274.73	8.6
DC-2	08/18/17	312.92	41.22-46.22	38.67	274.25	7.7
DC-2	09/22/17	312.92	41.22-46.22	39.25	273.67	10.6
DC-2	10/17/17	312.92	41.22-46.22	39.62	273.30	8.0
DC-2	11/16/17	312.92	41.22-46.22	39.94	272.98	8.6
DC-2	12/27/17	312.92	41.22-46.22	40.01	272.91	8.3
DC-2	01/23/18	312.92	41.22-46.22	37.75	275.17	10.4
DC-2	01/24/18	312.92	41.22-46.22	39.76	273.16	8.8
DC-2	02/21/18	312.92	41.22-46.22	38.51	274.41	7.9
DC-2	03/27/18	312.92	41.22-46.22	39.19	273.73	8.1
DC-2	04/17/18	312.92	41.22-46.22	39.20	273.72	7.0
DC-2	05/21/18	312.92	41.22-46.22	39.00	273.92	9.2
DC-2	06/18/18	312.92	41.22-46.22	39.51	273.41	7.1
DC-2	07/16/18	312.92	41.22-46.22	39.51	273.41	8.0
DC-2	10/15/18	312.92	41.22-46.22	40.53	272.39	8.9
DC-2	10/31/18	312.92	41.22-46.22	40.71	272.21	9.1
DC-2	11/21/18	312.92	41.22-46.22	41.10	271.82	10.1

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
DC-3	09/21/16	313.11	42.32-47.32	40.11	273.00	--
DC-3	10/22/16	313.11	42.32-47.32	40.48	272.63	10.1
DC-3	10/25/16	313.11	42.32-47.32	40.50	272.61	9.4
DC-3	11/02/16	313.11	42.32-47.32	--	--	--
DC-3	11/10/16	313.11	42.32-47.32	40.48	272.63	11.4
DC-3	11/16/16	313.11	42.32-47.32	40.60	272.51	11.3
DC-3	12/12/16	313.11	42.32-47.32	40.79	272.32	11.4
DC-3	01/18/17	313.11	42.32-47.32	40.55	272.56	11.9
DC-3	02/14/17	313.11	42.32-47.32	40.22	272.89	7.8
DC-3	03/10/17	313.11	42.32-47.32	39.44	273.67	11.5
DC-3	04/20/17	313.11	42.32-47.32	38.34	274.77	--
DC-3	05/29/17	313.11	42.32-47.32	38.33	274.78	11.4
DC-3	06/20/17	313.11	42.32-47.32	38.54	274.57	10.2
DC-3	07/15/17	313.11	42.32-47.32	38.49	274.62	11.7
DC-3	08/18/17	313.11	42.32-47.32	38.88	274.23	8.9
DC-3	09/22/17	313.11	42.32-47.32	39.49	273.62	11.8
DC-3	10/17/17	313.11	42.32-47.32	39.90	273.21	11.8
DC-3	11/16/17	313.11	42.32-47.32	40.12	272.99	11.7
DC-3	12/27/17	313.11	42.32-47.32	40.19	272.92	11.7
DC-3	01/23/18	313.11	42.32-47.32	40.20	272.91	11.7
DC-3	01/24/18	313.11	42.32-47.32	39.98	273.13	12.3
DC-3	02/21/18	313.11	42.32-47.32	39.40	273.71	8.2
DC-3	03/27/18	313.11	42.32-47.32	39.39	273.72	10.2
DC-3	04/17/18	313.11	42.32-47.32	39.47	273.64	8.9
DC-3	05/21/18	313.11	42.32-47.32	39.17	273.94	10.2
DC-3	06/18/18	313.11	42.32-47.32	39.25	273.86	9.0
DC-3	07/16/18	313.11	42.32-47.32	39.73	273.38	12.2
DC-3	10/15/18	313.11	42.32-47.32	40.80	272.31	11.0
DC-3	10/31/18	313.11	42.32-47.32	40.95	272.16	12.0
DC-3	11/21/18	313.11	42.32-47.32	41.30	271.81	11.4
DC-4	09/21/16	312.35	43.36-48.36	39.31	273.04	--
DC-4	10/22/16	312.35	43.36-48.36	42.03	270.32	10.5
DC-4	10/25/16	312.35	43.36-48.36	39.65	272.70	10.8
DC-4	11/02/16	312.35	43.36-48.36	39.69	272.66	11.2
DC-4	11/10/16	312.35	43.36-48.36	39.61	272.74	11.3
DC-4	11/16/16	312.35	43.36-48.36	39.79	272.56	11.1
DC-4	12/12/16	312.35	43.36-48.36	39.71	272.64	11.0
DC-4	01/18/17	312.35	43.36-48.36	39.79	272.56	12.1
DC-4	02/14/17	312.35	43.36-48.36	39.41	272.94	8.7
DC-4	03/10/17	312.35	43.36-48.36	38.61	273.74	11.1
DC-4	04/20/17	312.35	43.36-48.36	37.51	274.84	--
DC-4	05/29/17	312.35	43.36-48.36	37.62	274.73	11.1
DC-4	06/20/17	312.35	43.36-48.36	38.11	274.24	11.1
DC-4	07/15/17	312.35	43.36-48.36	37.95	274.40	12.7
DC-4	08/18/17	312.35	43.36-48.36	38.86	273.49	11.6
DC-4	09/22/17	312.35	43.36-48.36	38.69	273.66	13.1

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
DC-4	10/17/17	312.35	43.36-48.36	39.10	273.25	10.6
DC-4	11/16/17	312.35	43.36-48.36	39.33	273.02	11.5
DC-4	12/27/17	312.35	43.36-48.36	39.42	272.93	11.6
DC-4	01/23/18	312.35	43.36-48.36	39.22	273.13	11.7
DC-4	01/24/18	312.35	43.36-48.36	39.21	273.14	12.9
DC-4	02/21/18	312.35	43.36-48.36	39.25	273.10	10.1
DC-4	03/27/18	312.35	43.36-48.36	38.51	273.84	11.0
DC-4	04/17/18	312.35	43.36-48.36	38.61	273.74	9.2
DC-4	05/21/18	312.35	43.36-48.36	37.67	274.68	13.2
DC-4	06/18/18	312.35	43.36-48.36	38.79	273.56	12.1
DC-4	07/16/18	312.35	43.36-48.36	38.89	273.46	13.4
DC-4	10/15/18	312.35	43.36-48.36	40.16	272.19	13.1
DC-4	10/31/18	312.35	43.36-48.36	39.99	272.36	12.3
DC-4	11/21/18	312.35	43.36-48.36	40.45	271.90	12.2
DC-5	09/21/16	306.25	40.79-45.79	33.40	272.85	--
DC-5	10/22/16	306.25	40.79-45.79	33.77	272.48	12.3
DC-5	10/15/18			34.15	-34.15	13.7
DC-7	01/24/18	302.61	34.35-39.35	30.69	271.92	13.0
DC-7	04/17/18	302.61	34.35-39.35	30.19	272.42	8.1
DC-7	07/18/18	302.61	34.35-39.35	30.48	272.13	12.7
DC-7	10/15/18	302.61	34.35-39.35	31.52	271.09	12.5
DC-8	01/24/18	306.23	36.64-41.64	34.21	272.02	7.8
DC-8	04/17/18	306.23	36.64-41.64	33.64	272.59	6.8
DC-8	07/18/18	306.23	36.64-41.64	33.92	272.31	6.4
DC-8	10/15/18	306.23	36.64-41.64	34.94	271.29	9.9
DC-10A	09/21/16	307.73	32.01-37.01	34.88	272.85	--
DC-10A	10/22/16	307.73	32.01-37.01	35.17	272.56	10.0
DC-10A	10/25/16	307.73	32.01-37.01	35.15	272.58	7.5
DC-10A	11/02/16	307.73	32.01-37.01	35.24	272.49	9.8
DC-10A	11/10/16	307.73	32.01-37.01	35.22	272.51	10.0
DC-10A	11/16/16	307.73	32.01-37.01	35.31	272.42	10.3
DC-10A	12/12/16	307.73	32.01-37.01	35.21	272.52	10.2
DC-10A	01/18/17	307.73	32.01-37.01	35.15	272.58	9.7
DC-10A	02/14/17	307.73	32.01-37.01	34.84	272.89	10.2
DC-10A	03/10/17	307.73	32.01-37.01	34.12	273.61	10.3
DC-10A	04/20/17	307.73	32.01-37.01	33.00	274.73	--
DC-10A	05/29/17	307.73	32.01-37.01	34.03	273.70	10.1
DC-10A	06/20/17	307.73	32.01-37.01	34.05	273.68	10.3
DC-10A	07/15/17	307.73	32.01-37.01	33.28	274.45	10.9
DC-10A	08/18/17	307.73	32.01-37.01	33.74	273.99	11.5
DC-10A	09/22/17	307.73	32.01-37.01	34.39	273.34	10.8
DC-10A	10/17/17	307.73	32.01-37.01	34.71	273.02	10.6
DC-10A	11/16/17	307.73	32.01-37.01	35.02	272.71	10.2

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
DC-10A	12/27/17	307.73	32.01-37.01	35.05	272.68	11.6
DC-10A	01/23/18	307.73	32.01-37.01	35.69	272.04	10.5
DC-10A	01/24/18	307.73	32.01-37.01	34.72	273.01	10.6
DC-10A	02/21/18	307.73	32.01-37.01	34.08	273.65	10.7
DC-10A	03/27/18	307.73	32.01-37.01	34.21	273.52	10.8
DC-10A	04/17/18	307.73	32.01-37.01	34.23	273.50	9.9
DC-10A	05/21/18	307.73	32.01-37.01	34.01	273.72	10.7
DC-10A	06/18/18	307.73	32.01-37.01	33.91	273.82	11.3
DC-10A	07/16/18	307.73	32.01-37.01	34.86	272.87	11.3
DC-10A	10/15/18	307.73	32.01-37.01	35.64	272.09	10.3
DC-10A	10/31/18	307.73	32.01-37.01	35.81	271.92	11.4
DC-10A	11/21/18	307.73	32.01-37.01	36.01	271.72	10.7
DC-10B	09/21/16	307.89	44.91-49.91	34.90	272.99	--
DC-10B	10/22/16	307.89	44.91-49.91	35.25	272.64	9.8
DC-10B	10/15/18	307.89	44.91-49.91	35.70	272.19	9.4
DC-11	09/21/16	311.25	31.6-41.6	38.01	273.24	--
DC-11	10/22/16	311.25	31.6-41.6	38.41	272.84	9.8
DC-11	10/25/16	311.25	31.6-41.6	38.40	272.85	9.9
DC-11	11/02/16	311.25	31.6-41.6	38.48	272.77	8.6
DC-11	11/10/16	311.25	31.6-41.6	38.45	272.80	7.3
DC-11	11/16/16	311.25	31.6-41.6	38.55	272.70	8.6
DC-11	12/12/16	311.25	31.6-41.6	38.53	272.72	8.9
DC-11	01/18/17	311.25	31.6-41.6	38.51	272.74	9.0
DC-11	02/14/17	311.25	31.6-41.6	38.24	273.01	6.7
DC-11	03/10/17	311.25	31.6-41.6	37.53	273.72	8.9
DC-11	04/20/17	311.25	31.6-41.6	36.40	274.85	--
DC-11	05/29/17	311.25	31.6-41.6	36.22	275.03	8.9
DC-11	06/20/17	311.25	31.6-41.6	36.15	275.10	6.6
DC-11	07/15/17	311.25	31.6-41.6	34.32	276.93	7.6
DC-11	08/18/17	311.25	31.6-41.6	36.09	275.16	7.1
DC-11	09/22/17	311.25	31.6-41.6	37.52	273.73	5.3
DC-11	10/17/17	311.25	31.6-41.6	37.82	273.43	7.5
DC-11	11/16/17	311.25	31.6-41.6	38.17	273.08	7.4
DC-11	12/27/17	311.25	31.6-41.6	38.23	273.02	6.2
DC-11	01/23/18	311.25	31.6-41.6	38.00	273.25	6.2
DC-11	01/24/18	311.25	31.6-41.6	38.00	273.25	6.3
DC-11	02/21/18	311.25	31.6-41.6	38.55	272.70	4.2
DC-11	03/27/18	311.25	31.6-41.6	38.40	272.85	4.0
DC-11	04/17/18	311.25	31.6-41.6	37.40	273.85	4.2
DC-11	05/21/18	311.25	31.6-41.6	37.21	274.04	5.0
DC-11	06/18/18	311.25	31.6-41.6	36.13	275.12	4.2
DC-11	07/16/18	311.25	31.6-41.6	37.71	273.54	4.0
DC-11	10/15/18	311.25	31.6-41.6	38.74	272.51	8.3
DC-11	10/31/18	311.25	31.6-41.6	38.90	272.35	9.3
DC-11	11/21/18	311.25	31.6-41.6	39.21	272.04	8.6

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
DC-12	01/24/18	311.25	31.7-41.7	38.24	273.01	5.0
DC-12	04/17/18	311.25	31.7-41.7	37.67	273.58	3.6
DC-12	07/18/18	311.25	31.7-41.7	37.90	273.35	6.1
DC-12	10/15/18	311.25	31.7-41.7	38.94	272.31	5.7
DC-13	01/24/18	310.20	31.7-41.7	37.33	272.87	8.6
DC-13	04/17/18	310.20	31.7-41.7	36.77	273.43	6.8
DC-13	07/18/18	310.20	31.7-41.7	36.97	273.23	8.7
DC-13	10/15/18	310.20	31.7-41.7	38.06	272.14	6.4
DC-14	01/24/18	308.94	34.4-44.4	36.84	272.10	7.1
DC-14	04/17/18	308.94	34.4-44.4	36.31	272.63	6.7
DC-14	07/18/18	308.94	34.4-44.4	36.51	272.43	9.2
DC-14	10/16/18	308.94	34.4-44.4	--	--	--
DC-15	01/24/18	307.89	30.7-40.7	35.40	272.49	8.6
DC-15	04/17/18	307.89	30.7-40.7	34.81	273.08	7.1
DC-15	07/18/18	307.89	30.7-40.7	35.08	272.81	7.7
DC-15	10/15/18	307.89	30.7-40.7	36.12	271.77	4.9
DC-16	09/21/16	307.12	49.3-59.3	34.67	272.45	--
DC-16	10/22/16	307.12	49.3-59.3	35.05	272.07	9.5
DC-16	10/15/18	307.12	49.3-59.3	35.37	271.75	9.7
DC-17	04/17/18	305.16	29.81-39.81	31.94	273.22	8.9
DC-17	01/24/18	305.16	29.81-39.81	32.42	272.74	12.1
DC-17	07/18/18	305.16	29.81-39.81	32.18	272.98	11.3
DC-17	10/15/18	305.16	29.81-39.81	33.24	271.92	13.0
DC-18	09/21/16	309.51	31.58-41.58	36.85	272.66	--
DC-18	10/22/16	309.51	31.58-41.58	37.25	272.26	9.3
DC-18	10/25/16	309.51	31.58-41.58	37.23	272.28	8.9
DC-18	11/02/16	309.51	31.58-41.58	37.29	272.22	9.3
DC-18	11/10/16	309.51	31.58-41.58	37.25	272.26	8.3
DC-18	11/16/16	309.51	31.58-41.58	37.37	272.14	9.4
DC-18	12/12/16	309.51	31.58-41.58	37.33	272.18	10.0
DC-18	01/18/17	309.51	31.58-41.58	37.35	272.16	7.7
DC-18	02/14/17	309.51	31.58-41.58	37.05	272.46	7.1
DC-18	03/10/17	309.51	31.58-41.58	36.34	273.17	10.3
DC-18	04/20/17	309.51	31.58-41.58	35.25	274.26	--
DC-18	05/29/17	309.51	31.58-41.58	35.11	274.40	10.4
DC-18	06/20/17	309.51	31.58-41.58	35.07	274.44	6.5
DC-18	07/15/17	309.51	31.58-41.58	35.30	274.21	8.9
DC-18	08/18/17	309.51	31.58-41.58	35.72	273.79	8.9
DC-18	09/22/17	309.51	31.58-41.58	36.11	273.40	8.1
DC-18	10/17/17	309.51	31.58-41.58	36.65	272.86	8.5
DC-18	11/16/17	309.51	31.58-41.58	37.00	272.51	7.2

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
DC-18	12/27/17	309.51	31.58-41.58	37.08	272.43	7.9
DC-18	01/23/18	309.51	31.58-41.58	36.81	272.70	9.2
DC-18	01/24/18	309.51	31.58-41.58	36.81	272.70	9.3
DC-18	02/21/18	309.51	31.58-41.58	36.22	273.29	10.0
DC-18	03/27/18	309.51	31.58-41.58	36.19	273.32	9.0
DC-18	04/17/18	309.51	31.58-41.58	36.24	273.27	5.8
DC-18	05/21/18	309.51	31.58-41.58	36.06	273.45	9.0
DC-18	06/18/18	309.51	31.58-41.58	36.24	273.27	8.3
DC-18	07/16/18	309.51	31.58-41.58	36.59	272.92	9.3
DC-18	10/15/18	309.51	31.58-41.58	37.54	271.97	8.5
DC-18	10/31/18	309.51	31.58-41.58	37.72	271.79	11.1
DC-18	11/21/18	309.51	31.58-41.58	38.02	271.49	8.6
DC-19	09/21/16	313.62	36.8-46.8	40.19	273.43	--
DC-19	10/22/16	313.62	36.8-46.8	40.49	273.13	5.3
DC-19	10/25/16	313.62	36.8-46.8	39.70	273.92	6.0
DC-19	11/02/16	313.62	36.8-46.8	40.63	272.99	5.2
DC-19	11/10/16	313.62	36.8-46.8	40.62	273.00	4.9
DC-19	11/16/16	313.62	36.8-46.8	40.70	272.92	5.2
DC-19	12/12/16	313.62	36.8-46.8	40.68	272.94	6.0
DC-19	01/18/17	313.62	36.8-46.8	40.70	272.92	5.0
DC-19	02/14/17	313.62	36.8-46.8	40.42	273.20	7.2
DC-19	03/10/17	313.62	36.8-46.8	39.70	273.92	5.8
DC-19	04/20/17	313.62	36.8-46.8	38.85	274.77	--
DC-19	05/29/17	313.62	36.8-46.8	38.14	275.48	6.0
DC-19	06/20/17	313.62	36.8-46.8	38.31	275.31	6.5
DC-19	07/15/17	313.62	36.8-46.8	38.60	275.02	7.0
DC-19	08/18/17	313.62	36.8-46.8	39.05	274.57	2.1
DC-19	09/22/17	313.62	36.8-46.8	40.63	272.99	3.2
DC-19	10/17/17	313.62	36.8-46.8	40.00	273.62	4.1
DC-19	11/16/17	313.62	36.8-46.8	40.33	273.29	4.7
DC-19	12/27/17	313.62	36.8-46.8	40.39	273.23	2.9
DC-19	01/23/18	313.62	36.8-46.8	40.19	273.43	3.6
DC-19	01/24/18	313.62	36.8-46.8	40.16	273.46	1.8
DC-19	02/21/18	313.62	36.8-46.8	39.68	273.94	1.7
DC-19	03/27/18	313.62	36.8-46.8	39.51	274.11	1.0
DC-19	04/17/18	313.62	36.8-46.8	39.57	274.05	1.6
DC-19	05/21/18	313.62	36.8-46.8	39.39	274.23	4.8
DC-19	06/18/18	313.62	36.8-46.8	39.63	273.99	4.3
DC-19	07/16/18	313.62	36.8-46.8	39.86	273.76	3.8
DC-19	10/15/18	313.62	36.8-46.8	40.90	272.72	8.0
DC-19	10/31/18	313.62	36.8-46.8	41.09	272.53	8.6
DC-19	11/21/18	313.62	36.8-46.8	41.39	272.23	8.5

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
DC-20	10/27/17	310.92	33.8-43.8	38.12	272.80	0.4
DC-20	11/16/17	310.92	33.8-43.8	38.33	272.59	1.6
DC-20	01/24/18	310.92	33.8-43.8	38.17	272.59	1.2
DC-20	04/17/18	310.92	33.8-43.8	37.59	272.59	0.4
DC-20	07/18/18	310.92	33.8-43.8	--	--	--
DC-20	10/15/18	310.92	33.8-43.8	38.87	272.59	0.9
KMW-1	01/24/18	311.59	36.8-51.8	38.83	272.76	8.2
KMW-1	04/17/18	311.59	36.8-51.8	38.27	273.32	6.0
KMW-1	07/18/18	311.59	36.8-51.8	38.47	273.12	8.2
KMW-1	10/15/18	311.59	36.8-51.8	39.55	272.04	8.1
KMW-2	09/21/16	307.04	29.91-39.91	34.19	272.85	--
KMW-2	10/22/16	307.04	29.91-39.91	34.50	272.54	10.7
KMW-2	10/25/16	307.04	29.91-39.91	34.54	272.50	9.8
KMW-2	11/02/16	307.04	29.91-39.91	34.60	272.44	8.3
KMW-2	11/10/16	307.04	29.91-39.91	34.57	272.47	10.8
KMW-2	11/16/16	307.04	29.91-39.91	34.68	272.36	10.4
KMW-2	12/12/16	307.04	29.91-39.91	34.59	272.45	10.3
KMW-2	01/18/17	307.04	29.91-39.91	34.79	272.25	9.9
KMW-2	02/14/17	307.04	29.91-39.91	34.24	272.80	11.1
KMW-2	03/10/17	307.04	29.91-39.91	33.49	273.55	10.0
KMW-2	04/20/17	307.04	29.91-39.91	32.41	274.63	--
KMW-2	05/29/17	307.04	29.91-39.91	32.77	274.27	9.8
KMW-2	06/20/17	307.04	29.91-39.91	34.19	272.85	10.7
KMW-2	07/15/17	307.04	29.91-39.91	32.59	274.45	12.1
KMW-2	08/18/17	307.04	29.91-39.91	33.11	273.93	12.6
KMW-2	09/22/17	307.04	29.91-39.91	33.69	273.35	12.1
KMW-2	10/17/17	307.04	29.91-39.91	34.01	273.03	11.8
KMW-2	11/16/17	307.04	29.91-39.91	34.35	272.69	12.0
KMW-2	12/27/17	307.04	29.91-39.91	34.39	272.65	12.0
KMW-2	01/23/18	307.04	29.91-39.91	35.42	271.62	11.8
KMW-2	01/24/18	307.04	29.91-39.91	34.11	272.93	11.8
KMW-2	02/21/18	307.04	29.91-39.91	33.43	273.61	11.0
KMW-2	03/27/18	307.04	29.91-39.91	36.19	270.85	11.1
KMW-2	04/17/18	307.04	29.91-39.91	33.56	273.48	8.2
KMW-2	05/21/18	307.04	29.91-39.91	33.32	273.72	13.1
KMW-2	06/18/18	307.04	29.91-39.91	33.18	273.86	12.1
KMW-2	07/16/18	307.04	29.91-39.91	33.89	273.15	12.4
KMW-2	10/15/18	307.04	29.91-39.91	34.92	272.12	12.4
KMW-2	10/31/18	307.04	29.91-39.91	35.06	271.98	10.6
KMW-2	11/21/18	307.04	29.91-39.91	35.41	271.63	11.1

Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
KMW-3	09/21/16	296.92	24.6-34.6	25.34	271.58	--
KMW-3	10/22/16	296.92	24.6-34.6	25.71	271.21	10.3
KMW-3	01/24/18	296.92	24.6-34.6	25.16	271.76	10.1
KMW-3	04/17/18	296.92	24.6-34.6	24.69	272.23	7.0
KMW-3	07/18/18	296.92	24.6-34.6	25.04	271.88	9.6
KMW-3	10/15/18	296.92	24.6-34.6	26.09	270.83	10.7
KMW-4	04/17/18	299.57	23.79-33.79	26.13	273.44	6.8
KMW-4	01/24/18	299.57	23.79-33.79	26.58	272.99	8.8
KMW-4	07/18/18	299.57	23.79-33.79	26.50	273.07	10.1
KMW-4	10/15/18	299.57	23.79-33.79	27.60	271.97	10.4
KMW-5	01/24/18	297.22	23.66-33.66	24.95	272.27	9.3
KMW-5	04/17/18	297.22	23.66-33.66	24.50	272.72	7.0
KMW-5	07/18/18	297.22	23.66-33.66	24.87	272.35	9.9
KMW-5	10/31/18	297.22	23.66-33.66	26.09	271.13	9.7
KMW-5D	10/15/18	296.94	40.72-45.72	25.79	271.15	6.6
KMW-6	01/24/18	294.81	25.73-40.73	23.30	271.51	9.2
KMW-6	04/17/18	294.81	25.73-40.73	22.54	272.27	7.1
KMW-6	07/18/18	294.81	25.73-40.73	22.98	271.83	10.0
KMW-6	10/15/18	294.81	25.73-40.73	23.98	270.83	9.4
KMW-7	01/24/18	301.43	28.78-43.78	28.66	272.77	9.7
KMW-7	04/17/18	301.43	28.78-43.78	29.28	272.15	0.7
KMW-7	07/18/18	301.43	28.78-43.78	29.70	271.73	10.9
KMW-7	10/23/18	301.43	28.78-43.78	30.79	270.64	8.7
KMW-8	01/24/18	308.15	28.69-43.69	36.41	271.74	9.1
KMW-8	04/17/18	308.15	28.69-43.69	35.87	272.28	6.9
KMW-8	07/18/18	308.15	28.69-43.69	36.10	272.05	9.2
KMW-8	10/15/18	308.15	28.69-43.69	37.12	271.03	9.2
KMW-9	09/21/16	310.33	33.5-43.5	37.28	273.05	--
KMW-9	10/22/16	310.33	33.5-43.5	37.65	272.68	8.6
KMW-9	10/25/16	310.33	33.5-43.5	37.60	272.73	8.6
KMW-9	11/02/16	310.33	33.5-43.5	37.70	272.63	8.6
KMW-9	11/10/16	310.33	33.5-43.5	37.67	272.66	8.4
KMW-9	11/16/16	310.33	33.5-43.5	37.77	272.56	8.5
KMW-9	12/12/16	310.33	33.5-43.5	37.72	272.61	8.7
KMW-9	01/18/17	310.33	33.5-43.5	37.75	272.58	10.8
KMW-9	02/14/17	310.33	33.5-43.5	37.45	272.88	6.0
KMW-9	03/10/17	310.33	33.5-43.5	36.70	273.63	10.6
KMW-9	04/20/17	310.33	33.5-43.5	35.52	274.81	--
KMW-9	05/29/17	310.33	33.5-43.5	36.01	274.32	10.2
KMW-9	06/20/17	310.33	33.5-43.5	35.40	274.93	7.7

**Table A4
Air Sparging Groundwater Monitoring Parameters
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Location	Date	Well Casing Elevation (feet NAVD88)	Screened Interval Depth (feet)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)	Dissolved Oxygen (mg/L)
KMW-9	07/15/17	310.33	33.5-43.5	35.64	274.69	8.2
KMW-9	08/18/17	310.33	33.5-43.5	36.10	274.23	7.8
KMW-9	09/22/17	310.33	33.5-43.5	36.66	273.67	7.7
KMW-9	10/17/17	310.33	33.5-43.5	37.02	273.31	8.6
KMW-9	11/16/17	310.33	33.5-43.5	37.33	273.00	7.7
KMW-9	12/27/17	310.33	33.5-43.5	37.44	272.89	7.9
KMW-9	01/23/18	310.33	33.5-43.5	37.21	273.12	8.0
KMW-9	01/24/18	310.33	33.5-43.5	37.22	273.11	8.8
KMW-9	02/21/18	310.33	33.5-43.5	36.71	273.62	6.0
KMW-9	03/27/18	310.33	33.5-43.5	36.55	273.78	5.9
KMW-9	04/17/18	310.33	33.5-43.5	36.64	273.69	6.4
KMW-9	05/21/18	310.33	33.5-43.5	36.41	273.92	8.5
KMW-9	06/18/18	310.33	33.5-43.5	36.51	273.82	7.0
KMW-9	07/16/18	310.33	33.5-43.5	36.81	273.52	9.0
KMW-9	10/15/18	310.33	33.5-43.5	37.97	272.36	9.1
KMW-9	10/31/18	310.33	33.5-43.5	38.13	272.20	8.7
KMW-9	11/21/18	310.33	33.5-43.5	38.50	271.83	8.4

Notes:

1. -- = not measured or not applicable.
2. Well monument types: flush grade monuments and above ground (AG) monuments.
3. Depth to water is measured from top of well casing on the North side.
4. Elevations are reported relative to North American Vertical Datum of 1988 (NAVD 88).
5. Top of casing (TOC) elevations were surveyed by D.R. Strong Consulting Engineers, Inc. in February and May 2013 and by Lanktree Land Surveying, Inc. in July 2015.
6. Screened interval depth is estimated using from surveyed elevations (top of casing elevations, ground surface, and monument rim) and field measurements at the time of drilling.
7. Dissolved Oxygen (DO) reported to 0.1 milligrams per liter (mg/L).
8. On 10/16/18 wells DC-5, DC-10B, DC-16, and KMW-5D were also sampled
9. On 10/16/18 DC-14 monument was not located.

ATTACHMENT B
LABORATORY REPORTS AND DATA VALIDATION MEMORANDA

February 05, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L966085
Samples Received: 01/27/2018
Project Number: 1358.001.01.003
Description: MVSC
Site: MVSC
Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Jason Romer
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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DC-10A-012518 L966085-03	10
KMW-3-012518 L966085-04	12
KMW-8-012518 L966085-06	14
MW-11-012518 L966085-07	16
DC-7-012618 L966085-08	18
MW-7-012618 L966085-09	20
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1 Cp
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SAMPLE SUMMARY



DC-15-012418 L966085-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 12:23	01/28/18 12:23	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/24/18 10:30
 Received date/time 01/27/18 08:45

¹ Cp

² Tc

³ Ss

DC-8-012418 L966085-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 12:43	01/28/18 12:43	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/24/18 11:30
 Received date/time 01/27/18 08:45

⁴ Cn

⁵ Sr

DC-10A-012518 L966085-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 13:03	01/28/18 13:03	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/25/18 14:10
 Received date/time 01/27/18 08:45

⁶ Qc

⁷ Gl

KMW-3-012518 L966085-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 13:22	01/28/18 13:22	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/25/18 15:40
 Received date/time 01/27/18 08:45

⁸ Al

⁹ Sc

KMW-8-012518 L966085-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 14:02	01/28/18 14:02	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/25/18 10:50
 Received date/time 01/27/18 08:45

MW-11-012518 L966085-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 14:22	01/28/18 14:22	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/25/18 12:48
 Received date/time 01/27/18 08:45

DC-7-012618 L966085-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 14:42	01/28/18 14:42	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/26/18 09:15
 Received date/time 01/27/18 08:45

MW-7-012618 L966085-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 15:02	01/28/18 15:02	BMB

Collected by Rachel McLaughlin
 Collected date/time 01/26/18 10:35
 Received date/time 01/27/18 08:45

SAMPLE SUMMARY



MW-101-012618 L966085-10 GW

Collected by Rachel McLaughlin
 Collected date/time 01/26/18 12:45
 Received date/time 01/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067406	1	01/28/18 15:22	01/28/18 15:22	BMB

¹ Cp

² Tc

³ Ss

DC-17-012618 L966085-11 GW

Collected by Rachel McLaughlin
 Collected date/time 01/26/18 12:00
 Received date/time 01/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067627	1	01/29/18 16:16	01/29/18 16:16	DWR

⁴ Cn

⁵ Sr

EQUIPMENT BLANK L966085-12 GW

Collected by Rachel McLaughlin
 Collected date/time 01/26/18 12:30
 Received date/time 01/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067627	1	01/29/18 13:18	01/29/18 13:18	DWR

⁶ Qc

⁷ Gl

TRIP BLANK L966085-13 GW

Collected by Rachel McLaughlin
 Collected date/time 09/20/17 00:00
 Received date/time 01/27/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1067627	1	01/29/18 12:58	01/29/18 12:58	DWR

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
Technical Service Representative

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 12:23	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 12:23	WG1067406
Benzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 12:23	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 12:23	WG1067406
Bromoform	ND		0.500	1	01/28/2018 12:23	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 12:23	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 12:23	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 12:23	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 12:23	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 12:23	WG1067406
Chloroform	ND		0.500	1	01/28/2018 12:23	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 12:23	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 12:23	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 12:23	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 12:23	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 12:23	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 12:23	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 12:23	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 12:23	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 12:23	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 12:23	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 12:23	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 12:23	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 12:23	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 12:23	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 12:23	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 12:23	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 12:23	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 12:23	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 12:23	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 12:23	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 12:23	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 12:23	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 12:23	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 12:23	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 12:23	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 12:23	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 12:23	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Styrene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 12:23	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 12:23	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 12:23	WG1067406
Tetrachloroethene	8.61		0.500	1	01/28/2018 12:23	WG1067406
Toluene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 12:23	WG1067406
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 12:23	WG1067406
Trichloroethene	ND		0.500	1	01/28/2018 12:23	WG1067406
Trichlorofluoromethane	ND		2.50	1	01/28/2018 12:23	WG1067406
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 12:23	WG1067406
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 12:23	WG1067406
Vinyl acetate	ND		5.00	1	01/28/2018 12:23	WG1067406
Vinyl chloride	ND		0.500	1	01/28/2018 12:23	WG1067406
Xylenes, Total	ND		1.50	1	01/28/2018 12:23	WG1067406
(S) Toluene-d8	107		80.0-120		01/28/2018 12:23	WG1067406
(S) Dibromofluoromethane	94.9		76.0-123		01/28/2018 12:23	WG1067406
(S) 4-Bromofluorobenzene	104		80.0-120		01/28/2018 12:23	WG1067406

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 12:43	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 12:43	WG1067406
Benzene	ND		0.500	1	01/28/2018 12:43	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 12:43	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 12:43	WG1067406
Bromoform	ND		0.500	1	01/28/2018 12:43	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 12:43	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 12:43	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 12:43	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 12:43	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 12:43	WG1067406
Chloroform	ND		0.500	1	01/28/2018 12:43	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 12:43	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 12:43	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 12:43	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 12:43	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 12:43	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 12:43	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 12:43	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 12:43	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 12:43	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 12:43	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 12:43	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 12:43	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 12:43	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 12:43	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 12:43	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 12:43	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 12:43	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 12:43	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 12:43	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 12:43	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 12:43	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 12:43	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 12:43	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 12:43	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 12:43	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 12:43	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 12:43	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 12:43	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 12:43	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 12:43	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406
Styrene	ND		0.500	1	01/28/2018 12:43	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 12:43	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 12:43	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 01/24/18 11:30

L966085

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch	
	ug/l		ug/l		date / time		
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 12:43	WG1067406	¹ Cp
Tetrachloroethene	12.0		0.500	1	01/28/2018 12:43	WG1067406	² Tc
Toluene	ND		0.500	1	01/28/2018 12:43	WG1067406	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 12:43	WG1067406	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 12:43	WG1067406	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 12:43	WG1067406	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 12:43	WG1067406	⁷ Gl
Trichloroethene	ND		0.500	1	01/28/2018 12:43	WG1067406	⁸ Al
Trichlorofluoromethane	ND		2.50	1	01/28/2018 12:43	WG1067406	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 12:43	WG1067406	
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406	
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406	
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 12:43	WG1067406	
Vinyl acetate	ND		5.00	1	01/28/2018 12:43	WG1067406	
Vinyl chloride	ND		0.500	1	01/28/2018 12:43	WG1067406	
Xylenes, Total	ND		1.50	1	01/28/2018 12:43	WG1067406	
(S) Toluene-d8	105		80.0-120		01/28/2018 12:43	WG1067406	
(S) Dibromofluoromethane	87.1		76.0-123		01/28/2018 12:43	WG1067406	
(S) 4-Bromofluorobenzene	107		80.0-120		01/28/2018 12:43	WG1067406	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 13:03	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 13:03	WG1067406
Benzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 13:03	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 13:03	WG1067406
Bromoform	ND		0.500	1	01/28/2018 13:03	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 13:03	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 13:03	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 13:03	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 13:03	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 13:03	WG1067406
Chloroform	ND		0.500	1	01/28/2018 13:03	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 13:03	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 13:03	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 13:03	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 13:03	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 13:03	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 13:03	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 13:03	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 13:03	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 13:03	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 13:03	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 13:03	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 13:03	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 13:03	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 13:03	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 13:03	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 13:03	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 13:03	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 13:03	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 13:03	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 13:03	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 13:03	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 13:03	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 13:03	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 13:03	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 13:03	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 13:03	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 13:03	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Styrene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 13:03	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 13:03	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 01/25/18 14:10

L966085

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 13:03	WG1067406
Tetrachloroethene	3.62		0.500	1	01/28/2018 13:03	WG1067406
Toluene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 13:03	WG1067406
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 13:03	WG1067406
Trichloroethene	ND		0.500	1	01/28/2018 13:03	WG1067406
Trichlorofluoromethane	ND		2.50	1	01/28/2018 13:03	WG1067406
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 13:03	WG1067406
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 13:03	WG1067406
Vinyl acetate	ND		5.00	1	01/28/2018 13:03	WG1067406
Vinyl chloride	ND		0.500	1	01/28/2018 13:03	WG1067406
Xylenes, Total	ND		1.50	1	01/28/2018 13:03	WG1067406
(S) Toluene-d8	105		80.0-120		01/28/2018 13:03	WG1067406
(S) Dibromofluoromethane	89.5		76.0-123		01/28/2018 13:03	WG1067406
(S) 4-Bromofluorobenzene	109		80.0-120		01/28/2018 13:03	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 13:22	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 13:22	WG1067406
Benzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 13:22	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 13:22	WG1067406
Bromoform	ND		0.500	1	01/28/2018 13:22	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 13:22	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 13:22	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 13:22	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 13:22	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 13:22	WG1067406
Chloroform	ND		0.500	1	01/28/2018 13:22	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 13:22	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 13:22	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 13:22	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 13:22	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 13:22	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 13:22	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 13:22	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 13:22	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 13:22	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 13:22	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 13:22	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 13:22	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 13:22	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 13:22	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 13:22	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 13:22	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 13:22	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 13:22	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 13:22	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 13:22	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 13:22	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 13:22	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 13:22	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 13:22	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 13:22	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 13:22	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 13:22	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Styrene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 13:22	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 13:22	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 13:22	WG1067406
Tetrachloroethene	4.95		0.500	1	01/28/2018 13:22	WG1067406
Toluene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 13:22	WG1067406
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 13:22	WG1067406
Trichloroethene	ND		0.500	1	01/28/2018 13:22	WG1067406
Trichlorofluoromethane	ND		2.50	1	01/28/2018 13:22	WG1067406
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 13:22	WG1067406
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 13:22	WG1067406
Vinyl acetate	ND		5.00	1	01/28/2018 13:22	WG1067406
Vinyl chloride	ND		0.500	1	01/28/2018 13:22	WG1067406
Xylenes, Total	ND		1.50	1	01/28/2018 13:22	WG1067406
(S) Toluene-d8	102		80.0-120		01/28/2018 13:22	WG1067406
(S) Dibromofluoromethane	89.4		76.0-123		01/28/2018 13:22	WG1067406
(S) 4-Bromofluorobenzene	101		80.0-120		01/28/2018 13:22	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 14:02	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 14:02	WG1067406
Benzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 14:02	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 14:02	WG1067406
Bromoform	ND		0.500	1	01/28/2018 14:02	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 14:02	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 14:02	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 14:02	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 14:02	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 14:02	WG1067406
Chloroform	2.01		0.500	1	01/28/2018 14:02	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 14:02	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 14:02	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 14:02	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 14:02	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 14:02	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 14:02	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 14:02	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 14:02	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 14:02	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 14:02	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 14:02	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 14:02	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 14:02	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 14:02	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 14:02	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 14:02	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 14:02	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 14:02	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 14:02	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 14:02	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 14:02	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 14:02	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 14:02	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 14:02	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 14:02	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 14:02	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 14:02	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Styrene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 14:02	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 14:02	WG1067406

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 14:02	WG1067406
Tetrachloroethene	5.89		0.500	1	01/28/2018 14:02	WG1067406
Toluene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 14:02	WG1067406
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 14:02	WG1067406
Trichloroethene	ND		0.500	1	01/28/2018 14:02	WG1067406
Trichlorofluoromethane	ND		2.50	1	01/28/2018 14:02	WG1067406
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 14:02	WG1067406
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 14:02	WG1067406
Vinyl acetate	ND		5.00	1	01/28/2018 14:02	WG1067406
Vinyl chloride	ND		0.500	1	01/28/2018 14:02	WG1067406
Xylenes, Total	ND		1.50	1	01/28/2018 14:02	WG1067406
(S) Toluene-d8	104		80.0-120		01/28/2018 14:02	WG1067406
(S) Dibromofluoromethane	93.7		76.0-123		01/28/2018 14:02	WG1067406
(S) 4-Bromofluorobenzene	103		80.0-120		01/28/2018 14:02	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 14:22	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 14:22	WG1067406
Benzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 14:22	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 14:22	WG1067406
Bromoform	ND		0.500	1	01/28/2018 14:22	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 14:22	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 14:22	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 14:22	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 14:22	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 14:22	WG1067406
Chloroform	ND		0.500	1	01/28/2018 14:22	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 14:22	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 14:22	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 14:22	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 14:22	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 14:22	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 14:22	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 14:22	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 14:22	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 14:22	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 14:22	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 14:22	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 14:22	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 14:22	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 14:22	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 14:22	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 14:22	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 14:22	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 14:22	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 14:22	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 14:22	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 14:22	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 14:22	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 14:22	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 14:22	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 14:22	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 14:22	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 14:22	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Styrene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 14:22	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 14:22	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 14:22	WG1067406
Tetrachloroethene	2.52		0.500	1	01/28/2018 14:22	WG1067406
Toluene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 14:22	WG1067406
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 14:22	WG1067406
Trichloroethene	ND		0.500	1	01/28/2018 14:22	WG1067406
Trichlorofluoromethane	ND		2.50	1	01/28/2018 14:22	WG1067406
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 14:22	WG1067406
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 14:22	WG1067406
Vinyl acetate	ND		5.00	1	01/28/2018 14:22	WG1067406
Vinyl chloride	ND		0.500	1	01/28/2018 14:22	WG1067406
Xylenes, Total	ND		1.50	1	01/28/2018 14:22	WG1067406
(S) Toluene-d8	108		80.0-120		01/28/2018 14:22	WG1067406
(S) Dibromofluoromethane	91.1		76.0-123		01/28/2018 14:22	WG1067406
(S) 4-Bromofluorobenzene	98.3		80.0-120		01/28/2018 14:22	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 14:42	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 14:42	WG1067406
Benzene	ND		0.500	1	01/28/2018 14:42	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 14:42	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 14:42	WG1067406
Bromoform	ND		0.500	1	01/28/2018 14:42	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 14:42	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 14:42	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 14:42	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 14:42	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 14:42	WG1067406
Chloroform	ND		0.500	1	01/28/2018 14:42	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 14:42	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 14:42	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 14:42	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 14:42	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 14:42	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 14:42	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 14:42	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 14:42	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 14:42	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 14:42	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 14:42	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 14:42	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 14:42	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 14:42	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 14:42	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 14:42	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 14:42	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 14:42	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 14:42	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 14:42	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 14:42	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 14:42	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 14:42	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 14:42	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 14:42	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 14:42	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 14:42	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 14:42	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 14:42	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 14:42	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406
Styrene	ND		0.500	1	01/28/2018 14:42	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 14:42	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 14:42	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 01/26/18 09:15

L966085

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 14:42	WG1067406	1 Cp
Tetrachloroethene	12.1		0.500	1	01/28/2018 14:42	WG1067406	2 Tc
Toluene	ND		0.500	1	01/28/2018 14:42	WG1067406	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 14:42	WG1067406	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 14:42	WG1067406	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 14:42	WG1067406	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 14:42	WG1067406	7 Gl
Trichloroethene	ND		0.500	1	01/28/2018 14:42	WG1067406	8 Al
Trichlorofluoromethane	ND		2.50	1	01/28/2018 14:42	WG1067406	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 14:42	WG1067406	
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406	
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406	
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 14:42	WG1067406	
Vinyl acetate	ND		5.00	1	01/28/2018 14:42	WG1067406	
Vinyl chloride	ND		0.500	1	01/28/2018 14:42	WG1067406	
Xylenes, Total	ND		1.50	1	01/28/2018 14:42	WG1067406	
(S) Toluene-d8	102		80.0-120		01/28/2018 14:42	WG1067406	
(S) Dibromofluoromethane	89.9		76.0-123		01/28/2018 14:42	WG1067406	
(S) 4-Bromofluorobenzene	103		80.0-120		01/28/2018 14:42	WG1067406	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 15:02	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 15:02	WG1067406
Benzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 15:02	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 15:02	WG1067406
Bromoform	ND		0.500	1	01/28/2018 15:02	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 15:02	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 15:02	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 15:02	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 15:02	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 15:02	WG1067406
Chloroform	ND		0.500	1	01/28/2018 15:02	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 15:02	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 15:02	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 15:02	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 15:02	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 15:02	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 15:02	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 15:02	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 15:02	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 15:02	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 15:02	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 15:02	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 15:02	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 15:02	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 15:02	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 15:02	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 15:02	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 15:02	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 15:02	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 15:02	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 15:02	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 15:02	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 15:02	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 15:02	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 15:02	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 15:02	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 15:02	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 15:02	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Styrene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 15:02	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 15:02	WG1067406

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 15:02	WG1067406
Tetrachloroethene	7.73		0.500	1	01/28/2018 15:02	WG1067406
Toluene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 15:02	WG1067406
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 15:02	WG1067406
Trichloroethene	ND		0.500	1	01/28/2018 15:02	WG1067406
Trichlorofluoromethane	ND		2.50	1	01/28/2018 15:02	WG1067406
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 15:02	WG1067406
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 15:02	WG1067406
Vinyl acetate	ND		5.00	1	01/28/2018 15:02	WG1067406
Vinyl chloride	ND		0.500	1	01/28/2018 15:02	WG1067406
Xylenes, Total	ND		1.50	1	01/28/2018 15:02	WG1067406
(S) Toluene-d8	103		80.0-120		01/28/2018 15:02	WG1067406
(S) Dibromofluoromethane	92.7		76.0-123		01/28/2018 15:02	WG1067406
(S) 4-Bromofluorobenzene	104		80.0-120		01/28/2018 15:02	WG1067406

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/28/2018 15:22	WG1067406
Acrylonitrile	ND		5.00	1	01/28/2018 15:22	WG1067406
Benzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Bromobenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Bromodichloromethane	ND		0.500	1	01/28/2018 15:22	WG1067406
Bromochloromethane	ND		0.500	1	01/28/2018 15:22	WG1067406
Bromoform	ND		0.500	1	01/28/2018 15:22	WG1067406
Bromomethane	ND		2.50	1	01/28/2018 15:22	WG1067406
n-Butylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
sec-Butylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
tert-Butylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Carbon disulfide	ND		0.500	1	01/28/2018 15:22	WG1067406
Carbon tetrachloride	ND		0.500	1	01/28/2018 15:22	WG1067406
Chlorobenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Chlorodibromomethane	ND		0.500	1	01/28/2018 15:22	WG1067406
Chloroethane	ND		2.50	1	01/28/2018 15:22	WG1067406
Chloroform	ND		0.500	1	01/28/2018 15:22	WG1067406
Chloromethane	ND		1.25	1	01/28/2018 15:22	WG1067406
2-Chlorotoluene	ND		0.500	1	01/28/2018 15:22	WG1067406
4-Chlorotoluene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/28/2018 15:22	WG1067406
1,2-Dibromoethane	ND		0.500	1	01/28/2018 15:22	WG1067406
Dibromomethane	ND		0.500	1	01/28/2018 15:22	WG1067406
1,2-Dichlorobenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,3-Dichlorobenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,4-Dichlorobenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Dichlorodifluoromethane	ND		2.50	1	01/28/2018 15:22	WG1067406
1,1-Dichloroethane	ND		0.500	1	01/28/2018 15:22	WG1067406
1,2-Dichloroethane	ND		0.500	1	01/28/2018 15:22	WG1067406
1,1-Dichloroethene	ND		0.500	1	01/28/2018 15:22	WG1067406
cis-1,2-Dichloroethene	ND		0.500	1	01/28/2018 15:22	WG1067406
trans-1,2-Dichloroethene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,2-Dichloropropane	ND		0.500	1	01/28/2018 15:22	WG1067406
1,1-Dichloropropene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,3-Dichloropropane	ND		1.00	1	01/28/2018 15:22	WG1067406
cis-1,3-Dichloropropene	ND		0.500	1	01/28/2018 15:22	WG1067406
trans-1,3-Dichloropropene	ND		0.500	1	01/28/2018 15:22	WG1067406
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/28/2018 15:22	WG1067406
2,2-Dichloropropane	ND		0.500	1	01/28/2018 15:22	WG1067406
Di-isopropyl ether	ND		0.500	1	01/28/2018 15:22	WG1067406
Ethylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Hexachloro-1,3-butadiene	ND		1.00	1	01/28/2018 15:22	WG1067406
2-Hexanone	ND		5.00	1	01/28/2018 15:22	WG1067406
n-Hexane	ND		5.00	1	01/28/2018 15:22	WG1067406
Iodomethane	ND		10.0	1	01/28/2018 15:22	WG1067406
Isopropylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
p-Isopropyltoluene	ND		0.500	1	01/28/2018 15:22	WG1067406
2-Butanone (MEK)	ND		5.00	1	01/28/2018 15:22	WG1067406
Methylene Chloride	ND		2.50	1	01/28/2018 15:22	WG1067406
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/28/2018 15:22	WG1067406
Methyl tert-butyl ether	ND		0.500	1	01/28/2018 15:22	WG1067406
Naphthalene	ND		2.50	1	01/28/2018 15:22	WG1067406
n-Propylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Styrene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/28/2018 15:22	WG1067406
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/28/2018 15:22	WG1067406

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/28/2018 15:22	WG1067406
Tetrachloroethene	7.88		0.500	1	01/28/2018 15:22	WG1067406
Toluene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,2,3-Trichlorobenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,2,4-Trichlorobenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,1,1-Trichloroethane	ND		0.500	1	01/28/2018 15:22	WG1067406
1,1,2-Trichloroethane	ND		0.500	1	01/28/2018 15:22	WG1067406
Trichloroethene	ND		0.500	1	01/28/2018 15:22	WG1067406
Trichlorofluoromethane	ND		2.50	1	01/28/2018 15:22	WG1067406
1,2,3-Trichloropropane	ND		2.50	1	01/28/2018 15:22	WG1067406
1,2,4-Trimethylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,2,3-Trimethylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
1,3,5-Trimethylbenzene	ND		0.500	1	01/28/2018 15:22	WG1067406
Vinyl acetate	ND		5.00	1	01/28/2018 15:22	WG1067406
Vinyl chloride	ND		0.500	1	01/28/2018 15:22	WG1067406
Xylenes, Total	ND		1.50	1	01/28/2018 15:22	WG1067406
(S) Toluene-d8	104		80.0-120		01/28/2018 15:22	WG1067406
(S) Dibromofluoromethane	90.2		76.0-123		01/28/2018 15:22	WG1067406
(S) 4-Bromofluorobenzene	101		80.0-120		01/28/2018 15:22	WG1067406

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/29/2018 16:16	WG1067627
Acrylonitrile	ND		5.00	1	01/29/2018 16:16	WG1067627
Benzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromodichloromethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromochloromethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromoform	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromomethane	ND		2.50	1	01/29/2018 16:16	WG1067627
n-Butylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
sec-Butylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
tert-Butylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Carbon disulfide	ND		0.500	1	01/29/2018 16:16	WG1067627
Carbon tetrachloride	ND		0.500	1	01/29/2018 16:16	WG1067627
Chlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Chlorodibromomethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Chloroethane	ND	J4	2.50	1	01/29/2018 16:16	WG1067627
Chloroform	ND		0.500	1	01/29/2018 16:16	WG1067627
Chloromethane	ND		1.25	1	01/29/2018 16:16	WG1067627
2-Chlorotoluene	ND		0.500	1	01/29/2018 16:16	WG1067627
4-Chlorotoluene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,2-Dibromoethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Dibromomethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,3-Dichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,4-Dichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Dichlorodifluoromethane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,1-Dichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1-Dichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
cis-1,2-Dichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
trans-1,2-Dichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dichloropropane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1-Dichloropropene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,3-Dichloropropane	ND		1.00	1	01/29/2018 16:16	WG1067627
cis-1,3-Dichloropropene	ND		0.500	1	01/29/2018 16:16	WG1067627
trans-1,3-Dichloropropene	ND		0.500	1	01/29/2018 16:16	WG1067627
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/29/2018 16:16	WG1067627
2,2-Dichloropropane	ND		0.500	1	01/29/2018 16:16	WG1067627
Di-isopropyl ether	ND		0.500	1	01/29/2018 16:16	WG1067627
Ethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Hexachloro-1,3-butadiene	ND		1.00	1	01/29/2018 16:16	WG1067627
2-Hexanone	ND		5.00	1	01/29/2018 16:16	WG1067627
n-Hexane	ND		5.00	1	01/29/2018 16:16	WG1067627
Iodomethane	ND		10.0	1	01/29/2018 16:16	WG1067627
Isopropylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
p-Isopropyltoluene	ND		0.500	1	01/29/2018 16:16	WG1067627
2-Butanone (MEK)	ND		5.00	1	01/29/2018 16:16	WG1067627
Methylene Chloride	ND		2.50	1	01/29/2018 16:16	WG1067627
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/29/2018 16:16	WG1067627
Methyl tert-butyl ether	ND		0.500	1	01/29/2018 16:16	WG1067627
Naphthalene	ND		2.50	1	01/29/2018 16:16	WG1067627
n-Propylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Styrene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 01/26/18 12:00

L966085

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Tetrachloroethene	7.38		0.500	1	01/29/2018 16:16	WG1067627
Toluene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2,3-Trichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2,4-Trichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,1-Trichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,2-Trichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Trichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
Trichlorofluoromethane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,2,3-Trichloropropane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,2,4-Trimethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2,3-Trimethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,3,5-Trimethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Vinyl acetate	ND		5.00	1	01/29/2018 16:16	WG1067627
Vinyl chloride	ND		0.500	1	01/29/2018 16:16	WG1067627
Xylenes, Total	ND		1.50	1	01/29/2018 16:16	WG1067627
(S) Toluene-d8	105		80.0-120		01/29/2018 16:16	WG1067627
(S) Dibromofluoromethane	91.6		76.0-123		01/29/2018 16:16	WG1067627
(S) 4-Bromofluorobenzene	109		80.0-120		01/29/2018 16:16	WG1067627

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 01/26/18 12:30

L966085

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/29/2018 13:18	WG1067627
Acrylonitrile	ND		5.00	1	01/29/2018 13:18	WG1067627
Benzene	ND		0.500	1	01/29/2018 13:18	WG1067627
Bromobenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
Bromodichloromethane	ND		0.500	1	01/29/2018 13:18	WG1067627
Bromochloromethane	ND		0.500	1	01/29/2018 13:18	WG1067627
Bromoform	ND		0.500	1	01/29/2018 13:18	WG1067627
Bromomethane	ND		2.50	1	01/29/2018 13:18	WG1067627
n-Butylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
sec-Butylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
tert-Butylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
Carbon disulfide	ND		0.500	1	01/29/2018 13:18	WG1067627
Carbon tetrachloride	ND		0.500	1	01/29/2018 13:18	WG1067627
Chlorobenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
Chlorodibromomethane	ND		0.500	1	01/29/2018 13:18	WG1067627
Chloroethane	ND	J4	2.50	1	01/29/2018 13:18	WG1067627
Chloroform	ND		0.500	1	01/29/2018 13:18	WG1067627
Chloromethane	ND		1.25	1	01/29/2018 13:18	WG1067627
2-Chlorotoluene	ND		0.500	1	01/29/2018 13:18	WG1067627
4-Chlorotoluene	ND		0.500	1	01/29/2018 13:18	WG1067627
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/29/2018 13:18	WG1067627
1,2-Dibromoethane	ND		0.500	1	01/29/2018 13:18	WG1067627
Dibromomethane	ND		0.500	1	01/29/2018 13:18	WG1067627
1,2-Dichlorobenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
1,3-Dichlorobenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
1,4-Dichlorobenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
Dichlorodifluoromethane	ND		2.50	1	01/29/2018 13:18	WG1067627
1,1-Dichloroethane	ND		0.500	1	01/29/2018 13:18	WG1067627
1,2-Dichloroethane	ND		0.500	1	01/29/2018 13:18	WG1067627
1,1-Dichloroethene	ND		0.500	1	01/29/2018 13:18	WG1067627
cis-1,2-Dichloroethene	ND		0.500	1	01/29/2018 13:18	WG1067627
trans-1,2-Dichloroethene	ND		0.500	1	01/29/2018 13:18	WG1067627
1,2-Dichloropropane	ND		0.500	1	01/29/2018 13:18	WG1067627
1,1-Dichloropropene	ND		0.500	1	01/29/2018 13:18	WG1067627
1,3-Dichloropropane	ND		1.00	1	01/29/2018 13:18	WG1067627
cis-1,3-Dichloropropene	ND		0.500	1	01/29/2018 13:18	WG1067627
trans-1,3-Dichloropropene	ND		0.500	1	01/29/2018 13:18	WG1067627
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/29/2018 13:18	WG1067627
2,2-Dichloropropane	ND		0.500	1	01/29/2018 13:18	WG1067627
Di-isopropyl ether	ND		0.500	1	01/29/2018 13:18	WG1067627
Ethylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
Hexachloro-1,3-butadiene	ND		1.00	1	01/29/2018 13:18	WG1067627
2-Hexanone	ND		5.00	1	01/29/2018 13:18	WG1067627
n-Hexane	ND		5.00	1	01/29/2018 13:18	WG1067627
Iodomethane	ND		10.0	1	01/29/2018 13:18	WG1067627
Isopropylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
p-Isopropyltoluene	ND		0.500	1	01/29/2018 13:18	WG1067627
2-Butanone (MEK)	ND		5.00	1	01/29/2018 13:18	WG1067627
Methylene Chloride	ND		2.50	1	01/29/2018 13:18	WG1067627
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/29/2018 13:18	WG1067627
Methyl tert-butyl ether	ND		0.500	1	01/29/2018 13:18	WG1067627
Naphthalene	ND		2.50	1	01/29/2018 13:18	WG1067627
n-Propylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627
Styrene	ND		0.500	1	01/29/2018 13:18	WG1067627
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/29/2018 13:18	WG1067627
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/29/2018 13:18	WG1067627

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 01/26/18 12:30

L966085

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch	
	ug/l		ug/l		date / time		
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/29/2018 13:18	WG1067627	¹ Cp
Tetrachloroethene	ND		0.500	1	01/29/2018 13:18	WG1067627	² Tc
Toluene	ND		0.500	1	01/29/2018 13:18	WG1067627	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	01/29/2018 13:18	WG1067627	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	01/29/2018 13:18	WG1067627	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	01/29/2018 13:18	WG1067627	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	01/29/2018 13:18	WG1067627	⁷ Gl
Trichloroethene	ND		0.500	1	01/29/2018 13:18	WG1067627	⁸ Al
Trichlorofluoromethane	ND		2.50	1	01/29/2018 13:18	WG1067627	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	01/29/2018 13:18	WG1067627	
1,2,4-Trimethylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627	
1,2,3-Trimethylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627	
1,3,5-Trimethylbenzene	ND		0.500	1	01/29/2018 13:18	WG1067627	
Vinyl acetate	ND		5.00	1	01/29/2018 13:18	WG1067627	
Vinyl chloride	ND		0.500	1	01/29/2018 13:18	WG1067627	
Xylenes, Total	ND		1.50	1	01/29/2018 13:18	WG1067627	
(S) Toluene-d8	103		80.0-120		01/29/2018 13:18	WG1067627	
(S) Dibromofluoromethane	90.2		76.0-123		01/29/2018 13:18	WG1067627	
(S) 4-Bromofluorobenzene	104		80.0-120		01/29/2018 13:18	WG1067627	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/29/2018 12:58	WG1067627
Acrylonitrile	ND		5.00	1	01/29/2018 12:58	WG1067627
Benzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Bromobenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Bromodichloromethane	ND		0.500	1	01/29/2018 12:58	WG1067627
Bromochloromethane	ND		0.500	1	01/29/2018 12:58	WG1067627
Bromoform	ND		0.500	1	01/29/2018 12:58	WG1067627
Bromomethane	ND		2.50	1	01/29/2018 12:58	WG1067627
n-Butylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
sec-Butylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
tert-Butylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Carbon disulfide	ND		0.500	1	01/29/2018 12:58	WG1067627
Carbon tetrachloride	ND		0.500	1	01/29/2018 12:58	WG1067627
Chlorobenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Chlorodibromomethane	ND		0.500	1	01/29/2018 12:58	WG1067627
Chloroethane	ND	J4	2.50	1	01/29/2018 12:58	WG1067627
Chloroform	ND		0.500	1	01/29/2018 12:58	WG1067627
Chloromethane	ND		1.25	1	01/29/2018 12:58	WG1067627
2-Chlorotoluene	ND		0.500	1	01/29/2018 12:58	WG1067627
4-Chlorotoluene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/29/2018 12:58	WG1067627
1,2-Dibromoethane	ND		0.500	1	01/29/2018 12:58	WG1067627
Dibromomethane	ND		0.500	1	01/29/2018 12:58	WG1067627
1,2-Dichlorobenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,3-Dichlorobenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,4-Dichlorobenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Dichlorodifluoromethane	ND		2.50	1	01/29/2018 12:58	WG1067627
1,1-Dichloroethane	ND		0.500	1	01/29/2018 12:58	WG1067627
1,2-Dichloroethane	ND		0.500	1	01/29/2018 12:58	WG1067627
1,1-Dichloroethene	ND		0.500	1	01/29/2018 12:58	WG1067627
cis-1,2-Dichloroethene	ND		0.500	1	01/29/2018 12:58	WG1067627
trans-1,2-Dichloroethene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,2-Dichloropropane	ND		0.500	1	01/29/2018 12:58	WG1067627
1,1-Dichloropropene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,3-Dichloropropane	ND		1.00	1	01/29/2018 12:58	WG1067627
cis-1,3-Dichloropropene	ND		0.500	1	01/29/2018 12:58	WG1067627
trans-1,3-Dichloropropene	ND		0.500	1	01/29/2018 12:58	WG1067627
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/29/2018 12:58	WG1067627
2,2-Dichloropropane	ND		0.500	1	01/29/2018 12:58	WG1067627
Di-isopropyl ether	ND		0.500	1	01/29/2018 12:58	WG1067627
Ethylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Hexachloro-1,3-butadiene	ND		1.00	1	01/29/2018 12:58	WG1067627
2-Hexanone	ND		5.00	1	01/29/2018 12:58	WG1067627
n-Hexane	ND		5.00	1	01/29/2018 12:58	WG1067627
Iodomethane	ND		10.0	1	01/29/2018 12:58	WG1067627
Isopropylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
p-Isopropyltoluene	ND		0.500	1	01/29/2018 12:58	WG1067627
2-Butanone (MEK)	ND		5.00	1	01/29/2018 12:58	WG1067627
Methylene Chloride	ND		2.50	1	01/29/2018 12:58	WG1067627
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/29/2018 12:58	WG1067627
Methyl tert-butyl ether	ND		0.500	1	01/29/2018 12:58	WG1067627
Naphthalene	ND		2.50	1	01/29/2018 12:58	WG1067627
n-Propylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Styrene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/29/2018 12:58	WG1067627
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/29/2018 12:58	WG1067627

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Collected date/time: 09/20/17 00:00

L966085

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/29/2018 12:58	WG1067627
Tetrachloroethene	ND		0.500	1	01/29/2018 12:58	WG1067627
Toluene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,2,3-Trichlorobenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,2,4-Trichlorobenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,1,1-Trichloroethane	ND		0.500	1	01/29/2018 12:58	WG1067627
1,1,2-Trichloroethane	ND		0.500	1	01/29/2018 12:58	WG1067627
Trichloroethene	ND		0.500	1	01/29/2018 12:58	WG1067627
Trichlorofluoromethane	ND		2.50	1	01/29/2018 12:58	WG1067627
1,2,3-Trichloropropane	ND		2.50	1	01/29/2018 12:58	WG1067627
1,2,4-Trimethylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,2,3-Trimethylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
1,3,5-Trimethylbenzene	ND		0.500	1	01/29/2018 12:58	WG1067627
Vinyl acetate	ND		5.00	1	01/29/2018 12:58	WG1067627
Vinyl chloride	ND		0.500	1	01/29/2018 12:58	WG1067627
Xylenes, Total	ND		1.50	1	01/29/2018 12:58	WG1067627
(S) Toluene-d8	105		80.0-120		01/29/2018 12:58	WG1067627
(S) Dibromofluoromethane	93.7		76.0-123		01/29/2018 12:58	WG1067627
(S) 4-Bromofluorobenzene	102		80.0-120		01/29/2018 12:58	WG1067627

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



Method Blank (MB)

(MB) R3283839-2 01/28/18 11:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromochloromethane	U		0.145	0.500
Bromodichloromethane	U		0.0800	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
Carbon disulfide	U		0.101	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
2,2-Dichloropropane	U		0.0929	0.500
2-Hexanone	U		0.757	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3283839-2 01/28/18 11:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
n-Hexane	U		0.305	5.00
Di-isopropyl ether	U		0.0924	0.500
Iodomethane	U		0.377	10.0
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
Tetrachloroethene	U		0.199	0.500
Vinyl acetate	U		0.645	5.00
Toluene	U		0.412	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,2,4-Trimethylbenzene	U		0.123	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	105			80.0-120
(S) Dibromofluoromethane	90.6			76.0-123
(S) 4-Bromofluorobenzene	103			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS)

(LCS) R3283839-1 01/28/18 10:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Bromochloromethane	25.0	25.9	104	76.0-122	
Carbon disulfide	25.0	22.8	91.4	55.0-127	
Acetone	125	108	86.7	10.0-160	
Acrylonitrile	125	112	89.8	60.0-142	
Benzene	25.0	22.4	89.6	69.0-123	
trans-1,4-Dichloro-2-butene	25.0	23.9	95.6	55.0-134	
Bromobenzene	25.0	24.2	96.7	79.0-120	
Bromodichloromethane	25.0	23.8	95.3	76.0-120	
Bromoform	25.0	25.6	102	67.0-132	
2-Hexanone	125	127	102	58.0-147	
Bromomethane	25.0	22.3	89.1	18.0-160	
n-Hexane	25.0	22.8	91.0	56.0-124	
Iodomethane	125	135	108	57.0-140	
n-Butylbenzene	25.0	24.9	99.4	72.0-126	
sec-Butylbenzene	25.0	26.2	105	74.0-121	
tert-Butylbenzene	25.0	25.3	101	75.0-122	
Carbon tetrachloride	25.0	22.1	88.3	63.0-122	
Chlorobenzene	25.0	26.3	105	79.0-121	
Chlorodibromomethane	25.0	26.6	106	75.0-125	
Chloroethane	25.0	25.7	103	47.0-152	
Chloroform	25.0	23.5	94.0	72.0-121	
Chloromethane	25.0	24.3	97.4	48.0-139	
2-Chlorotoluene	25.0	24.2	96.7	74.0-122	
4-Chlorotoluene	25.0	25.2	101	79.0-120	
1,2-Dibromo-3-Chloropropane	25.0	22.9	91.7	64.0-127	
1,2-Dibromoethane	25.0	25.9	104	77.0-123	
Dibromomethane	25.0	24.4	97.7	78.0-120	
1,2-Dichlorobenzene	25.0	24.8	99.2	80.0-120	
1,3-Dichlorobenzene	25.0	24.8	99.2	72.0-123	
1,4-Dichlorobenzene	25.0	24.3	97.4	77.0-120	
Dichlorodifluoromethane	25.0	34.3	137	49.0-155	
1,1-Dichloroethane	25.0	22.6	90.2	70.0-126	
1,2-Dichloroethane	25.0	23.8	95.2	67.0-126	
1,1-Dichloroethene	25.0	23.3	93.1	64.0-129	
cis-1,2-Dichloroethene	25.0	23.0	91.9	73.0-120	
Vinyl acetate	125	126	101	46.0-160	
trans-1,2-Dichloroethene	25.0	23.4	93.7	71.0-121	
1,2-Dichloropropane	25.0	24.9	99.7	75.0-125	
1,1-Dichloropropene	25.0	24.1	96.5	71.0-129	
1,3-Dichloropropane	25.0	25.9	104	80.0-121	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS)

(LCS) R3283839-1 01/28/18 10:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
cis-1,3-Dichloropropene	25.0	25.6	103	79.0-123	
trans-1,3-Dichloropropene	25.0	26.5	106	74.0-127	
2,2-Dichloropropane	25.0	22.7	90.9	60.0-125	
Di-isopropyl ether	25.0	22.3	89.2	59.0-133	
Ethylbenzene	25.0	25.5	102	77.0-120	
Hexachloro-1,3-butadiene	25.0	24.4	97.5	64.0-131	
Isopropylbenzene	25.0	25.8	103	75.0-120	
p-Isopropyltoluene	25.0	25.8	103	74.0-126	
2-Butanone (MEK)	125	111	88.5	37.0-158	
Methylene Chloride	25.0	21.3	85.1	66.0-121	
4-Methyl-2-pentanone (MIBK)	125	131	104	59.0-143	
Methyl tert-butyl ether	25.0	22.5	90.1	64.0-123	
Naphthalene	25.0	22.7	90.6	62.0-128	
n-Propylbenzene	25.0	24.6	98.3	79.0-120	
Styrene	25.0	25.4	102	78.0-124	
1,1,1,2-Tetrachloroethane	25.0	25.1	100	75.0-122	
1,1,2,2-Tetrachloroethane	25.0	25.2	101	71.0-122	
Tetrachloroethene	25.0	27.2	109	70.0-127	
Toluene	25.0	25.0	99.9	77.0-120	
1,1,2-Trichlorotrifluoroethane	25.0	25.1	100	61.0-136	
1,2,3-Trichlorobenzene	25.0	24.4	97.5	61.0-133	
1,2,4-Trichlorobenzene	25.0	24.0	95.9	69.0-129	
1,1,1-Trichloroethane	25.0	23.8	95.2	68.0-122	
1,1,2-Trichloroethane	25.0	26.2	105	78.0-120	
Trichloroethene	25.0	24.5	98.1	78.0-120	
Trichlorofluoromethane	25.0	26.6	106	56.0-137	
1,2,3-Trichloropropane	25.0	24.7	98.9	72.0-124	
1,2,3-Trimethylbenzene	25.0	25.0	99.8	75.0-120	
1,2,4-Trimethylbenzene	25.0	25.2	101	75.0-120	
1,3,5-Trimethylbenzene	25.0	25.4	101	75.0-120	
Vinyl chloride	25.0	28.2	113	64.0-133	
Xylenes, Total	75.0	77.4	103	77.0-120	
<i>(S) Toluene-d8</i>			106	80.0-120	
<i>(S) Dibromofluoromethane</i>			93.0	76.0-123	
<i>(S) 4-Bromofluorobenzene</i>			101	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3282511-3 01/29/18 10:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
2-Chlorotoluene	U		0.111	0.500
Chloroform	U		0.0860	0.500
4-Chlorotoluene	U		0.0972	0.500
Chloromethane	U		0.153	1.25
Dibromomethane	U		0.117	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,1-Dichloropropene	U		0.128	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
cis-1,3-Dichloropropene	U		0.0976	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3282511-3 01/29/18 10:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
trans-1,3-Dichloropropene	U		0.222	0.500
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Ethylbenzene	U		0.158	0.500
2-Hexanone	U		0.757	5.00
Isopropylbenzene	U		0.126	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
1,2,3-Trichloropropane	U		0.247	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
Tetrachloroethene	U		0.199	0.500
Vinyl acetate	U		0.645	5.00
Toluene	U		0.412	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	88.0			76.0-123
(S) 4-Bromofluorobenzene	104			80.0-120

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



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

(LCS) R3282511-1 01/29/18 10:00 • (LCSD) R3282511-2 01/29/18 10:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acrylonitrile	125	126	115	100	91.8	60.0-142			9.00	20
Bromobenzene	25.0	27.3	24.4	109	97.5	79.0-120			11.5	20
2-Chlorotoluene	25.0	26.5	24.5	106	97.9	74.0-122			8.02	20
4-Chlorotoluene	25.0	27.7	25.0	111	100	79.0-120			10.3	20
Dibromomethane	25.0	27.7	25.0	111	100	78.0-120			10.2	20
1,1-Dichloropropene	25.0	26.4	23.3	106	93.1	71.0-129			12.5	20
1,3-Dichloropropane	25.0	28.7	25.5	115	102	80.0-121			11.7	20
Acetone	125	142	137	113	110	10.0-160			3.24	23
Benzene	25.0	25.0	23.1	100	92.4	69.0-123			8.01	20
trans-1,4-Dichloro-2-butene	25.0	26.4	23.8	106	95.4	55.0-134			10.1	20
2,2-Dichloropropane	25.0	26.3	23.4	105	93.8	60.0-125			11.5	20
Bromodichloromethane	25.0	26.3	24.9	105	99.5	76.0-120			5.48	20
Di-isopropyl ether	25.0	25.3	22.6	101	90.3	59.0-133			11.3	20
Bromochloromethane	25.0	28.2	24.4	113	97.6	76.0-122			14.3	20
Bromoform	25.0	26.7	25.0	107	99.8	67.0-132			6.77	20
Hexachloro-1,3-butadiene	25.0	26.8	25.2	107	101	64.0-131			6.17	20
Bromomethane	25.0	20.3	19.7	81.3	79.0	18.0-160			2.95	20
n-Hexane	25.0	24.6	21.8	98.3	87.0	56.0-124			12.2	20
Iodomethane	125	118	121	94.2	96.6	57.0-140			2.61	20
n-Butylbenzene	25.0	27.8	25.8	111	103	72.0-126			7.25	20
sec-Butylbenzene	25.0	27.6	25.4	110	102	74.0-121			8.34	20
tert-Butylbenzene	25.0	26.9	25.3	108	101	75.0-122			6.36	20
Carbon disulfide	25.0	23.7	21.6	94.6	86.6	55.0-127			8.86	20
Carbon tetrachloride	25.0	24.9	22.4	99.8	89.7	63.0-122			10.6	20
Chlorobenzene	25.0	28.1	25.9	112	104	79.0-121			8.26	20
Chlorodibromomethane	25.0	28.0	25.4	112	102	75.0-125			9.51	20
Chloroethane	25.0	10.7	9.40	42.9	37.6	47.0-152	J4	J4	13.1	20
Chloroform	25.0	26.8	24.2	107	96.9	72.0-121			9.91	20
1,1,1,2-Tetrachloroethane	25.0	27.8	24.5	111	98.1	75.0-122			12.5	20
Chloromethane	25.0	25.0	22.9	99.9	91.4	48.0-139			8.92	20
1,2-Dibromo-3-Chloropropane	25.0	25.2	23.4	101	93.5	64.0-127			7.39	20
1,2-Dibromoethane	25.0	28.4	25.4	114	102	77.0-123			11.0	20
1,2-Dichlorobenzene	25.0	26.8	24.5	107	97.8	80.0-120			9.16	20
1,3-Dichlorobenzene	25.0	26.8	24.5	107	98.0	72.0-123			8.94	20
1,4-Dichlorobenzene	25.0	25.8	23.2	103	92.8	77.0-120			10.8	20
Dichlorodifluoromethane	25.0	30.7	28.7	123	115	49.0-155			6.73	20
1,2,3-Trichloropropane	25.0	27.6	24.7	110	98.8	72.0-124			11.1	20
1,1-Dichloroethane	25.0	25.5	23.3	102	93.1	70.0-126			9.03	20
1,2,3-Trimethylbenzene	25.0	26.8	24.6	107	98.3	75.0-120			8.75	20
1,2-Dichloroethane	25.0	26.4	23.4	106	93.7	67.0-126			11.9	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3282511-1 01/29/18 10:00 • (LCSD) R3282511-2 01/29/18 10:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
1,1-Dichloroethene	25.0	24.3	22.7	97.3	91.0	64.0-129			6.70	20
cis-1,2-Dichloroethene	25.0	25.1	23.2	100	92.8	73.0-120			7.71	20
Vinyl acetate	125	138	122	111	97.8	46.0-160			12.4	20
trans-1,2-Dichloroethene	25.0	26.0	23.4	104	93.5	71.0-121			10.5	20
1,2-Dichloropropane	25.0	27.3	25.2	109	101	75.0-125			8.06	20
cis-1,3-Dichloropropene	25.0	28.0	25.2	112	101	79.0-123			10.3	20
trans-1,3-Dichloropropene	25.0	28.4	26.3	113	105	74.0-127			7.72	20
Ethylbenzene	25.0	28.3	25.5	113	102	77.0-120			10.4	20
2-Hexanone	125	150	139	120	111	58.0-147			7.43	20
Isopropylbenzene	25.0	27.1	25.6	109	102	75.0-120			6.01	20
p-Isopropyltoluene	25.0	28.3	26.3	113	105	74.0-126			7.27	20
2-Butanone (MEK)	125	146	135	117	108	37.0-158			7.49	20
Methylene Chloride	25.0	24.3	21.5	97.2	85.9	66.0-121			12.4	20
4-Methyl-2-pentanone (MIBK)	125	142	130	114	104	59.0-143			9.26	20
Methyl tert-butyl ether	25.0	25.3	22.9	101	91.5	64.0-123			10.1	20
Naphthalene	25.0	25.2	24.6	101	98.4	62.0-128			2.57	20
n-Propylbenzene	25.0	27.1	24.9	108	99.7	79.0-120			8.37	20
Styrene	25.0	27.4	25.1	110	100	78.0-124			8.82	20
1,1,2,2-Tetrachloroethane	25.0	27.7	25.6	111	102	71.0-122			7.88	20
Tetrachloroethene	25.0	28.7	26.0	115	104	70.0-127			10.0	20
Toluene	25.0	27.3	24.9	109	99.7	77.0-120			9.07	20
1,1,2-Trichlorotrifluoroethane	25.0	25.2	23.0	101	92.1	61.0-136			8.99	20
1,2,3-Trichlorobenzene	25.0	26.0	24.2	104	97.0	61.0-133			6.85	20
1,2,4-Trichlorobenzene	25.0	25.7	24.7	103	98.6	69.0-129			4.35	20
1,1,1-Trichloroethane	25.0	26.0	24.1	104	96.2	68.0-122			7.73	20
1,1,2-Trichloroethane	25.0	28.9	25.2	115	101	78.0-120			13.4	20
Trichloroethene	25.0	27.9	26.1	112	104	78.0-120			6.75	20
Trichlorofluoromethane	25.0	20.6	18.6	82.4	74.6	56.0-137			10.0	20
1,2,4-Trimethylbenzene	25.0	28.0	25.4	112	102	75.0-120			9.73	20
1,3,5-Trimethylbenzene	25.0	26.5	25.5	106	102	75.0-120			3.90	20
Vinyl chloride	25.0	28.9	27.3	116	109	64.0-133			5.90	20
Xylenes, Total	75.0	84.6	78.0	113	104	77.0-120			8.12	20
(S) Toluene-d8				103	99.7	80.0-120				
(S) Dibromofluoromethane				92.8	91.8	76.0-123				
(S) 4-Bromofluorobenzene				101	101	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier Description

J4	The associated batch QC was outside the established quality control range for accuracy.
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ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
 * Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

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



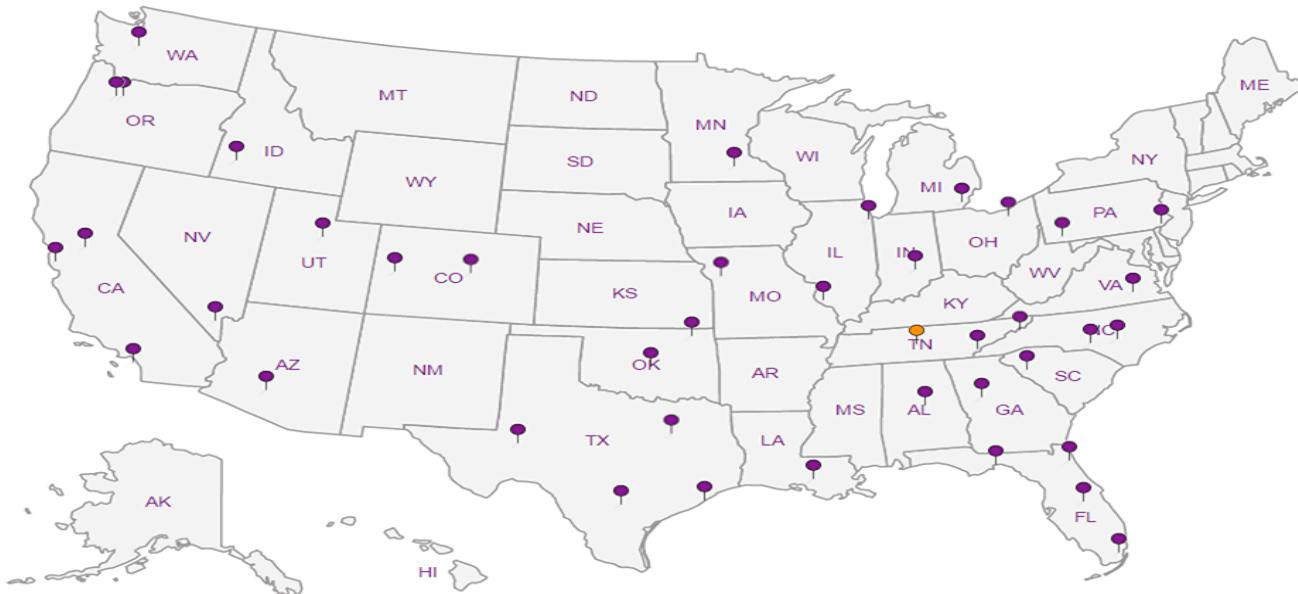
Third Party Federal Accreditations


A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	TN00003		

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

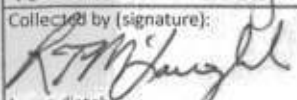
Our Locations

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



PES Environmental, Inc.- WA 1215 Fourth Ave., Suite 1350 Seattle, WA 98161	Billing Information: Attn: Accounts Payable 1215 Fourth Ave., Ste. 1350 Seattle, WA 98161	Chain of Custody Page ___ of ___  12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859
	Report to: Karsten Springstead	

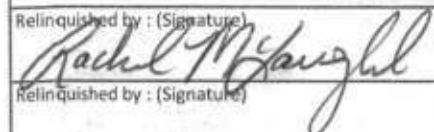
Project Description: MVSC	City/State Collected: NORMANDY WA
Phone: 206-529-3980 Fax: 206-529-3985	Client Project # 1358.001.01.003

Collected by (print): Rachel McLaughlin	Site/Facility ID # MVSC	Lab Project # PESENVSWA-MVSC
Collected by (signature): 	P.O. # 1358.001.01.003	Quote #

Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day	Date Results Needed	No. of Cntrs
Packed on ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs													
DC-15-012418	GRAB	GW	38	01/24/18	10:30	3	X												
DC-8-012418		GW	36.5	01/24/18	11:30	3	X												
DC-10A-012518		GW	36	01/25/18	14:10	3	X												
KMW-3-012518		GW	28	01/25/18	15:40	3	X												
DC-11-012518		GW	40	01/25/18	9:15	3	X												
KMW-8-012518		GW	40	01/25/18	10:50	3	X												
MW-11-012518		GW	38	01/25/18	12:48	3	X												
DC-7-012618		GW	35.5	01/26/18	09:15	3	X												
MW-7-012618		GW	40	01/26/18	10:35	3	X												
MW-101-012618		GW	40	01/26/18	12:45	3	X												

* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other	Remarks: Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Tracking # 7466 1466 8268	pH _____ Temp _____ Flow _____ Other _____	Sample Receipt Checklist OOC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N OOC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VCA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
--	--	----------------------------------	---	--

Relinquished by: (Signature) 	Date: 01/26/18	Time: 13:40	Received by: (Signature)	Trip Blank Received: Yes/No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No IRL / MeOH TBR	Temp: _____ °C 3.3	Bottles Received: 36	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: _____ Time: _____	Hold:	Condition: NCF <input checked="" type="checkbox"/> OK	

V8260LLC VOCs 40mIAmb-HCI

PES Environmental, Inc.- WA
 1215 Fourth Ave., Suite 1350
 Seattle, WA 98161

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

Pres
 Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
 mdahl@pesenv.com

Project
 Description: **MVSC**

City/State
 Collected: **NORMANDY, WA**

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
Rachel McLaughlin

Site/Facility ID #
MVSC

P.O. #
1358.001.01.003

Collected by (signature):
Rachel McLaughlin

Rush? (Lab MUST Be Notified)
 ___ Same Day ___ Five Day
 ___ Next Day ___ 5 Day (Rad Only)
 ___ Two Day ___ 10 Day (Rad Only)
 ___ Three Day

Quote #
 Date Results Needed

Immediately
 Packed on Ice N ___ Y **X**

V826011C VOCs 40ml/Amb-HCl

L# **966 085**
 Table #
 Acctnum: **PESENVSWA**
 Template: **T131700**
 Prelogin: **P635423**
 TSR: **110 - Brian Ford**
 PB:
 Shipped Via:
 Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
DC-17-012618	Grab	GW	35.5	1/26/18	12:00	3
EQUIPMENT BLANK	GRAB	GW	-	1/26/18	12:30	3
TRIP BLANK		GW	-	9/20/17	-	1
		GW				
		GW				

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
 Samples returned via:
 ___ UPS ___ FedEx ___ Courier
 Tracking #
 pH ___ Temp ___
 Flow ___ Other ___

Sample Receipt Checklist
 COC Seal Present/Intact: ___ Y ___ N
 COC Signed/Accurate: ___ Y ___ N
 Bottles arrive intact: ___ Y ___ N
 Correct bottles used: ___ Y ___ N
 Sufficient volume sent: ___ Y ___ N
 if Applicable
 VOA Zero Headspace: ___ Y ___ N
 Preservation Correct/Checked: ___ Y ___ N

Relinquished by: (Signature)
Rachel McLaughlin

Date: **01/26/17** Time: **13:40**

Received by: (Signature)

Trip Blank Received: **0/No**
1 HCL / MeOH
 TBR

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Temp: **3.3** °C
50 °F
 Bottles Received: **36**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: Time:

Received for lab by: (Signature)
Janita 825

Date: **1/27/18** Time: **0842**

Hold: Condition: **NCF / GH**

Brian Ford

From: Matt Dahl <mdahl@pesenv.com>
Sent: Monday, January 29, 2018 1:40 PM
To: Brian Ford
Cc: Karsten Springstead
Subject: RE: ESC Lab Sciences Login for 1358.001.01.003 MVSC L966085
Attachments: COCL966085_revised_2018_0129.pdf

Hi Brian,

We inadvertently collected a sample from DC-11 and we should have sampled DC-14. Could you please cancel sample ID L966085-05 (DC-11) and send a cooler with 1 set of sample bottles and spare set to our office? I have attached a revised copy of the chain of custody.

I have someone available to resample this week, so would it be possible to get the cooler by EOB Wed 1/31?

Thanks!
-Matt

Matt Dahl, P.E.
PES Environmental , Inc.
ph: (206) 529-3980 ext. 103
cell: (425) 922-0872
fax: (206) 529-3985

-----Original Message-----

From: Brian Ford [<mailto:bford@esclabsciences.com>]
Sent: Saturday, January 27, 2018 11:28 AM
To: Matt Dahl <mdahl@pesenv.com>; Karsten Springstead <KSpringstead@pesenv.com>
Subject: ESC Lab Sciences Login for 1358.001.01.003 MVSC L966085

Thank you for choosing ESC Lab Sciences! Please find enclosed PDF files containing your laboratory login confirmation and chain of custody.

ESC is leading the laboratory industry with our On-line Data Management tools. Please contact your Technical Service Representative to learn how to create historical Excel tables or access data in real time using powerful and intuitive software that is only available at <http://www.esclabsciences.com>.

Visit ESC's secure data management web site - myESC - for all your reporting and data management needs at https://linkprotect.cudasvc.com/url?a=http://www.esclabsciences.com/login&c=E,1,cvWaymlw9yVvdl_EJFUEkeEWw4dk34atvUEJZwMBkOz6bQkzmy89WOPeowNqk92i3JY9HdNYdyUjC0tShi6bKHnnBHCcmdLU2vx2tymMuCbHr2_j7E3uvKP7q_pzZ&typo=1

ESC ... "Your Lab of Choice"

Brian Ford
Technical Service Representative
615-773-9772

ESC Lab Sciences
12065 Lebanon Rd.
Mt. Juliet, TN 37122

Notice: This communication and any attached files may contain privileged or other confidential information. If you have received this in error, please contact the sender immediately via reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.

MEMORANDUM

TO: Project File **DATE:** February 13, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center and Harris Family LTD
PROJECT #: 1358.001.01.003
TASK: January 24-26, 2018 Groundwater Samples
LAB: ECS Lab Sciences Request No. L966085

Eleven (11) groundwater samples (including a field duplicate), one equipment blank, and a trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Center/Harris Family LTD site in Normandy Park, Washington on January 24-26, 2018. Samples associated with SDG L946305 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by ESC Lab Sciences (ESC) of Mt. Juliet, Tennessee.

The monitoring event occurred between January 24 and 26, 2018. The quality assurance review of the laboratory data for SDG L966085 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report with the following discussion:

- PES inadvertently sampled the wrong monitoring well and on January 29, 2018 cancelled a request for analysis on sample DC-11-012518. The correct monitoring well was sampled on February 2, 2018 and the result for this sample (sample DC-14) is reported with ESC SDG L967542.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 3.3 degrees Centigrade (°C). The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. No data qualifications were warranted.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Hard copies of the calibration data for this project are not required in the data deliverable and are typically not reported. The laboratory is required to discuss discrepancies in calibration results associated with the project analyses if they occur. No calibration issues were reported; therefore no data qualifications were warranted.

Method Blank Results

A laboratory method blank was included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

Trip blank was prepared by ESC on September 20, 2017 and analyzed on January 29, 2018. The target analytes (VOCs) were not detected in the trip blank at concentrations at or above the RDLs.

Equipment Blank Results

An equipment blank sample was collected on January 26, 2017. The target analytes (VOCs) were not detected in the equipment blank at concentrations at or above the RDLs.

Field Duplicate Analyses

Field duplicate samples (MW-7-012618 and MW-101-012618) were collected and analyzed for VOCs. Results are comparable with relative percent difference (RPDs) of less than 20%.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's for analytical batch (WG1067406) are within the laboratory control limits. Refer to the field duplicate data for precision information. Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) % Rs and RPDs for analytical batch (WG1067627) are within laboratory control limit criteria with one exception:

- LCS/LCSD % Rs for chloroethane are low and below laboratory acceptance criteria. **Associated sample DC-17-012618 chloroethane result is estimated and qualified (UJ) due to low LCS recoveries.**

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifier is assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	01/29/2018 16:16	WG1067627
Acrylonitrile	ND		5.00	1	01/29/2018 16:16	WG1067627
Benzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromodichloromethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromochloromethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromoform	ND		0.500	1	01/29/2018 16:16	WG1067627
Bromomethane	ND		2.50	1	01/29/2018 16:16	WG1067627
n-Butylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
sec-Butylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
tert-Butylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Carbon disulfide	ND		0.500	1	01/29/2018 16:16	WG1067627
Carbon tetrachloride	ND		0.500	1	01/29/2018 16:16	WG1067627
Chlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Chlorodibromomethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Chloroethane	ND	UJ	2.50	1	01/29/2018 16:16	WG1067627
Chloroform	ND		0.500	1	01/29/2018 16:16	WG1067627
Chloromethane	ND		1.25	1	01/29/2018 16:16	WG1067627
2-Chlorotoluene	ND		0.500	1	01/29/2018 16:16	WG1067627
4-Chlorotoluene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dibromo-3-Chloropropane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,2-Dibromoethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Dibromomethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,3-Dichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,4-Dichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Dichlorodifluoromethane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,1-Dichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1-Dichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
cis-1,2-Dichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
trans-1,2-Dichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2-Dichloropropane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1-Dichloropropene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,3-Dichloropropane	ND		1.00	1	01/29/2018 16:16	WG1067627
cis-1,3-Dichloropropene	ND		0.500	1	01/29/2018 16:16	WG1067627
trans-1,3-Dichloropropene	ND		0.500	1	01/29/2018 16:16	WG1067627
trans-1,4-Dichloro-2-butene	ND		5.00	1	01/29/2018 16:16	WG1067627
2,2-Dichloropropane	ND		0.500	1	01/29/2018 16:16	WG1067627
Di-isopropyl ether	ND		0.500	1	01/29/2018 16:16	WG1067627
Ethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Hexachloro-1,3-butadiene	ND		1.00	1	01/29/2018 16:16	WG1067627
2-Hexanone	ND		5.00	1	01/29/2018 16:16	WG1067627
n-Hexane	ND		5.00	1	01/29/2018 16:16	WG1067627
Iodomethane	ND		10.0	1	01/29/2018 16:16	WG1067627
Isopropylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
p-Isopropyltoluene	ND		0.500	1	01/29/2018 16:16	WG1067627
2-Butanone (MEK)	ND		5.00	1	01/29/2018 16:16	WG1067627
Methylene Chloride	ND		2.50	1	01/29/2018 16:16	WG1067627
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	01/29/2018 16:16	WG1067627
Methyl tert-butyl ether	ND		0.500	1	01/29/2018 16:16	WG1067627
Naphthalene	ND		2.50	1	01/29/2018 16:16	WG1067627
n-Propylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Styrene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,1,2-Tetrachloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,2,2-Tetrachloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627

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

JC 2/13/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Tetrachloroethene	7.38		0.500	1	01/29/2018 16:16	WG1067627
Toluene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2,3-Trichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2,4-Trichlorobenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,1-Trichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
1,1,2-Trichloroethane	ND		0.500	1	01/29/2018 16:16	WG1067627
Trichloroethene	ND		0.500	1	01/29/2018 16:16	WG1067627
Trichlorofluoromethane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,2,3-Trichloropropane	ND		2.50	1	01/29/2018 16:16	WG1067627
1,2,4-Trimethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,2,3-Trimethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
1,3,5-Trimethylbenzene	ND		0.500	1	01/29/2018 16:16	WG1067627
Vinyl acetate	ND		5.00	1	01/29/2018 16:16	WG1067627
Vinyl chloride	ND		0.500	1	01/29/2018 16:16	WG1067627
Xylenes, Total	ND		1.50	1	01/29/2018 16:16	WG1067627
(S) Toluene-d8	105		80.0-120		01/29/2018 16:16	WG1067627
(S) Dibromofluoromethane	91.6		76.0-123		01/29/2018 16:16	WG1067627
(S) 4-Bromofluorobenzene	109		80.0-120		01/29/2018 16:16	WG1067627

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

JC 2/13/18

February 07, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L967542
Samples Received: 02/03/2018
Project Number: 1358.001.01.003
Description: MVSC
Site: MVSC
Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	4	⁴Cn
Sr: Sample Results	5	⁵Sr
DC-14-020218 L967542-01	5	
TRIP BLANK L967542-02	7	
Qc: Quality Control Summary	9	⁶Qc
Volatile Organic Compounds (GC/MS) by Method 8260C	9	
Gl: Glossary of Terms	13	⁷Gl
Al: Accreditations & Locations	14	⁸Al
Sc: Sample Chain of Custody	15	⁹Sc

SAMPLE SUMMARY



DC-14-020218 L967542-01 GW

Collected by Rachel McLaughlin	Collected date/time 02/02/18 09:10	Received date/time 02/03/18 08:45
-----------------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1070440	1	02/06/18 15:35	02/06/18 15:35	BMB

1
Cp

2
Tc

3
Ss

TRIP BLANK L967542-02 GW

Collected by Rachel McLaughlin	Collected date/time 09/11/17 00:00	Received date/time 02/03/18 08:45
-----------------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1070440	1	02/06/18 14:55	02/06/18 14:55	BMB

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	02/06/2018 15:35	WG1070440
Acrylonitrile	ND		5.00	1	02/06/2018 15:35	WG1070440
Benzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromodichloromethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromochloromethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromoform	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromomethane	ND		2.50	1	02/06/2018 15:35	WG1070440
n-Butylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
sec-Butylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
tert-Butylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Carbon disulfide	ND		0.500	1	02/06/2018 15:35	WG1070440
Carbon tetrachloride	ND		0.500	1	02/06/2018 15:35	WG1070440
Chlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Chlorodibromomethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Chloroethane	ND		2.50	1	02/06/2018 15:35	WG1070440
Chloroform	2.97		0.500	1	02/06/2018 15:35	WG1070440
Chloromethane	ND		1.25	1	02/06/2018 15:35	WG1070440
2-Chlorotoluene	ND		0.500	1	02/06/2018 15:35	WG1070440
4-Chlorotoluene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dibromo-3-Chloropropane	ND		2.50	1	02/06/2018 15:35	WG1070440
1,2-Dibromoethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Dibromomethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,3-Dichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,4-Dichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Dichlorodifluoromethane	ND		2.50	1	02/06/2018 15:35	WG1070440
1,1-Dichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1-Dichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440
cis-1,2-Dichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440
trans-1,2-Dichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dichloropropane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1-Dichloropropene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,3-Dichloropropane	ND		1.00	1	02/06/2018 15:35	WG1070440
cis-1,3-Dichloropropene	ND		0.500	1	02/06/2018 15:35	WG1070440
trans-1,3-Dichloropropene	ND		0.500	1	02/06/2018 15:35	WG1070440
trans-1,4-Dichloro-2-butene	ND		5.00	1	02/06/2018 15:35	WG1070440
2,2-Dichloropropane	ND		0.500	1	02/06/2018 15:35	WG1070440
Di-isopropyl ether	ND		0.500	1	02/06/2018 15:35	WG1070440
Ethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Hexachloro-1,3-butadiene	ND		1.00	1	02/06/2018 15:35	WG1070440
2-Hexanone	ND		5.00	1	02/06/2018 15:35	WG1070440
n-Hexane	ND		5.00	1	02/06/2018 15:35	WG1070440
Iodomethane	ND		10.0	1	02/06/2018 15:35	WG1070440
Isopropylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
p-Isopropyltoluene	ND		0.500	1	02/06/2018 15:35	WG1070440
2-Butanone (MEK)	ND		5.00	1	02/06/2018 15:35	WG1070440
Methylene Chloride	ND	JO	2.50	1	02/06/2018 15:35	WG1070440
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	02/06/2018 15:35	WG1070440
Methyl tert-butyl ether	ND		0.500	1	02/06/2018 15:35	WG1070440
Naphthalene	ND		2.50	1	02/06/2018 15:35	WG1070440
n-Propylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Styrene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1,1,2-Tetrachloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1,2,2-Tetrachloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 02/02/18 09:10

L967542

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	02/06/2018 15:35	WG1070440	1 Cp
Tetrachloroethene	7.81		0.500	1	02/06/2018 15:35	WG1070440	2 Tc
Toluene	ND		0.500	1	02/06/2018 15:35	WG1070440	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440	7 Gl
Trichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440	8 Al
Trichlorofluoromethane	ND		2.50	1	02/06/2018 15:35	WG1070440	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	02/06/2018 15:35	WG1070440	
1,2,4-Trimethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440	
1,2,3-Trimethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440	
1,3,5-Trimethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440	
Vinyl acetate	ND		5.00	1	02/06/2018 15:35	WG1070440	
Vinyl chloride	ND		0.500	1	02/06/2018 15:35	WG1070440	
Xylenes, Total	ND		1.50	1	02/06/2018 15:35	WG1070440	
(S) Toluene-d8	110		80.0-120		02/06/2018 15:35	WG1070440	
(S) Dibromofluoromethane	101		76.0-123		02/06/2018 15:35	WG1070440	
(S) 4-Bromofluorobenzene	99.4		80.0-120		02/06/2018 15:35	WG1070440	



Collected date/time: 09/11/17 00:00

L967542

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	02/06/2018 14:55	WG1070440
Acrylonitrile	ND		5.00	1	02/06/2018 14:55	WG1070440
Benzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Bromobenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Bromodichloromethane	ND		0.500	1	02/06/2018 14:55	WG1070440
Bromochloromethane	ND		0.500	1	02/06/2018 14:55	WG1070440
Bromoform	ND		0.500	1	02/06/2018 14:55	WG1070440
Bromomethane	ND		2.50	1	02/06/2018 14:55	WG1070440
n-Butylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
sec-Butylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
tert-Butylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Carbon disulfide	ND		0.500	1	02/06/2018 14:55	WG1070440
Carbon tetrachloride	ND		0.500	1	02/06/2018 14:55	WG1070440
Chlorobenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Chlorodibromomethane	ND		0.500	1	02/06/2018 14:55	WG1070440
Chloroethane	ND		2.50	1	02/06/2018 14:55	WG1070440
Chloroform	ND		0.500	1	02/06/2018 14:55	WG1070440
Chloromethane	ND		1.25	1	02/06/2018 14:55	WG1070440
2-Chlorotoluene	ND		0.500	1	02/06/2018 14:55	WG1070440
4-Chlorotoluene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,2-Dibromo-3-Chloropropane	ND		2.50	1	02/06/2018 14:55	WG1070440
1,2-Dibromoethane	ND		0.500	1	02/06/2018 14:55	WG1070440
Dibromomethane	ND		0.500	1	02/06/2018 14:55	WG1070440
1,2-Dichlorobenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,3-Dichlorobenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,4-Dichlorobenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Dichlorodifluoromethane	ND		2.50	1	02/06/2018 14:55	WG1070440
1,1-Dichloroethane	ND		0.500	1	02/06/2018 14:55	WG1070440
1,2-Dichloroethane	ND		0.500	1	02/06/2018 14:55	WG1070440
1,1-Dichloroethene	ND		0.500	1	02/06/2018 14:55	WG1070440
cis-1,2-Dichloroethene	ND		0.500	1	02/06/2018 14:55	WG1070440
trans-1,2-Dichloroethene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,2-Dichloropropane	ND		0.500	1	02/06/2018 14:55	WG1070440
1,1-Dichloropropene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,3-Dichloropropane	ND		1.00	1	02/06/2018 14:55	WG1070440
cis-1,3-Dichloropropene	ND		0.500	1	02/06/2018 14:55	WG1070440
trans-1,3-Dichloropropene	ND		0.500	1	02/06/2018 14:55	WG1070440
trans-1,4-Dichloro-2-butene	ND		5.00	1	02/06/2018 14:55	WG1070440
2,2-Dichloropropane	ND		0.500	1	02/06/2018 14:55	WG1070440
Di-isopropyl ether	ND		0.500	1	02/06/2018 14:55	WG1070440
Ethylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Hexachloro-1,3-butadiene	ND		1.00	1	02/06/2018 14:55	WG1070440
2-Hexanone	ND		5.00	1	02/06/2018 14:55	WG1070440
n-Hexane	ND		5.00	1	02/06/2018 14:55	WG1070440
Iodomethane	ND		10.0	1	02/06/2018 14:55	WG1070440
Isopropylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
p-Isopropyltoluene	ND		0.500	1	02/06/2018 14:55	WG1070440
2-Butanone (MEK)	ND		5.00	1	02/06/2018 14:55	WG1070440
Methylene Chloride	ND	JO	2.50	1	02/06/2018 14:55	WG1070440
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	02/06/2018 14:55	WG1070440
Methyl tert-butyl ether	ND		0.500	1	02/06/2018 14:55	WG1070440
Naphthalene	ND		2.50	1	02/06/2018 14:55	WG1070440
n-Propylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Styrene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,1,1,2-Tetrachloroethane	ND		0.500	1	02/06/2018 14:55	WG1070440
1,1,2,2-Tetrachloroethane	ND		0.500	1	02/06/2018 14:55	WG1070440

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Collected date/time: 09/11/17 00:00

L967542

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	02/06/2018 14:55	WG1070440
Tetrachloroethene	ND		0.500	1	02/06/2018 14:55	WG1070440
Toluene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,2,3-Trichlorobenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,2,4-Trichlorobenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,1,1-Trichloroethane	ND		0.500	1	02/06/2018 14:55	WG1070440
1,1,2-Trichloroethane	ND		0.500	1	02/06/2018 14:55	WG1070440
Trichloroethene	ND		0.500	1	02/06/2018 14:55	WG1070440
Trichlorofluoromethane	ND		2.50	1	02/06/2018 14:55	WG1070440
1,2,3-Trichloropropane	ND		2.50	1	02/06/2018 14:55	WG1070440
1,2,4-Trimethylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,2,3-Trimethylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
1,3,5-Trimethylbenzene	ND		0.500	1	02/06/2018 14:55	WG1070440
Vinyl acetate	ND		5.00	1	02/06/2018 14:55	WG1070440
Vinyl chloride	ND		0.500	1	02/06/2018 14:55	WG1070440
Xylenes, Total	ND		1.50	1	02/06/2018 14:55	WG1070440
(S) Toluene-d8	110		80.0-120		02/06/2018 14:55	WG1070440
(S) Dibromofluoromethane	101		76.0-123		02/06/2018 14:55	WG1070440
(S) 4-Bromofluorobenzene	97.9		80.0-120		02/06/2018 14:55	WG1070440

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3284457-3 02/06/18 12:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromochloromethane	U		0.145	0.500
Bromodichloromethane	U		0.0800	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
Carbon disulfide	U		0.101	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
2,2-Dichloropropane	U		0.0929	0.500
2-Hexanone	U		0.757	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3284457-3 02/06/18 12:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
n-Hexane	U		0.305	5.00
Di-isopropyl ether	U		0.0924	0.500
Iodomethane	U		0.377	10.0
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
Tetrachloroethene	U		0.199	0.500
Vinyl acetate	U		0.645	5.00
Toluene	U		0.412	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,2,4-Trimethylbenzene	U		0.123	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	114			80.0-120
(S) Dibromofluoromethane	98.5			76.0-123
(S) 4-Bromofluorobenzene	112			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3284457-1 02/06/18 11:22 • (LCSD) R3284457-2 02/06/18 11:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromochloromethane	25.0	23.8	23.9	95.4	95.6	76.0-122			0.243	20
Carbon disulfide	25.0	23.1	23.8	92.3	95.4	55.0-127			3.24	20
Acetone	125	147	162	118	129	10.0-160			9.59	23
Acrylonitrile	125	106	109	84.7	87.4	60.0-142			3.16	20
Benzene	25.0	21.0	20.5	83.9	82.2	69.0-123			2.11	20
trans-1,4-Dichloro-2-butene	25.0	22.1	22.2	88.3	88.7	55.0-134			0.387	20
Bromobenzene	25.0	22.1	22.3	88.5	89.4	79.0-120			0.962	20
Bromodichloromethane	25.0	25.6	25.2	102	101	76.0-120			1.59	20
Bromoform	25.0	26.5	27.1	106	108	67.0-132			2.28	20
2-Hexanone	125	135	136	108	109	58.0-147			0.804	20
Bromomethane	25.0	25.6	26.0	102	104	18.0-160			1.75	20
n-Hexane	25.0	22.1	24.7	88.2	98.8	56.0-124			11.3	20
Iodomethane	125	126	130	100	104	57.0-140			3.83	20
n-Butylbenzene	25.0	26.1	25.8	104	103	72.0-126			0.990	20
sec-Butylbenzene	25.0	26.1	25.8	104	103	74.0-121			1.06	20
tert-Butylbenzene	25.0	26.7	26.2	107	105	75.0-122			1.83	20
Carbon tetrachloride	25.0	28.0	27.4	112	110	63.0-122			2.16	20
Chlorobenzene	25.0	28.1	27.1	112	108	79.0-121			3.70	20
Chlorodibromomethane	25.0	29.9	29.3	120	117	75.0-125			2.29	20
Chloroethane	25.0	22.2	21.9	88.9	87.7	47.0-152			1.28	20
Chloroform	25.0	24.3	23.4	97.3	93.8	72.0-121			3.67	20
Chloromethane	25.0	26.5	24.4	106	97.8	48.0-139			8.12	20
2-Chlorotoluene	25.0	25.1	24.9	100	99.6	74.0-122			0.813	20
4-Chlorotoluene	25.0	24.6	24.2	98.2	96.8	79.0-120			1.41	20
1,2-Dibromo-3-Chloropropane	25.0	23.9	25.0	95.5	99.9	64.0-127			4.50	20
1,2-Dibromoethane	25.0	26.8	26.7	107	107	77.0-123			0.462	20
Dibromomethane	25.0	24.7	24.6	98.8	98.5	78.0-120			0.350	20
1,2-Dichlorobenzene	25.0	24.7	25.1	98.8	101	80.0-120			1.75	20
1,3-Dichlorobenzene	25.0	24.6	25.0	98.4	99.9	72.0-123			1.51	20
1,4-Dichlorobenzene	25.0	24.2	24.6	96.8	98.3	77.0-120			1.46	20
Dichlorodifluoromethane	25.0	30.6	28.9	122	116	49.0-155			5.56	20
1,1-Dichloroethane	25.0	21.2	21.3	84.9	85.2	70.0-126			0.370	20
1,2-Dichloroethane	25.0	25.0	25.2	100	101	67.0-126			0.911	20
1,1-Dichloroethene	25.0	24.9	25.6	99.8	102	64.0-129			2.55	20
cis-1,2-Dichloroethene	25.0	22.7	21.9	90.7	87.8	73.0-120			3.30	20
Vinyl acetate	125	134	133	107	106	46.0-160			0.746	20
trans-1,2-Dichloroethene	25.0	22.4	25.2	89.7	101	71.0-121			11.7	20
1,2-Dichloropropane	25.0	21.8	21.7	87.1	86.8	75.0-125			0.421	20
1,1-Dichloropropene	25.0	23.9	23.1	95.4	92.4	71.0-129			3.17	20
1,3-Dichloropropane	25.0	25.4	25.1	102	100	80.0-121			1.40	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3284457-1 02/06/18 11:22 • (LCSD) R3284457-2 02/06/18 11:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
cis-1,3-Dichloropropene	25.0	26.0	25.3	104	101	79.0-123			2.40	20
trans-1,3-Dichloropropene	25.0	29.5	28.7	118	115	74.0-127			2.78	20
2,2-Dichloropropane	25.0	30.6	28.9	122	116	60.0-125			5.65	20
Di-isopropyl ether	25.0	22.9	24.3	91.6	97.4	59.0-133			6.14	20
Ethylbenzene	25.0	28.0	27.5	112	110	77.0-120			1.74	20
Hexachloro-1,3-butadiene	25.0	25.6	27.2	102	109	64.0-131			6.07	20
Isopropylbenzene	25.0	26.1	25.7	104	103	75.0-120			1.62	20
p-Isopropyltoluene	25.0	27.2	27.2	109	109	74.0-126			0.132	20
2-Butanone (MEK)	125	112	112	89.8	89.5	37.0-158			0.363	20
Methylene Chloride	25.0	19.8	23.1	79.3	92.3	66.0-121			15.2	20
4-Methyl-2-pentanone (MIBK)	125	141	141	113	113	59.0-143			0.336	20
Methyl tert-butyl ether	25.0	22.2	24.1	88.7	96.5	64.0-123			8.40	20
Naphthalene	25.0	22.9	24.9	91.6	99.4	62.0-128			8.13	20
n-Propylbenzene	25.0	24.2	24.2	96.9	96.8	79.0-120			0.0915	20
Styrene	25.0	22.1	22.2	88.5	88.9	78.0-124			0.505	20
1,1,1,2-Tetrachloroethane	25.0	29.3	28.2	117	113	75.0-122			3.49	20
1,1,2,2-Tetrachloroethane	25.0	20.8	21.1	83.2	84.4	71.0-122			1.50	20
Tetrachloroethene	25.0	29.9	28.6	120	114	70.0-127			4.38	20
Toluene	25.0	25.9	24.8	104	99.2	77.0-120			4.24	20
1,1,2-Trichlorotrifluoroethane	25.0	21.6	21.7	86.2	86.9	61.0-136			0.745	20
1,2,3-Trichlorobenzene	25.0	24.9	26.1	99.7	104	61.0-133			4.53	20
1,2,4-Trichlorobenzene	25.0	26.7	27.4	107	110	69.0-129			2.63	20
1,1,1-Trichloroethane	25.0	26.8	27.0	107	108	68.0-122			0.513	20
1,1,2-Trichloroethane	25.0	26.1	25.4	104	102	78.0-120			2.55	20
Trichloroethene	25.0	26.5	25.6	106	102	78.0-120			3.69	20
Trichlorofluoromethane	25.0	31.6	31.4	126	126	56.0-137			0.575	20
1,2,3-Trichloropropane	25.0	24.5	24.7	98.0	98.6	72.0-124			0.659	20
1,2,3-Trimethylbenzene	25.0	25.1	25.2	100	101	75.0-120			0.597	20
1,2,4-Trimethylbenzene	25.0	26.3	25.9	105	104	75.0-120			1.44	20
1,3,5-Trimethylbenzene	25.0	26.1	26.2	104	105	75.0-120			0.200	20
Vinyl chloride	25.0	25.0	25.6	100	102	64.0-133			2.19	20
Xylenes, Total	75.0	87.3	84.0	116	112	77.0-120			3.85	20
(S) Toluene-d8				110	109	80.0-120				
(S) Dibromofluoromethane				98.9	98.4	76.0-123				
(S) 4-Bromofluorobenzene				97.2	99.5	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier Description

J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
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ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
 * Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

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



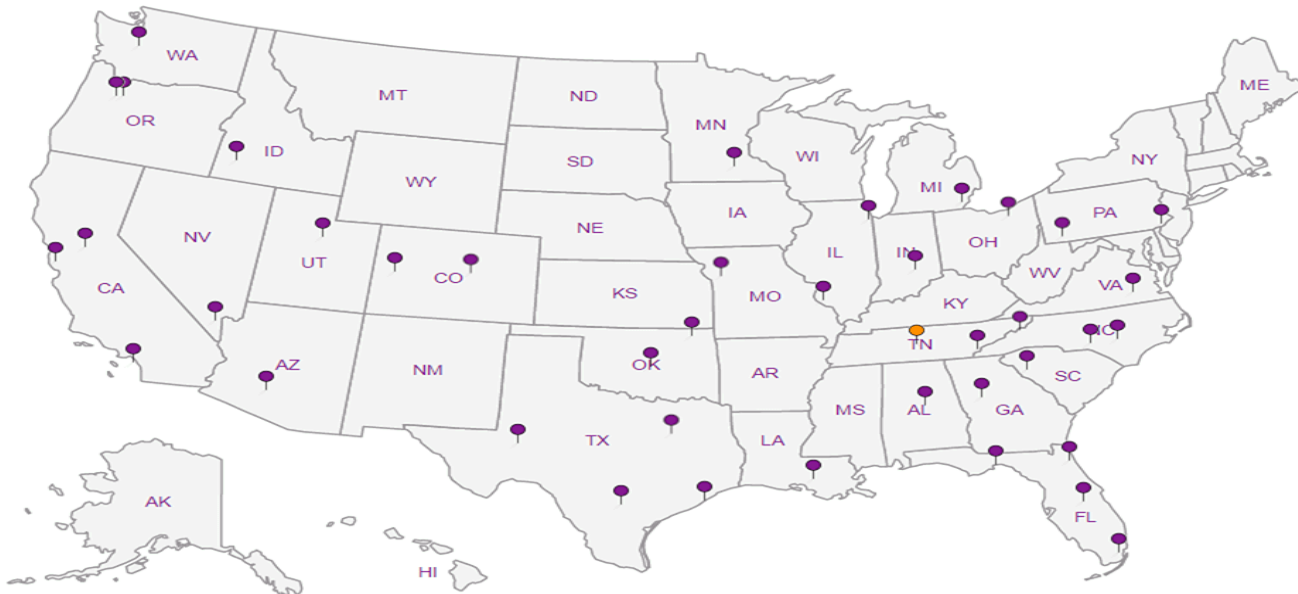
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	TN00003		

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

Our Locations

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



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Report to:
Karsten Springstead

Project
Description: **MVSC**

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

Collected by (print):
Rachel McLaughlin

Collected by (signature):
[Signature]
Immediately Packed on Ice: N Y

Client Project #
1358.001.01.003

Site/Facility ID #
MVSC

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

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

Email To: ksgivingstead@pesenv.com;
mdahl@pesenv.com

City/State
Collected: *Burien, WA*

Lab Project #
PESENVSWA-MVSC

P.O. #

Quote #

Date Results Needed

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page of



LAB SCIENTIFICS
A Subsidiary of

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L#

D093

Acctnum: **PESENVSWA**

Template: **T131700**

Preflogin: **P637010**

TSR: **110 - Brian Ford**

PB:

Shipped Via:

Remarks

Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
DC-14-020218	GRAB	GW	40+	2/2/18	0910	3
TRIP BLANK	—	GW	—	2/11/17	—	1

V8260LLC VOCs 40mlamb-HCl

-01
-02

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking # **7466 1466 7993**

pH Temp

Flow Other

Sample Receipt Checklist

COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
If Applicable	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
VOA Zero Headspace:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N

TO

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes / No

IG / MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: Time:

Hold:

Condition
NCF / OK

MEMORANDUM

TO: Project File **DATE:** February 13, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center and Harris Family LTD
PROJECT #: 1358.001.01.003
TASK: February 2, 2018 Groundwater Sample
LAB: ECS Lab Sciences Request No. L967542

One (1) groundwater sample and a trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Center/Harris Family LTD site in Normandy Park, Washington on February 2, 2018. The sample associated with SDG L967542 was analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by ESC Lab Sciences (ESC) of Mt. Juliet, Tennessee.

The quality assurance review of the laboratory data for SDG L967542 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report with the following discussion:

- The main sampling event occurred between January 24 and 26, of 2018 and analysis results are reported in ESC SDG 966085. On January 29, 2018 PES cancelled the analysis request for one sample (DC-11-012518) since it was collected from the wrong monitoring well. The correct monitoring well was sampled on February 2, 2018 and submitted for analysis. Result for sample DC-14-020218 and associated trip blank are reported in this SDG.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 0.5 degrees Centigrade (°C). The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. No data qualifications were warranted.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however ESC's notes indicate the following:

USEPA Method 8260C: Continuing calibration verification (CCV) issue is noted by ESC for methylene chloride associated with analytical batch WG1070440 (analyzed on February 6, 2018). This result is qualified by the laboratory "J0" to indicate that percent difference CCVs is outside of laboratory acceptance criteria. **The associated sample result for the compounds is laboratory qualified J0, is estimated, and qualified (UJ).**

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The target analytes (VOCs) were not detected in the method blank at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

Trip blank was prepared by ESC on September 11, 2017 and analyzed on February 6, 2018. The target analytes (VOCs) were not detected in the trip blank at concentrations at or above the RDLs.

Equipment Blank Results

Equipment blank was not collected. Refer to SDG L966085 for equipment blank results.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to laboratory control sample results or SDG L966085 for field duplicate results.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to laboratory control sample results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the sample, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) %Rs and relative percent differences (RPDs) are within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS/LCSD results for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifier is assigned and laboratory report pages with qualifier are attached. All data, including qualified data, are judged to be acceptable for their intended use.



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	02/06/2018 15:35	WG1070440
Acrylonitrile	ND		5.00	1	02/06/2018 15:35	WG1070440
Benzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromodichloromethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromochloromethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromoform	ND		0.500	1	02/06/2018 15:35	WG1070440
Bromomethane	ND		2.50	1	02/06/2018 15:35	WG1070440
n-Butylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
sec-Butylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
tert-Butylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Carbon disulfide	ND		0.500	1	02/06/2018 15:35	WG1070440
Carbon tetrachloride	ND		0.500	1	02/06/2018 15:35	WG1070440
Chlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Chlorodibromomethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Chloroethane	ND		2.50	1	02/06/2018 15:35	WG1070440
Chloroform	2.97		0.500	1	02/06/2018 15:35	WG1070440
Chloromethane	ND		1.25	1	02/06/2018 15:35	WG1070440
2-Chlorotoluene	ND		0.500	1	02/06/2018 15:35	WG1070440
4-Chlorotoluene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dibromo-3-Chloropropane	ND		2.50	1	02/06/2018 15:35	WG1070440
1,2-Dibromoethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Dibromomethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,3-Dichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,4-Dichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Dichlorodifluoromethane	ND		2.50	1	02/06/2018 15:35	WG1070440
1,1-Dichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1-Dichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440
cis-1,2-Dichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440
trans-1,2-Dichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2-Dichloropropane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1-Dichloropropene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,3-Dichloropropane	ND		1.00	1	02/06/2018 15:35	WG1070440
cis-1,3-Dichloropropene	ND		0.500	1	02/06/2018 15:35	WG1070440
trans-1,3-Dichloropropene	ND		0.500	1	02/06/2018 15:35	WG1070440
trans-1,4-Dichloro-2-butene	ND		5.00	1	02/06/2018 15:35	WG1070440
2,2-Dichloropropane	ND		0.500	1	02/06/2018 15:35	WG1070440
Di-isopropyl ether	ND		0.500	1	02/06/2018 15:35	WG1070440
Ethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Hexachloro-1,3-butadiene	ND		1.00	1	02/06/2018 15:35	WG1070440
2-Hexanone	ND		5.00	1	02/06/2018 15:35	WG1070440
n-Hexane	ND		5.00	1	02/06/2018 15:35	WG1070440
Iodomethane	ND		10.0	1	02/06/2018 15:35	WG1070440
Isopropylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
p-Isopropyltoluene	ND		0.500	1	02/06/2018 15:35	WG1070440
2-Butanone (MEK)	ND		5.00	1	02/06/2018 15:35	WG1070440
Methylene Chloride	ND	UJ	2.50	1	02/06/2018 15:35	WG1070440
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	02/06/2018 15:35	WG1070440
Methyl tert-butyl ether	ND		0.500	1	02/06/2018 15:35	WG1070440
Naphthalene	ND		2.50	1	02/06/2018 15:35	WG1070440
n-Propylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Styrene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1,1,2-Tetrachloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1,2,2-Tetrachloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 2/13/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Tetrachloroethene	7.81		0.500	1	02/06/2018 15:35	WG1070440
Toluene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2,3-Trichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2,4-Trichlorobenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1,1-Trichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
1,1,2-Trichloroethane	ND		0.500	1	02/06/2018 15:35	WG1070440
Trichloroethene	ND		0.500	1	02/06/2018 15:35	WG1070440
Trichlorofluoromethane	ND		2.50	1	02/06/2018 15:35	WG1070440
1,2,3-Trichloropropane	ND		2.50	1	02/06/2018 15:35	WG1070440
1,2,4-Trimethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,2,3-Trimethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
1,3,5-Trimethylbenzene	ND		0.500	1	02/06/2018 15:35	WG1070440
Vinyl acetate	ND		5.00	1	02/06/2018 15:35	WG1070440
Vinyl chloride	ND		0.500	1	02/06/2018 15:35	WG1070440
Xylenes, Total	ND		1.50	1	02/06/2018 15:35	WG1070440
(S) Toluene-d8	110		80.0-120		02/06/2018 15:35	WG1070440
(S) Dibromofluoromethane	101		76.0-123		02/06/2018 15:35	WG1070440
(S) 4-Bromofluorobenzene	99.4		80.0-120		02/06/2018 15:35	WG1070440

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

JC 2/13/18

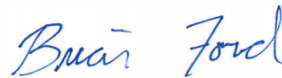
April 24, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L987257
Samples Received: 04/19/2018
Project Number: 1358.001.01.003
Description: MVSC

Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	5	⁴Cn
Sr: Sample Results	6	⁵Sr
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DC-8-041818 L987257-02	8	⁷Gl
DC-4-041818 L987257-03	10	⁸Al
MW-13-041818 L987257-04	12	⁹Sc
KMW-2-041818 L987257-05	14	
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SAMPLE SUMMARY



DC-15-041818 L987257-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1100931	1	04/20/18 16:28	04/20/18 16:28	ACG

Collected by Jeff Dobbins
 Collected date/time 04/18/18 09:20
 Received date/time 04/19/18 08:45

1 Cp

2 Tc

3 Ss

DC-8-041818 L987257-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1100931	1	04/20/18 16:47	04/20/18 16:47	ACG

Collected by Jeff Dobbins
 Collected date/time 04/18/18 10:10
 Received date/time 04/19/18 08:45

4 Cn

5 Sr

DC-4-041818 L987257-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1100931	1	04/20/18 17:07	04/20/18 17:07	ACG

Collected by Jeff Dobbins
 Collected date/time 04/18/18 11:15
 Received date/time 04/19/18 08:45

6 Qc

7 Gl

MW-13-041818 L987257-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1100931	1	04/20/18 17:26	04/20/18 17:26	ACG

Collected by Jeff Dobbins
 Collected date/time 04/18/18 12:27
 Received date/time 04/19/18 08:45

8 Al

9 Sc

KMW-2-041818 L987257-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1100931	1	04/20/18 17:46	04/20/18 17:46	ACG

Collected by Jeff Dobbins
 Collected date/time 04/18/18 13:24
 Received date/time 04/19/18 08:45

MW-10-041818 L987257-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1100931	1	04/20/18 18:05	04/20/18 18:05	ACG

Collected by Jeff Dobbins
 Collected date/time 04/18/18 14:01
 Received date/time 04/19/18 08:45

MW-9-041818 L987257-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1100931	1	04/20/18 18:25	04/20/18 18:25	ACG

Collected by Jeff Dobbins
 Collected date/time 04/18/18 14:53
 Received date/time 04/19/18 08:45

MW-12-041818 L987257-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101352	1	04/21/18 14:49	04/21/18 14:49	BMB

Collected by Jeff Dobbins
 Collected date/time 04/18/18 16:09
 Received date/time 04/19/18 08:45

SAMPLE SUMMARY



KMW-9-041818 L987257-09 GW

Collected by Jeff Dobbins	Collected date/time 04/18/18 17:00	Received date/time 04/19/18 08:45
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Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101352	1	04/21/18 15:07	04/21/18 15:07	BMB

¹ Cp

² Tc

³ Ss

TRIP BLANK L987257-10 GW

Collected by Jeff Dobbins	Collected date/time 04/18/18 00:00	Received date/time 04/19/18 08:45
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Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101352	1	04/21/18 13:34	04/21/18 13:34	BMB

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/20/2018 16:28	WG1100931
Acrylonitrile	ND		5.00	1	04/20/2018 16:28	WG1100931
Benzene	ND		0.500	1	04/20/2018 16:28	WG1100931
Bromobenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
Bromodichloromethane	ND		0.500	1	04/20/2018 16:28	WG1100931
Bromochloromethane	ND		0.500	1	04/20/2018 16:28	WG1100931
Bromoform	ND		0.500	1	04/20/2018 16:28	WG1100931
Bromomethane	ND		2.50	1	04/20/2018 16:28	WG1100931
n-Butylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
sec-Butylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
tert-Butylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
Carbon disulfide	ND		0.500	1	04/20/2018 16:28	WG1100931
Carbon tetrachloride	ND		0.500	1	04/20/2018 16:28	WG1100931
Chlorobenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
Chlorodibromomethane	ND		0.500	1	04/20/2018 16:28	WG1100931
Chloroethane	ND		2.50	1	04/20/2018 16:28	WG1100931
Chloroform	ND		0.500	1	04/20/2018 16:28	WG1100931
Chloromethane	ND		1.25	1	04/20/2018 16:28	WG1100931
2-Chlorotoluene	ND		0.500	1	04/20/2018 16:28	WG1100931
4-Chlorotoluene	ND		0.500	1	04/20/2018 16:28	WG1100931
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/20/2018 16:28	WG1100931
1,2-Dibromoethane	ND		0.500	1	04/20/2018 16:28	WG1100931
Dibromomethane	ND		0.500	1	04/20/2018 16:28	WG1100931
1,2-Dichlorobenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
1,3-Dichlorobenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
1,4-Dichlorobenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
Dichlorodifluoromethane	ND		2.50	1	04/20/2018 16:28	WG1100931
1,1-Dichloroethane	ND		0.500	1	04/20/2018 16:28	WG1100931
1,2-Dichloroethane	ND		0.500	1	04/20/2018 16:28	WG1100931
1,1-Dichloroethene	ND		0.500	1	04/20/2018 16:28	WG1100931
cis-1,2-Dichloroethene	ND		0.500	1	04/20/2018 16:28	WG1100931
trans-1,2-Dichloroethene	ND		0.500	1	04/20/2018 16:28	WG1100931
1,2-Dichloropropane	ND		0.500	1	04/20/2018 16:28	WG1100931
1,1-Dichloropropene	ND		0.500	1	04/20/2018 16:28	WG1100931
1,3-Dichloropropane	ND		1.00	1	04/20/2018 16:28	WG1100931
cis-1,3-Dichloropropene	ND		0.500	1	04/20/2018 16:28	WG1100931
trans-1,3-Dichloropropene	ND		0.500	1	04/20/2018 16:28	WG1100931
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/20/2018 16:28	WG1100931
2,2-Dichloropropane	ND		0.500	1	04/20/2018 16:28	WG1100931
Di-isopropyl ether	ND		0.500	1	04/20/2018 16:28	WG1100931
Ethylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
Hexachloro-1,3-butadiene	ND		1.00	1	04/20/2018 16:28	WG1100931
2-Hexanone	ND		5.00	1	04/20/2018 16:28	WG1100931
n-Hexane	ND		5.00	1	04/20/2018 16:28	WG1100931
Iodomethane	ND		10.0	1	04/20/2018 16:28	WG1100931
Isopropylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
p-Isopropyltoluene	ND		0.500	1	04/20/2018 16:28	WG1100931
2-Butanone (MEK)	ND		5.00	1	04/20/2018 16:28	WG1100931
Methylene Chloride	ND		2.50	1	04/20/2018 16:28	WG1100931
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/20/2018 16:28	WG1100931
Methyl tert-butyl ether	ND		0.500	1	04/20/2018 16:28	WG1100931
Naphthalene	ND		2.50	1	04/20/2018 16:28	WG1100931
n-Propylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931
Styrene	ND		0.500	1	04/20/2018 16:28	WG1100931
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/20/2018 16:28	WG1100931
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/20/2018 16:28	WG1100931

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/18/18 09:20

L987257

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/20/2018 16:28	WG1100931	1 Cp
Tetrachloroethene	9.88		0.500	1	04/20/2018 16:28	WG1100931	2 Tc
Toluene	ND		0.500	1	04/20/2018 16:28	WG1100931	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/20/2018 16:28	WG1100931	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/20/2018 16:28	WG1100931	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	04/20/2018 16:28	WG1100931	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	04/20/2018 16:28	WG1100931	7 Gl
Trichloroethene	ND		0.500	1	04/20/2018 16:28	WG1100931	8 Al
Trichlorofluoromethane	ND		2.50	1	04/20/2018 16:28	WG1100931	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	04/20/2018 16:28	WG1100931	
1,2,4-Trimethylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931	
1,2,3-Trimethylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931	
1,3,5-Trimethylbenzene	ND		0.500	1	04/20/2018 16:28	WG1100931	
Vinyl acetate	ND		5.00	1	04/20/2018 16:28	WG1100931	
Vinyl chloride	ND		0.500	1	04/20/2018 16:28	WG1100931	
Xylenes, Total	ND		1.50	1	04/20/2018 16:28	WG1100931	
(S) Toluene-d8	107		80.0-120		04/20/2018 16:28	WG1100931	
(S) Dibromofluoromethane	98.3		76.0-123		04/20/2018 16:28	WG1100931	
(S) 4-Bromofluorobenzene	104		80.0-120		04/20/2018 16:28	WG1100931	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/20/2018 16:47	WG1100931
Acrylonitrile	ND		5.00	1	04/20/2018 16:47	WG1100931
Benzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Bromobenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Bromodichloromethane	ND		0.500	1	04/20/2018 16:47	WG1100931
Bromochloromethane	ND		0.500	1	04/20/2018 16:47	WG1100931
Bromoform	ND		0.500	1	04/20/2018 16:47	WG1100931
Bromomethane	ND		2.50	1	04/20/2018 16:47	WG1100931
n-Butylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
sec-Butylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
tert-Butylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Carbon disulfide	ND		0.500	1	04/20/2018 16:47	WG1100931
Carbon tetrachloride	ND		0.500	1	04/20/2018 16:47	WG1100931
Chlorobenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Chlorodibromomethane	ND		0.500	1	04/20/2018 16:47	WG1100931
Chloroethane	ND		2.50	1	04/20/2018 16:47	WG1100931
Chloroform	ND		0.500	1	04/20/2018 16:47	WG1100931
Chloromethane	ND		1.25	1	04/20/2018 16:47	WG1100931
2-Chlorotoluene	ND		0.500	1	04/20/2018 16:47	WG1100931
4-Chlorotoluene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/20/2018 16:47	WG1100931
1,2-Dibromoethane	ND		0.500	1	04/20/2018 16:47	WG1100931
Dibromomethane	ND		0.500	1	04/20/2018 16:47	WG1100931
1,2-Dichlorobenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,3-Dichlorobenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,4-Dichlorobenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Dichlorodifluoromethane	ND		2.50	1	04/20/2018 16:47	WG1100931
1,1-Dichloroethane	ND		0.500	1	04/20/2018 16:47	WG1100931
1,2-Dichloroethane	ND		0.500	1	04/20/2018 16:47	WG1100931
1,1-Dichloroethene	ND		0.500	1	04/20/2018 16:47	WG1100931
cis-1,2-Dichloroethene	ND		0.500	1	04/20/2018 16:47	WG1100931
trans-1,2-Dichloroethene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,2-Dichloropropane	ND		0.500	1	04/20/2018 16:47	WG1100931
1,1-Dichloropropene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,3-Dichloropropane	ND		1.00	1	04/20/2018 16:47	WG1100931
cis-1,3-Dichloropropene	ND		0.500	1	04/20/2018 16:47	WG1100931
trans-1,3-Dichloropropene	ND		0.500	1	04/20/2018 16:47	WG1100931
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/20/2018 16:47	WG1100931
2,2-Dichloropropane	ND		0.500	1	04/20/2018 16:47	WG1100931
Di-isopropyl ether	ND		0.500	1	04/20/2018 16:47	WG1100931
Ethylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Hexachloro-1,3-butadiene	ND		1.00	1	04/20/2018 16:47	WG1100931
2-Hexanone	ND		5.00	1	04/20/2018 16:47	WG1100931
n-Hexane	ND		5.00	1	04/20/2018 16:47	WG1100931
Iodomethane	ND		10.0	1	04/20/2018 16:47	WG1100931
Isopropylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
p-Isopropyltoluene	ND		0.500	1	04/20/2018 16:47	WG1100931
2-Butanone (MEK)	ND		5.00	1	04/20/2018 16:47	WG1100931
Methylene Chloride	ND		2.50	1	04/20/2018 16:47	WG1100931
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/20/2018 16:47	WG1100931
Methyl tert-butyl ether	ND		0.500	1	04/20/2018 16:47	WG1100931
Naphthalene	ND		2.50	1	04/20/2018 16:47	WG1100931
n-Propylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Styrene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/20/2018 16:47	WG1100931
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/20/2018 16:47	WG1100931

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/20/2018 16:47	WG1100931
Tetrachloroethene	13.0		0.500	1	04/20/2018 16:47	WG1100931
Toluene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,2,3-Trichlorobenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,2,4-Trichlorobenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,1,1-Trichloroethane	ND		0.500	1	04/20/2018 16:47	WG1100931
1,1,2-Trichloroethane	ND		0.500	1	04/20/2018 16:47	WG1100931
Trichloroethene	ND		0.500	1	04/20/2018 16:47	WG1100931
Trichlorofluoromethane	ND		2.50	1	04/20/2018 16:47	WG1100931
1,2,3-Trichloropropane	ND		2.50	1	04/20/2018 16:47	WG1100931
1,2,4-Trimethylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,2,3-Trimethylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
1,3,5-Trimethylbenzene	ND		0.500	1	04/20/2018 16:47	WG1100931
Vinyl acetate	ND		5.00	1	04/20/2018 16:47	WG1100931
Vinyl chloride	ND		0.500	1	04/20/2018 16:47	WG1100931
Xylenes, Total	ND		1.50	1	04/20/2018 16:47	WG1100931
(S) Toluene-d8	100		80.0-120		04/20/2018 16:47	WG1100931
(S) Dibromofluoromethane	99.0		76.0-123		04/20/2018 16:47	WG1100931
(S) 4-Bromofluorobenzene	110		80.0-120		04/20/2018 16:47	WG1100931

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/20/2018 17:07	WG1100931
Acrylonitrile	ND		5.00	1	04/20/2018 17:07	WG1100931
Benzene	ND		0.500	1	04/20/2018 17:07	WG1100931
Bromobenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
Bromodichloromethane	ND		0.500	1	04/20/2018 17:07	WG1100931
Bromochloromethane	ND		0.500	1	04/20/2018 17:07	WG1100931
Bromoform	ND		0.500	1	04/20/2018 17:07	WG1100931
Bromomethane	ND		2.50	1	04/20/2018 17:07	WG1100931
n-Butylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
sec-Butylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
tert-Butylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
Carbon disulfide	ND		0.500	1	04/20/2018 17:07	WG1100931
Carbon tetrachloride	ND		0.500	1	04/20/2018 17:07	WG1100931
Chlorobenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
Chlorodibromomethane	ND		0.500	1	04/20/2018 17:07	WG1100931
Chloroethane	ND		2.50	1	04/20/2018 17:07	WG1100931
Chloroform	ND		0.500	1	04/20/2018 17:07	WG1100931
Chloromethane	ND		1.25	1	04/20/2018 17:07	WG1100931
2-Chlorotoluene	ND		0.500	1	04/20/2018 17:07	WG1100931
4-Chlorotoluene	ND		0.500	1	04/20/2018 17:07	WG1100931
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/20/2018 17:07	WG1100931
1,2-Dibromoethane	ND		0.500	1	04/20/2018 17:07	WG1100931
Dibromomethane	ND		0.500	1	04/20/2018 17:07	WG1100931
1,2-Dichlorobenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
1,3-Dichlorobenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
1,4-Dichlorobenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
Dichlorodifluoromethane	ND		2.50	1	04/20/2018 17:07	WG1100931
1,1-Dichloroethane	ND		0.500	1	04/20/2018 17:07	WG1100931
1,2-Dichloroethane	ND		0.500	1	04/20/2018 17:07	WG1100931
1,1-Dichloroethene	ND		0.500	1	04/20/2018 17:07	WG1100931
cis-1,2-Dichloroethene	ND		0.500	1	04/20/2018 17:07	WG1100931
trans-1,2-Dichloroethene	ND		0.500	1	04/20/2018 17:07	WG1100931
1,2-Dichloropropane	ND		0.500	1	04/20/2018 17:07	WG1100931
1,1-Dichloropropene	ND		0.500	1	04/20/2018 17:07	WG1100931
1,3-Dichloropropane	ND		1.00	1	04/20/2018 17:07	WG1100931
cis-1,3-Dichloropropene	ND		0.500	1	04/20/2018 17:07	WG1100931
trans-1,3-Dichloropropene	ND		0.500	1	04/20/2018 17:07	WG1100931
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/20/2018 17:07	WG1100931
2,2-Dichloropropane	ND		0.500	1	04/20/2018 17:07	WG1100931
Di-isopropyl ether	ND		0.500	1	04/20/2018 17:07	WG1100931
Ethylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
Hexachloro-1,3-butadiene	ND		1.00	1	04/20/2018 17:07	WG1100931
2-Hexanone	ND		5.00	1	04/20/2018 17:07	WG1100931
n-Hexane	ND		5.00	1	04/20/2018 17:07	WG1100931
Iodomethane	ND		10.0	1	04/20/2018 17:07	WG1100931
Isopropylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
p-Isopropyltoluene	ND		0.500	1	04/20/2018 17:07	WG1100931
2-Butanone (MEK)	ND		5.00	1	04/20/2018 17:07	WG1100931
Methylene Chloride	ND		2.50	1	04/20/2018 17:07	WG1100931
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/20/2018 17:07	WG1100931
Methyl tert-butyl ether	ND		0.500	1	04/20/2018 17:07	WG1100931
Naphthalene	ND		2.50	1	04/20/2018 17:07	WG1100931
n-Propylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931
Styrene	ND		0.500	1	04/20/2018 17:07	WG1100931
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/20/2018 17:07	WG1100931
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/20/2018 17:07	WG1100931

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/18/18 11:15

L987257

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/20/2018 17:07	WG1100931	¹ Cp
Tetrachloroethene	ND		0.500	1	04/20/2018 17:07	WG1100931	² Tc
Toluene	ND		0.500	1	04/20/2018 17:07	WG1100931	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/20/2018 17:07	WG1100931	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/20/2018 17:07	WG1100931	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/20/2018 17:07	WG1100931	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/20/2018 17:07	WG1100931	⁷ Gl
Trichloroethene	ND		0.500	1	04/20/2018 17:07	WG1100931	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/20/2018 17:07	WG1100931	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/20/2018 17:07	WG1100931	
1,2,4-Trimethylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931	
1,2,3-Trimethylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931	
1,3,5-Trimethylbenzene	ND		0.500	1	04/20/2018 17:07	WG1100931	
Vinyl acetate	ND		5.00	1	04/20/2018 17:07	WG1100931	
Vinyl chloride	ND		0.500	1	04/20/2018 17:07	WG1100931	
Xylenes, Total	ND		1.50	1	04/20/2018 17:07	WG1100931	
(S) Toluene-d8	102		80.0-120		04/20/2018 17:07	WG1100931	
(S) Dibromofluoromethane	97.1		76.0-123		04/20/2018 17:07	WG1100931	
(S) 4-Bromofluorobenzene	108		80.0-120		04/20/2018 17:07	WG1100931	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/20/2018 17:26	WG1100931
Acrylonitrile	ND		5.00	1	04/20/2018 17:26	WG1100931
Benzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Bromobenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Bromodichloromethane	ND		0.500	1	04/20/2018 17:26	WG1100931
Bromochloromethane	ND		0.500	1	04/20/2018 17:26	WG1100931
Bromoform	ND		0.500	1	04/20/2018 17:26	WG1100931
Bromomethane	ND		2.50	1	04/20/2018 17:26	WG1100931
n-Butylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
sec-Butylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
tert-Butylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Carbon disulfide	ND		0.500	1	04/20/2018 17:26	WG1100931
Carbon tetrachloride	ND		0.500	1	04/20/2018 17:26	WG1100931
Chlorobenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Chlorodibromomethane	ND		0.500	1	04/20/2018 17:26	WG1100931
Chloroethane	ND		2.50	1	04/20/2018 17:26	WG1100931
Chloroform	ND		0.500	1	04/20/2018 17:26	WG1100931
Chloromethane	ND		1.25	1	04/20/2018 17:26	WG1100931
2-Chlorotoluene	ND		0.500	1	04/20/2018 17:26	WG1100931
4-Chlorotoluene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/20/2018 17:26	WG1100931
1,2-Dibromoethane	ND		0.500	1	04/20/2018 17:26	WG1100931
Dibromomethane	ND		0.500	1	04/20/2018 17:26	WG1100931
1,2-Dichlorobenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,3-Dichlorobenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,4-Dichlorobenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Dichlorodifluoromethane	ND		2.50	1	04/20/2018 17:26	WG1100931
1,1-Dichloroethane	ND		0.500	1	04/20/2018 17:26	WG1100931
1,2-Dichloroethane	ND		0.500	1	04/20/2018 17:26	WG1100931
1,1-Dichloroethene	ND		0.500	1	04/20/2018 17:26	WG1100931
cis-1,2-Dichloroethene	ND		0.500	1	04/20/2018 17:26	WG1100931
trans-1,2-Dichloroethene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,2-Dichloropropane	ND		0.500	1	04/20/2018 17:26	WG1100931
1,1-Dichloropropene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,3-Dichloropropane	ND		1.00	1	04/20/2018 17:26	WG1100931
cis-1,3-Dichloropropene	ND		0.500	1	04/20/2018 17:26	WG1100931
trans-1,3-Dichloropropene	ND		0.500	1	04/20/2018 17:26	WG1100931
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/20/2018 17:26	WG1100931
2,2-Dichloropropane	ND		0.500	1	04/20/2018 17:26	WG1100931
Di-isopropyl ether	ND		0.500	1	04/20/2018 17:26	WG1100931
Ethylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Hexachloro-1,3-butadiene	ND		1.00	1	04/20/2018 17:26	WG1100931
2-Hexanone	ND		5.00	1	04/20/2018 17:26	WG1100931
n-Hexane	ND		5.00	1	04/20/2018 17:26	WG1100931
Iodomethane	ND		10.0	1	04/20/2018 17:26	WG1100931
Isopropylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
p-Isopropyltoluene	ND		0.500	1	04/20/2018 17:26	WG1100931
2-Butanone (MEK)	ND		5.00	1	04/20/2018 17:26	WG1100931
Methylene Chloride	ND		2.50	1	04/20/2018 17:26	WG1100931
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/20/2018 17:26	WG1100931
Methyl tert-butyl ether	ND		0.500	1	04/20/2018 17:26	WG1100931
Naphthalene	ND		2.50	1	04/20/2018 17:26	WG1100931
n-Propylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Styrene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/20/2018 17:26	WG1100931
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/20/2018 17:26	WG1100931

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/20/2018 17:26	WG1100931
Tetrachloroethene	ND		0.500	1	04/20/2018 17:26	WG1100931
Toluene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,2,3-Trichlorobenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,2,4-Trichlorobenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,1,1-Trichloroethane	ND		0.500	1	04/20/2018 17:26	WG1100931
1,1,2-Trichloroethane	ND		0.500	1	04/20/2018 17:26	WG1100931
Trichloroethene	ND		0.500	1	04/20/2018 17:26	WG1100931
Trichlorofluoromethane	ND		2.50	1	04/20/2018 17:26	WG1100931
1,2,3-Trichloropropane	ND		2.50	1	04/20/2018 17:26	WG1100931
1,2,4-Trimethylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,2,3-Trimethylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
1,3,5-Trimethylbenzene	ND		0.500	1	04/20/2018 17:26	WG1100931
Vinyl acetate	ND		5.00	1	04/20/2018 17:26	WG1100931
Vinyl chloride	ND		0.500	1	04/20/2018 17:26	WG1100931
Xylenes, Total	ND		1.50	1	04/20/2018 17:26	WG1100931
(S) Toluene-d8	102		80.0-120		04/20/2018 17:26	WG1100931
(S) Dibromofluoromethane	98.2		76.0-123		04/20/2018 17:26	WG1100931
(S) 4-Bromofluorobenzene	105		80.0-120		04/20/2018 17:26	WG1100931

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/20/2018 17:46	WG1100931
Acrylonitrile	ND		5.00	1	04/20/2018 17:46	WG1100931
Benzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Bromobenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Bromodichloromethane	ND		0.500	1	04/20/2018 17:46	WG1100931
Bromochloromethane	ND		0.500	1	04/20/2018 17:46	WG1100931
Bromoform	ND		0.500	1	04/20/2018 17:46	WG1100931
Bromomethane	ND		2.50	1	04/20/2018 17:46	WG1100931
n-Butylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
sec-Butylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
tert-Butylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Carbon disulfide	ND		0.500	1	04/20/2018 17:46	WG1100931
Carbon tetrachloride	ND		0.500	1	04/20/2018 17:46	WG1100931
Chlorobenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Chlorodibromomethane	ND		0.500	1	04/20/2018 17:46	WG1100931
Chloroethane	ND		2.50	1	04/20/2018 17:46	WG1100931
Chloroform	ND		0.500	1	04/20/2018 17:46	WG1100931
Chloromethane	ND		1.25	1	04/20/2018 17:46	WG1100931
2-Chlorotoluene	ND		0.500	1	04/20/2018 17:46	WG1100931
4-Chlorotoluene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/20/2018 17:46	WG1100931
1,2-Dibromoethane	ND		0.500	1	04/20/2018 17:46	WG1100931
Dibromomethane	ND		0.500	1	04/20/2018 17:46	WG1100931
1,2-Dichlorobenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,3-Dichlorobenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,4-Dichlorobenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Dichlorodifluoromethane	ND		2.50	1	04/20/2018 17:46	WG1100931
1,1-Dichloroethane	ND		0.500	1	04/20/2018 17:46	WG1100931
1,2-Dichloroethane	ND		0.500	1	04/20/2018 17:46	WG1100931
1,1-Dichloroethene	ND		0.500	1	04/20/2018 17:46	WG1100931
cis-1,2-Dichloroethene	ND		0.500	1	04/20/2018 17:46	WG1100931
trans-1,2-Dichloroethene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,2-Dichloropropane	ND		0.500	1	04/20/2018 17:46	WG1100931
1,1-Dichloropropene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,3-Dichloropropane	ND		1.00	1	04/20/2018 17:46	WG1100931
cis-1,3-Dichloropropene	ND		0.500	1	04/20/2018 17:46	WG1100931
trans-1,3-Dichloropropene	ND		0.500	1	04/20/2018 17:46	WG1100931
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/20/2018 17:46	WG1100931
2,2-Dichloropropane	ND		0.500	1	04/20/2018 17:46	WG1100931
Di-isopropyl ether	ND		0.500	1	04/20/2018 17:46	WG1100931
Ethylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Hexachloro-1,3-butadiene	ND		1.00	1	04/20/2018 17:46	WG1100931
2-Hexanone	ND		5.00	1	04/20/2018 17:46	WG1100931
n-Hexane	ND		5.00	1	04/20/2018 17:46	WG1100931
Iodomethane	ND		10.0	1	04/20/2018 17:46	WG1100931
Isopropylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
p-Isopropyltoluene	ND		0.500	1	04/20/2018 17:46	WG1100931
2-Butanone (MEK)	ND		5.00	1	04/20/2018 17:46	WG1100931
Methylene Chloride	ND		2.50	1	04/20/2018 17:46	WG1100931
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/20/2018 17:46	WG1100931
Methyl tert-butyl ether	ND		0.500	1	04/20/2018 17:46	WG1100931
Naphthalene	ND		2.50	1	04/20/2018 17:46	WG1100931
n-Propylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Styrene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/20/2018 17:46	WG1100931
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/20/2018 17:46	WG1100931

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/20/2018 17:46	WG1100931
Tetrachloroethene	ND		0.500	1	04/20/2018 17:46	WG1100931
Toluene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,2,3-Trichlorobenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,2,4-Trichlorobenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,1,1-Trichloroethane	ND		0.500	1	04/20/2018 17:46	WG1100931
1,1,2-Trichloroethane	ND		0.500	1	04/20/2018 17:46	WG1100931
Trichloroethene	ND		0.500	1	04/20/2018 17:46	WG1100931
Trichlorofluoromethane	ND		2.50	1	04/20/2018 17:46	WG1100931
1,2,3-Trichloropropane	ND		2.50	1	04/20/2018 17:46	WG1100931
1,2,4-Trimethylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,2,3-Trimethylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
1,3,5-Trimethylbenzene	ND		0.500	1	04/20/2018 17:46	WG1100931
Vinyl acetate	ND		5.00	1	04/20/2018 17:46	WG1100931
Vinyl chloride	ND		0.500	1	04/20/2018 17:46	WG1100931
Xylenes, Total	ND		1.50	1	04/20/2018 17:46	WG1100931
(S) Toluene-d8	103		80.0-120		04/20/2018 17:46	WG1100931
(S) Dibromofluoromethane	99.3		76.0-123		04/20/2018 17:46	WG1100931
(S) 4-Bromofluorobenzene	104		80.0-120		04/20/2018 17:46	WG1100931

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/20/2018 18:05	WG1100931
Acrylonitrile	ND		5.00	1	04/20/2018 18:05	WG1100931
Benzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Bromobenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Bromodichloromethane	ND		0.500	1	04/20/2018 18:05	WG1100931
Bromochloromethane	ND		0.500	1	04/20/2018 18:05	WG1100931
Bromoform	ND		0.500	1	04/20/2018 18:05	WG1100931
Bromomethane	ND		2.50	1	04/20/2018 18:05	WG1100931
n-Butylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
sec-Butylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
tert-Butylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Carbon disulfide	ND		0.500	1	04/20/2018 18:05	WG1100931
Carbon tetrachloride	ND		0.500	1	04/20/2018 18:05	WG1100931
Chlorobenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Chlorodibromomethane	ND		0.500	1	04/20/2018 18:05	WG1100931
Chloroethane	ND		2.50	1	04/20/2018 18:05	WG1100931
Chloroform	ND		0.500	1	04/20/2018 18:05	WG1100931
Chloromethane	ND		1.25	1	04/20/2018 18:05	WG1100931
2-Chlorotoluene	ND		0.500	1	04/20/2018 18:05	WG1100931
4-Chlorotoluene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/20/2018 18:05	WG1100931
1,2-Dibromoethane	ND		0.500	1	04/20/2018 18:05	WG1100931
Dibromomethane	ND		0.500	1	04/20/2018 18:05	WG1100931
1,2-Dichlorobenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,3-Dichlorobenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,4-Dichlorobenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Dichlorodifluoromethane	ND		2.50	1	04/20/2018 18:05	WG1100931
1,1-Dichloroethane	ND		0.500	1	04/20/2018 18:05	WG1100931
1,2-Dichloroethane	ND		0.500	1	04/20/2018 18:05	WG1100931
1,1-Dichloroethene	ND		0.500	1	04/20/2018 18:05	WG1100931
cis-1,2-Dichloroethene	ND		0.500	1	04/20/2018 18:05	WG1100931
trans-1,2-Dichloroethene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,2-Dichloropropane	ND		0.500	1	04/20/2018 18:05	WG1100931
1,1-Dichloropropene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,3-Dichloropropane	ND		1.00	1	04/20/2018 18:05	WG1100931
cis-1,3-Dichloropropene	ND		0.500	1	04/20/2018 18:05	WG1100931
trans-1,3-Dichloropropene	ND		0.500	1	04/20/2018 18:05	WG1100931
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/20/2018 18:05	WG1100931
2,2-Dichloropropane	ND		0.500	1	04/20/2018 18:05	WG1100931
Di-isopropyl ether	ND		0.500	1	04/20/2018 18:05	WG1100931
Ethylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Hexachloro-1,3-butadiene	ND		1.00	1	04/20/2018 18:05	WG1100931
2-Hexanone	ND		5.00	1	04/20/2018 18:05	WG1100931
n-Hexane	ND		5.00	1	04/20/2018 18:05	WG1100931
Iodomethane	ND		10.0	1	04/20/2018 18:05	WG1100931
Isopropylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
p-Isopropyltoluene	ND		0.500	1	04/20/2018 18:05	WG1100931
2-Butanone (MEK)	ND		5.00	1	04/20/2018 18:05	WG1100931
Methylene Chloride	ND		2.50	1	04/20/2018 18:05	WG1100931
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/20/2018 18:05	WG1100931
Methyl tert-butyl ether	ND		0.500	1	04/20/2018 18:05	WG1100931
Naphthalene	ND		2.50	1	04/20/2018 18:05	WG1100931
n-Propylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Styrene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/20/2018 18:05	WG1100931
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/20/2018 18:05	WG1100931

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/20/2018 18:05	WG1100931
Tetrachloroethene	0.716		0.500	1	04/20/2018 18:05	WG1100931
Toluene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,2,3-Trichlorobenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,2,4-Trichlorobenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,1,1-Trichloroethane	ND		0.500	1	04/20/2018 18:05	WG1100931
1,1,2-Trichloroethane	ND		0.500	1	04/20/2018 18:05	WG1100931
Trichloroethene	ND		0.500	1	04/20/2018 18:05	WG1100931
Trichlorofluoromethane	ND		2.50	1	04/20/2018 18:05	WG1100931
1,2,3-Trichloropropane	ND		2.50	1	04/20/2018 18:05	WG1100931
1,2,4-Trimethylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,2,3-Trimethylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
1,3,5-Trimethylbenzene	ND		0.500	1	04/20/2018 18:05	WG1100931
Vinyl acetate	ND		5.00	1	04/20/2018 18:05	WG1100931
Vinyl chloride	ND		0.500	1	04/20/2018 18:05	WG1100931
Xylenes, Total	ND		1.50	1	04/20/2018 18:05	WG1100931
(S) Toluene-d8	104		80.0-120		04/20/2018 18:05	WG1100931
(S) Dibromofluoromethane	98.5		76.0-123		04/20/2018 18:05	WG1100931
(S) 4-Bromofluorobenzene	106		80.0-120		04/20/2018 18:05	WG1100931

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/20/2018 18:25	WG1100931
Acrylonitrile	ND		5.00	1	04/20/2018 18:25	WG1100931
Benzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Bromobenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Bromodichloromethane	ND		0.500	1	04/20/2018 18:25	WG1100931
Bromochloromethane	ND		0.500	1	04/20/2018 18:25	WG1100931
Bromoform	ND		0.500	1	04/20/2018 18:25	WG1100931
Bromomethane	ND		2.50	1	04/20/2018 18:25	WG1100931
n-Butylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
sec-Butylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
tert-Butylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Carbon disulfide	ND		0.500	1	04/20/2018 18:25	WG1100931
Carbon tetrachloride	ND		0.500	1	04/20/2018 18:25	WG1100931
Chlorobenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Chlorodibromomethane	ND		0.500	1	04/20/2018 18:25	WG1100931
Chloroethane	ND		2.50	1	04/20/2018 18:25	WG1100931
Chloroform	ND		0.500	1	04/20/2018 18:25	WG1100931
Chloromethane	ND		1.25	1	04/20/2018 18:25	WG1100931
2-Chlorotoluene	ND		0.500	1	04/20/2018 18:25	WG1100931
4-Chlorotoluene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/20/2018 18:25	WG1100931
1,2-Dibromoethane	ND		0.500	1	04/20/2018 18:25	WG1100931
Dibromomethane	ND		0.500	1	04/20/2018 18:25	WG1100931
1,2-Dichlorobenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,3-Dichlorobenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,4-Dichlorobenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Dichlorodifluoromethane	ND		2.50	1	04/20/2018 18:25	WG1100931
1,1-Dichloroethane	ND		0.500	1	04/20/2018 18:25	WG1100931
1,2-Dichloroethane	ND		0.500	1	04/20/2018 18:25	WG1100931
1,1-Dichloroethene	ND		0.500	1	04/20/2018 18:25	WG1100931
cis-1,2-Dichloroethene	ND		0.500	1	04/20/2018 18:25	WG1100931
trans-1,2-Dichloroethene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,2-Dichloropropane	ND		0.500	1	04/20/2018 18:25	WG1100931
1,1-Dichloropropene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,3-Dichloropropane	ND		1.00	1	04/20/2018 18:25	WG1100931
cis-1,3-Dichloropropene	ND		0.500	1	04/20/2018 18:25	WG1100931
trans-1,3-Dichloropropene	ND		0.500	1	04/20/2018 18:25	WG1100931
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/20/2018 18:25	WG1100931
2,2-Dichloropropane	ND		0.500	1	04/20/2018 18:25	WG1100931
Di-isopropyl ether	ND		0.500	1	04/20/2018 18:25	WG1100931
Ethylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Hexachloro-1,3-butadiene	ND		1.00	1	04/20/2018 18:25	WG1100931
2-Hexanone	ND		5.00	1	04/20/2018 18:25	WG1100931
n-Hexane	ND		5.00	1	04/20/2018 18:25	WG1100931
Iodomethane	ND		10.0	1	04/20/2018 18:25	WG1100931
Isopropylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
p-Isopropyltoluene	ND		0.500	1	04/20/2018 18:25	WG1100931
2-Butanone (MEK)	ND		5.00	1	04/20/2018 18:25	WG1100931
Methylene Chloride	ND		2.50	1	04/20/2018 18:25	WG1100931
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/20/2018 18:25	WG1100931
Methyl tert-butyl ether	ND		0.500	1	04/20/2018 18:25	WG1100931
Naphthalene	ND		2.50	1	04/20/2018 18:25	WG1100931
n-Propylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Styrene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/20/2018 18:25	WG1100931
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/20/2018 18:25	WG1100931

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/20/2018 18:25	WG1100931
Tetrachloroethene	ND		0.500	1	04/20/2018 18:25	WG1100931
Toluene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,2,3-Trichlorobenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,2,4-Trichlorobenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,1,1-Trichloroethane	ND		0.500	1	04/20/2018 18:25	WG1100931
1,1,2-Trichloroethane	ND		0.500	1	04/20/2018 18:25	WG1100931
Trichloroethene	ND		0.500	1	04/20/2018 18:25	WG1100931
Trichlorofluoromethane	ND		2.50	1	04/20/2018 18:25	WG1100931
1,2,3-Trichloropropane	ND		2.50	1	04/20/2018 18:25	WG1100931
1,2,4-Trimethylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,2,3-Trimethylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
1,3,5-Trimethylbenzene	ND		0.500	1	04/20/2018 18:25	WG1100931
Vinyl acetate	ND		5.00	1	04/20/2018 18:25	WG1100931
Vinyl chloride	ND		0.500	1	04/20/2018 18:25	WG1100931
Xylenes, Total	ND		1.50	1	04/20/2018 18:25	WG1100931
(S) Toluene-d8	102		80.0-120		04/20/2018 18:25	WG1100931
(S) Dibromofluoromethane	99.8		76.0-123		04/20/2018 18:25	WG1100931
(S) 4-Bromofluorobenzene	108		80.0-120		04/20/2018 18:25	WG1100931

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/21/2018 14:49	WG1101352
Acrylonitrile	ND	<u>JO</u>	5.00	1	04/21/2018 14:49	WG1101352
Benzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromodichloromethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromochloromethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromoform	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromomethane	ND		2.50	1	04/21/2018 14:49	WG1101352
n-Butylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
sec-Butylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
tert-Butylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Carbon disulfide	ND	<u>JO</u>	0.500	1	04/21/2018 14:49	WG1101352
Carbon tetrachloride	ND		0.500	1	04/21/2018 14:49	WG1101352
Chlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Chlorodibromomethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Chloroethane	ND		2.50	1	04/21/2018 14:49	WG1101352
Chloroform	ND		0.500	1	04/21/2018 14:49	WG1101352
Chloromethane	ND		1.25	1	04/21/2018 14:49	WG1101352
2-Chlorotoluene	ND		0.500	1	04/21/2018 14:49	WG1101352
4-Chlorotoluene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,2-Dibromoethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Dibromomethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,3-Dichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,4-Dichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Dichlorodifluoromethane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,1-Dichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1-Dichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
cis-1,2-Dichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
trans-1,2-Dichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dichloropropane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1-Dichloropropene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,3-Dichloropropane	ND		1.00	1	04/21/2018 14:49	WG1101352
cis-1,3-Dichloropropene	ND		0.500	1	04/21/2018 14:49	WG1101352
trans-1,3-Dichloropropene	ND		0.500	1	04/21/2018 14:49	WG1101352
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/21/2018 14:49	WG1101352
2,2-Dichloropropane	ND	<u>JO J3</u>	0.500	1	04/21/2018 14:49	WG1101352
Di-isopropyl ether	ND		0.500	1	04/21/2018 14:49	WG1101352
Ethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Hexachloro-1,3-butadiene	ND		1.00	1	04/21/2018 14:49	WG1101352
2-Hexanone	ND		5.00	1	04/21/2018 14:49	WG1101352
n-Hexane	ND		5.00	1	04/21/2018 14:49	WG1101352
Iodomethane	ND		10.0	1	04/21/2018 14:49	WG1101352
Isopropylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
p-Isopropyltoluene	ND		0.500	1	04/21/2018 14:49	WG1101352
2-Butanone (MEK)	ND		5.00	1	04/21/2018 14:49	WG1101352
Methylene Chloride	ND		2.50	1	04/21/2018 14:49	WG1101352
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/21/2018 14:49	WG1101352
Methyl tert-butyl ether	ND		0.500	1	04/21/2018 14:49	WG1101352
Naphthalene	ND		2.50	1	04/21/2018 14:49	WG1101352
n-Propylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Styrene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Tetrachloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
Toluene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2,3-Trichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2,4-Trichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,1-Trichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,2-Trichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Trichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
Trichlorofluoromethane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,2,3-Trichloropropane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,2,4-Trimethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2,3-Trimethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,3,5-Trimethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Vinyl acetate	ND		5.00	1	04/21/2018 14:49	WG1101352
Vinyl chloride	ND		0.500	1	04/21/2018 14:49	WG1101352
Xylenes, Total	ND		1.50	1	04/21/2018 14:49	WG1101352
(S) Toluene-d8	102		80.0-120		04/21/2018 14:49	WG1101352
(S) Dibromofluoromethane	100		76.0-123		04/21/2018 14:49	WG1101352
(S) 4-Bromofluorobenzene	92.8		80.0-120		04/21/2018 14:49	WG1101352

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/21/2018 15:07	WG1101352
Acrylonitrile	ND	<u>JO</u>	5.00	1	04/21/2018 15:07	WG1101352
Benzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromodichloromethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromochloromethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromoform	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromomethane	ND		2.50	1	04/21/2018 15:07	WG1101352
n-Butylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
sec-Butylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
tert-Butylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Carbon disulfide	ND	<u>JO</u>	0.500	1	04/21/2018 15:07	WG1101352
Carbon tetrachloride	ND		0.500	1	04/21/2018 15:07	WG1101352
Chlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Chlorodibromomethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Chloroethane	ND		2.50	1	04/21/2018 15:07	WG1101352
Chloroform	ND		0.500	1	04/21/2018 15:07	WG1101352
Chloromethane	ND		1.25	1	04/21/2018 15:07	WG1101352
2-Chlorotoluene	ND		0.500	1	04/21/2018 15:07	WG1101352
4-Chlorotoluene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,2-Dibromoethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Dibromomethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,3-Dichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,4-Dichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Dichlorodifluoromethane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,1-Dichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1-Dichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
cis-1,2-Dichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
trans-1,2-Dichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dichloropropane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1-Dichloropropene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,3-Dichloropropane	ND		1.00	1	04/21/2018 15:07	WG1101352
cis-1,3-Dichloropropene	ND		0.500	1	04/21/2018 15:07	WG1101352
trans-1,3-Dichloropropene	ND		0.500	1	04/21/2018 15:07	WG1101352
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/21/2018 15:07	WG1101352
2,2-Dichloropropane	ND	<u>JO J3</u>	0.500	1	04/21/2018 15:07	WG1101352
Di-isopropyl ether	ND		0.500	1	04/21/2018 15:07	WG1101352
Ethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Hexachloro-1,3-butadiene	ND		1.00	1	04/21/2018 15:07	WG1101352
2-Hexanone	ND		5.00	1	04/21/2018 15:07	WG1101352
n-Hexane	ND		5.00	1	04/21/2018 15:07	WG1101352
Iodomethane	ND		10.0	1	04/21/2018 15:07	WG1101352
Isopropylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
p-Isopropyltoluene	ND		0.500	1	04/21/2018 15:07	WG1101352
2-Butanone (MEK)	ND		5.00	1	04/21/2018 15:07	WG1101352
Methylene Chloride	ND		2.50	1	04/21/2018 15:07	WG1101352
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/21/2018 15:07	WG1101352
Methyl tert-butyl ether	ND		0.500	1	04/21/2018 15:07	WG1101352
Naphthalene	ND		2.50	1	04/21/2018 15:07	WG1101352
n-Propylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Styrene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Tetrachloroethene	1.02		0.500	1	04/21/2018 15:07	WG1101352
Toluene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2,3-Trichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2,4-Trichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,1-Trichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,2-Trichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Trichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
Trichlorofluoromethane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,2,3-Trichloropropane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,2,4-Trimethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2,3-Trimethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,3,5-Trimethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Vinyl acetate	ND		5.00	1	04/21/2018 15:07	WG1101352
Vinyl chloride	ND		0.500	1	04/21/2018 15:07	WG1101352
Xylenes, Total	ND		1.50	1	04/21/2018 15:07	WG1101352
(S) Toluene-d8	102		80.0-120		04/21/2018 15:07	WG1101352
(S) Dibromofluoromethane	102		76.0-123		04/21/2018 15:07	WG1101352
(S) 4-Bromofluorobenzene	88.5		80.0-120		04/21/2018 15:07	WG1101352

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



Collected date/time: 04/18/18 00:00

L987257

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/21/2018 13:34	WG1101352
Acrylonitrile	ND	<u>JO</u>	5.00	1	04/21/2018 13:34	WG1101352
Benzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromodichloromethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromochloromethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromoform	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromomethane	ND		2.50	1	04/21/2018 13:34	WG1101352
n-Butylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
sec-Butylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
tert-Butylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Carbon disulfide	ND	<u>JO</u>	0.500	1	04/21/2018 13:34	WG1101352
Carbon tetrachloride	ND		0.500	1	04/21/2018 13:34	WG1101352
Chlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Chlorodibromomethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Chloroethane	ND		2.50	1	04/21/2018 13:34	WG1101352
Chloroform	ND		0.500	1	04/21/2018 13:34	WG1101352
Chloromethane	ND		1.25	1	04/21/2018 13:34	WG1101352
2-Chlorotoluene	ND		0.500	1	04/21/2018 13:34	WG1101352
4-Chlorotoluene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,2-Dibromoethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Dibromomethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,3-Dichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,4-Dichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Dichlorodifluoromethane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,1-Dichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1-Dichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
cis-1,2-Dichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
trans-1,2-Dichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dichloropropane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1-Dichloropropene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,3-Dichloropropane	ND		1.00	1	04/21/2018 13:34	WG1101352
cis-1,3-Dichloropropene	ND		0.500	1	04/21/2018 13:34	WG1101352
trans-1,3-Dichloropropene	ND		0.500	1	04/21/2018 13:34	WG1101352
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/21/2018 13:34	WG1101352
2,2-Dichloropropane	ND	<u>JO J3</u>	0.500	1	04/21/2018 13:34	WG1101352
Di-isopropyl ether	ND		0.500	1	04/21/2018 13:34	WG1101352
Ethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Hexachloro-1,3-butadiene	ND		1.00	1	04/21/2018 13:34	WG1101352
2-Hexanone	ND		5.00	1	04/21/2018 13:34	WG1101352
n-Hexane	ND		5.00	1	04/21/2018 13:34	WG1101352
Iodomethane	ND		10.0	1	04/21/2018 13:34	WG1101352
Isopropylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
p-Isopropyltoluene	ND		0.500	1	04/21/2018 13:34	WG1101352
2-Butanone (MEK)	ND		5.00	1	04/21/2018 13:34	WG1101352
Methylene Chloride	ND		2.50	1	04/21/2018 13:34	WG1101352
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/21/2018 13:34	WG1101352
Methyl tert-butyl ether	ND		0.500	1	04/21/2018 13:34	WG1101352
Naphthalene	ND		2.50	1	04/21/2018 13:34	WG1101352
n-Propylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Styrene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/18/18 00:00

L987257

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Tetrachloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
Toluene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2,3-Trichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2,4-Trichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,1-Trichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,2-Trichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Trichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
Trichlorofluoromethane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,2,3-Trichloropropane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,2,4-Trimethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2,3-Trimethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,3,5-Trimethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Vinyl acetate	ND		5.00	1	04/21/2018 13:34	WG1101352
Vinyl chloride	ND		0.500	1	04/21/2018 13:34	WG1101352
Xylenes, Total	ND		1.50	1	04/21/2018 13:34	WG1101352
(S) Toluene-d8	103		80.0-120		04/21/2018 13:34	WG1101352
(S) Dibromofluoromethane	100		76.0-123		04/21/2018 13:34	WG1101352
(S) 4-Bromofluorobenzene	92.3		80.0-120		04/21/2018 13:34	WG1101352

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



Method Blank (MB)

(MB) R3303992-3 04/20/18 10:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3303992-3 04/20/18 10:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	101			80.0-120
(S) Dibromofluoromethane	99.4			76.0-123
(S) 4-Bromofluorobenzene	108			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS)

(LCS) R3303992-1 04/20/18 09:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Acetone	125	191	153	10.0-160	
Acrylonitrile	125	125	99.8	60.0-142	
Benzene	25.0	21.8	87.0	69.0-123	
Bromobenzene	25.0	23.6	94.5	79.0-120	
Bromodichloromethane	25.0	24.5	97.8	76.0-120	
Bromochloromethane	25.0	24.9	99.5	76.0-122	
Bromoform	25.0	28.8	115	67.0-132	
Bromomethane	25.0	21.4	85.7	18.0-160	
n-Butylbenzene	25.0	26.0	104	72.0-126	
sec-Butylbenzene	25.0	25.0	100	74.0-121	
tert-Butylbenzene	25.0	25.2	101	75.0-122	
Carbon disulfide	25.0	21.8	87.3	55.0-127	
Carbon tetrachloride	25.0	25.9	103	63.0-122	
Chlorobenzene	25.0	23.8	95.3	79.0-121	
Chlorodibromomethane	25.0	26.2	105	75.0-125	
Chloroethane	25.0	21.3	85.3	47.0-152	
Chloroform	25.0	23.6	94.5	72.0-121	
Chloromethane	25.0	19.1	76.3	48.0-139	
2-Chlorotoluene	25.0	23.8	95.3	74.0-122	
4-Chlorotoluene	25.0	24.6	98.5	79.0-120	
1,2-Dibromo-3-Chloropropane	25.0	25.2	101	64.0-127	
1,2-Dibromoethane	25.0	24.5	97.9	77.0-123	
Dibromomethane	25.0	24.4	97.7	78.0-120	
1,2-Dichlorobenzene	25.0	23.6	94.6	80.0-120	
1,3-Dichlorobenzene	25.0	24.2	96.6	72.0-123	
1,4-Dichlorobenzene	25.0	23.4	93.7	77.0-120	
Dichlorodifluoromethane	25.0	22.8	91.2	49.0-155	
1,1-Dichloroethane	25.0	23.6	94.3	70.0-126	
1,2-Dichloroethane	25.0	25.9	104	67.0-126	
1,1-Dichloroethene	25.0	22.5	89.9	64.0-129	
cis-1,2-Dichloroethene	25.0	22.3	89.1	73.0-120	
trans-1,2-Dichloroethene	25.0	23.4	93.5	71.0-121	
1,2-Dichloropropane	25.0	23.4	93.4	75.0-125	
1,1-Dichloropropene	25.0	24.0	96.0	71.0-129	
1,3-Dichloropropane	25.0	23.5	93.9	80.0-121	
cis-1,3-Dichloropropene	25.0	25.3	101	79.0-123	
trans-1,3-Dichloropropene	25.0	25.2	101	74.0-127	
trans-1,4-Dichloro-2-butene	25.0	30.1	120	55.0-134	
2,2-Dichloropropane	25.0	27.5	110	60.0-125	
Di-isopropyl ether	25.0	24.6	98.6	59.0-133	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS)

(LCS) R3303992-1 04/20/18 09:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Ethylbenzene	25.0	24.5	98.1	77.0-120	
Hexachloro-1,3-butadiene	25.0	26.7	107	64.0-131	
2-Hexanone	125	132	106	58.0-147	
n-Hexane	25.0	24.2	96.7	56.0-124	
Iodomethane	125	116	92.9	57.0-140	
Isopropylbenzene	25.0	24.9	99.5	75.0-120	
p-Isopropyltoluene	25.0	25.9	104	74.0-126	
2-Butanone (MEK)	125	170	136	37.0-158	
Methylene Chloride	25.0	23.1	92.5	66.0-121	
4-Methyl-2-pentanone (MIBK)	125	123	98.6	59.0-143	
Methyl tert-butyl ether	25.0	25.9	104	64.0-123	
Naphthalene	25.0	23.0	92.0	62.0-128	
n-Propylbenzene	25.0	24.3	97.1	79.0-120	
Styrene	25.0	25.2	101	78.0-124	
1,1,1,2-Tetrachloroethane	25.0	25.4	102	75.0-122	
1,1,2,2-Tetrachloroethane	25.0	23.8	95.2	71.0-122	
1,1,2-Trichlorotrifluoroethane	25.0	23.1	92.5	61.0-136	
Tetrachloroethene	25.0	25.4	102	70.0-127	
Toluene	25.0	23.4	93.7	77.0-120	
1,2,3-Trichlorobenzene	25.0	22.1	88.4	61.0-133	
1,2,4-Trichlorobenzene	25.0	23.4	93.5	69.0-129	
1,1,1-Trichloroethane	25.0	25.3	101	68.0-122	
1,1,2-Trichloroethane	25.0	23.9	95.8	78.0-120	
Trichloroethene	25.0	24.5	98.1	78.0-120	
Trichlorofluoromethane	25.0	22.5	90.0	56.0-137	
1,2,3-Trichloropropane	25.0	25.2	101	72.0-124	
1,2,4-Trimethylbenzene	25.0	25.4	102	75.0-120	
1,2,3-Trimethylbenzene	25.0	25.1	100	75.0-120	
1,3,5-Trimethylbenzene	25.0	24.6	98.3	75.0-120	
Vinyl acetate	125	125	99.8	46.0-160	
Vinyl chloride	25.0	22.2	88.6	64.0-133	
Xylenes, Total	75.0	72.0	96.0	77.0-120	
(S) Toluene-d8			95.9	80.0-120	
(S) Dibromofluoromethane			100	76.0-123	
(S) 4-Bromofluorobenzene			103	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3303975-3 04/21/18 11:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromochloromethane	U		0.145	0.500
Bromodichloromethane	U		0.0800	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
2,2-Dichloropropane	U		0.0929	0.500
2-Hexanone	U		0.757	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3303975-3 04/21/18 11:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
n-Hexane	U		0.305	5.00
Di-isopropyl ether	U		0.0924	0.500
Iodomethane	U		0.377	10.0
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Vinyl acetate	U		0.645	5.00
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,2,4-Trimethylbenzene	U		0.123	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	101			76.0-123
(S) 4-Bromofluorobenzene	96.3			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3303975-1 04/21/18 10:21 • (LCSD) R3303975-2 04/21/18 10:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromochloromethane	25.0	21.9	23.0	87.4	91.9	76.0-122			4.95	20
Acetone	125	121	117	96.6	93.4	10.0-160			3.44	23
Acrylonitrile	125	99.5	112	79.6	89.7	60.0-142			12.0	20
trans-1,4-Dichloro-2-butene	25.0	22.8	22.4	91.3	89.7	55.0-134			1.79	20
Benzene	25.0	21.4	21.7	85.4	86.6	69.0-123			1.42	20
Bromobenzene	25.0	21.0	20.6	83.9	82.5	79.0-120			1.70	20
Bromodichloromethane	25.0	22.9	22.9	91.5	91.7	76.0-120			0.242	20
2-Hexanone	125	123	119	98.6	95.4	58.0-147			3.28	20
Bromoform	25.0	22.5	22.3	90.1	89.3	67.0-132			0.960	20
Bromomethane	25.0	21.0	22.5	84.1	89.9	18.0-160			6.57	20
n-Hexane	25.0	20.8	21.3	83.2	85.2	56.0-124			2.45	20
Iodomethane	125	104	107	82.9	85.7	57.0-140			3.37	20
n-Butylbenzene	25.0	21.9	22.0	87.7	88.2	72.0-126			0.480	20
sec-Butylbenzene	25.0	21.3	21.6	85.3	86.4	74.0-121			1.24	20
tert-Butylbenzene	25.0	21.1	21.1	84.4	84.2	75.0-122			0.249	20
Carbon disulfide	25.0	19.3	20.0	77.3	79.8	55.0-127			3.16	20
Carbon tetrachloride	25.0	20.4	21.0	81.5	84.1	63.0-122			3.13	20
Chlorobenzene	25.0	22.6	22.9	90.3	91.5	79.0-121			1.34	20
Chlorodibromomethane	25.0	23.1	23.2	92.2	93.0	75.0-125			0.810	20
Chloroethane	25.0	20.9	22.2	83.7	88.8	47.0-152			5.89	20
Chloroform	25.0	21.7	22.4	86.9	89.5	72.0-121			2.92	20
Chloromethane	25.0	21.1	21.7	84.5	86.8	48.0-139			2.66	20
2-Chlorotoluene	25.0	20.9	21.2	83.5	84.6	74.0-122			1.31	20
4-Chlorotoluene	25.0	21.5	21.2	85.9	85.0	79.0-120			1.10	20
1,2-Dibromo-3-Chloropropane	25.0	23.6	23.4	94.6	93.6	64.0-127			1.07	20
1,2-Dibromoethane	25.0	23.1	23.4	92.5	93.4	77.0-123			1.00	20
Dibromomethane	25.0	23.4	23.4	93.8	93.4	78.0-120			0.371	20
1,2-Dichlorobenzene	25.0	22.2	22.8	88.7	91.3	80.0-120			2.82	20
1,3-Dichlorobenzene	25.0	21.9	22.1	87.7	88.4	72.0-123			0.899	20
1,4-Dichlorobenzene	25.0	22.4	22.5	89.5	89.8	77.0-120			0.407	20
Dichlorodifluoromethane	25.0	21.5	22.3	85.8	89.2	49.0-155			3.81	20
1,1-Dichloroethane	25.0	21.9	22.3	87.5	89.2	70.0-126			1.90	20
1,2-Dichloroethane	25.0	22.9	23.4	91.7	93.4	67.0-126			1.87	20
1,1-Dichloroethene	25.0	20.6	21.4	82.6	85.7	64.0-129			3.72	20
Vinyl acetate	125	120	124	95.8	99.3	46.0-160			3.51	20
cis-1,2-Dichloroethene	25.0	21.0	21.9	84.0	87.7	73.0-120			4.28	20
trans-1,2-Dichloroethene	25.0	20.5	21.2	82.2	84.9	71.0-121			3.19	20
1,2-Dichloropropane	25.0	22.8	22.8	91.1	91.2	75.0-125			0.0919	20
1,1-Dichloropropene	25.0	21.8	22.0	87.0	88.1	71.0-129			1.21	20
1,3-Dichloropropane	25.0	23.4	23.3	93.5	93.3	80.0-121			0.166	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3303975-1 04/21/18 10:21 • (LCSD) R3303975-2 04/21/18 10:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
cis-1,3-Dichloropropene	25.0	23.2	23.4	92.7	93.5	79.0-123			0.909	20
trans-1,3-Dichloropropene	25.0	23.4	23.6	93.7	94.4	74.0-127			0.687	20
2,2-Dichloropropane	25.0	17.8	22.3	71.0	89.1	60.0-125		J3	22.6	20
Di-isopropyl ether	25.0	22.2	22.7	88.7	91.0	59.0-133			2.50	20
Ethylbenzene	25.0	22.1	22.5	88.3	90.0	77.0-120			1.89	20
Hexachloro-1,3-butadiene	25.0	20.3	21.0	81.3	84.1	64.0-131			3.32	20
Isopropylbenzene	25.0	20.8	21.1	83.0	84.6	75.0-120			1.82	20
p-Isopropyltoluene	25.0	21.4	21.8	85.5	87.1	74.0-126			1.85	20
2-Butanone (MEK)	125	120	115	95.7	92.4	37.0-158			3.54	20
Methylene Chloride	25.0	21.4	22.0	85.6	87.9	66.0-121			2.71	20
4-Methyl-2-pentanone (MIBK)	125	120	117	96.2	93.2	59.0-143			3.08	20
Methyl tert-butyl ether	25.0	21.8	23.4	87.3	93.5	64.0-123			6.80	20
Naphthalene	25.0	21.9	24.1	87.7	96.5	62.0-128			9.48	20
n-Propylbenzene	25.0	21.0	20.9	84.0	83.7	79.0-120			0.339	20
Styrene	25.0	22.0	21.4	87.9	85.6	78.0-124			2.74	20
1,1,1,2-Tetrachloroethane	25.0	22.2	22.9	88.8	91.7	75.0-122			3.23	20
1,1,2,2-Tetrachloroethane	25.0	22.4	22.2	89.5	89.0	71.0-122			0.596	20
Tetrachloroethene	25.0	21.5	21.6	85.9	86.3	70.0-127			0.563	20
Toluene	25.0	21.3	21.5	85.2	86.2	77.0-120			1.09	20
1,1,2-Trichlorotrifluoroethane	25.0	21.9	22.4	87.7	89.6	61.0-136			2.19	20
1,2,3-Trichlorobenzene	25.0	20.2	22.5	80.7	90.1	61.0-133			10.9	20
1,2,4-Trichlorobenzene	25.0	20.9	22.4	83.8	89.7	69.0-129			6.88	20
1,1,1-Trichloroethane	25.0	21.6	22.1	86.5	88.6	68.0-122			2.40	20
1,1,2-Trichloroethane	25.0	22.7	22.9	90.6	91.6	78.0-120			1.03	20
Trichloroethene	25.0	21.9	21.8	87.6	87.1	78.0-120			0.574	20
Trichlorofluoromethane	25.0	22.4	22.8	89.7	91.2	56.0-137			1.74	20
1,2,3-Trichloropropane	25.0	22.6	22.0	90.6	88.0	72.0-124			2.90	20
1,2,3-Trimethylbenzene	25.0	21.8	22.4	87.3	89.7	75.0-120			2.73	20
1,2,4-Trimethylbenzene	25.0	20.9	21.6	83.4	86.3	75.0-120			3.31	20
1,3,5-Trimethylbenzene	25.0	20.8	21.2	83.2	84.8	75.0-120			1.87	20
Vinyl chloride	25.0	21.7	22.6	86.8	90.4	64.0-133			4.04	20
Xylenes, Total	75.0	65.6	66.9	87.5	89.2	77.0-120			1.96	20
(S) Toluene-d8				101	102	80.0-120				
(S) Dibromofluoromethane				98.8	99.9	76.0-123				
(S) 4-Bromofluorobenzene				95.6	95.1	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier	Description
J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
J3	The associated batch QC was outside the established quality control range for precision.



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

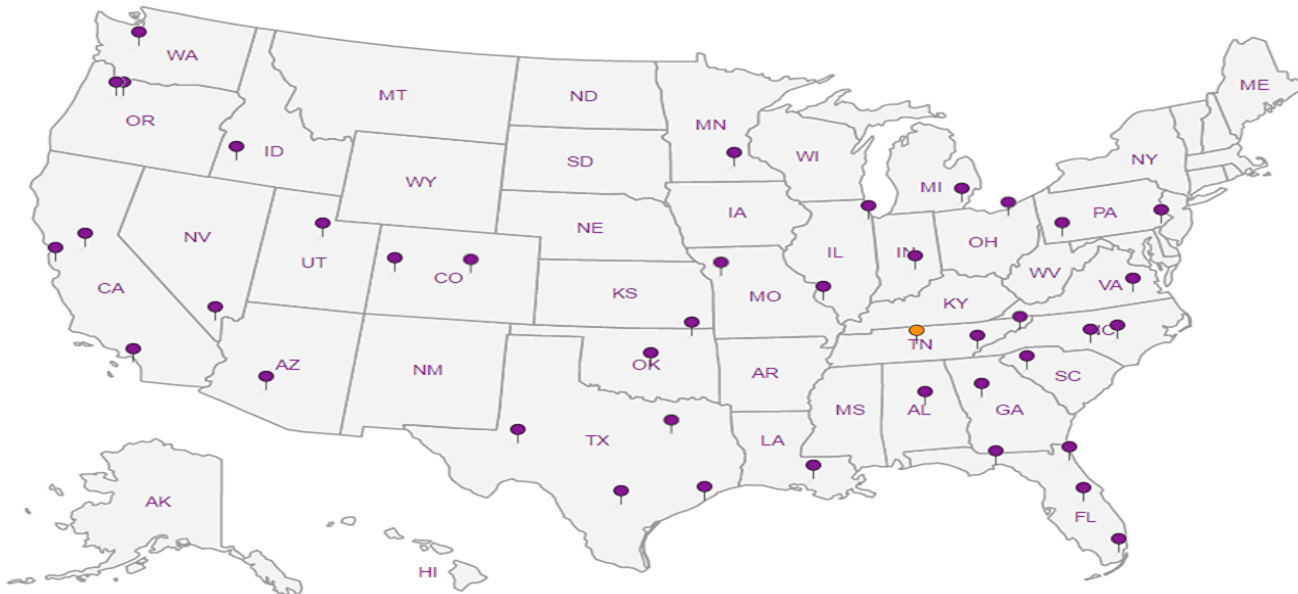
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



PES Environmental, Inc.- WA
 1215 Fourth Ave., Suite 1350
 Seattle, WA 98161

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

Pres
 Chk

Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project
 Description: **MVSC**

City/State
 Collected: **Burien, WA**

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
Jeff Dobbins

Site/Facility ID #

P.O. #

Collected by (signature):


Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #
 Date Results Needed

Immediately
 Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
DC-15-041818	Grab	GW		4/18/18	0920	3 X
DC-8-041818	}	GW		4/18/18	1010	3 X
DC-4-041818		GW		4/18/18	1115	3 X
MW-13-041818		GW		4/18/18	1227	3 X
KMW-2-041818		GW		4/18/18	1324	3 X
MW-10-041818		GW		4/18/18	1401	3 X
MW-9-041818		GW		4/18/18	1453	3 X
MW-12-041818		GW		4/18/18	1609	3 X
KMW-9-041818		GW		4/18/18	1700	3 X
TRIP BLANK			GW			

V8260LLC VOCs 40mlAmb-HCl

Analysis / Container / Preservative									

Chain of Custody Page 1 of 1



12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859



L # **987257**
 Tag **F141**
 Acctnum: **PESENVSWA**
 Template: **T131700**
 Prelogin: **P647347**
 TSR: **110 - Brian Ford**
 PB: **1-318 AP**
 Shipped Via: **FedEX Ground**

Remarks	Sample # (Lab only)
	01
	02
	03
	04
	05
	06
	07
	08
	09
	10

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via:
 UPS FedEx Courier _____
 Tracking # **4269 9212 6326**

Sample Receipt Checklist

COC Seal Present/Intact: <input checked="" type="checkbox"/> NP	<input checked="" type="checkbox"/> N
COC Signed/Accurate: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
Bottles arrive intact: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
Correct bottles used: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
Sufficient volume sent: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
If Applicable	
VOA Zero Headspace: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
Preservation Correct/Checked: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: <input checked="" type="checkbox"/> No <input type="checkbox"/> HCL / MeOH <input type="checkbox"/> TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.6 °C Bottles Received: 27
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/19/18 Time: 0245 Hold: Condition: NCF / OK

MEMORANDUM

TO: Project File **DATE:** June 4, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center and Harris Family LTD
PROJECT #: 1358.001.01.003
TASK: April 18, 2018 Groundwater Samples
LAB: ECS Lab Sciences Request No. L987257

Nine (9) groundwater samples and a trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Center/Harris Family LTD site in Normandy Park, Washington on April 18, 2018. Samples associated with SDG L987257 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by ESC Lab Sciences (ESC) of Mt. Juliet, Tennessee.

The monitoring event occurred between April 18 and 20, 2018. SDGs associated with this sampling period include three SDGs (L987257, L987914, and L987916). The quality assurance review of the laboratory data for SDG L987257 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 4.6 degrees Centigrade (°C). The

cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. Samples were received in good condition with the following discussions:

No data qualifications were warranted.

- SDGs L987257: Review of associated chain of custody (COC) shows that the relinquished portion was not signed however daily field forms show a record of sample delivery to FedEx for shipment to ESC. Internal corrective action has been implemented by PES to ensure that all COCs are signed and dated when relinquishing possession/custody of the samples.

No data were qualified based upon the sample collection and preservation information.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however ESC's notes indicate the following:

- Continuing calibration verification (CCV) issues were noted by ESC for acrylonitrile, carbon disulfide, and 2,2-dichloropropane associated with analytical batch WG1101352 (analyzed on April 21, 2018). These results are qualified by the laboratory "J0" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **All associated acrylonitrile, carbon disulfide, and 2,2-dichloropropane results with laboratory qualified (J0) results are estimated and qualified (J/UJ).**

Method Blank Results

A laboratory method blank was included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

A trip blank was submitted for analysis. The target analytes (VOCs) were not detected in the trip blank at concentrations at or above the RDLs.

Equipment Blank Results

Two equipment blank samples (EQ-1-042018 and EQ-2-042018) were collected and analyzed and are reported in SDG L987914.

- Equipment blank sample EQ-1-042018 is associated with monitoring wells DC-15, DC-8, DC-4, MW-13, KMW-2, MW10, MW-9, MW-12, KMW-9, DC-12, DC-13, DC-3,

KMW-7, KMW-8, DC-14, DC-20, DC-11, MW-4, MW-7, and KMW-3 (SDGs L987257, L987914, and L987916). The target analytes (VOCs) were not detected in the equipment blank at concentrations at or above the RDLs.

- Equipment blank sample EQ-2-042018 is associated with monitoring wells DC-10A, DC-17, DC-18, MW-2, MW-3, MW-11, MW-14, MW-15, MW-16, and DC-7 (SDGs L987914 and L987916). The target analytes (VOCs) were not detected in the equipment blank at concentrations at or above the RDLs.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to field duplicate results reported in SDG L987916.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's for analytical batch (WG1100931) are within the laboratory control limits. Refer to the field duplicate data in SDG L987916 for precision information. Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) % Rs and RPDs for analytical batch (WG1101352) are within laboratory control limit criteria with one exception:

- LCS/LCSD RPD for 2,2-dichloropropane is slightly above laboratory acceptance criteria and laboratory qualified (J3). No action was taken since both recoveries are within criteria.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. Assigned qualifiers were added to the electronic data deliverables under the appropriate field. All data, including qualified data, are judged to be acceptable for their intended use.



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/21/2018 14:49	WG1101352
Acrylonitrile	ND	UJ JO	5.00	1	04/21/2018 14:49	WG1101352
Benzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromodichloromethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromochloromethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromoform	ND		0.500	1	04/21/2018 14:49	WG1101352
Bromomethane	ND		2.50	1	04/21/2018 14:49	WG1101352
n-Butylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
sec-Butylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
tert-Butylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Carbon disulfide	ND	UJ JO	0.500	1	04/21/2018 14:49	WG1101352
Carbon tetrachloride	ND		0.500	1	04/21/2018 14:49	WG1101352
Chlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Chlorodibromomethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Chloroethane	ND		2.50	1	04/21/2018 14:49	WG1101352
Chloroform	ND		0.500	1	04/21/2018 14:49	WG1101352
Chloromethane	ND		1.25	1	04/21/2018 14:49	WG1101352
2-Chlorotoluene	ND		0.500	1	04/21/2018 14:49	WG1101352
4-Chlorotoluene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,2-Dibromoethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Dibromomethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,3-Dichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,4-Dichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Dichlorodifluoromethane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,1-Dichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1-Dichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
cis-1,2-Dichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
trans-1,2-Dichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2-Dichloropropane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1-Dichloropropene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,3-Dichloropropane	ND		1.00	1	04/21/2018 14:49	WG1101352
cis-1,3-Dichloropropene	ND		0.500	1	04/21/2018 14:49	WG1101352
trans-1,3-Dichloropropene	ND		0.500	1	04/21/2018 14:49	WG1101352
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/21/2018 14:49	WG1101352
2,2-Dichloropropane	ND	UJ JO J3	0.500	1	04/21/2018 14:49	WG1101352
Di-isopropyl ether	ND		0.500	1	04/21/2018 14:49	WG1101352
Ethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Hexachloro-1,3-butadiene	ND		1.00	1	04/21/2018 14:49	WG1101352
2-Hexanone	ND		5.00	1	04/21/2018 14:49	WG1101352
n-Hexane	ND		5.00	1	04/21/2018 14:49	WG1101352
Iodomethane	ND		10.0	1	04/21/2018 14:49	WG1101352
Isopropylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
p-Isopropyltoluene	ND		0.500	1	04/21/2018 14:49	WG1101352
2-Butanone (MEK)	ND		5.00	1	04/21/2018 14:49	WG1101352
Methylene Chloride	ND		2.50	1	04/21/2018 14:49	WG1101352
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/21/2018 14:49	WG1101352
Methyl tert-butyl ether	ND		0.500	1	04/21/2018 14:49	WG1101352
Naphthalene	ND		2.50	1	04/21/2018 14:49	WG1101352
n-Propylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Styrene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352

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

JC 5/29/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Tetrachloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
Toluene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2,3-Trichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2,4-Trichlorobenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,1-Trichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
1,1,2-Trichloroethane	ND		0.500	1	04/21/2018 14:49	WG1101352
Trichloroethene	ND		0.500	1	04/21/2018 14:49	WG1101352
Trichlorofluoromethane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,2,3-Trichloropropane	ND		2.50	1	04/21/2018 14:49	WG1101352
1,2,4-Trimethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,2,3-Trimethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
1,3,5-Trimethylbenzene	ND		0.500	1	04/21/2018 14:49	WG1101352
Vinyl acetate	ND		5.00	1	04/21/2018 14:49	WG1101352
Vinyl chloride	ND		0.500	1	04/21/2018 14:49	WG1101352
Xylenes, Total	ND		1.50	1	04/21/2018 14:49	WG1101352
(S) Toluene-d8	102		80.0-120		04/21/2018 14:49	WG1101352
(S) Dibromofluoromethane	100		76.0-123		04/21/2018 14:49	WG1101352
(S) 4-Bromofluorobenzene	92.8		80.0-120		04/21/2018 14:49	WG1101352

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

JC 5/29/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/21/2018 15:07	WG1101352
Acrylonitrile	ND	UJ JO	5.00	1	04/21/2018 15:07	WG1101352
Benzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromodichloromethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromochloromethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromoform	ND		0.500	1	04/21/2018 15:07	WG1101352
Bromomethane	ND		2.50	1	04/21/2018 15:07	WG1101352
n-Butylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
sec-Butylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
tert-Butylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Carbon disulfide	ND	UJ JO	0.500	1	04/21/2018 15:07	WG1101352
Carbon tetrachloride	ND		0.500	1	04/21/2018 15:07	WG1101352
Chlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Chlorodibromomethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Chloroethane	ND		2.50	1	04/21/2018 15:07	WG1101352
Chloroform	ND		0.500	1	04/21/2018 15:07	WG1101352
Chloromethane	ND		1.25	1	04/21/2018 15:07	WG1101352
2-Chlorotoluene	ND		0.500	1	04/21/2018 15:07	WG1101352
4-Chlorotoluene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,2-Dibromoethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Dibromomethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,3-Dichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,4-Dichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Dichlorodifluoromethane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,1-Dichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1-Dichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
cis-1,2-Dichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
trans-1,2-Dichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2-Dichloropropane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1-Dichloropropene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,3-Dichloropropane	ND		1.00	1	04/21/2018 15:07	WG1101352
cis-1,3-Dichloropropene	ND		0.500	1	04/21/2018 15:07	WG1101352
trans-1,3-Dichloropropene	ND		0.500	1	04/21/2018 15:07	WG1101352
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/21/2018 15:07	WG1101352
2,2-Dichloropropane	ND	UJ JO J3	0.500	1	04/21/2018 15:07	WG1101352
Di-isopropyl ether	ND		0.500	1	04/21/2018 15:07	WG1101352
Ethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Hexachloro-1,3-butadiene	ND		1.00	1	04/21/2018 15:07	WG1101352
2-Hexanone	ND		5.00	1	04/21/2018 15:07	WG1101352
n-Hexane	ND		5.00	1	04/21/2018 15:07	WG1101352
Iodomethane	ND		10.0	1	04/21/2018 15:07	WG1101352
Isopropylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
p-Isopropyltoluene	ND		0.500	1	04/21/2018 15:07	WG1101352
2-Butanone (MEK)	ND		5.00	1	04/21/2018 15:07	WG1101352
Methylene Chloride	ND		2.50	1	04/21/2018 15:07	WG1101352
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/21/2018 15:07	WG1101352
Methyl tert-butyl ether	ND		0.500	1	04/21/2018 15:07	WG1101352
Naphthalene	ND		2.50	1	04/21/2018 15:07	WG1101352
n-Propylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Styrene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352

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

JC 5/29/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Tetrachloroethene	1.02		0.500	1	04/21/2018 15:07	WG1101352
Toluene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2,3-Trichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2,4-Trichlorobenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,1-Trichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
1,1,2-Trichloroethane	ND		0.500	1	04/21/2018 15:07	WG1101352
Trichloroethene	ND		0.500	1	04/21/2018 15:07	WG1101352
Trichlorofluoromethane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,2,3-Trichloropropane	ND		2.50	1	04/21/2018 15:07	WG1101352
1,2,4-Trimethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,2,3-Trimethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
1,3,5-Trimethylbenzene	ND		0.500	1	04/21/2018 15:07	WG1101352
Vinyl acetate	ND		5.00	1	04/21/2018 15:07	WG1101352
Vinyl chloride	ND		0.500	1	04/21/2018 15:07	WG1101352
Xylenes, Total	ND		1.50	1	04/21/2018 15:07	WG1101352
(S) Toluene-d8	102		80.0-120		04/21/2018 15:07	WG1101352
(S) Dibromofluoromethane	102		76.0-123		04/21/2018 15:07	WG1101352
(S) 4-Bromofluorobenzene	88.5		80.0-120		04/21/2018 15:07	WG1101352

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

JC 5/29/18



Collected date/time: 04/18/18 00:00

L987257

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/21/2018 13:34	WG1101352
Acrylonitrile	ND	UJ JO	5.00	1	04/21/2018 13:34	WG1101352
Benzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromodichloromethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromochloromethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromoform	ND		0.500	1	04/21/2018 13:34	WG1101352
Bromomethane	ND		2.50	1	04/21/2018 13:34	WG1101352
n-Butylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
sec-Butylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
tert-Butylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Carbon disulfide	ND	UJ JO	0.500	1	04/21/2018 13:34	WG1101352
Carbon tetrachloride	ND		0.500	1	04/21/2018 13:34	WG1101352
Chlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Chlorodibromomethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Chloroethane	ND		2.50	1	04/21/2018 13:34	WG1101352
Chloroform	ND		0.500	1	04/21/2018 13:34	WG1101352
Chloromethane	ND		1.25	1	04/21/2018 13:34	WG1101352
2-Chlorotoluene	ND		0.500	1	04/21/2018 13:34	WG1101352
4-Chlorotoluene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,2-Dibromoethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Dibromomethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,3-Dichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,4-Dichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Dichlorodifluoromethane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,1-Dichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1-Dichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
cis-1,2-Dichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
trans-1,2-Dichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2-Dichloropropane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1-Dichloropropene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,3-Dichloropropane	ND		1.00	1	04/21/2018 13:34	WG1101352
cis-1,3-Dichloropropene	ND		0.500	1	04/21/2018 13:34	WG1101352
trans-1,3-Dichloropropene	ND		0.500	1	04/21/2018 13:34	WG1101352
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/21/2018 13:34	WG1101352
2,2-Dichloropropane	ND	UJ JO J3	0.500	1	04/21/2018 13:34	WG1101352
Di-isopropyl ether	ND		0.500	1	04/21/2018 13:34	WG1101352
Ethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Hexachloro-1,3-butadiene	ND		1.00	1	04/21/2018 13:34	WG1101352
2-Hexanone	ND		5.00	1	04/21/2018 13:34	WG1101352
n-Hexane	ND		5.00	1	04/21/2018 13:34	WG1101352
Iodomethane	ND		10.0	1	04/21/2018 13:34	WG1101352
Isopropylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
p-Isopropyltoluene	ND		0.500	1	04/21/2018 13:34	WG1101352
2-Butanone (MEK)	ND		5.00	1	04/21/2018 13:34	WG1101352
Methylene Chloride	ND		2.50	1	04/21/2018 13:34	WG1101352
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/21/2018 13:34	WG1101352
Methyl tert-butyl ether	ND		0.500	1	04/21/2018 13:34	WG1101352
Naphthalene	ND		2.50	1	04/21/2018 13:34	WG1101352
n-Propylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Styrene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 5/29/18



Collected date/time: 04/18/18 00:00

L987257

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Tetrachloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
Toluene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2,3-Trichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2,4-Trichlorobenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,1-Trichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
1,1,2-Trichloroethane	ND		0.500	1	04/21/2018 13:34	WG1101352
Trichloroethene	ND		0.500	1	04/21/2018 13:34	WG1101352
Trichlorofluoromethane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,2,3-Trichloropropane	ND		2.50	1	04/21/2018 13:34	WG1101352
1,2,4-Trimethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,2,3-Trimethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
1,3,5-Trimethylbenzene	ND		0.500	1	04/21/2018 13:34	WG1101352
Vinyl acetate	ND		5.00	1	04/21/2018 13:34	WG1101352
Vinyl chloride	ND		0.500	1	04/21/2018 13:34	WG1101352
Xylenes, Total	ND		1.50	1	04/21/2018 13:34	WG1101352
(S) Toluene-d8	103		80.0-120		04/21/2018 13:34	WG1101352
(S) Dibromofluoromethane	100		76.0-123		04/21/2018 13:34	WG1101352
(S) 4-Bromofluorobenzene	92.3		80.0-120		04/21/2018 13:34	WG1101352

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

JC 5/29/18

April 30, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L987914
Samples Received: 04/21/2018
Project Number: 1358.001.01.003
Description: MVSC

Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



DC-12-042018 L987914-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 16:00	04/24/18 16:00	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 12:34
 Received date/time 04/21/18 08:45

1 Cp

2 Tc

3 Ss

DC-13-042018 L987914-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 16:22	04/24/18 16:22	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 13:21
 Received date/time 04/21/18 08:45

4 Cn

5 Sr

DC-18-042018 L987914-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 16:43	04/24/18 16:43	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 12:45
 Received date/time 04/21/18 08:45

6 Qc

7 Gl

DC-10A-042018 L987914-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 17:04	04/24/18 17:04	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 13:40
 Received date/time 04/21/18 08:45

8 Al

9 Sc

EQ-1-042018 L987914-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 17:26	04/24/18 17:26	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 13:42
 Received date/time 04/21/18 08:45

EQ-2-042018 L987914-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 17:48	04/24/18 17:48	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 13:58
 Received date/time 04/21/18 08:45

W-DRUM-042018 L987914-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 18:10	04/24/18 18:10	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 14:06
 Received date/time 04/21/18 08:45

TRIPBLANK-042018 L987914-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1102311	1	04/24/18 14:55	04/24/18 14:55	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 00:00
 Received date/time 04/21/18 08:45



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 16:00	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 16:00	WG1102311
Benzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromoform	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 16:00	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 16:00	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 16:00	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 16:00	WG1102311
Chloroform	ND		0.500	1	04/24/2018 16:00	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 16:00	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 16:00	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 16:00	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:00	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:00	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 16:00	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 16:00	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 16:00	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 16:00	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 16:00	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 16:00	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 16:00	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 16:00	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 16:00	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 16:00	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 16:00	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 16:00	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 16:00	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Styrene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Tetrachloroethene	1.50		0.500	1	04/24/2018 16:00	WG1102311
Toluene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 16:00	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 16:00	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 16:00	WG1102311
(S) Toluene-d8	95.7		80.0-120		04/24/2018 16:00	WG1102311
(S) Dibromofluoromethane	112		76.0-123		04/24/2018 16:00	WG1102311
(S) 4-Bromofluorobenzene	101		80.0-120		04/24/2018 16:00	WG1102311

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 16:22	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 16:22	WG1102311
Benzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromoform	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 16:22	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 16:22	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 16:22	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 16:22	WG1102311
Chloroform	ND		0.500	1	04/24/2018 16:22	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 16:22	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 16:22	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 16:22	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 16:22	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 16:22	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:22	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:22	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 16:22	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 16:22	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 16:22	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 16:22	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 16:22	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 16:22	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 16:22	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 16:22	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 16:22	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 16:22	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 16:22	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 16:22	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 16:22	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Styrene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/20/18 13:21

L987914

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 16:22	WG1102311	¹ Cp
Tetrachloroethene	2.87		0.500	1	04/24/2018 16:22	WG1102311	² Tc
Toluene	ND		0.500	1	04/24/2018 16:22	WG1102311	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311	⁷ Gl
Trichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 16:22	WG1102311	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 16:22	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 16:22	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 16:22	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 16:22	WG1102311	
(S) Toluene-d8	93.4		80.0-120		04/24/2018 16:22	WG1102311	
(S) Dibromofluoromethane	112		76.0-123		04/24/2018 16:22	WG1102311	
(S) 4-Bromofluorobenzene	101		80.0-120		04/24/2018 16:22	WG1102311	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 16:43	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 16:43	WG1102311
Benzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromoform	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 16:43	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 16:43	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 16:43	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 16:43	WG1102311
Chloroform	3.23		0.500	1	04/24/2018 16:43	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 16:43	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 16:43	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 16:43	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 16:43	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 16:43	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:43	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:43	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 16:43	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 16:43	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 16:43	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 16:43	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 16:43	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 16:43	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 16:43	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 16:43	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 16:43	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 16:43	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 16:43	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 16:43	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 16:43	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Styrene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/20/18 12:45

L987914

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 16:43	WG1102311	¹ Cp
Tetrachloroethene	3.31		0.500	1	04/24/2018 16:43	WG1102311	² Tc
Toluene	ND		0.500	1	04/24/2018 16:43	WG1102311	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311	⁷ Gl
Trichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 16:43	WG1102311	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 16:43	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 16:43	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 16:43	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 16:43	WG1102311	
(S) Toluene-d8	95.2		80.0-120		04/24/2018 16:43	WG1102311	
(S) Dibromofluoromethane	113		76.0-123		04/24/2018 16:43	WG1102311	
(S) 4-Bromofluorobenzene	93.6		80.0-120		04/24/2018 16:43	WG1102311	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 17:04	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 17:04	WG1102311
Benzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromoform	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 17:04	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 17:04	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 17:04	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 17:04	WG1102311
Chloroform	ND		0.500	1	04/24/2018 17:04	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 17:04	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 17:04	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 17:04	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 17:04	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 17:04	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:04	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:04	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 17:04	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 17:04	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 17:04	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 17:04	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 17:04	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 17:04	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 17:04	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 17:04	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 17:04	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 17:04	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 17:04	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 17:04	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 17:04	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Styrene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/20/18 13:40

L987914

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 17:04	WG1102311	1 Cp
Tetrachloroethene	4.67		0.500	1	04/24/2018 17:04	WG1102311	2 Tc
Toluene	ND		0.500	1	04/24/2018 17:04	WG1102311	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311	7 Gl
Trichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311	8 Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 17:04	WG1102311	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 17:04	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 17:04	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 17:04	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 17:04	WG1102311	
(S) Toluene-d8	94.3		80.0-120		04/24/2018 17:04	WG1102311	
(S) Dibromofluoromethane	115		76.0-123		04/24/2018 17:04	WG1102311	
(S) 4-Bromofluorobenzene	98.5		80.0-120		04/24/2018 17:04	WG1102311	



Collected date/time: 04/20/18 13:42

L987914

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 17:26	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 17:26	WG1102311
Benzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromoform	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 17:26	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 17:26	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 17:26	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 17:26	WG1102311
Chloroform	ND		0.500	1	04/24/2018 17:26	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 17:26	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 17:26	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 17:26	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 17:26	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 17:26	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:26	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:26	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 17:26	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 17:26	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 17:26	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 17:26	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 17:26	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 17:26	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 17:26	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 17:26	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 17:26	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 17:26	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 17:26	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 17:26	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 17:26	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Styrene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/20/18 13:42

L987914

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 17:26	WG1102311	¹ Cp
Tetrachloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311	² Tc
Toluene	ND		0.500	1	04/24/2018 17:26	WG1102311	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311	⁷ Gl
Trichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 17:26	WG1102311	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 17:26	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 17:26	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 17:26	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 17:26	WG1102311	
(S) Toluene-d8	93.5		80.0-120		04/24/2018 17:26	WG1102311	
(S) Dibromofluoromethane	116		76.0-123		04/24/2018 17:26	WG1102311	
(S) 4-Bromofluorobenzene	101		80.0-120		04/24/2018 17:26	WG1102311	



Collected date/time: 04/20/18 13:58

L987914

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 17:48	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 17:48	WG1102311
Benzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromoform	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 17:48	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 17:48	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 17:48	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 17:48	WG1102311
Chloroform	ND		0.500	1	04/24/2018 17:48	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 17:48	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 17:48	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 17:48	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 17:48	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 17:48	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:48	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:48	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 17:48	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 17:48	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 17:48	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 17:48	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 17:48	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 17:48	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 17:48	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 17:48	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 17:48	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 17:48	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 17:48	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 17:48	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 17:48	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Styrene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/20/18 13:58

L987914

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 17:48	WG1102311	¹ Cp
Tetrachloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311	² Tc
Toluene	ND		0.500	1	04/24/2018 17:48	WG1102311	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311	⁷ Gl
Trichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 17:48	WG1102311	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 17:48	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 17:48	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 17:48	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 17:48	WG1102311	
(S) Toluene-d8	95.1		80.0-120		04/24/2018 17:48	WG1102311	
(S) Dibromofluoromethane	114		76.0-123		04/24/2018 17:48	WG1102311	
(S) 4-Bromofluorobenzene	97.1		80.0-120		04/24/2018 17:48	WG1102311	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 18:10	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 18:10	WG1102311
Benzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromoform	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 18:10	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 18:10	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 18:10	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 18:10	WG1102311
Chloroform	ND		0.500	1	04/24/2018 18:10	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 18:10	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 18:10	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 18:10	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 18:10	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 18:10	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 18:10	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 18:10	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 18:10	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 18:10	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 18:10	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 18:10	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 18:10	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 18:10	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 18:10	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 18:10	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 18:10	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 18:10	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 18:10	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Styrene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Tetrachloroethene	0.893		0.500	1	04/24/2018 18:10	WG1102311
Toluene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 18:10	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 18:10	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 18:10	WG1102311
(S) Toluene-d8	97.7		80.0-120		04/24/2018 18:10	WG1102311
(S) Dibromofluoromethane	108		76.0-123		04/24/2018 18:10	WG1102311
(S) 4-Bromofluorobenzene	95.8		80.0-120		04/24/2018 18:10	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 14:55	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 14:55	WG1102311
Benzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromoform	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 14:55	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 14:55	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 14:55	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 14:55	WG1102311
Chloroform	ND		0.500	1	04/24/2018 14:55	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 14:55	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 14:55	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 14:55	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:55	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:55	WG1102311
trans-1,4-Dichloro-2-butene	ND	JO J4	5.00	1	04/24/2018 14:55	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 14:55	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 14:55	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 14:55	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 14:55	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 14:55	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 14:55	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 14:55	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 14:55	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 14:55	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 14:55	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 14:55	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 14:55	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Styrene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Collected date/time: 04/20/18 00:00

L987914

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Tetrachloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
Toluene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 14:55	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 14:55	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 14:55	WG1102311
(S) Toluene-d8	95.2		80.0-120		04/24/2018 14:55	WG1102311
(S) Dibromofluoromethane	115		76.0-123		04/24/2018 14:55	WG1102311
(S) 4-Bromofluorobenzene	99.1		80.0-120		04/24/2018 14:55	WG1102311

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



Method Blank (MB)

(MB) R3305745-3 04/24/18 11:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,2-Dichloroethene	U		0.0933	0.500
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3305745-3 04/24/18 11:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Ethylbenzene	U		0.158	0.500
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Methyl tert-butyl ether	U		0.102	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
Naphthalene	U		0.174	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Toluene	U		0.412	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	96.7			80.0-120
(S) Dibromofluoromethane	114			76.0-123
(S) 4-Bromofluorobenzene	98.3			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS)

(LCS) R3305745-1 04/24/18 10:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Acetone	125	105	83.9	10.0-160	
Acrylonitrile	125	134	107	60.0-142	
Bromobenzene	25.0	22.5	90.0	79.0-120	
Bromodichloromethane	25.0	22.7	90.8	76.0-120	
Bromochloromethane	25.0	25.7	103	76.0-122	
Bromoform	25.0	21.4	85.7	67.0-132	
Bromomethane	25.0	31.6	126	18.0-160	
n-Butylbenzene	25.0	27.6	111	72.0-126	
sec-Butylbenzene	25.0	24.8	99.2	74.0-121	
tert-Butylbenzene	25.0	23.1	92.6	75.0-122	
Carbon disulfide	25.0	25.1	100	55.0-127	
Carbon tetrachloride	25.0	25.6	102	63.0-122	
Chlorobenzene	25.0	22.3	89.3	79.0-121	
Chlorodibromomethane	25.0	22.6	90.5	75.0-125	
Chloroethane	25.0	27.7	111	47.0-152	
Chloroform	25.0	24.3	97.4	72.0-121	
Chloromethane	25.0	28.5	114	48.0-139	
2-Chlorotoluene	25.0	24.4	97.6	74.0-122	
4-Chlorotoluene	25.0	23.5	93.9	79.0-120	
1,2-Dibromo-3-Chloropropane	25.0	22.0	88.1	64.0-127	
1,2-Dibromoethane	25.0	22.7	90.7	77.0-123	
Dibromomethane	25.0	25.3	101	78.0-120	
1,2-Dichlorobenzene	25.0	25.7	103	80.0-120	
1,3-Dichlorobenzene	25.0	23.3	93.3	72.0-123	
1,4-Dichlorobenzene	25.0	25.0	100	77.0-120	
Dichlorodifluoromethane	25.0	28.7	115	49.0-155	
1,1-Dichloroethane	25.0	27.8	111	70.0-126	
1,2-Dichloroethane	25.0	26.9	107	67.0-126	
1,1-Dichloroethene	25.0	23.7	94.9	64.0-129	
1,2-Dichloropropane	25.0	25.1	100	75.0-125	
1,1-Dichloropropene	25.0	28.6	114	71.0-129	
1,3-Dichloropropane	25.0	24.2	96.9	80.0-121	
cis-1,3-Dichloropropene	25.0	23.8	95.2	79.0-123	
trans-1,3-Dichloropropene	25.0	23.9	95.6	74.0-127	
trans-1,4-Dichloro-2-butene	25.0	11.5	46.1	55.0-134	J4
2,2-Dichloropropane	25.0	28.6	114	60.0-125	
Benzene	25.0	26.3	105	69.0-123	
Di-isopropyl ether	25.0	27.5	110	59.0-133	
Hexachloro-1,3-butadiene	25.0	21.2	85.0	64.0-131	
2-Hexanone	125	112	89.9	58.0-147	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS)

(LCS) R3305745-1 04/24/18 10:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
n-Hexane	25.0	26.4	106	56.0-124	
Iodomethane	125	124	98.9	57.0-140	
Isopropylbenzene	25.0	24.3	97.0	75.0-120	
p-Isopropyltoluene	25.0	23.4	93.5	74.0-126	
2-Butanone (MEK)	125	130	104	37.0-158	
Methylene Chloride	25.0	24.5	98.2	66.0-121	
4-Methyl-2-pentanone (MIBK)	125	120	95.7	59.0-143	
n-Propylbenzene	25.0	24.3	97.2	79.0-120	
Styrene	25.0	21.9	87.6	78.0-124	
1,1,1,2-Tetrachloroethane	25.0	22.1	88.6	75.0-122	
1,1,2,2-Tetrachloroethane	25.0	21.8	87.2	71.0-122	
1,1,2-Trichlorotrifluoroethane	25.0	29.6	118	61.0-136	
Tetrachloroethene	25.0	21.9	87.6	70.0-127	
1,2,3-Trichlorobenzene	25.0	23.2	92.7	61.0-133	
1,2,4-Trichlorobenzene	25.0	23.3	93.3	69.0-129	
1,1,1-Trichloroethane	25.0	25.8	103	68.0-122	
1,1,2-Trichloroethane	25.0	21.0	84.0	78.0-120	
Trichloroethene	25.0	23.3	93.3	78.0-120	
Trichlorofluoromethane	25.0	31.4	126	56.0-137	
1,2,3-Trichloropropane	25.0	21.9	87.6	72.0-124	
1,2,4-Trimethylbenzene	25.0	23.3	93.1	75.0-120	
1,2,3-Trimethylbenzene	25.0	27.3	109	75.0-120	
1,3,5-Trimethylbenzene	25.0	23.8	95.2	75.0-120	
Vinyl acetate	125	159	127	46.0-160	
cis-1,2-Dichloroethene	25.0	23.9	95.8	73.0-120	
Vinyl chloride	25.0	29.0	116	64.0-133	
trans-1,2-Dichloroethene	25.0	25.1	101	71.0-121	
Ethylbenzene	25.0	22.6	90.2	77.0-120	
Methyl tert-butyl ether	25.0	25.7	103	64.0-123	
Naphthalene	25.0	23.8	95.2	62.0-128	
Toluene	25.0	23.1	92.2	77.0-120	
Xylenes, Total	75.0	68.8	91.7	77.0-120	
(S) Toluene-d8			95.0	80.0-120	
(S) Dibromofluoromethane			110	76.0-123	
(S) 4-Bromofluorobenzene			95.3	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier	Description
J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
J4	The associated batch QC was outside the established quality control range for accuracy.



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

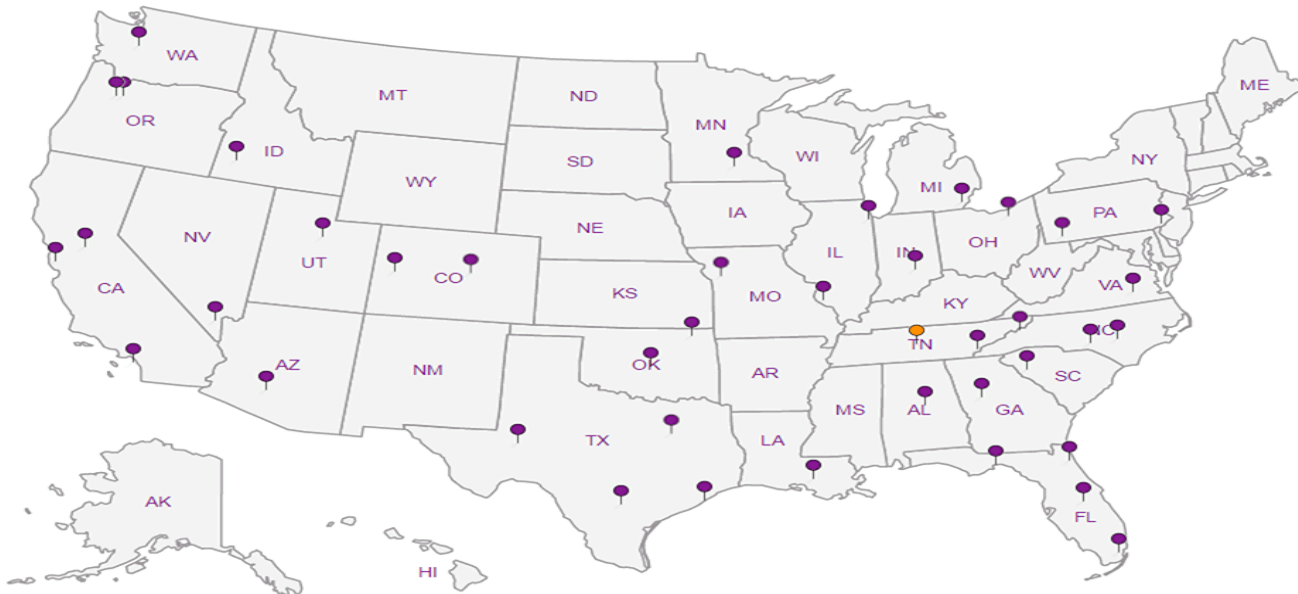
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

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

Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project Description: **MVSC**

City/State Collected: **Normandy Park, WA**

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
Jeff Dobbins

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N Y

No. of Entrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs	Analysis / Container / Preservative
DC-12-042018	Grab	GW		4/20/18	1234	3	X
DC-13-042018		GW		4/20/18	1321	3	X
DC-18-042018		GW		4/20/18	1245	3	X
DC-10A-042018		GW		4/20/18	1340	3	X
EQ-1-042018		GW		4/20/18	1342	3	X
EQ-2-042018	↓	GW		4/20/18	1358	3	X
W-DRUM-042018	Comp	GW		4/20/18	1406	3	X
TRIPBLANK-042018		GW		4/20/18	—	1	X
		GW					
		GW					

Chain of Custody Page 1 of 1



LAB SCIENCES
a subsidiary of *PerkinElmer*

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **487914**
Table **E021**
Acctnum: **PESENVSWA**
Template: **T131700**
Prelogin: **P647346**
TSR: **110 - Brian Ford**
PB: **4/3/18**
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: pH _____ Temp _____

Samples returned via: UPS FedEx Courier _____ Tracking # **4269 9277 6360**

Sample Receipt Checklist

COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
COC Signed/Accurate:	<input type="checkbox"/> Y	<input type="checkbox"/> N
Bottles arrive intact:	<input type="checkbox"/> Y	<input type="checkbox"/> N
Correct bottles used:	<input type="checkbox"/> Y	<input type="checkbox"/> N
Sufficient volume sent:	<input type="checkbox"/> Y	<input type="checkbox"/> N
VOA Zero Headspace:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Preservation Correct/Checked:	<input type="checkbox"/> Y	<input type="checkbox"/> N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No
				MCL / MeOH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.7 °C Bottles Received: 22
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/21/18 Time: 645
				Hold: Condition: NCF / <input checked="" type="checkbox"/> DR

MEMORANDUM

TO: Project File **DATE:** June 4, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center and Harris Family LTD
PROJECT #: 1358.001.01.003
TASK: April 20, 2018 Groundwater Samples
LAB: ECS Lab Sciences Request No. L987914

Four (4) groundwater, one wastewater drum, two equipment blank samples, and a trip blank sample were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Center/Harris Family LTD site in Normandy Park, Washington on April 20, 2018. Samples associated with SDG L987914 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by ESC Lab Sciences (ESC) of Mt. Juliet, Tennessee.

The monitoring event occurred between April 18 and 20, 2018. SDGs associated with this sampling period include three SDGs (L987257, L987914, and L987916). The quality assurance review of the laboratory data for SDG L987914 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 3.7 degrees Centigrade (°C). The

cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. Samples were received in good condition with the following discussions:

No data qualifications were warranted.

- SDG L987914: Review of associated chain of custody (COC) shows that the relinquished portion was not signed however daily field forms show a record of sample delivery to FedEx for shipment to ESC. Internal corrective action has been implemented by PES to ensure that all COCs are signed and dated when relinquishing possession/custody of the samples.

No data were qualified based upon the sample collection and preservation information.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however ESC's notes indicate the following:

- Continuing calibration verification (CCV) issues were noted by ESC for trans-1,4-dichloro-2-butene associated with analytical batch WG1102311 (analyzed on April 24, 2018). These results are qualified by the laboratory "J0" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **All associated trans-1,4-dichloro-2-butene results with laboratory qualified (J0) results are estimated and qualified (J/UJ).**

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The target analytes (VOCs) were not detected in the method blank at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

A trip blank was submitted for analysis. The target analytes (VOCs) were not detected in the trip blank at concentrations at or above the RDLs.

Equipment Blank Results

Two equipment blank samples (EQ-1-042018 and EQ-2-042018) were collected and analyzed.

- Equipment blank sample EQ-1-042018 is associated with monitoring wells DC-15, DC-8, DC-4, MW-13, KMW-2, MW10, MW-9, MW-12, KMW-9, DC-12, DC-13, DC-3, KMW-7, KMW-8, DC-14, DC-20, DC-11, MW-4, MW-7, and KMW-3 (SDGs L987257,

L987914, and L987916). The target analytes (VOCs) were not detected in the equipment blank at concentrations at or above the RDLs.

- Equipment blank sample EQ-2-042018 is associated with monitoring wells DC-10A, DC-17, DC-18, MW-2, MW-3, MW-11, MW-14, MW-15, MW-16, and DC-7 (SDGs L987914 and L987916). The target analytes (VOCs) were not detected in the equipment blank at concentrations at or above the RDLs.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to field duplicate results in SDG L987916. Refer to laboratory control sample results collected and analyzed for VOCs.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's for analytical batch (WG1102311) are within the laboratory control limits. Refer to the field duplicate data in SDG L987916 for precision information. LCS recoveries for analytical batch (WG1102311) are within laboratory control limit criteria with one exception:

- LCS recovery for trans-1,4-dichloro-2-butene is low and below laboratory acceptance criteria. **Associated sample results for trans-1,4-dichloro-2-butene are already estimated and qualified (UJ) due to CCV recoveries.**

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the

reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. Assigned qualifiers were added to the electronic data deliverables under the appropriate field. All data, including qualified data, are judged to be acceptable for their intended use.



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 16:00	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 16:00	WG1102311
Benzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromoform	ND		0.500	1	04/24/2018 16:00	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 16:00	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 16:00	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 16:00	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 16:00	WG1102311
Chloroform	ND		0.500	1	04/24/2018 16:00	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 16:00	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 16:00	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 16:00	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:00	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:00	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 16:00	WG1102311
2,2-Dichloropropane	ND	JO J4	0.500	1	04/24/2018 16:00	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 16:00	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 16:00	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 16:00	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 16:00	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 16:00	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 16:00	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 16:00	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 16:00	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 16:00	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 16:00	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 16:00	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Styrene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MD for JC 11/26/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Tetrachloroethene	1.50		0.500	1	04/24/2018 16:00	WG1102311
Toluene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 16:00	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 16:00	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 16:00	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 16:00	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 16:00	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 16:00	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 16:00	WG1102311
(S) Toluene-d8	95.7		80.0-120		04/24/2018 16:00	WG1102311
(S) Dibromofluoromethane	112		76.0-123		04/24/2018 16:00	WG1102311
(S) 4-Bromofluorobenzene	101		80.0-120		04/24/2018 16:00	WG1102311

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

MD for JC 11/26/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 16:22	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 16:22	WG1102311
Benzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromoform	ND		0.500	1	04/24/2018 16:22	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 16:22	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 16:22	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 16:22	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 16:22	WG1102311
Chloroform	ND		0.500	1	04/24/2018 16:22	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 16:22	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 16:22	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 16:22	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 16:22	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 16:22	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 16:22	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:22	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:22	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 16:22	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 16:22	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 16:22	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 16:22	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 16:22	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 16:22	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 16:22	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 16:22	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 16:22	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 16:22	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 16:22	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 16:22	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 16:22	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311
Styrene	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MD for JC 11/26/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 16:22	WG1102311	¹ Cp
Tetrachloroethene	2.87		0.500	1	04/24/2018 16:22	WG1102311	² Tc
Toluene	ND		0.500	1	04/24/2018 16:22	WG1102311	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 16:22	WG1102311	⁷ Gl
Trichloroethene	ND		0.500	1	04/24/2018 16:22	WG1102311	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 16:22	WG1102311	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 16:22	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 16:22	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 16:22	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 16:22	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 16:22	WG1102311	
(S) Toluene-d8	93.4		80.0-120		04/24/2018 16:22	WG1102311	
(S) Dibromofluoromethane	112		76.0-123		04/24/2018 16:22	WG1102311	
(S) 4-Bromofluorobenzene	101		80.0-120		04/24/2018 16:22	WG1102311	

MD for JC 11/26/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 16:43	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 16:43	WG1102311
Benzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromoform	ND		0.500	1	04/24/2018 16:43	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 16:43	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 16:43	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 16:43	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 16:43	WG1102311
Chloroform	3.23		0.500	1	04/24/2018 16:43	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 16:43	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 16:43	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 16:43	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 16:43	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 16:43	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:43	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 16:43	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 16:43	WG1102311
2,2-Dichloropropane	ND	JO J4	0.500	1	04/24/2018 16:43	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 16:43	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 16:43	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 16:43	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 16:43	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 16:43	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 16:43	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 16:43	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 16:43	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 16:43	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 16:43	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 16:43	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Styrene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MD for JC 11/26/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Tetrachloroethene	3.31		0.500	1	04/24/2018 16:43	WG1102311
Toluene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 16:43	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 16:43	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 16:43	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 16:43	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 16:43	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 16:43	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 16:43	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 16:43	WG1102311
(S) Toluene-d8	95.2		80.0-120		04/24/2018 16:43	WG1102311
(S) Dibromofluoromethane	113		76.0-123		04/24/2018 16:43	WG1102311
(S) 4-Bromofluorobenzene	93.6		80.0-120		04/24/2018 16:43	WG1102311

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MD for JC 11/26/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 17:04	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 17:04	WG1102311
Benzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromoform	ND		0.500	1	04/24/2018 17:04	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 17:04	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 17:04	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 17:04	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 17:04	WG1102311
Chloroform	ND		0.500	1	04/24/2018 17:04	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 17:04	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 17:04	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 17:04	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 17:04	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 17:04	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:04	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:04	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 17:04	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 17:04	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 17:04	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 17:04	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 17:04	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 17:04	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 17:04	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 17:04	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 17:04	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 17:04	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 17:04	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 17:04	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 17:04	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Styrene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311

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

MD for JC 11/26/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Tetrachloroethene	4.67		0.500	1	04/24/2018 17:04	WG1102311
Toluene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 17:04	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 17:04	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 17:04	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 17:04	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 17:04	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 17:04	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 17:04	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 17:04	WG1102311
(S) Toluene-d8	94.3		80.0-120		04/24/2018 17:04	WG1102311
(S) Dibromofluoromethane	115		76.0-123		04/24/2018 17:04	WG1102311
(S) 4-Bromofluorobenzene	98.5		80.0-120		04/24/2018 17:04	WG1102311

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

MD for JC 11/26/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 17:26	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 17:26	WG1102311
Benzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromoform	ND		0.500	1	04/24/2018 17:26	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 17:26	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 17:26	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 17:26	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 17:26	WG1102311
Chloroform	ND		0.500	1	04/24/2018 17:26	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 17:26	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 17:26	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 17:26	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 17:26	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 17:26	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 17:26	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:26	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:26	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 17:26	WG1102311
2,2-Dichloropropane	ND	JO J4	0.500	1	04/24/2018 17:26	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 17:26	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 17:26	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 17:26	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 17:26	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 17:26	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 17:26	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 17:26	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 17:26	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 17:26	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 17:26	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 17:26	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311
Styrene	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MD for JC 11/26/18



Collected date/time: 04/20/18 13:42

L987914

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 17:26	WG1102311	¹ Cp
Tetrachloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311	² Tc
Toluene	ND		0.500	1	04/24/2018 17:26	WG1102311	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 17:26	WG1102311	⁷ Gl
Trichloroethene	ND		0.500	1	04/24/2018 17:26	WG1102311	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 17:26	WG1102311	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 17:26	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 17:26	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 17:26	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 17:26	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 17:26	WG1102311	
(S) Toluene-d8	93.5		80.0-120		04/24/2018 17:26	WG1102311	
(S) Dibromofluoromethane	116		76.0-123		04/24/2018 17:26	WG1102311	
(S) 4-Bromofluorobenzene	101		80.0-120		04/24/2018 17:26	WG1102311	

MD for JC 11/26/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 17:48	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 17:48	WG1102311
Benzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromoform	ND		0.500	1	04/24/2018 17:48	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 17:48	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 17:48	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 17:48	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 17:48	WG1102311
Chloroform	ND		0.500	1	04/24/2018 17:48	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 17:48	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 17:48	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 17:48	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 17:48	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 17:48	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 17:48	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:48	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 17:48	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 17:48	WG1102311
2,2-Dichloropropane	ND	JO J4	0.500	1	04/24/2018 17:48	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 17:48	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 17:48	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 17:48	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 17:48	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 17:48	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 17:48	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 17:48	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 17:48	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 17:48	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 17:48	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 17:48	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311
Styrene	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MD for JC 11/26/18



Collected date/time: 04/20/18 13:58

L987914

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 17:48	WG1102311	¹ Cp
Tetrachloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311	² Tc
Toluene	ND		0.500	1	04/24/2018 17:48	WG1102311	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 17:48	WG1102311	⁷ Gl
Trichloroethene	ND		0.500	1	04/24/2018 17:48	WG1102311	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 17:48	WG1102311	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 17:48	WG1102311	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 17:48	WG1102311	
Vinyl acetate	ND		5.00	1	04/24/2018 17:48	WG1102311	
Vinyl chloride	ND		0.500	1	04/24/2018 17:48	WG1102311	
Xylenes, Total	ND		1.50	1	04/24/2018 17:48	WG1102311	
(S) Toluene-d8	95.1		80.0-120		04/24/2018 17:48	WG1102311	
(S) Dibromofluoromethane	114		76.0-123		04/24/2018 17:48	WG1102311	
(S) 4-Bromofluorobenzene	97.1		80.0-120		04/24/2018 17:48	WG1102311	

MD for JC 11/26/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 18:10	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 18:10	WG1102311
Benzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromoform	ND		0.500	1	04/24/2018 18:10	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 18:10	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 18:10	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 18:10	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 18:10	WG1102311
Chloroform	ND		0.500	1	04/24/2018 18:10	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 18:10	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 18:10	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 18:10	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 18:10	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 18:10	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 18:10	WG1102311
2,2-Dichloropropane	ND	JO J4	0.500	1	04/24/2018 18:10	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 18:10	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 18:10	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 18:10	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 18:10	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 18:10	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 18:10	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 18:10	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 18:10	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 18:10	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 18:10	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 18:10	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Styrene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311

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

MD for JC 11/26/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Tetrachloroethene	0.893		0.500	1	04/24/2018 18:10	WG1102311
Toluene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 18:10	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 18:10	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 18:10	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 18:10	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 18:10	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 18:10	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 18:10	WG1102311
(S) Toluene-d8	97.7		80.0-120		04/24/2018 18:10	WG1102311
(S) Dibromofluoromethane	108		76.0-123		04/24/2018 18:10	WG1102311
(S) 4-Bromofluorobenzene	95.8		80.0-120		04/24/2018 18:10	WG1102311

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

MD for JC 11/26/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 14:55	WG1102311
Acrylonitrile	ND		5.00	1	04/24/2018 14:55	WG1102311
Benzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromodichloromethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromochloromethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromoform	ND		0.500	1	04/24/2018 14:55	WG1102311
Bromomethane	ND		2.50	1	04/24/2018 14:55	WG1102311
n-Butylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
sec-Butylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
tert-Butylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Carbon disulfide	ND		0.500	1	04/24/2018 14:55	WG1102311
Carbon tetrachloride	ND		0.500	1	04/24/2018 14:55	WG1102311
Chlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Chlorodibromomethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Chloroethane	ND		2.50	1	04/24/2018 14:55	WG1102311
Chloroform	ND		0.500	1	04/24/2018 14:55	WG1102311
Chloromethane	ND		1.25	1	04/24/2018 14:55	WG1102311
2-Chlorotoluene	ND		0.500	1	04/24/2018 14:55	WG1102311
4-Chlorotoluene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,2-Dibromoethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Dibromomethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,1-Dichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1-Dichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2-Dichloropropane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1-Dichloropropene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,3-Dichloropropane	ND		1.00	1	04/24/2018 14:55	WG1102311
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:55	WG1102311
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:55	WG1102311
trans-1,4-Dichloro-2-butene	ND	UJ	5.00	1	04/24/2018 14:55	WG1102311
2,2-Dichloropropane	ND		0.500	1	04/24/2018 14:55	WG1102311
Di-isopropyl ether	ND		0.500	1	04/24/2018 14:55	WG1102311
Ethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 14:55	WG1102311
2-Hexanone	ND		5.00	1	04/24/2018 14:55	WG1102311
n-Hexane	ND		5.00	1	04/24/2018 14:55	WG1102311
Iodomethane	ND		10.0	1	04/24/2018 14:55	WG1102311
Isopropylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
p-Isopropyltoluene	ND		0.500	1	04/24/2018 14:55	WG1102311
2-Butanone (MEK)	ND		5.00	1	04/24/2018 14:55	WG1102311
Methylene Chloride	ND		2.50	1	04/24/2018 14:55	WG1102311
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 14:55	WG1102311
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 14:55	WG1102311
Naphthalene	ND		2.50	1	04/24/2018 14:55	WG1102311
n-Propylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Styrene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311

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

MD for JC 11/26/18



Collected date/time: 04/20/18 00:00

L987914

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Tetrachloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
Toluene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 14:55	WG1102311
Trichloroethene	ND		0.500	1	04/24/2018 14:55	WG1102311
Trichlorofluoromethane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 14:55	WG1102311
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 14:55	WG1102311
Vinyl acetate	ND		5.00	1	04/24/2018 14:55	WG1102311
Vinyl chloride	ND		0.500	1	04/24/2018 14:55	WG1102311
Xylenes, Total	ND		1.50	1	04/24/2018 14:55	WG1102311
(S) Toluene-d8	95.2		80.0-120		04/24/2018 14:55	WG1102311
(S) Dibromofluoromethane	115		76.0-123		04/24/2018 14:55	WG1102311
(S) 4-Bromofluorobenzene	99.1		80.0-120		04/24/2018 14:55	WG1102311

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

MD for JC 11/26/18

April 25, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L987916
Samples Received: 04/21/2018
Project Number: 1358.001.01.003
Description: MVSC

Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



DC-3-041918 L987916-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/23/18 22:43	04/23/18 22:43	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 08:45
 Received date/time 04/21/18 08:45

1 Cp

2 Tc

3 Ss

KMW-7-041918 L987916-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/23/18 23:02	04/23/18 23:02	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 09:30
 Received date/time 04/21/18 08:45

4 Cn

5 Sr

KMW-8-041918 L987916-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/23/18 23:20	04/23/18 23:20	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 10:09
 Received date/time 04/21/18 08:45

6 Qc

7 Gl

DC-14-041918 L987916-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/23/18 23:39	04/23/18 23:39	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 10:47
 Received date/time 04/21/18 08:45

8 Al

9 Sc

DC-20-041918 L987916-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/23/18 23:57	04/23/18 23:57	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 12:02
 Received date/time 04/21/18 08:45

DC-11-041918 L987916-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 10:46	04/24/18 10:46	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 13:16
 Received date/time 04/21/18 08:45

MW-15-041918 L987916-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 11:04	04/24/18 11:04	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 13:11
 Received date/time 04/21/18 08:45

MW-16-041918 L987916-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 11:24	04/24/18 11:24	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 14:12
 Received date/time 04/21/18 08:45

SAMPLE SUMMARY



MW-11-041918 L987916-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 11:42	04/24/18 11:42	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 16:11
 Received date/time 04/21/18 08:45

1 Cp

2 Tc

3 Ss

MW-2-041918 L987916-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 12:00	04/24/18 12:00	JHH

Collected by Jeff Dobbins
 Collected date/time 04/19/18 15:23
 Received date/time 04/21/18 08:45

4 Cn

5 Sr

MW-4-042018 L987916-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 12:19	04/24/18 12:19	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 08:57
 Received date/time 04/21/18 08:45

6 Qc

7 Gl

MW-3-042018 L987916-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 12:37	04/24/18 12:37	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 09:01
 Received date/time 04/21/18 08:45

8 Al

9 Sc

DC-17-042018 L987916-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 12:56	04/24/18 12:56	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 10:43
 Received date/time 04/21/18 08:45

MW-14-042018 L987916-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 13:15	04/24/18 13:15	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 10:02
 Received date/time 04/21/18 08:45

MW-101-042018 L987916-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 13:34	04/24/18 13:34	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 13:45
 Received date/time 04/21/18 08:45

DC-7-042018 L987916-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 13:52	04/24/18 13:52	JHH

Collected by Jeff Dobbins
 Collected date/time 04/20/18 11:24
 Received date/time 04/21/18 08:45

SAMPLE SUMMARY



MW-7-042018 L987916-17 GW

Collected by Jeff Dobbins
 Collected date/time 04/20/18 11:02
 Received date/time 04/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 14:11	04/24/18 14:11	JHH

1 Cp

2 Tc

3 Ss

KMW-3-042018 L987916-18 GW

Collected by Jeff Dobbins
 Collected date/time 04/20/18 10:11
 Received date/time 04/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 14:30	04/24/18 14:30	JHH

4 Cn

5 Sr

MW-102-042018 L987916-19 GW

Collected by Jeff Dobbins
 Collected date/time 04/20/18 14:00
 Received date/time 04/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/24/18 14:48	04/24/18 14:48	JHH

6 Qc

7 Gl

8 Al

TRIPBLANK-042018 L987916-20 GW

Collected by Jeff Dobbins
 Collected date/time 04/20/18 00:00
 Received date/time 04/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1101940	1	04/23/18 22:24	04/23/18 22:24	JHH

9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 22:43	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 22:43	WG1101940
Benzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Bromoform	ND		0.500	1	04/23/2018 22:43	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 22:43	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 22:43	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 22:43	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 22:43	WG1101940
Chloroform	ND		0.500	1	04/23/2018 22:43	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 22:43	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 22:43	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 22:43	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 22:43	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 22:43	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:43	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:43	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 22:43	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 22:43	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 22:43	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 22:43	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 22:43	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 22:43	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 22:43	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 22:43	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 22:43	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 22:43	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 22:43	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 22:43	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 22:43	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Styrene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Tetrachloroethene	1.23		0.500	1	04/23/2018 22:43	WG1101940
Toluene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 22:43	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 22:43	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Vinyl acetate	ND	<u>JO</u>	5.00	1	04/23/2018 22:43	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 22:43	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 22:43	WG1101940
(S) Toluene-d8	102		80.0-120		04/23/2018 22:43	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/23/2018 22:43	WG1101940
(S) 4-Bromofluorobenzene	89.9		80.0-120		04/23/2018 22:43	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 23:02	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:02	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:02	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:02	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:02	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:02	WG1101940
Chloroform	ND		0.500	1	04/23/2018 23:02	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:02	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:02	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:02	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:02	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:02	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:02	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:02	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:02	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:02	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:02	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:02	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:02	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:02	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:02	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:02	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:02	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:02	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:02	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Tetrachloroethene	1.59		0.500	1	04/23/2018 23:02	WG1101940
Toluene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Vinyl acetate	ND	<u>JO</u>	5.00	1	04/23/2018 23:02	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 23:02	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 23:02	WG1101940
(S) Toluene-d8	104		80.0-120		04/23/2018 23:02	WG1101940
(S) Dibromofluoromethane	100		76.0-123		04/23/2018 23:02	WG1101940
(S) 4-Bromofluorobenzene	90.8		80.0-120		04/23/2018 23:02	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 23:20	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:20	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:20	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:20	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:20	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:20	WG1101940
Chloroform	1.68		0.500	1	04/23/2018 23:20	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:20	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:20	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:20	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:20	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:20	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:20	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:20	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:20	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:20	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:20	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:20	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:20	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:20	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:20	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:20	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:20	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:20	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:20	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Tetrachloroethene	5.74		0.500	1	04/23/2018 23:20	WG1101940
Toluene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Vinyl acetate	ND	<u>JO</u>	5.00	1	04/23/2018 23:20	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 23:20	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 23:20	WG1101940
(S) Toluene-d8	103		80.0-120		04/23/2018 23:20	WG1101940
(S) Dibromofluoromethane	99.8		76.0-123		04/23/2018 23:20	WG1101940
(S) 4-Bromofluorobenzene	91.8		80.0-120		04/23/2018 23:20	WG1101940

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	04/23/2018 23:39	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:39	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:39	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:39	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:39	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:39	WG1101940
Chloroform	2.27		0.500	1	04/23/2018 23:39	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:39	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:39	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:39	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:39	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:39	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:39	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:39	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:39	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:39	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:39	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:39	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:39	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:39	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:39	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:39	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:39	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:39	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:39	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:39	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:39	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:39	WG1101940	¹ Cp
Tetrachloroethene	5.14		0.500	1	04/23/2018 23:39	WG1101940	² Tc
Toluene	ND		0.500	1	04/23/2018 23:39	WG1101940	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940	⁷ Gl
Trichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940	⁸ Al
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:39	WG1101940	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:39	WG1101940	
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940	
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940	
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940	
Vinyl acetate	ND	<u>JO</u>	5.00	1	04/23/2018 23:39	WG1101940	
Vinyl chloride	ND		0.500	1	04/23/2018 23:39	WG1101940	
Xylenes, Total	ND		1.50	1	04/23/2018 23:39	WG1101940	
(S) Toluene-d8	102		80.0-120		04/23/2018 23:39	WG1101940	
(S) Dibromofluoromethane	101		76.0-123		04/23/2018 23:39	WG1101940	
(S) 4-Bromofluorobenzene	92.8		80.0-120		04/23/2018 23:39	WG1101940	



Collected date/time: 04/19/18 12:02

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 23:57	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:57	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:57	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:57	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:57	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:57	WG1101940
Chloroform	ND		0.500	1	04/23/2018 23:57	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:57	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:57	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:57	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:57	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:57	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:57	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:57	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:57	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:57	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:57	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:57	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:57	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:57	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:57	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:57	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:57	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:57	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:57	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Tetrachloroethene	1.14		0.500	1	04/23/2018 23:57	WG1101940
Toluene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Vinyl acetate	ND	<u>JO</u>	5.00	1	04/23/2018 23:57	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 23:57	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 23:57	WG1101940
(S) Toluene-d8	103		80.0-120		04/23/2018 23:57	WG1101940
(S) Dibromofluoromethane	101		76.0-123		04/23/2018 23:57	WG1101940
(S) 4-Bromofluorobenzene	91.0		80.0-120		04/23/2018 23:57	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 10:46	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 10:46	WG1101940
Benzene	ND		0.500	1	04/24/2018 10:46	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 10:46	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 10:46	WG1101940
Bromoform	ND		0.500	1	04/24/2018 10:46	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 10:46	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 10:46	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 10:46	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 10:46	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 10:46	WG1101940
Chloroform	ND		0.500	1	04/24/2018 10:46	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 10:46	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 10:46	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 10:46	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 10:46	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 10:46	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 10:46	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 10:46	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 10:46	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 10:46	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 10:46	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 10:46	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 10:46	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 10:46	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 10:46	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 10:46	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 10:46	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 10:46	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 10:46	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 10:46	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 10:46	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 10:46	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 10:46	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 10:46	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 10:46	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 10:46	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 10:46	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 10:46	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 10:46	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 10:46	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 10:46	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940
Styrene	ND		0.500	1	04/24/2018 10:46	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 10:46	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 10:46	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/19/18 13:16

L987916

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 10:46	WG1101940	1 Cp
Tetrachloroethene	1.21		0.500	1	04/24/2018 10:46	WG1101940	2 Tc
Toluene	ND		0.500	1	04/24/2018 10:46	WG1101940	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 10:46	WG1101940	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 10:46	WG1101940	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 10:46	WG1101940	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 10:46	WG1101940	7 Gl
Trichloroethene	ND		0.500	1	04/24/2018 10:46	WG1101940	8 Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 10:46	WG1101940	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 10:46	WG1101940	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 10:46	WG1101940	
Vinyl acetate	ND		5.00	1	04/24/2018 10:46	WG1101940	
Vinyl chloride	ND		0.500	1	04/24/2018 10:46	WG1101940	
Xylenes, Total	ND		1.50	1	04/24/2018 10:46	WG1101940	
(S) Toluene-d8	103		80.0-120		04/24/2018 10:46	WG1101940	
(S) Dibromofluoromethane	100		76.0-123		04/24/2018 10:46	WG1101940	
(S) 4-Bromofluorobenzene	90.8		80.0-120		04/24/2018 10:46	WG1101940	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 11:04	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 11:04	WG1101940
Benzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 11:04	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 11:04	WG1101940
Bromoform	ND		0.500	1	04/24/2018 11:04	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 11:04	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 11:04	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 11:04	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 11:04	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 11:04	WG1101940
Chloroform	ND		0.500	1	04/24/2018 11:04	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 11:04	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 11:04	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 11:04	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 11:04	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 11:04	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 11:04	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 11:04	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 11:04	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 11:04	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 11:04	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 11:04	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 11:04	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 11:04	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 11:04	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 11:04	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 11:04	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 11:04	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 11:04	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 11:04	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 11:04	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 11:04	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 11:04	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 11:04	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 11:04	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 11:04	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 11:04	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 11:04	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Styrene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 11:04	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 11:04	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 11:04	WG1101940
Tetrachloroethene	1.13		0.500	1	04/24/2018 11:04	WG1101940
Toluene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 11:04	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 11:04	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 11:04	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 11:04	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 11:04	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 11:04	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 11:04	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 11:04	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 11:04	WG1101940
(S) Toluene-d8	103		80.0-120		04/24/2018 11:04	WG1101940
(S) Dibromofluoromethane	100		76.0-123		04/24/2018 11:04	WG1101940
(S) 4-Bromofluorobenzene	92.6		80.0-120		04/24/2018 11:04	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 11:24	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 11:24	WG1101940
Benzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 11:24	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 11:24	WG1101940
Bromoform	ND		0.500	1	04/24/2018 11:24	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 11:24	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 11:24	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 11:24	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 11:24	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 11:24	WG1101940
Chloroform	ND		0.500	1	04/24/2018 11:24	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 11:24	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 11:24	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 11:24	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 11:24	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 11:24	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 11:24	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 11:24	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 11:24	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 11:24	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 11:24	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 11:24	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 11:24	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 11:24	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 11:24	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 11:24	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 11:24	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 11:24	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 11:24	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 11:24	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 11:24	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 11:24	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 11:24	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 11:24	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 11:24	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 11:24	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 11:24	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 11:24	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Styrene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 11:24	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 11:24	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 11:24	WG1101940
Tetrachloroethene	1.33		0.500	1	04/24/2018 11:24	WG1101940
Toluene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 11:24	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 11:24	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 11:24	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 11:24	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 11:24	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 11:24	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 11:24	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 11:24	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 11:24	WG1101940
(S) Toluene-d8	102		80.0-120		04/24/2018 11:24	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/24/2018 11:24	WG1101940
(S) 4-Bromofluorobenzene	91.3		80.0-120		04/24/2018 11:24	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 11:42	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 11:42	WG1101940
Benzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 11:42	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 11:42	WG1101940
Bromoform	ND		0.500	1	04/24/2018 11:42	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 11:42	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 11:42	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 11:42	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 11:42	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 11:42	WG1101940
Chloroform	ND		0.500	1	04/24/2018 11:42	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 11:42	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 11:42	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 11:42	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 11:42	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 11:42	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 11:42	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 11:42	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 11:42	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 11:42	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 11:42	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 11:42	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 11:42	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 11:42	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 11:42	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 11:42	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 11:42	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 11:42	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 11:42	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 11:42	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 11:42	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 11:42	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 11:42	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 11:42	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 11:42	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 11:42	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 11:42	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 11:42	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Styrene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 11:42	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 11:42	WG1101940

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 11:42	WG1101940
Tetrachloroethene	2.97		0.500	1	04/24/2018 11:42	WG1101940
Toluene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 11:42	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 11:42	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 11:42	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 11:42	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 11:42	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 11:42	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 11:42	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 11:42	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 11:42	WG1101940
(S) Toluene-d8	103		80.0-120		04/24/2018 11:42	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/24/2018 11:42	WG1101940
(S) 4-Bromofluorobenzene	90.6		80.0-120		04/24/2018 11:42	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 12:00	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 12:00	WG1101940
Benzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 12:00	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 12:00	WG1101940
Bromoform	ND		0.500	1	04/24/2018 12:00	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 12:00	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 12:00	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 12:00	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 12:00	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 12:00	WG1101940
Chloroform	ND		0.500	1	04/24/2018 12:00	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 12:00	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 12:00	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 12:00	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 12:00	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 12:00	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 12:00	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 12:00	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 12:00	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 12:00	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:00	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 12:00	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 12:00	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:00	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:00	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 12:00	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 12:00	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 12:00	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 12:00	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 12:00	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 12:00	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 12:00	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 12:00	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 12:00	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 12:00	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 12:00	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 12:00	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 12:00	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Styrene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:00	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:00	WG1101940

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 12:00	WG1101940
Tetrachloroethene	3.39		0.500	1	04/24/2018 12:00	WG1101940
Toluene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 12:00	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 12:00	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 12:00	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 12:00	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 12:00	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 12:00	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 12:00	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 12:00	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 12:00	WG1101940
(S) Toluene-d8	103		80.0-120		04/24/2018 12:00	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/24/2018 12:00	WG1101940
(S) 4-Bromofluorobenzene	88.5		80.0-120		04/24/2018 12:00	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 12:19	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 12:19	WG1101940
Benzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 12:19	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 12:19	WG1101940
Bromoform	ND		0.500	1	04/24/2018 12:19	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 12:19	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 12:19	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 12:19	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 12:19	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 12:19	WG1101940
Chloroform	ND		0.500	1	04/24/2018 12:19	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 12:19	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 12:19	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 12:19	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 12:19	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 12:19	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 12:19	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 12:19	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 12:19	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 12:19	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:19	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 12:19	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 12:19	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:19	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:19	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 12:19	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 12:19	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 12:19	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 12:19	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 12:19	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 12:19	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 12:19	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 12:19	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 12:19	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 12:19	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 12:19	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 12:19	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 12:19	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Styrene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:19	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:19	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 12:19	WG1101940
Tetrachloroethene	ND		0.500	1	04/24/2018 12:19	WG1101940
Toluene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 12:19	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 12:19	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 12:19	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 12:19	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 12:19	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 12:19	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 12:19	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 12:19	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 12:19	WG1101940
(S) Toluene-d8	102		80.0-120		04/24/2018 12:19	WG1101940
(S) Dibromofluoromethane	101		76.0-123		04/24/2018 12:19	WG1101940
(S) 4-Bromofluorobenzene	90.7		80.0-120		04/24/2018 12:19	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 12:37	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 12:37	WG1101940
Benzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 12:37	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 12:37	WG1101940
Bromoform	ND		0.500	1	04/24/2018 12:37	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 12:37	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 12:37	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 12:37	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 12:37	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 12:37	WG1101940
Chloroform	ND		0.500	1	04/24/2018 12:37	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 12:37	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 12:37	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 12:37	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 12:37	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 12:37	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 12:37	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 12:37	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 12:37	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 12:37	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:37	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 12:37	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 12:37	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:37	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:37	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 12:37	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 12:37	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 12:37	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 12:37	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 12:37	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 12:37	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 12:37	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 12:37	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 12:37	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 12:37	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 12:37	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 12:37	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 12:37	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Styrene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:37	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:37	WG1101940

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 12:37	WG1101940
Tetrachloroethene	1.00		0.500	1	04/24/2018 12:37	WG1101940
Toluene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 12:37	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 12:37	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 12:37	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 12:37	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 12:37	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 12:37	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 12:37	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 12:37	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 12:37	WG1101940
(S) Toluene-d8	102		80.0-120		04/24/2018 12:37	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/24/2018 12:37	WG1101940
(S) 4-Bromofluorobenzene	89.0		80.0-120		04/24/2018 12:37	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch	
	ug/l		ug/l		date / time		
Acetone	ND		25.0	1	04/24/2018 12:56	WG1101940	1 Cp
Acrylonitrile	ND		5.00	1	04/24/2018 12:56	WG1101940	2 Tc
Benzene	ND		0.500	1	04/24/2018 12:56	WG1101940	3 Ss
Bromobenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	4 Cn
Bromodichloromethane	ND		0.500	1	04/24/2018 12:56	WG1101940	5 Sr
Bromochloromethane	ND		0.500	1	04/24/2018 12:56	WG1101940	6 Qc
Bromoform	ND		0.500	1	04/24/2018 12:56	WG1101940	7 Gl
Bromomethane	ND		2.50	1	04/24/2018 12:56	WG1101940	8 Al
n-Butylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	9 Sc
sec-Butylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
tert-Butylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
Carbon disulfide	ND		0.500	1	04/24/2018 12:56	WG1101940	
Carbon tetrachloride	ND		0.500	1	04/24/2018 12:56	WG1101940	
Chlorobenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
Chlorodibromomethane	ND		0.500	1	04/24/2018 12:56	WG1101940	
Chloroethane	ND		2.50	1	04/24/2018 12:56	WG1101940	
Chloroform	ND		0.500	1	04/24/2018 12:56	WG1101940	
Chloromethane	ND		1.25	1	04/24/2018 12:56	WG1101940	
2-Chlorotoluene	ND		0.500	1	04/24/2018 12:56	WG1101940	
4-Chlorotoluene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 12:56	WG1101940	
1,2-Dibromoethane	ND		0.500	1	04/24/2018 12:56	WG1101940	
Dibromomethane	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 12:56	WG1101940	
1,1-Dichloroethane	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,2-Dichloroethane	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,1-Dichloroethene	ND		0.500	1	04/24/2018 12:56	WG1101940	
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:56	WG1101940	
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,2-Dichloropropane	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,1-Dichloropropene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,3-Dichloropropane	ND		1.00	1	04/24/2018 12:56	WG1101940	
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:56	WG1101940	
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 12:56	WG1101940	
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 12:56	WG1101940	
2,2-Dichloropropane	ND		0.500	1	04/24/2018 12:56	WG1101940	
Di-isopropyl ether	ND		0.500	1	04/24/2018 12:56	WG1101940	
Ethylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 12:56	WG1101940	
2-Hexanone	ND		5.00	1	04/24/2018 12:56	WG1101940	
n-Hexane	ND		5.00	1	04/24/2018 12:56	WG1101940	
Iodomethane	ND		10.0	1	04/24/2018 12:56	WG1101940	
Isopropylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
p-Isopropyltoluene	ND		0.500	1	04/24/2018 12:56	WG1101940	
2-Butanone (MEK)	ND		5.00	1	04/24/2018 12:56	WG1101940	
Methylene Chloride	ND		2.50	1	04/24/2018 12:56	WG1101940	
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 12:56	WG1101940	
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 12:56	WG1101940	
Naphthalene	ND		2.50	1	04/24/2018 12:56	WG1101940	
n-Propylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
Styrene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 12:56	WG1101940	



Collected date/time: 04/20/18 10:43

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 12:56	WG1101940	1 Cp
Tetrachloroethene	10.1		0.500	1	04/24/2018 12:56	WG1101940	2 Tc
Toluene	ND		0.500	1	04/24/2018 12:56	WG1101940	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 12:56	WG1101940	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 12:56	WG1101940	7 Gl
Trichloroethene	ND		0.500	1	04/24/2018 12:56	WG1101940	8 Al
Trichlorofluoromethane	ND		2.50	1	04/24/2018 12:56	WG1101940	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 12:56	WG1101940	
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 12:56	WG1101940	
Vinyl acetate	ND		5.00	1	04/24/2018 12:56	WG1101940	
Vinyl chloride	ND		0.500	1	04/24/2018 12:56	WG1101940	
Xylenes, Total	ND		1.50	1	04/24/2018 12:56	WG1101940	
(S) Toluene-d8	104		80.0-120		04/24/2018 12:56	WG1101940	
(S) Dibromofluoromethane	101		76.0-123		04/24/2018 12:56	WG1101940	
(S) 4-Bromofluorobenzene	92.1		80.0-120		04/24/2018 12:56	WG1101940	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 13:15	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 13:15	WG1101940
Benzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 13:15	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 13:15	WG1101940
Bromoform	ND		0.500	1	04/24/2018 13:15	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 13:15	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 13:15	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 13:15	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 13:15	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 13:15	WG1101940
Chloroform	ND		0.500	1	04/24/2018 13:15	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 13:15	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 13:15	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 13:15	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 13:15	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 13:15	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 13:15	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 13:15	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 13:15	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 13:15	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 13:15	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 13:15	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 13:15	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 13:15	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 13:15	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 13:15	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 13:15	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 13:15	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 13:15	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 13:15	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 13:15	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 13:15	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 13:15	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 13:15	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 13:15	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 13:15	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 13:15	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 13:15	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Styrene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 13:15	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 13:15	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 13:15	WG1101940
Tetrachloroethene	1.27		0.500	1	04/24/2018 13:15	WG1101940
Toluene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 13:15	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 13:15	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 13:15	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 13:15	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 13:15	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 13:15	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 13:15	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 13:15	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 13:15	WG1101940
(S) Toluene-d8	101		80.0-120		04/24/2018 13:15	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/24/2018 13:15	WG1101940
(S) 4-Bromofluorobenzene	91.3		80.0-120		04/24/2018 13:15	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 13:34	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 13:34	WG1101940
Benzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 13:34	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 13:34	WG1101940
Bromoform	ND		0.500	1	04/24/2018 13:34	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 13:34	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 13:34	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 13:34	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 13:34	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 13:34	WG1101940
Chloroform	ND		0.500	1	04/24/2018 13:34	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 13:34	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 13:34	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 13:34	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 13:34	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 13:34	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 13:34	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 13:34	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 13:34	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 13:34	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 13:34	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 13:34	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 13:34	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 13:34	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 13:34	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 13:34	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 13:34	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 13:34	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 13:34	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 13:34	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 13:34	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 13:34	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 13:34	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 13:34	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 13:34	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 13:34	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 13:34	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 13:34	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Styrene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 13:34	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 13:34	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 13:34	WG1101940
Tetrachloroethene	ND		0.500	1	04/24/2018 13:34	WG1101940
Toluene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 13:34	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 13:34	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 13:34	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 13:34	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 13:34	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 13:34	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 13:34	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 13:34	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 13:34	WG1101940
(S) Toluene-d8	101		80.0-120		04/24/2018 13:34	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/24/2018 13:34	WG1101940
(S) 4-Bromofluorobenzene	89.7		80.0-120		04/24/2018 13:34	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 13:52	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 13:52	WG1101940
Benzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 13:52	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 13:52	WG1101940
Bromoform	ND		0.500	1	04/24/2018 13:52	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 13:52	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 13:52	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 13:52	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 13:52	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 13:52	WG1101940
Chloroform	ND		0.500	1	04/24/2018 13:52	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 13:52	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 13:52	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 13:52	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 13:52	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 13:52	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 13:52	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 13:52	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 13:52	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 13:52	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 13:52	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 13:52	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 13:52	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 13:52	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 13:52	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 13:52	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 13:52	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 13:52	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 13:52	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 13:52	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 13:52	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 13:52	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 13:52	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 13:52	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 13:52	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 13:52	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 13:52	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 13:52	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Styrene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 13:52	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 13:52	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 13:52	WG1101940
Tetrachloroethene	12.8		0.500	1	04/24/2018 13:52	WG1101940
Toluene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 13:52	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 13:52	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 13:52	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 13:52	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 13:52	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 13:52	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 13:52	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 13:52	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 13:52	WG1101940
(S) Toluene-d8	103		80.0-120		04/24/2018 13:52	WG1101940
(S) Dibromofluoromethane	101		76.0-123		04/24/2018 13:52	WG1101940
(S) 4-Bromofluorobenzene	90.3		80.0-120		04/24/2018 13:52	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 14:11	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 14:11	WG1101940
Benzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 14:11	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 14:11	WG1101940
Bromoform	ND		0.500	1	04/24/2018 14:11	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 14:11	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 14:11	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 14:11	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 14:11	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 14:11	WG1101940
Chloroform	ND		0.500	1	04/24/2018 14:11	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 14:11	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 14:11	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 14:11	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 14:11	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 14:11	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 14:11	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 14:11	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 14:11	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 14:11	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:11	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 14:11	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 14:11	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:11	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:11	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 14:11	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 14:11	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 14:11	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 14:11	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 14:11	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 14:11	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 14:11	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 14:11	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 14:11	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 14:11	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 14:11	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 14:11	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 14:11	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Styrene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:11	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:11	WG1101940

1
Cp

2
Tc

3
Ss

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Cn

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Sr

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Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 14:11	WG1101940
Tetrachloroethene	7.64		0.500	1	04/24/2018 14:11	WG1101940
Toluene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 14:11	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 14:11	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 14:11	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 14:11	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 14:11	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 14:11	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 14:11	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 14:11	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 14:11	WG1101940
(S) Toluene-d8	103		80.0-120		04/24/2018 14:11	WG1101940
(S) Dibromofluoromethane	98.4		76.0-123		04/24/2018 14:11	WG1101940
(S) 4-Bromofluorobenzene	91.1		80.0-120		04/24/2018 14:11	WG1101940

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 14:30	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 14:30	WG1101940
Benzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 14:30	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 14:30	WG1101940
Bromoform	ND		0.500	1	04/24/2018 14:30	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 14:30	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 14:30	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 14:30	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 14:30	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 14:30	WG1101940
Chloroform	ND		0.500	1	04/24/2018 14:30	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 14:30	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 14:30	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 14:30	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 14:30	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 14:30	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 14:30	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 14:30	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 14:30	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 14:30	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:30	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 14:30	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 14:30	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:30	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:30	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 14:30	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 14:30	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 14:30	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 14:30	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 14:30	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 14:30	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 14:30	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 14:30	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 14:30	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 14:30	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 14:30	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 14:30	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 14:30	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Styrene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:30	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:30	WG1101940

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 14:30	WG1101940
Tetrachloroethene	5.37		0.500	1	04/24/2018 14:30	WG1101940
Toluene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 14:30	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 14:30	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 14:30	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 14:30	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 14:30	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 14:30	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 14:30	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 14:30	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 14:30	WG1101940
(S) Toluene-d8	102		80.0-120		04/24/2018 14:30	WG1101940
(S) Dibromofluoromethane	99.9		76.0-123		04/24/2018 14:30	WG1101940
(S) 4-Bromofluorobenzene	89.9		80.0-120		04/24/2018 14:30	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/24/2018 14:48	WG1101940
Acrylonitrile	ND		5.00	1	04/24/2018 14:48	WG1101940
Benzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Bromobenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Bromodichloromethane	ND		0.500	1	04/24/2018 14:48	WG1101940
Bromochloromethane	ND		0.500	1	04/24/2018 14:48	WG1101940
Bromoform	ND		0.500	1	04/24/2018 14:48	WG1101940
Bromomethane	ND		2.50	1	04/24/2018 14:48	WG1101940
n-Butylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
sec-Butylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
tert-Butylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Carbon disulfide	ND		0.500	1	04/24/2018 14:48	WG1101940
Carbon tetrachloride	ND		0.500	1	04/24/2018 14:48	WG1101940
Chlorobenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Chlorodibromomethane	ND		0.500	1	04/24/2018 14:48	WG1101940
Chloroethane	ND		2.50	1	04/24/2018 14:48	WG1101940
Chloroform	ND		0.500	1	04/24/2018 14:48	WG1101940
Chloromethane	ND		1.25	1	04/24/2018 14:48	WG1101940
2-Chlorotoluene	ND		0.500	1	04/24/2018 14:48	WG1101940
4-Chlorotoluene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/24/2018 14:48	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/24/2018 14:48	WG1101940
Dibromomethane	ND		0.500	1	04/24/2018 14:48	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/24/2018 14:48	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/24/2018 14:48	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/24/2018 14:48	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/24/2018 14:48	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:48	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/24/2018 14:48	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/24/2018 14:48	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:48	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/24/2018 14:48	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/24/2018 14:48	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/24/2018 14:48	WG1101940
Di-isopropyl ether	ND		0.500	1	04/24/2018 14:48	WG1101940
Ethylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/24/2018 14:48	WG1101940
2-Hexanone	ND		5.00	1	04/24/2018 14:48	WG1101940
n-Hexane	ND		5.00	1	04/24/2018 14:48	WG1101940
Iodomethane	ND		10.0	1	04/24/2018 14:48	WG1101940
Isopropylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/24/2018 14:48	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/24/2018 14:48	WG1101940
Methylene Chloride	ND		2.50	1	04/24/2018 14:48	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/24/2018 14:48	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/24/2018 14:48	WG1101940
Naphthalene	ND		2.50	1	04/24/2018 14:48	WG1101940
n-Propylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Styrene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:48	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/24/2018 14:48	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/24/2018 14:48	WG1101940
Tetrachloroethene	7.18		0.500	1	04/24/2018 14:48	WG1101940
Toluene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/24/2018 14:48	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/24/2018 14:48	WG1101940
Trichloroethene	ND		0.500	1	04/24/2018 14:48	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/24/2018 14:48	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/24/2018 14:48	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/24/2018 14:48	WG1101940
Vinyl acetate	ND		5.00	1	04/24/2018 14:48	WG1101940
Vinyl chloride	ND		0.500	1	04/24/2018 14:48	WG1101940
Xylenes, Total	ND		1.50	1	04/24/2018 14:48	WG1101940
(S) Toluene-d8	103		80.0-120		04/24/2018 14:48	WG1101940
(S) Dibromofluoromethane	101		76.0-123		04/24/2018 14:48	WG1101940
(S) 4-Bromofluorobenzene	89.5		80.0-120		04/24/2018 14:48	WG1101940

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 22:24	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 22:24	WG1101940
Benzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromoform	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 22:24	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 22:24	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 22:24	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 22:24	WG1101940
Chloroform	ND		0.500	1	04/23/2018 22:24	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 22:24	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 22:24	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 22:24	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:24	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:24	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 22:24	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 22:24	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 22:24	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 22:24	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 22:24	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 22:24	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 22:24	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 22:24	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 22:24	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 22:24	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 22:24	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 22:24	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 22:24	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Styrene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940

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



Collected date/time: 04/20/18 00:00

L987916

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Tetrachloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
Toluene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Vinyl acetate	ND	<u>JO</u>	5.00	1	04/23/2018 22:24	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 22:24	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 22:24	WG1101940
(S) Toluene-d8	103		80.0-120		04/23/2018 22:24	WG1101940
(S) Dibromofluoromethane	100		76.0-123		04/23/2018 22:24	WG1101940
(S) 4-Bromofluorobenzene	90.9		80.0-120		04/23/2018 22:24	WG1101940

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



Method Blank (MB)

(MB) R3304591-3 04/23/18 22:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3304591-3 04/23/18 22:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	98.4			76.0-123
(S) 4-Bromofluorobenzene	91.3			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3304591-1 04/23/18 20:51 • (LCSD) R3304591-2 04/23/18 21:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	142	145	114	116	10.0-160			1.69	23
Acrylonitrile	125	117	130	93.3	104	60.0-142			10.7	20
Benzene	25.0	24.4	24.3	97.8	97.0	69.0-123			0.768	20
Bromobenzene	25.0	22.0	22.6	88.1	90.3	79.0-120			2.46	20
Bromodichloromethane	25.0	24.9	24.9	99.7	99.6	76.0-120			0.0708	20
Bromochloromethane	25.0	25.0	24.9	99.9	99.7	76.0-122			0.222	20
Bromoform	25.0	22.8	23.7	91.3	94.6	67.0-132			3.55	20
Bromomethane	25.0	25.8	25.2	103	101	18.0-160			2.36	20
n-Butylbenzene	25.0	24.9	25.3	99.5	101	72.0-126			1.56	20
sec-Butylbenzene	25.0	24.7	24.8	98.9	99.3	74.0-121			0.370	20
tert-Butylbenzene	25.0	23.8	24.1	95.3	96.4	75.0-122			1.13	20
Carbon disulfide	25.0	21.9	21.4	87.8	85.5	55.0-127			2.57	20
Carbon tetrachloride	25.0	24.1	23.3	96.5	93.2	63.0-122			3.40	20
Chlorobenzene	25.0	25.3	25.1	101	100	79.0-121			0.791	20
Chlorodibromomethane	25.0	24.8	24.6	99.1	98.5	75.0-125			0.609	20
Chloroethane	25.0	25.8	25.4	103	102	47.0-152			1.77	20
Chloroform	25.0	25.0	24.4	100	97.7	72.0-121			2.31	20
Chloromethane	25.0	23.8	23.9	95.1	95.6	48.0-139			0.487	20
2-Chlorotoluene	25.0	22.9	23.3	91.7	93.3	74.0-122			1.72	20
4-Chlorotoluene	25.0	22.8	23.5	91.4	93.9	79.0-120			2.74	20
1,2-Dibromo-3-Chloropropane	25.0	24.3	25.9	97.2	104	64.0-127			6.39	20
1,2-Dibromoethane	25.0	25.4	25.1	102	100	77.0-123			1.18	20
Dibromomethane	25.0	25.2	25.4	101	102	78.0-120			0.830	20
1,2-Dichlorobenzene	25.0	24.6	25.0	98.4	100	80.0-120			1.67	20
1,3-Dichlorobenzene	25.0	24.3	24.4	97.0	97.4	72.0-123			0.410	20
1,4-Dichlorobenzene	25.0	24.4	24.8	97.6	99.1	77.0-120			1.54	20
Dichlorodifluoromethane	25.0	22.1	22.5	88.6	89.9	49.0-155			1.48	20
1,1-Dichloroethane	25.0	25.3	24.8	101	99.0	70.0-126			2.07	20
1,2-Dichloroethane	25.0	25.7	25.5	103	102	67.0-126			0.925	20
1,1-Dichloroethene	25.0	23.5	22.7	93.9	90.8	64.0-129			3.41	20
cis-1,2-Dichloroethene	25.0	24.6	24.3	98.3	97.1	73.0-120			1.29	20
trans-1,2-Dichloroethene	25.0	24.2	23.5	96.7	93.8	71.0-121			3.02	20
1,2-Dichloropropane	25.0	25.2	25.1	101	100	75.0-125			0.466	20
1,1-Dichloropropene	25.0	25.2	25.0	101	100	71.0-129			0.844	20
1,3-Dichloropropane	25.0	25.2	25.1	101	100	80.0-121			0.554	20
cis-1,3-Dichloropropene	25.0	25.2	24.8	101	99.2	79.0-123			1.39	20
trans-1,3-Dichloropropene	25.0	25.2	24.7	101	98.7	74.0-127			2.05	20
trans-1,4-Dichloro-2-butene	25.0	22.2	23.1	88.9	92.2	55.0-134			3.66	20
2,2-Dichloropropane	25.0	22.3	21.2	89.3	84.8	60.0-125			5.23	20
Di-isopropyl ether	25.0	24.8	24.5	99.1	98.2	59.0-133			0.936	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3304591-1 04/23/18 20:51 • (LCSD) R3304591-2 04/23/18 21:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	25.1	24.9	100	99.7	77.0-120			0.498	20
Hexachloro-1,3-butadiene	25.0	26.5	26.7	106	107	64.0-131			0.624	20
2-Hexanone	125	128	130	103	104	58.0-147			1.35	20
n-Hexane	25.0	21.2	21.0	84.9	83.9	56.0-124			1.25	20
Iodomethane	125	116	114	92.5	91.4	57.0-140			1.20	20
Isopropylbenzene	25.0	23.2	23.6	92.7	94.2	75.0-120			1.61	20
p-Isopropyltoluene	25.0	25.0	24.7	99.8	98.8	74.0-126			1.04	20
2-Butanone (MEK)	125	125	131	100	104	37.0-158			3.99	20
Methylene Chloride	25.0	23.6	23.2	94.6	92.6	66.0-121			2.11	20
4-Methyl-2-pentanone (MIBK)	125	125	128	99.7	102	59.0-143			2.48	20
Methyl tert-butyl ether	25.0	24.5	24.3	97.9	97.3	64.0-123			0.603	20
Naphthalene	25.0	24.9	26.2	99.7	105	62.0-128			5.14	20
n-Propylbenzene	25.0	23.0	23.5	92.1	93.8	79.0-120			1.81	20
Styrene	25.0	23.0	23.3	92.2	93.1	78.0-124			0.955	20
1,1,1,2-Tetrachloroethane	25.0	25.1	24.7	100	98.7	75.0-122			1.73	20
1,1,2,2-Tetrachloroethane	25.0	21.6	22.3	86.2	89.2	71.0-122			3.34	20
1,1,2-Trichlorotrifluoroethane	25.0	23.1	22.5	92.5	89.8	61.0-136			2.96	20
Tetrachloroethene	25.0	24.7	24.4	98.9	97.7	70.0-127			1.16	20
Toluene	25.0	24.2	23.8	96.7	95.3	77.0-120			1.51	20
1,2,3-Trichlorobenzene	25.0	25.3	26.3	101	105	61.0-133			3.59	20
1,2,4-Trichlorobenzene	25.0	25.9	26.1	104	105	69.0-129			0.801	20
1,1,1-Trichloroethane	25.0	25.5	24.8	102	99.4	68.0-122			2.60	20
1,1,2-Trichloroethane	25.0	24.4	24.2	97.7	96.8	78.0-120			0.939	20
Trichloroethene	25.0	26.0	25.9	104	104	78.0-120			0.0545	20
Trichlorofluoromethane	25.0	26.8	26.5	107	106	56.0-137			1.03	20
1,2,3-Trichloropropane	25.0	22.7	23.8	90.9	95.3	72.0-124			4.71	20
1,2,4-Trimethylbenzene	25.0	23.7	23.9	94.7	95.6	75.0-120			0.903	20
1,2,3-Trimethylbenzene	25.0	24.4	24.7	97.6	98.7	75.0-120			1.10	20
1,3,5-Trimethylbenzene	25.0	23.2	23.3	92.8	93.3	75.0-120			0.561	20
Vinyl acetate	125	84.6	79.2	67.7	63.3	46.0-160			6.71	20
Vinyl chloride	25.0	26.3	26.0	105	104	64.0-133			1.23	20
Xylenes, Total	75.0	75.8	73.5	101	98.0	77.0-120			3.08	20
(S) Toluene-d8				102	101	80.0-120				
(S) Dibromofluoromethane				100	98.8	76.0-123				
(S) 4-Bromofluorobenzene				91.1	93.2	80.0-120				

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



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier Description

J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
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ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

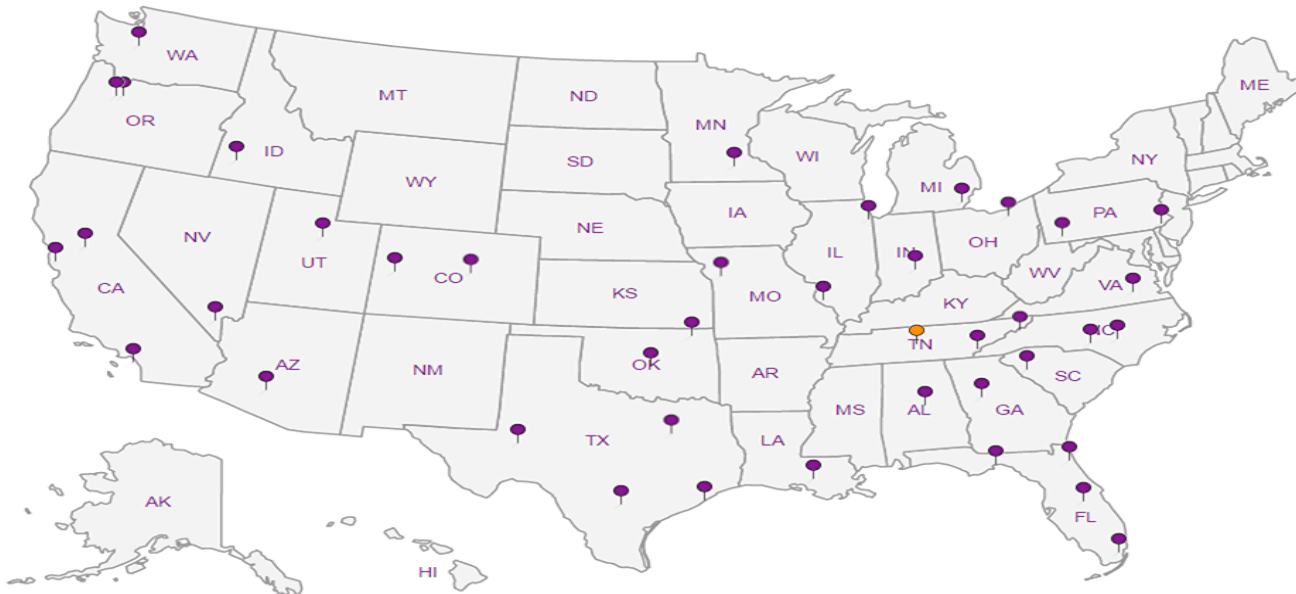
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

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

Fres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project
Description: **MVSC**

City/State
Collected: **Normandy
Park, WA**

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
Jeff Dobbins

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Date Results Needed

No.
of
Cntrs

Immediately
Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
DC-3-041918	Grab	GW		4/19/18	0845	3 X
KMW-7-041918		GW		4/19/18	0930	3 X
KMW-8-041918		GW		4/19/18	1009	3 X
DC-14-041918		GW		4/19/18	1047	3 X
DC-20-041918		GW		4/19/18	1202	3 X
DC-11-041918		GW		4/19/18	1316	3 X
MW-15-041918		GW		4/19/18	1311	3 X
MW-16-041918		GW		4/19/18	1412	3 X
MW-11-041918		GW		4/19/18	1611	3 X
MW-2-041918	↓	GW		4/19/18	1523	3 X

V8260 LLC VOCs 40ml/Amb-HCI

L# **987916**

Ta **E020**

Acctnum: **PESENVSWA**

Template: **T131700**

Prelogin: **P647348**

TSR: **110 - Brian Ford**

PB: **4-13-18 gk**

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

Remarks	Sample # (lab only)
	01
	02
	03
	04
	05
	06
	07
	08
	09
	10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
UPS FedEx Courier _____

Tracking # **4269 9219 6304**

Sample Receipt Checklist
COC Seal Present/Intact: NP N
COC Signed/Accurate: N N
Bottles arrive intact: N N
Correct bottles used: N N
Sufficient volume sent: N N
If Applicable
VOA Zero Headpace: N N
Preservation Correct/Checked: Y N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No HCL / MeOH TBR	Temp: _____ °C	Bottles Received: 58	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		0.740		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)		Date: 4/21/18	Time: 645	Hold: _____ Condition: NCF / 08

PES Environmental, Inc.- WA 1215 Fourth Ave., Suite 1350 Seattle, WA 98161	Billing Information: Attn: Accounts Payable 1215 Fourth Ave., Ste. 1350 Seattle, WA 98161	Pres Chk	Analysis / Container / Preservative							Chain of Custody Page 2 of 2
	Report to: Karsten Springstead		Email To: kspringstead@pesenv.com; mdahl@pesenv.com							

Project Description: MVSC	City/State Collected: Normandy Park, WA
Phone: 206-529-3980 Fax: 206-529-3985	Client Project # 1358.001.01.003
Collected by (print): Jeff Dolbins	Site/Facility ID #
Collected by (signature): 	Lab Project # PESENVSWA-MVSC

P.O. #	Quote #
Immediately Packed on Ice - N <input type="checkbox"/> Y <input checked="" type="checkbox"/>	Date Results Needed
Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day	No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LLC VOCs 40miAmb-HCl							
MW-4-042018	Grab	GW		4/20/18	0857	3	X							
MW-3-042018		GW		4/20/18	0901	3	X							
DC-17-042018		GW		4/20/18	1043	3	X							
MW-14-042018		GW		4/20/18	1002	3	X							
MW-101-042018		GW		4/20/18	1345	3	X							
DC-7-042018		GW		4/20/18	1124	3	X							
MW-7-042018		GW		4/20/18	1102	3	X							
KMW-3-042018		GW		4/20/18	1011	3	X							
MW-102-042018		GW		4/20/18	1400	3	X							
TRIPBLANK-042018		GW		4/20/18	→	1	X							

* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other	Remarks: Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	pH _____ Temp _____ Flow _____ Other _____	Sample Receipt Checklist COC Seal Present/Intact: <input type="checkbox"/> N <input checked="" type="checkbox"/> Y COC Signed/Accurate: <input type="checkbox"/> N <input checked="" type="checkbox"/> Y Bottles arrive intact: <input type="checkbox"/> N <input checked="" type="checkbox"/> Y Correct bottles used: <input type="checkbox"/> N <input checked="" type="checkbox"/> Y Sufficient volume sent: <input type="checkbox"/> N <input checked="" type="checkbox"/> Y If Applicable VOA Zero Headspace: <input type="checkbox"/> N <input checked="" type="checkbox"/> Y Preservation Correct/Checked: <input type="checkbox"/> N <input checked="" type="checkbox"/> Y
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Relinquished by: (Signature) Date: _____ Time: _____	Received by: (Signature) Trip Blank Received: Yes/No HCL / MeOH TBR
Relinquished by: (Signature) Date: _____ Time: _____	Received by: (Signature) Temp: _____ °C Bottles Received: 58
Relinquished by: (Signature) Date: _____ Time: _____	Received for lab by: (Signature) Date: 4/21/18 Time: 845

Condition:
NCF **10X**

MEMORANDUM

TO: Project File **DATE:** June 4, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center/Harris Family LTD
PROJECT #: 1358.001.01.003
TASK: April 19-20, 2018 Groundwater Samples
LAB: ECS Lab Sciences Request No. L987916

Nineteen (19) groundwater samples including two field duplicates, and a trip blank sample were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Center and Harris Family LTD site in Normandy Park, Washington on April 19-20, 2018. Samples associated with SDG L987916 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by ESC Lab Sciences (ESC) of Mt. Juliet, Tennessee.

The monitoring event occurred on between April 18 and 20, 2018. SDGs associated with this sampling period include three SDGs (L987257, L987914, and L987916). The quality assurance review of the laboratory data for SDG L987916 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 0.7 degrees Centigrade (°C). The

cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. Samples were received in good condition with the following discussions:

- SDG L987916: Review of associated chain of custody (COC) shows that the relinquished portion was not signed however daily field forms show a record of sample delivery to FedEx for shipment to ESC. Internal corrective action has been implemented by PES to ensure that all COCs are signed and dated when relinquishing possession/custody of the samples.

No data were qualified based upon the sample collection and preservation information.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however ESC's notes indicate the following:

- Continuing calibration verification (CCV) issues were noted by ESC for vinyl acetate associated with analytical batch WG1101940 (analyzed on April 23, 2018). These results are qualified by the laboratory "J0" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **All associated vinyl acetate results with laboratory qualified (J0) results are estimated and qualified (J/UJ).**

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The target analytes (VOCs) were not detected in the method blank at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

A trip blank was submitted for analysis. The target analytes (VOCs) were not detected in the trip blank at concentrations at or above the RDLs.

Equipment Blank Results

Two equipment blank samples (EQ-1-042018 and EQ-2-042018) were collected and analyzed and are reported in SDG L987914.

- Equipment blank sample EQ-1-042018 is associated with monitoring wells DC-15, DC-8, DC-4, MW-13, KMW-2, MW10, MW-9, MW-12, KMW-9, DC-12, DC-13, DC-3, KMW-7, KMW-8, DC-14, DC-20, DC-11, MW-4, MW-7, and KMW-3 (SDGs L987257,

L987914, and L987916). The target analytes (VOCs) were not detected in the equipment blank at concentrations at or above the RDLs.

- Equipment blank sample EQ-2-042018 is associated with monitoring wells DC-10A, DC-17, DC-18, MW-2, MW-3, MW-11, MW-14, MW-15, MW-16, and DC-7 (SDGs L987914 and L987916). The target analytes (VOCs) were not detected in the equipment blank at concentrations at or above the RDLs.

Field Duplicate Analyses

Field duplicate pairs are as follows:

- Samples MW-4-042018 and MW-101-042018
- Samples MW-7-042018 and MW-102-042018

Field duplicate results are comparable and within 20% RPD.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) %R's and RPDs for analytical batch (WG1101940) are within ESC laboratory control limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. Assigned qualifiers were added to the electronic data deliverables under the appropriate field. All data, including qualified data, are judged to be acceptable for their intended use.



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch	
	ug/l		ug/l		date / time		
Acetone	ND		25.0	1	04/23/2018 22:43	WG1101940	1 Cp
Acrylonitrile	ND		5.00	1	04/23/2018 22:43	WG1101940	2 Tc
Benzene	ND		0.500	1	04/23/2018 22:43	WG1101940	3 Ss
Bromobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	4 Cn
Bromodichloromethane	ND		0.500	1	04/23/2018 22:43	WG1101940	5 Sr
Bromochloromethane	ND		0.500	1	04/23/2018 22:43	WG1101940	6 Qc
Bromoform	ND		0.500	1	04/23/2018 22:43	WG1101940	7 Gl
Bromomethane	ND		2.50	1	04/23/2018 22:43	WG1101940	8 Al
n-Butylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	9 Sc
sec-Butylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
tert-Butylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
Carbon disulfide	ND		0.500	1	04/23/2018 22:43	WG1101940	
Carbon tetrachloride	ND		0.500	1	04/23/2018 22:43	WG1101940	
Chlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
Chlorodibromomethane	ND		0.500	1	04/23/2018 22:43	WG1101940	
Chloroethane	ND		2.50	1	04/23/2018 22:43	WG1101940	
Chloroform	ND		0.500	1	04/23/2018 22:43	WG1101940	
Chloromethane	ND		1.25	1	04/23/2018 22:43	WG1101940	
2-Chlorotoluene	ND		0.500	1	04/23/2018 22:43	WG1101940	
4-Chlorotoluene	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 22:43	WG1101940	
1,2-Dibromoethane	ND		0.500	1	04/23/2018 22:43	WG1101940	
Dibromomethane	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 22:43	WG1101940	
1,1-Dichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,2-Dichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,1-Dichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940	
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940	
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,2-Dichloropropane	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,1-Dichloropropene	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,3-Dichloropropane	ND		1.00	1	04/23/2018 22:43	WG1101940	
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:43	WG1101940	
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:43	WG1101940	
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 22:43	WG1101940	
2,2-Dichloropropane	ND		0.500	1	04/23/2018 22:43	WG1101940	
Di-isopropyl ether	ND		0.500	1	04/23/2018 22:43	WG1101940	
Ethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 22:43	WG1101940	
2-Hexanone	ND		5.00	1	04/23/2018 22:43	WG1101940	
n-Hexane	ND		5.00	1	04/23/2018 22:43	WG1101940	
Iodomethane	ND		10.0	1	04/23/2018 22:43	WG1101940	
Isopropylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
p-Isopropyltoluene	ND		0.500	1	04/23/2018 22:43	WG1101940	
2-Butanone (MEK)	ND		5.00	1	04/23/2018 22:43	WG1101940	
Methylene Chloride	ND		2.50	1	04/23/2018 22:43	WG1101940	
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 22:43	WG1101940	JC 6/4/18
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 22:43	WG1101940	
Naphthalene	ND		2.50	1	04/23/2018 22:43	WG1101940	
n-Propylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940	
Styrene	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940	
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Tetrachloroethene	1.23		0.500	1	04/23/2018 22:43	WG1101940
Toluene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 22:43	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 22:43	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 22:43	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 22:43	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 22:43	WG1101940
Vinyl acetate	ND	UJ JO	5.00	1	04/23/2018 22:43	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 22:43	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 22:43	WG1101940
(S) Toluene-d8	102		80.0-120		04/23/2018 22:43	WG1101940
(S) Dibromofluoromethane	102		76.0-123		04/23/2018 22:43	WG1101940
(S) 4-Bromofluorobenzene	89.9		80.0-120		04/23/2018 22:43	WG1101940

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

JC 6/4/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 23:02	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:02	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:02	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:02	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:02	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:02	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:02	WG1101940
Chloroform	ND		0.500	1	04/23/2018 23:02	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:02	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:02	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:02	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:02	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:02	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:02	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:02	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:02	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:02	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:02	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:02	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:02	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:02	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:02	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:02	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:02	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:02	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:02	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940

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

JC 6/4/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Tetrachloroethene	1.59		0.500	1	04/23/2018 23:02	WG1101940
Toluene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:02	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 23:02	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:02	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:02	WG1101940
Vinyl acetate	ND	UJ JO	5.00	1	04/23/2018 23:02	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 23:02	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 23:02	WG1101940
(S) Toluene-d8	104		80.0-120		04/23/2018 23:02	WG1101940
(S) Dibromofluoromethane	100		76.0-123		04/23/2018 23:02	WG1101940
(S) 4-Bromofluorobenzene	90.8		80.0-120		04/23/2018 23:02	WG1101940

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

JC 6/4/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 23:20	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:20	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:20	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:20	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:20	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:20	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:20	WG1101940
Chloroform	1.68		0.500	1	04/23/2018 23:20	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:20	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:20	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:20	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:20	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:20	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:20	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:20	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:20	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:20	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:20	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:20	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:20	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:20	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:20	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:20	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:20	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:20	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:20	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940

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

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Tetrachloroethene	5.74		0.500	1	04/23/2018 23:20	WG1101940
Toluene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:20	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 23:20	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:20	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:20	WG1101940
Vinyl acetate	ND	UJ JO	5.00	1	04/23/2018 23:20	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 23:20	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 23:20	WG1101940
(S) Toluene-d8	103		80.0-120		04/23/2018 23:20	WG1101940
(S) Dibromofluoromethane	99.8		76.0-123		04/23/2018 23:20	WG1101940
(S) 4-Bromofluorobenzene	91.8		80.0-120		04/23/2018 23:20	WG1101940

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

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 23:39	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:39	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:39	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:39	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:39	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:39	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:39	WG1101940
Chloroform	2.27		0.500	1	04/23/2018 23:39	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:39	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:39	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:39	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:39	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:39	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:39	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:39	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:39	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:39	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:39	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:39	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:39	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:39	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:39	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:39	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:39	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:39	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:39	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:39	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:39	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Tetrachloroethene	5.14		0.500	1	04/23/2018 23:39	WG1101940
Toluene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:39	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 23:39	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:39	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:39	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:39	WG1101940
Vinyl acetate	ND	UJ JO	5.00	1	04/23/2018 23:39	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 23:39	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 23:39	WG1101940
(S) Toluene-d8	102		80.0-120		04/23/2018 23:39	WG1101940
(S) Dibromofluoromethane	101		76.0-123		04/23/2018 23:39	WG1101940
(S) 4-Bromofluorobenzene	92.8		80.0-120		04/23/2018 23:39	WG1101940

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

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 23:57	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 23:57	WG1101940
Benzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromoform	ND		0.500	1	04/23/2018 23:57	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 23:57	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 23:57	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 23:57	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 23:57	WG1101940
Chloroform	ND		0.500	1	04/23/2018 23:57	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 23:57	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 23:57	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 23:57	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:57	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 23:57	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 23:57	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 23:57	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 23:57	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 23:57	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 23:57	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 23:57	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 23:57	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 23:57	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 23:57	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 23:57	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 23:57	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 23:57	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 23:57	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Styrene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940

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

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Tetrachloroethene	1.14		0.500	1	04/23/2018 23:57	WG1101940
Toluene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 23:57	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 23:57	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 23:57	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 23:57	WG1101940
Vinyl acetate	ND	UJ JO	5.00	1	04/23/2018 23:57	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 23:57	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 23:57	WG1101940
(S) Toluene-d8	103		80.0-120		04/23/2018 23:57	WG1101940
(S) Dibromofluoromethane	101		76.0-123		04/23/2018 23:57	WG1101940
(S) 4-Bromofluorobenzene	91.0		80.0-120		04/23/2018 23:57	WG1101940

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

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	04/23/2018 22:24	WG1101940
Acrylonitrile	ND		5.00	1	04/23/2018 22:24	WG1101940
Benzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromodichloromethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromochloromethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromoform	ND		0.500	1	04/23/2018 22:24	WG1101940
Bromomethane	ND		2.50	1	04/23/2018 22:24	WG1101940
n-Butylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
sec-Butylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
tert-Butylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Carbon disulfide	ND		0.500	1	04/23/2018 22:24	WG1101940
Carbon tetrachloride	ND		0.500	1	04/23/2018 22:24	WG1101940
Chlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Chlorodibromomethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Chloroethane	ND		2.50	1	04/23/2018 22:24	WG1101940
Chloroform	ND		0.500	1	04/23/2018 22:24	WG1101940
Chloromethane	ND		1.25	1	04/23/2018 22:24	WG1101940
2-Chlorotoluene	ND		0.500	1	04/23/2018 22:24	WG1101940
4-Chlorotoluene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,2-Dibromoethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Dibromomethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,3-Dichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,4-Dichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Dichlorodifluoromethane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,1-Dichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1-Dichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
cis-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
trans-1,2-Dichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2-Dichloropropane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1-Dichloropropene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,3-Dichloropropane	ND		1.00	1	04/23/2018 22:24	WG1101940
cis-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:24	WG1101940
trans-1,3-Dichloropropene	ND		0.500	1	04/23/2018 22:24	WG1101940
trans-1,4-Dichloro-2-butene	ND		5.00	1	04/23/2018 22:24	WG1101940
2,2-Dichloropropane	ND		0.500	1	04/23/2018 22:24	WG1101940
Di-isopropyl ether	ND		0.500	1	04/23/2018 22:24	WG1101940
Ethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Hexachloro-1,3-butadiene	ND		1.00	1	04/23/2018 22:24	WG1101940
2-Hexanone	ND		5.00	1	04/23/2018 22:24	WG1101940
n-Hexane	ND		5.00	1	04/23/2018 22:24	WG1101940
Iodomethane	ND		10.0	1	04/23/2018 22:24	WG1101940
Isopropylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
p-Isopropyltoluene	ND		0.500	1	04/23/2018 22:24	WG1101940
2-Butanone (MEK)	ND		5.00	1	04/23/2018 22:24	WG1101940
Methylene Chloride	ND		2.50	1	04/23/2018 22:24	WG1101940
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/23/2018 22:24	WG1101940
Methyl tert-butyl ether	ND		0.500	1	04/23/2018 22:24	WG1101940
Naphthalene	ND		2.50	1	04/23/2018 22:24	WG1101940
n-Propylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Styrene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940

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

JC 6/4/18



Collected date/time: 04/20/18 00:00

L987916

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Tetrachloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
Toluene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2,3-Trichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2,4-Trichlorobenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,1-Trichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
1,1,2-Trichloroethane	ND		0.500	1	04/23/2018 22:24	WG1101940
Trichloroethene	ND		0.500	1	04/23/2018 22:24	WG1101940
Trichlorofluoromethane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,2,3-Trichloropropane	ND		2.50	1	04/23/2018 22:24	WG1101940
1,2,4-Trimethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,2,3-Trimethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
1,3,5-Trimethylbenzene	ND		0.500	1	04/23/2018 22:24	WG1101940
Vinyl acetate	ND	UJ JO	5.00	1	04/23/2018 22:24	WG1101940
Vinyl chloride	ND		0.500	1	04/23/2018 22:24	WG1101940
Xylenes, Total	ND		1.50	1	04/23/2018 22:24	WG1101940
(S) Toluene-d8	103		80.0-120		04/23/2018 22:24	WG1101940
(S) Dibromofluoromethane	100		76.0-123		04/23/2018 22:24	WG1101940
(S) 4-Bromofluorobenzene	90.9		80.0-120		04/23/2018 22:24	WG1101940

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

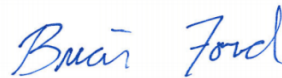
JC 6/4/18

July 30, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L1011270
Samples Received: 07/21/2018
Project Number: 1358.001.01.003
Description: MVSC
Site: 1358.001.01.003
Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

MW-2-071718 L1011270-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 01:02	07/23/18 01:02	LRL

Collected by Shannon McKernan
 Collected date/time 07/17/18 10:00
 Received date/time 07/21/18 08:45

1
Cp

2
Tc

DC-15-071818 L1011270-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 01:22	07/23/18 01:22	LRL

Collected by Shannon McKernan
 Collected date/time 07/18/18 09:30
 Received date/time 07/21/18 08:45

3
Ss

4
Cn

5
Sr

MW-101-071818 L1011270-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 01:42	07/23/18 01:42	LRL

Collected by Shannon McKernan
 Collected date/time 07/18/18 12:00
 Received date/time 07/21/18 08:45

6
Qc

7
Gl

8
Al

DC-08-071818 L1011270-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 02:02	07/23/18 02:02	LRL

Collected by Shannon McKernan
 Collected date/time 07/18/18 11:30
 Received date/time 07/21/18 08:45

9
Sc

DC-10A-071718 L1011270-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 02:22	07/23/18 02:22	LRL

Collected by Shannon McKernan
 Collected date/time 07/17/18 11:00
 Received date/time 07/21/18 08:45

KMW-03-071918 L1011270-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 02:42	07/23/18 02:42	LRL

Collected by Shannon McKernan
 Collected date/time 07/19/18 10:00
 Received date/time 07/21/18 08:45

MW-7-071918 L1011270-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 03:02	07/23/18 03:02	LRL

Collected by Shannon McKernan
 Collected date/time 07/19/18 10:45
 Received date/time 07/21/18 08:45

KMW-8-071918 L1011270-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 03:21	07/23/18 03:21	LRL

Collected by Shannon McKernan
 Collected date/time 07/19/18 11:45
 Received date/time 07/21/18 08:45



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 01:02	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 01:02	WG1141579
Benzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromoform	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 01:02	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 01:02	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 01:02	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 01:02	WG1141579
Chloroform	0.569		0.500	1	07/23/2018 01:02	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 01:02	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 01:02	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 01:02	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:02	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:02	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 01:02	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 01:02	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 01:02	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 01:02	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 01:02	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 01:02	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 01:02	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 01:02	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 01:02	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 01:02	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 01:02	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 01:02	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 01:02	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Styrene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Tetrachloroethene	1.78		0.500	1	07/23/2018 01:02	WG1141579
Toluene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 01:02	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 01:02	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 01:02	WG1141579
(S) Toluene-d8	107		80.0-120		07/23/2018 01:02	WG1141579
(S) Dibromofluoromethane	104		76.0-123		07/23/2018 01:02	WG1141579
(S) 4-Bromofluorobenzene	88.6		80.0-120		07/23/2018 01:02	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/18/18 09:30

L1011270

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 01:22	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 01:22	WG1141579
Benzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromoform	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 01:22	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 01:22	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 01:22	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 01:22	WG1141579
Chloroform	ND		0.500	1	07/23/2018 01:22	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 01:22	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 01:22	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 01:22	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 01:22	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 01:22	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:22	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:22	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 01:22	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 01:22	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 01:22	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 01:22	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 01:22	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 01:22	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 01:22	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 01:22	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 01:22	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 01:22	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 01:22	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 01:22	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 01:22	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Styrene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/18/18 09:30

L1011270

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 01:22	WG1141579	¹ Cp
Tetrachloroethene	7.82		0.500	1	07/23/2018 01:22	WG1141579	² Tc
Toluene	ND		0.500	1	07/23/2018 01:22	WG1141579	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579	⁷ Gl
Trichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579	⁸ Al
Trichlorofluoromethane	ND		2.50	1	07/23/2018 01:22	WG1141579	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 01:22	WG1141579	
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579	
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579	
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579	
Vinyl acetate	ND		5.00	1	07/23/2018 01:22	WG1141579	
Vinyl chloride	ND		0.500	1	07/23/2018 01:22	WG1141579	
Xylenes, Total	ND		1.50	1	07/23/2018 01:22	WG1141579	
(S) Toluene-d8	104		80.0-120		07/23/2018 01:22	WG1141579	
(S) Dibromofluoromethane	102		76.0-123		07/23/2018 01:22	WG1141579	
(S) 4-Bromofluorobenzene	87.5		80.0-120		07/23/2018 01:22	WG1141579	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 01:42	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 01:42	WG1141579
Benzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromoform	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 01:42	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 01:42	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 01:42	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 01:42	WG1141579
Chloroform	ND		0.500	1	07/23/2018 01:42	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 01:42	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 01:42	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 01:42	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:42	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:42	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 01:42	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 01:42	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 01:42	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 01:42	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 01:42	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 01:42	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 01:42	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 01:42	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 01:42	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 01:42	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 01:42	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 01:42	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 01:42	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Styrene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Tetrachloroethene	7.39		0.500	1	07/23/2018 01:42	WG1141579
Toluene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 01:42	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 01:42	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 01:42	WG1141579
(S) Toluene-d8	103		80.0-120		07/23/2018 01:42	WG1141579
(S) Dibromofluoromethane	99.9		76.0-123		07/23/2018 01:42	WG1141579
(S) 4-Bromofluorobenzene	84.7		80.0-120		07/23/2018 01:42	WG1141579

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 02:02	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 02:02	WG1141579
Benzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromoform	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 02:02	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 02:02	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 02:02	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 02:02	WG1141579
Chloroform	ND		0.500	1	07/23/2018 02:02	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 02:02	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 02:02	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 02:02	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 02:02	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 02:02	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:02	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:02	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 02:02	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 02:02	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 02:02	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 02:02	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 02:02	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 02:02	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 02:02	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 02:02	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 02:02	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 02:02	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 02:02	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 02:02	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 02:02	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Styrene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/18/18 11:30

L1011270

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 02:02	WG1141579	¹ Cp
Tetrachloroethene	11.7		0.500	1	07/23/2018 02:02	WG1141579	² Tc
Toluene	ND		0.500	1	07/23/2018 02:02	WG1141579	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579	⁷ Gl
Trichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579	⁸ Al
Trichlorofluoromethane	ND		2.50	1	07/23/2018 02:02	WG1141579	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 02:02	WG1141579	
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	
Vinyl acetate	ND		5.00	1	07/23/2018 02:02	WG1141579	
Vinyl chloride	ND		0.500	1	07/23/2018 02:02	WG1141579	
Xylenes, Total	ND		1.50	1	07/23/2018 02:02	WG1141579	
(S) Toluene-d8	106		80.0-120		07/23/2018 02:02	WG1141579	
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 02:02	WG1141579	
(S) 4-Bromofluorobenzene	89.7		80.0-120		07/23/2018 02:02	WG1141579	



Collected date/time: 07/17/18 11:00

L1011270

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 02:22	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 02:22	WG1141579
Benzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromoform	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 02:22	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 02:22	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 02:22	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 02:22	WG1141579
Chloroform	ND		0.500	1	07/23/2018 02:22	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 02:22	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 02:22	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 02:22	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:22	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:22	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 02:22	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 02:22	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 02:22	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 02:22	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 02:22	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 02:22	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 02:22	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 02:22	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 02:22	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 02:22	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 02:22	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 02:22	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 02:22	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Styrene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Tetrachloroethene	2.68		0.500	1	07/23/2018 02:22	WG1141579
Toluene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 02:22	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 02:22	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 02:22	WG1141579
(S) Toluene-d8	103		80.0-120		07/23/2018 02:22	WG1141579
(S) Dibromofluoromethane	101		76.0-123		07/23/2018 02:22	WG1141579
(S) 4-Bromofluorobenzene	84.9		80.0-120		07/23/2018 02:22	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 02:42	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 02:42	WG1141579
Benzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromoform	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 02:42	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 02:42	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 02:42	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 02:42	WG1141579
Chloroform	ND		0.500	1	07/23/2018 02:42	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 02:42	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 02:42	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 02:42	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:42	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:42	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 02:42	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 02:42	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 02:42	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 02:42	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 02:42	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 02:42	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 02:42	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 02:42	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 02:42	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 02:42	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 02:42	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 02:42	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 02:42	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Styrene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Tetrachloroethene	5.18		0.500	1	07/23/2018 02:42	WG1141579
Toluene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 02:42	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 02:42	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 02:42	WG1141579
(S) Toluene-d8	102		80.0-120		07/23/2018 02:42	WG1141579
(S) Dibromofluoromethane	100		76.0-123		07/23/2018 02:42	WG1141579
(S) 4-Bromofluorobenzene	85.5		80.0-120		07/23/2018 02:42	WG1141579

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 03:02	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 03:02	WG1141579
Benzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromoform	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 03:02	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 03:02	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 03:02	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 03:02	WG1141579
Chloroform	ND		0.500	1	07/23/2018 03:02	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 03:02	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 03:02	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 03:02	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:02	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:02	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 03:02	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 03:02	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 03:02	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 03:02	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 03:02	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 03:02	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 03:02	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 03:02	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 03:02	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 03:02	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 03:02	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 03:02	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 03:02	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Styrene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Tetrachloroethene	6.60		0.500	1	07/23/2018 03:02	WG1141579
Toluene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 03:02	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 03:02	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 03:02	WG1141579
(S) Toluene-d8	105		80.0-120		07/23/2018 03:02	WG1141579
(S) Dibromofluoromethane	99.7		76.0-123		07/23/2018 03:02	WG1141579
(S) 4-Bromofluorobenzene	88.9		80.0-120		07/23/2018 03:02	WG1141579

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	07/23/2018 03:21	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 03:21	WG1141579
Benzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromoform	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 03:21	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 03:21	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 03:21	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 03:21	WG1141579
Chloroform	1.13		0.500	1	07/23/2018 03:21	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 03:21	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 03:21	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 03:21	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:21	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:21	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 03:21	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 03:21	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 03:21	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 03:21	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 03:21	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 03:21	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 03:21	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 03:21	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 03:21	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 03:21	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 03:21	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 03:21	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 03:21	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Styrene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Tetrachloroethene	5.17		0.500	1	07/23/2018 03:21	WG1141579
Toluene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 03:21	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 03:21	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 03:21	WG1141579
(S) Toluene-d8	106		80.0-120		07/23/2018 03:21	WG1141579
(S) Dibromofluoromethane	101		76.0-123		07/23/2018 03:21	WG1141579
(S) 4-Bromofluorobenzene	87.1		80.0-120		07/23/2018 03:21	WG1141579

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



Method Blank (MB)

(MB) R3327795-5 07/22/18 21:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3327795-5 07/22/18 21:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	105			80.0-120
(S) Dibromofluoromethane	99.9			76.0-123
(S) 4-Bromofluorobenzene	87.9			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3327795-1 07/22/18 19:04 • (LCSD) R3327795-3 07/22/18 19:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	109	123	87.1	98.1	10.0-160			11.9	23
Acrylonitrile	125	125	126	100	101	60.0-142			0.704	20
Benzene	25.0	24.3	23.1	97.3	92.3	69.0-123			5.22	20
Bromobenzene	25.0	21.6	21.1	86.3	84.4	79.0-120			2.26	20
Bromodichloromethane	25.0	25.8	24.9	103	99.5	76.0-120			3.66	20
Bromochloromethane	25.0	25.9	25.0	104	100	76.0-122			3.62	20
Bromoform	25.0	22.6	23.0	90.5	92.0	67.0-132			1.62	20
Bromomethane	25.0	13.5	13.6	54.1	54.5	18.0-160			0.783	20
n-Butylbenzene	25.0	25.0	24.1	100	96.6	72.0-126			3.42	20
sec-Butylbenzene	25.0	25.0	24.8	100	99.3	74.0-121			0.830	20
tert-Butylbenzene	25.0	23.2	23.1	92.7	92.3	75.0-122			0.465	20
Carbon disulfide	25.0	21.6	21.4	86.4	85.5	55.0-127			1.03	20
Carbon tetrachloride	25.0	23.5	23.1	93.8	92.3	63.0-122			1.62	20
Chlorobenzene	25.0	25.5	25.8	102	103	79.0-121			1.21	20
Chlorodibromomethane	25.0	24.5	24.7	97.9	98.8	75.0-125			0.878	20
Chloroethane	25.0	30.0	28.1	120	112	47.0-152			6.54	20
Chloroform	25.0	25.8	24.4	103	97.8	72.0-121			5.33	20
Chloromethane	25.0	31.1	31.4	124	125	48.0-139			0.900	20
2-Chlorotoluene	25.0	24.1	23.5	96.3	93.9	74.0-122			2.55	20
4-Chlorotoluene	25.0	23.9	23.1	95.6	92.5	79.0-120			3.36	20
1,2-Dibromo-3-Chloropropane	25.0	26.0	24.7	104	98.8	64.0-127			5.21	20
1,2-Dibromoethane	25.0	25.5	26.0	102	104	77.0-123			1.61	20
Dibromomethane	25.0	25.4	24.5	102	98.2	78.0-120			3.37	20
1,2-Dichlorobenzene	25.0	25.6	25.2	102	101	80.0-120			1.85	20
1,3-Dichlorobenzene	25.0	24.0	23.8	96.0	95.2	72.0-123			0.795	20
1,4-Dichlorobenzene	25.0	24.8	23.8	99.3	95.3	77.0-120			4.13	20
Dichlorodifluoromethane	25.0	25.7	25.1	103	100	49.0-155			2.60	20
1,1-Dichloroethane	25.0	25.2	24.1	101	96.5	70.0-126			4.35	20
1,2-Dichloroethane	25.0	26.6	24.6	106	98.3	67.0-126			8.00	20
1,1-Dichloroethene	25.0	24.0	23.7	96.1	94.8	64.0-129			1.43	20
cis-1,2-Dichloroethene	25.0	25.3	24.0	101	96.1	73.0-120			5.24	20
trans-1,2-Dichloroethene	25.0	24.7	24.6	98.6	98.6	71.0-121			0.0770	20
1,2-Dichloropropane	25.0	26.0	25.4	104	102	75.0-125			2.22	20
1,1-Dichloropropene	25.0	25.5	24.1	102	96.4	71.0-129			5.85	20
1,3-Dichloropropane	25.0	25.9	25.6	103	102	80.0-121			1.05	20
cis-1,3-Dichloropropene	25.0	26.5	25.9	106	104	79.0-123			2.12	20
trans-1,3-Dichloropropene	25.0	24.8	23.9	99.3	95.4	74.0-127			4.02	20
trans-1,4-Dichloro-2-butene	25.0	25.5	23.9	102	95.7	55.0-134			6.48	20
2,2-Dichloropropane	25.0	25.1	23.5	100	94.1	60.0-125			6.37	20
Di-isopropyl ether	25.0	24.9	23.9	99.6	95.6	59.0-133			4.16	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3327795-1 07/22/18 19:04 • (LCSD) R3327795-3 07/22/18 19:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	24.8	25.3	99.2	101	77.0-120			2.01	20
Hexachloro-1,3-butadiene	25.0	20.7	20.9	82.7	83.6	64.0-131			1.09	20
2-Hexanone	125	129	134	103	107	58.0-147			3.63	20
n-Hexane	25.0	23.6	22.7	94.6	90.8	56.0-124			4.14	20
Iodomethane	125	60.1	72.8	48.1	58.2	57.0-140	J4		19.0	20
Isopropylbenzene	25.0	23.5	23.0	94.0	92.1	75.0-120			2.04	20
p-Isopropyltoluene	25.0	25.4	24.7	102	98.7	74.0-126			2.92	20
2-Butanone (MEK)	125	114	115	91.3	92.0	37.0-158			0.818	20
Methylene Chloride	25.0	22.6	21.8	90.5	87.2	66.0-121			3.70	20
4-Methyl-2-pentanone (MIBK)	125	126	127	101	101	59.0-143			0.539	20
Methyl tert-butyl ether	25.0	25.5	24.6	102	98.4	64.0-123			3.62	20
Naphthalene	25.0	23.8	24.8	95.0	99.0	62.0-128			4.15	20
n-Propylbenzene	25.0	22.8	22.6	91.1	90.5	79.0-120			0.659	20
Styrene	25.0	23.4	22.7	93.8	90.9	78.0-124			3.08	20
1,1,1,2-Tetrachloroethane	25.0	25.4	26.3	102	105	75.0-122			3.50	20
1,1,2,2-Tetrachloroethane	25.0	24.5	24.4	98.0	97.5	71.0-122			0.591	20
1,1,2-Trichlorotrifluoroethane	25.0	24.9	25.2	99.5	101	61.0-136			1.45	20
Tetrachloroethene	25.0	24.5	24.7	97.9	98.7	70.0-127			0.884	20
Toluene	25.0	24.3	24.7	97.2	98.9	77.0-120			1.63	20
1,2,3-Trichlorobenzene	25.0	23.8	24.1	95.2	96.2	61.0-133			1.04	20
1,2,4-Trichlorobenzene	25.0	23.9	24.2	95.5	96.9	69.0-129			1.54	20
1,1,1-Trichloroethane	25.0	24.6	23.9	98.4	95.6	68.0-122			2.85	20
1,1,2-Trichloroethane	25.0	26.0	25.4	104	102	78.0-120			2.27	20
Trichloroethene	25.0	24.5	23.6	98.0	94.2	78.0-120			3.91	20
Trichlorofluoromethane	25.0	27.4	27.0	110	108	56.0-137			1.50	20
1,2,3-Trichloropropane	25.0	25.4	24.8	101	99.3	72.0-124			2.11	20
1,2,4-Trimethylbenzene	25.0	24.8	25.7	99.3	103	75.0-120			3.56	20
1,2,3-Trimethylbenzene	25.0	25.1	24.5	100	97.8	75.0-120			2.56	20
1,3,5-Trimethylbenzene	25.0	24.7	23.8	98.7	95.4	75.0-120			3.48	20
Vinyl acetate	125	140	126	112	101	46.0-160			10.6	20
Vinyl chloride	25.0	25.9	24.8	104	99.1	64.0-133			4.65	20
Xylenes, Total	75.0	73.4	74.7	97.9	99.6	77.0-120			1.76	20
(S) Toluene-d8				101	104	80.0-120				
(S) Dibromofluoromethane				98.2	98.3	76.0-123				
(S) 4-Bromofluorobenzene				88.6	88.5	80.0-120				

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



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier	Description
J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
J4	The associated batch QC was outside the established quality control range for accuracy.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

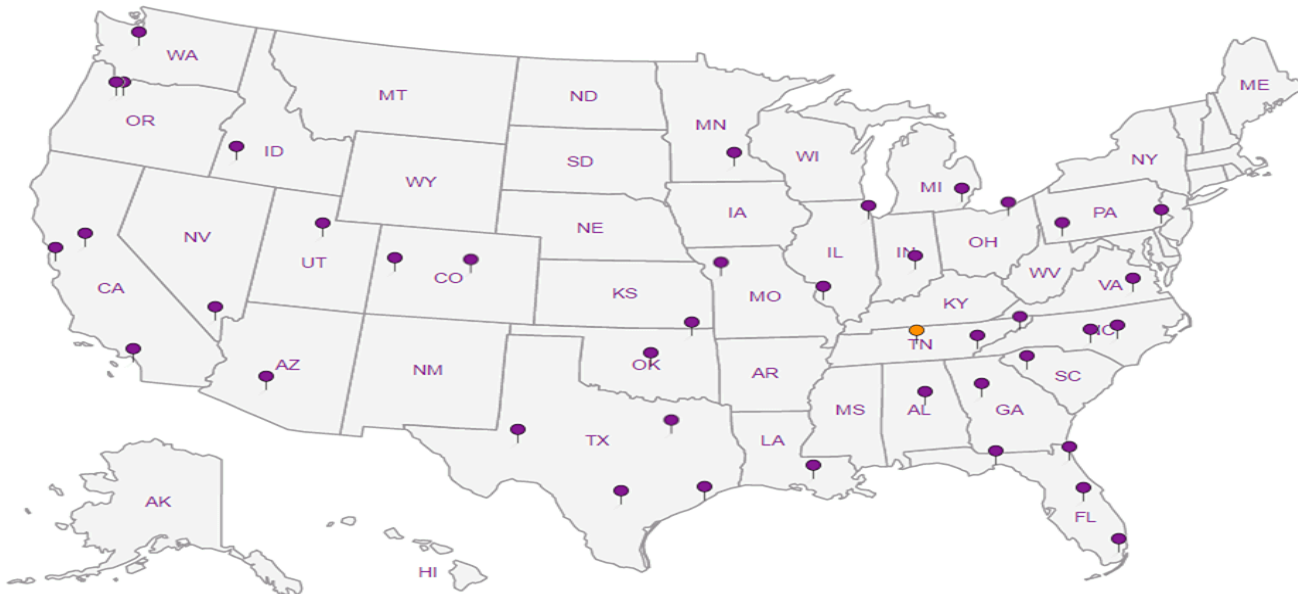
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

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

Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project
Description: **MVSC**

City/State
Collected: **NORMANDY PARK,
WA**

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
SHANNON MCKERNAN

Site/Facility ID #
1358.001.01.003

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N Y

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page of



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **101270**
F239

Acctnum: **PESENVSWA**

Template: **T131700**

Prelogin: **P662457**

TSR: **110 - Brian Ford**

PB:

Shipped Via:

Remarks: Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Nc of Cntrs												
TRIP BLANK	-	WGW	-	9/11/17	-	1												
MW-2-071718	GRAB	GW	37	7/17/18	1000	3	X											01
DC-15-071818	↓	GW	37	7/18/18	0930	3	X											02
DC-08-071818		GW	38															03
MW-101-071818	↓	GW	37.5	7/18/18	1200	3	X											
DC-08-071818	↓	GW	38	↓	1130	3	X											04
DC-10A-071718	↓		36	7/17/18	1100	3	X											05
KMW-03-071918	↓		36.5	7/19/18	1000	3	X											06
MW-7-071918	↓		29.5	↓	1045	3	X											07
KMW-8-071918	↓		38	↓	1145	3	X											08

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking # **7466 1466 8897**

pH _____ Temp _____
 Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 If Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

Relinquished by: (Signature) <i>[Signature]</i>	Date: 7/20/18	Time: 1330	Received by: (Signature)	Trip Blank Received: Yes/No HCl / MeOH TBH 1	Temp: 2.93 °C	Bottles Received: 24	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: 7/21/18	Time: 0945	Hold:	Condition: NCF / 08
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date:	Time:	Hold:	Condition:

MEMORANDUM

TO: Project File **DATE:** August 8, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center and Harris Family LTD
PROJECT #: 1358.001.01.003
TASK: July 17-19, 2018 Groundwater Samples
LAB: Pace Analytical (formerly ESC Lab Sciences) Sample Delivery Group: L1011270

Eight (8) groundwater samples (including a field duplicate) were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Center/Harris Family LTD site in Normandy Park, Washington on July 17-19, 2018. Samples associated with SDG L101270 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Pace Analytical (Pace) of Mt. Juliet, Tennessee.

The monitoring event occurred between July 17 and 20, 2018 and data are also reported in SDG L1011421. The quality assurance review of the laboratory data for SDG L101270 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report with the following discussion:

- A trip blank was collected but was not submitted for analysis.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 2.9 degrees Centigrade (°C). The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. No data qualifications were warranted.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

USEPA Method 8260C: Continuing calibration verification (CCV) issue is noted by Pace for bromomethane and iodomethane (also known as methyl iodide) associated with analytical batch WG1141579 (analyzed on July 22, 2018). These results are qualified by the laboratory "J0" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **The associated sample bromomethane and iodomethane results are laboratory qualified J0, estimated, and qualified (UJ).**

Method Blank Results

A laboratory method blank was included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

The trip blank was not analyzed.

Equipment Blank Results

An equipment blank sample was collected on July 19, 2018. Refer to SDG L1011421 for details.

Field Duplicate Analyses

Field duplicate samples (DC-15-071818 and MW-101-071818) were collected and analyzed for VOCs. Results are comparable with relative percent difference (RPDs) of less than 20%.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's for analytical batch (WG1067406) are within the laboratory control limits. Refer to the field duplicate data for precision information. Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) % Rs and RPDs for analytical batch (WG1141579) are within laboratory control limit criteria with one exception:

- LCS % R for iodomethane (also known as methyl iodide) is low and below laboratory acceptance criteria. **All associated samples iodomethane results are estimated and qualified (UJ) due to low LCS recoveries.**

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 01:02	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 01:02	WG1141579
Benzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromoform	ND		0.500	1	07/23/2018 01:02	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 01:02	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 01:02	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 01:02	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 01:02	WG1141579
Chloroform	0.569		0.500	1	07/23/2018 01:02	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 01:02	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 01:02	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 01:02	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:02	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:02	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 01:02	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 01:02	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 01:02	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 01:02	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 01:02	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 01:02	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 01:02	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 01:02	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 01:02	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 01:02	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 01:02	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 01:02	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 01:02	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Styrene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579

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

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Tetrachloroethene	1.78		0.500	1	07/23/2018 01:02	WG1141579
Toluene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 01:02	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 01:02	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 01:02	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 01:02	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 01:02	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 01:02	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 01:02	WG1141579
(S) Toluene-d8	107		80.0-120		07/23/2018 01:02	WG1141579
(S) Dibromofluoromethane	104		76.0-123		07/23/2018 01:02	WG1141579
(S) 4-Bromofluorobenzene	88.6		80.0-120		07/23/2018 01:02	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 01:22	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 01:22	WG1141579
Benzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromoform	ND		0.500	1	07/23/2018 01:22	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 01:22	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 01:22	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 01:22	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 01:22	WG1141579
Chloroform	ND		0.500	1	07/23/2018 01:22	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 01:22	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 01:22	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 01:22	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 01:22	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 01:22	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:22	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:22	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 01:22	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 01:22	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 01:22	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 01:22	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 01:22	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 01:22	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 01:22	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 01:22	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 01:22	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 01:22	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 01:22	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 01:22	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 01:22	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Styrene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Tetrachloroethene	7.82		0.500	1	07/23/2018 01:22	WG1141579
Toluene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 01:22	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 01:22	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 01:22	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 01:22	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 01:22	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 01:22	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 01:22	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 01:22	WG1141579
(S) Toluene-d8	104		80.0-120		07/23/2018 01:22	WG1141579
(S) Dibromofluoromethane	102		76.0-123		07/23/2018 01:22	WG1141579
(S) 4-Bromofluorobenzene	87.5		80.0-120		07/23/2018 01:22	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 01:42	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 01:42	WG1141579
Benzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromoform	ND		0.500	1	07/23/2018 01:42	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 01:42	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 01:42	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 01:42	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 01:42	WG1141579
Chloroform	ND		0.500	1	07/23/2018 01:42	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 01:42	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 01:42	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 01:42	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:42	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 01:42	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 01:42	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 01:42	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 01:42	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 01:42	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 01:42	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 01:42	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 01:42	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 01:42	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 01:42	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 01:42	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 01:42	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 01:42	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 01:42	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Styrene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Tetrachloroethene	7.39		0.500	1	07/23/2018 01:42	WG1141579
Toluene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 01:42	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 01:42	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 01:42	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 01:42	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 01:42	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 01:42	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 01:42	WG1141579
(S) Toluene-d8	103		80.0-120		07/23/2018 01:42	WG1141579
(S) Dibromofluoromethane	99.9		76.0-123		07/23/2018 01:42	WG1141579
(S) 4-Bromofluorobenzene	84.7		80.0-120		07/23/2018 01:42	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 02:02	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 02:02	WG1141579
Benzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromoform	ND		0.500	1	07/23/2018 02:02	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 02:02	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 02:02	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 02:02	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 02:02	WG1141579
Chloroform	ND		0.500	1	07/23/2018 02:02	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 02:02	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 02:02	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 02:02	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 02:02	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 02:02	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 02:02	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:02	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:02	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 02:02	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 02:02	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 02:02	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 02:02	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 02:02	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 02:02	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 02:02	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 02:02	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 02:02	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 02:02	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 02:02	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 02:02	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 02:02	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579
Styrene	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 02:02	WG1141579	¹ Cp
Tetrachloroethene	11.7		0.500	1	07/23/2018 02:02	WG1141579	² Tc
Toluene	ND		0.500	1	07/23/2018 02:02	WG1141579	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 02:02	WG1141579	⁷ Gl
Trichloroethene	ND		0.500	1	07/23/2018 02:02	WG1141579	⁸ Al
Trichlorofluoromethane	ND		2.50	1	07/23/2018 02:02	WG1141579	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 02:02	WG1141579	
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 02:02	WG1141579	
Vinyl acetate	ND		5.00	1	07/23/2018 02:02	WG1141579	
Vinyl chloride	ND		0.500	1	07/23/2018 02:02	WG1141579	
Xylenes, Total	ND		1.50	1	07/23/2018 02:02	WG1141579	
(S) Toluene-d8	106		80.0-120		07/23/2018 02:02	WG1141579	
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 02:02	WG1141579	
(S) 4-Bromofluorobenzene	89.7		80.0-120		07/23/2018 02:02	WG1141579	

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 02:22	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 02:22	WG1141579
Benzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromoform	ND		0.500	1	07/23/2018 02:22	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 02:22	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 02:22	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 02:22	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 02:22	WG1141579
Chloroform	ND		0.500	1	07/23/2018 02:22	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 02:22	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 02:22	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 02:22	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:22	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:22	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 02:22	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 02:22	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 02:22	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 02:22	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 02:22	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 02:22	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 02:22	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 02:22	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 02:22	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 02:22	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 02:22	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 02:22	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 02:22	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Styrene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579

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

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Tetrachloroethene	2.68		0.500	1	07/23/2018 02:22	WG1141579
Toluene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 02:22	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 02:22	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 02:22	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 02:22	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 02:22	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 02:22	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 02:22	WG1141579
(S) Toluene-d8	103		80.0-120		07/23/2018 02:22	WG1141579
(S) Dibromofluoromethane	101		76.0-123		07/23/2018 02:22	WG1141579
(S) 4-Bromofluorobenzene	84.9		80.0-120		07/23/2018 02:22	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 02:42	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 02:42	WG1141579
Benzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromoform	ND		0.500	1	07/23/2018 02:42	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 02:42	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 02:42	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 02:42	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 02:42	WG1141579
Chloroform	ND		0.500	1	07/23/2018 02:42	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 02:42	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 02:42	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 02:42	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:42	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 02:42	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 02:42	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 02:42	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 02:42	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 02:42	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 02:42	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 02:42	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 02:42	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 02:42	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 02:42	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 02:42	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 02:42	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 02:42	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 02:42	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Styrene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579

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

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Tetrachloroethene	5.18		0.500	1	07/23/2018 02:42	WG1141579
Toluene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 02:42	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 02:42	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 02:42	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 02:42	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 02:42	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 02:42	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 02:42	WG1141579
(S) Toluene-d8	102		80.0-120		07/23/2018 02:42	WG1141579
(S) Dibromofluoromethane	100		76.0-123		07/23/2018 02:42	WG1141579
(S) 4-Bromofluorobenzene	85.5		80.0-120		07/23/2018 02:42	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 03:02	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 03:02	WG1141579
Benzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromoform	ND		0.500	1	07/23/2018 03:02	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 03:02	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 03:02	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 03:02	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 03:02	WG1141579
Chloroform	ND		0.500	1	07/23/2018 03:02	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 03:02	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 03:02	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 03:02	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:02	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:02	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 03:02	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 03:02	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 03:02	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 03:02	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 03:02	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 03:02	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 03:02	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 03:02	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 03:02	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 03:02	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 03:02	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 03:02	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 03:02	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Styrene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579

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

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Tetrachloroethene	6.60		0.500	1	07/23/2018 03:02	WG1141579
Toluene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 03:02	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 03:02	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 03:02	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 03:02	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 03:02	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 03:02	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 03:02	WG1141579
(S) Toluene-d8	105		80.0-120		07/23/2018 03:02	WG1141579
(S) Dibromofluoromethane	99.7		76.0-123		07/23/2018 03:02	WG1141579
(S) 4-Bromofluorobenzene	88.9		80.0-120		07/23/2018 03:02	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 03:21	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 03:21	WG1141579
Benzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromoform	ND		0.500	1	07/23/2018 03:21	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 03:21	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 03:21	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 03:21	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 03:21	WG1141579
Chloroform	1.13		0.500	1	07/23/2018 03:21	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 03:21	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 03:21	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 03:21	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:21	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:21	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 03:21	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 03:21	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 03:21	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 03:21	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 03:21	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 03:21	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 03:21	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 03:21	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 03:21	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 03:21	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 03:21	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 03:21	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 03:21	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Styrene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579

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

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Tetrachloroethene	5.17		0.500	1	07/23/2018 03:21	WG1141579
Toluene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 03:21	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 03:21	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 03:21	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 03:21	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 03:21	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 03:21	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 03:21	WG1141579
(S) Toluene-d8	106		80.0-120		07/23/2018 03:21	WG1141579
(S) Dibromofluoromethane	101		76.0-123		07/23/2018 03:21	WG1141579
(S) 4-Bromofluorobenzene	87.1		80.0-120		07/23/2018 03:21	WG1141579

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

JC 8/8/18

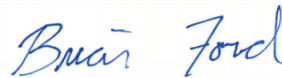
July 30, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L1011421
Samples Received: 07/21/2018
Project Number: 1358.001.01.003
Description: MVSC

Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY



DC-14-071918 L1011421-01 GW

Collected by Shannon McKernan
 Collected date/time 07/19/18 13:30
 Received date/time 07/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 03:41	07/23/18 03:41	LRL

1 Cp

2 Tc

3 Ss

EQB-1-071918 L1011421-02 GW

Collected by Shannon McKernan
 Collected date/time 07/19/18 14:00
 Received date/time 07/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 04:01	07/23/18 04:01	LRL

4 Cn

5 Sr

6 Qc

DC-17-072018 L1011421-03 GW

Collected by Shannon McKernan
 Collected date/time 07/20/18 09:35
 Received date/time 07/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 04:21	07/23/18 04:21	LRL

7 Gl

8 Al

DC-7-072018 L1011421-04 GW

Collected by Shannon McKernan
 Collected date/time 07/20/18 10:40
 Received date/time 07/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 04:41	07/23/18 04:41	LRL

9 Sc

TRIP BLANK L1011421-05 GW

Collected by Shannon McKernan
 Collected date/time 09/11/17 00:00
 Received date/time 07/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 00:23	07/23/18 00:23	LRL

DRUM-072018 L1011421-06 GW

Collected by Shannon McKernan
 Collected date/time 07/20/18 12:00
 Received date/time 07/21/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1141579	1	07/23/18 05:01	07/23/18 05:01	LRL



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 03:41	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 03:41	WG1141579
Benzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromoform	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 03:41	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 03:41	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 03:41	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 03:41	WG1141579
Chloroform	1.25		0.500	1	07/23/2018 03:41	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 03:41	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 03:41	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 03:41	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:41	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:41	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 03:41	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 03:41	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 03:41	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 03:41	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 03:41	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 03:41	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 03:41	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 03:41	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 03:41	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 03:41	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 03:41	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 03:41	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 03:41	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Styrene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Tetrachloroethene	5.40		0.500	1	07/23/2018 03:41	WG1141579
Toluene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 03:41	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 03:41	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 03:41	WG1141579
(S) Toluene-d8	104		80.0-120		07/23/2018 03:41	WG1141579
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 03:41	WG1141579
(S) 4-Bromofluorobenzene	87.7		80.0-120		07/23/2018 03:41	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 04:01	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 04:01	WG1141579
Benzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromoform	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromomethane	ND	<u>JO</u>	2.50	1	07/23/2018 04:01	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 04:01	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 04:01	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 04:01	WG1141579
Chloroform	ND		0.500	1	07/23/2018 04:01	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 04:01	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 04:01	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 04:01	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 04:01	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 04:01	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:01	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:01	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 04:01	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 04:01	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 04:01	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 04:01	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 04:01	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 04:01	WG1141579
Iodomethane	ND	<u>JO J4</u>	10.0	1	07/23/2018 04:01	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 04:01	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 04:01	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 04:01	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 04:01	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 04:01	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 04:01	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Styrene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/19/18 14:00

L1011421

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Tetrachloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
Toluene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 04:01	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 04:01	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 04:01	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 04:01	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 04:01	WG1141579
(S) Toluene-d8	105		80.0-120		07/23/2018 04:01	WG1141579
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 04:01	WG1141579
(S) 4-Bromofluorobenzene	86.8		80.0-120		07/23/2018 04:01	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 04:21	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 04:21	WG1141579
Benzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromoform	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 04:21	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 04:21	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 04:21	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 04:21	WG1141579
Chloroform	ND		0.500	1	07/23/2018 04:21	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 04:21	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 04:21	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 04:21	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:21	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:21	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 04:21	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 04:21	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 04:21	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 04:21	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 04:21	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 04:21	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 04:21	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 04:21	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 04:21	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 04:21	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 04:21	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 04:21	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 04:21	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Styrene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Tetrachloroethene	8.62		0.500	1	07/23/2018 04:21	WG1141579
Toluene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 04:21	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 04:21	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 04:21	WG1141579
(S) Toluene-d8	105		80.0-120		07/23/2018 04:21	WG1141579
(S) Dibromofluoromethane	102		76.0-123		07/23/2018 04:21	WG1141579
(S) 4-Bromofluorobenzene	87.0		80.0-120		07/23/2018 04:21	WG1141579

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 04:41	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 04:41	WG1141579
Benzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromoform	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromomethane	ND	<u>JO</u>	2.50	1	07/23/2018 04:41	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 04:41	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 04:41	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 04:41	WG1141579
Chloroform	ND		0.500	1	07/23/2018 04:41	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 04:41	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 04:41	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 04:41	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 04:41	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 04:41	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:41	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:41	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 04:41	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 04:41	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 04:41	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 04:41	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 04:41	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 04:41	WG1141579
Iodomethane	ND	<u>JO J4</u>	10.0	1	07/23/2018 04:41	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 04:41	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 04:41	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 04:41	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 04:41	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 04:41	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 04:41	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Styrene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/20/18 10:40

L1011421

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 04:41	WG1141579	¹ Cp
Tetrachloroethene	12.3		0.500	1	07/23/2018 04:41	WG1141579	² Tc
Toluene	ND		0.500	1	07/23/2018 04:41	WG1141579	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579	⁷ Gl
Trichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579	⁸ Al
Trichlorofluoromethane	ND		2.50	1	07/23/2018 04:41	WG1141579	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 04:41	WG1141579	
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579	
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579	
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579	
Vinyl acetate	ND		5.00	1	07/23/2018 04:41	WG1141579	
Vinyl chloride	ND		0.500	1	07/23/2018 04:41	WG1141579	
Xylenes, Total	ND		1.50	1	07/23/2018 04:41	WG1141579	
(S) Toluene-d8	105		80.0-120		07/23/2018 04:41	WG1141579	
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 04:41	WG1141579	
(S) 4-Bromofluorobenzene	85.7		80.0-120		07/23/2018 04:41	WG1141579	



Collected date/time: 09/11/17 00:00

L1011421

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 00:23	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 00:23	WG1141579
Benzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromoform	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 00:23	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 00:23	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 00:23	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 00:23	WG1141579
Chloroform	ND		0.500	1	07/23/2018 00:23	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 00:23	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 00:23	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 00:23	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 00:23	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 00:23	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 00:23	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 00:23	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 00:23	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 00:23	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 00:23	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 00:23	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 00:23	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 00:23	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 00:23	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 00:23	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 00:23	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 00:23	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 00:23	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Styrene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 09/11/17 00:00

L1011421

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Tetrachloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
Toluene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 00:23	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 00:23	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 00:23	WG1141579
(S) Toluene-d8	103		80.0-120		07/23/2018 00:23	WG1141579
(S) Dibromofluoromethane	98.5		76.0-123		07/23/2018 00:23	WG1141579
(S) 4-Bromofluorobenzene	90.5		80.0-120		07/23/2018 00:23	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	07/23/2018 05:01	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 05:01	WG1141579
Benzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromoform	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromomethane	ND	JO	2.50	1	07/23/2018 05:01	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Carbon disulfide	0.570		0.500	1	07/23/2018 05:01	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 05:01	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 05:01	WG1141579
Chloroform	ND		0.500	1	07/23/2018 05:01	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 05:01	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 05:01	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 05:01	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 05:01	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 05:01	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 05:01	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 05:01	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 05:01	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 05:01	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 05:01	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 05:01	WG1141579
Iodomethane	ND	JO J4	10.0	1	07/23/2018 05:01	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 05:01	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 05:01	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 05:01	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 05:01	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 05:01	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 05:01	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Styrene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/20/18 12:00

L1011421

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Tetrachloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
Toluene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 05:01	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 05:01	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 05:01	WG1141579
(S) Toluene-d8	102		80.0-120		07/23/2018 05:01	WG1141579
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 05:01	WG1141579
(S) 4-Bromofluorobenzene	85.7		80.0-120		07/23/2018 05:01	WG1141579

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



Method Blank (MB)

(MB) R3327795-5 07/22/18 21:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3327795-5 07/22/18 21:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	105			80.0-120
(S) Dibromofluoromethane	99.9			76.0-123
(S) 4-Bromofluorobenzene	87.9			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3327795-1 07/22/18 19:04 • (LCSD) R3327795-3 07/22/18 19:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetone	125	109	123	87.1	98.1	10.0-160			11.9	23
Acrylonitrile	125	125	126	100	101	60.0-142			0.704	20
Benzene	25.0	24.3	23.1	97.3	92.3	69.0-123			5.22	20
Bromobenzene	25.0	21.6	21.1	86.3	84.4	79.0-120			2.26	20
Bromodichloromethane	25.0	25.8	24.9	103	99.5	76.0-120			3.66	20
Bromochloromethane	25.0	25.9	25.0	104	100	76.0-122			3.62	20
Bromoform	25.0	22.6	23.0	90.5	92.0	67.0-132			1.62	20
Bromomethane	25.0	13.5	13.6	54.1	54.5	18.0-160			0.783	20
n-Butylbenzene	25.0	25.0	24.1	100	96.6	72.0-126			3.42	20
sec-Butylbenzene	25.0	25.0	24.8	100	99.3	74.0-121			0.830	20
tert-Butylbenzene	25.0	23.2	23.1	92.7	92.3	75.0-122			0.465	20
Carbon disulfide	25.0	21.6	21.4	86.4	85.5	55.0-127			1.03	20
Carbon tetrachloride	25.0	23.5	23.1	93.8	92.3	63.0-122			1.62	20
Chlorobenzene	25.0	25.5	25.8	102	103	79.0-121			1.21	20
Chlorodibromomethane	25.0	24.5	24.7	97.9	98.8	75.0-125			0.878	20
Chloroethane	25.0	30.0	28.1	120	112	47.0-152			6.54	20
Chloroform	25.0	25.8	24.4	103	97.8	72.0-121			5.33	20
Chloromethane	25.0	31.1	31.4	124	125	48.0-139			0.900	20
2-Chlorotoluene	25.0	24.1	23.5	96.3	93.9	74.0-122			2.55	20
4-Chlorotoluene	25.0	23.9	23.1	95.6	92.5	79.0-120			3.36	20
1,2-Dibromo-3-Chloropropane	25.0	26.0	24.7	104	98.8	64.0-127			5.21	20
1,2-Dibromoethane	25.0	25.5	26.0	102	104	77.0-123			1.61	20
Dibromomethane	25.0	25.4	24.5	102	98.2	78.0-120			3.37	20
1,2-Dichlorobenzene	25.0	25.6	25.2	102	101	80.0-120			1.85	20
1,3-Dichlorobenzene	25.0	24.0	23.8	96.0	95.2	72.0-123			0.795	20
1,4-Dichlorobenzene	25.0	24.8	23.8	99.3	95.3	77.0-120			4.13	20
Dichlorodifluoromethane	25.0	25.7	25.1	103	100	49.0-155			2.60	20
1,1-Dichloroethane	25.0	25.2	24.1	101	96.5	70.0-126			4.35	20
1,2-Dichloroethane	25.0	26.6	24.6	106	98.3	67.0-126			8.00	20
1,1-Dichloroethene	25.0	24.0	23.7	96.1	94.8	64.0-129			1.43	20
cis-1,2-Dichloroethene	25.0	25.3	24.0	101	96.1	73.0-120			5.24	20
trans-1,2-Dichloroethene	25.0	24.7	24.6	98.6	98.6	71.0-121			0.0770	20
1,2-Dichloropropane	25.0	26.0	25.4	104	102	75.0-125			2.22	20
1,1-Dichloropropene	25.0	25.5	24.1	102	96.4	71.0-129			5.85	20
1,3-Dichloropropane	25.0	25.9	25.6	103	102	80.0-121			1.05	20
cis-1,3-Dichloropropene	25.0	26.5	25.9	106	104	79.0-123			2.12	20
trans-1,3-Dichloropropene	25.0	24.8	23.9	99.3	95.4	74.0-127			4.02	20
trans-1,4-Dichloro-2-butene	25.0	25.5	23.9	102	95.7	55.0-134			6.48	20
2,2-Dichloropropane	25.0	25.1	23.5	100	94.1	60.0-125			6.37	20
Di-isopropyl ether	25.0	24.9	23.9	99.6	95.6	59.0-133			4.16	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3327795-1 07/22/18 19:04 • (LCSD) R3327795-3 07/22/18 19:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Ethylbenzene	25.0	24.8	25.3	99.2	101	77.0-120			2.01	20
Hexachloro-1,3-butadiene	25.0	20.7	20.9	82.7	83.6	64.0-131			1.09	20
2-Hexanone	125	129	134	103	107	58.0-147			3.63	20
n-Hexane	25.0	23.6	22.7	94.6	90.8	56.0-124			4.14	20
Iodomethane	125	60.1	72.8	48.1	58.2	57.0-140	J4		19.0	20
Isopropylbenzene	25.0	23.5	23.0	94.0	92.1	75.0-120			2.04	20
p-Isopropyltoluene	25.0	25.4	24.7	102	98.7	74.0-126			2.92	20
2-Butanone (MEK)	125	114	115	91.3	92.0	37.0-158			0.818	20
Methylene Chloride	25.0	22.6	21.8	90.5	87.2	66.0-121			3.70	20
4-Methyl-2-pentanone (MIBK)	125	126	127	101	101	59.0-143			0.539	20
Methyl tert-butyl ether	25.0	25.5	24.6	102	98.4	64.0-123			3.62	20
Naphthalene	25.0	23.8	24.8	95.0	99.0	62.0-128			4.15	20
n-Propylbenzene	25.0	22.8	22.6	91.1	90.5	79.0-120			0.659	20
Styrene	25.0	23.4	22.7	93.8	90.9	78.0-124			3.08	20
1,1,1,2-Tetrachloroethane	25.0	25.4	26.3	102	105	75.0-122			3.50	20
1,1,2,2-Tetrachloroethane	25.0	24.5	24.4	98.0	97.5	71.0-122			0.591	20
1,1,2-Trichlorotrifluoroethane	25.0	24.9	25.2	99.5	101	61.0-136			1.45	20
Tetrachloroethene	25.0	24.5	24.7	97.9	98.7	70.0-127			0.884	20
Toluene	25.0	24.3	24.7	97.2	98.9	77.0-120			1.63	20
1,2,3-Trichlorobenzene	25.0	23.8	24.1	95.2	96.2	61.0-133			1.04	20
1,2,4-Trichlorobenzene	25.0	23.9	24.2	95.5	96.9	69.0-129			1.54	20
1,1,1-Trichloroethane	25.0	24.6	23.9	98.4	95.6	68.0-122			2.85	20
1,1,2-Trichloroethane	25.0	26.0	25.4	104	102	78.0-120			2.27	20
Trichloroethene	25.0	24.5	23.6	98.0	94.2	78.0-120			3.91	20
Trichlorofluoromethane	25.0	27.4	27.0	110	108	56.0-137			1.50	20
1,2,3-Trichloropropane	25.0	25.4	24.8	101	99.3	72.0-124			2.11	20
1,2,4-Trimethylbenzene	25.0	24.8	25.7	99.3	103	75.0-120			3.56	20
1,2,3-Trimethylbenzene	25.0	25.1	24.5	100	97.8	75.0-120			2.56	20
1,3,5-Trimethylbenzene	25.0	24.7	23.8	98.7	95.4	75.0-120			3.48	20
Vinyl acetate	125	140	126	112	101	46.0-160			10.6	20
Vinyl chloride	25.0	25.9	24.8	104	99.1	64.0-133			4.65	20
Xylenes, Total	75.0	73.4	74.7	97.9	99.6	77.0-120			1.76	20
(S) Toluene-d8				101	104	80.0-120				
(S) Dibromofluoromethane				98.2	98.3	76.0-123				
(S) 4-Bromofluorobenzene				88.6	88.5	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 GI
- 8 AI
- 9 Sc

Qualifier	Description
J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
J4	The associated batch QC was outside the established quality control range for accuracy.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

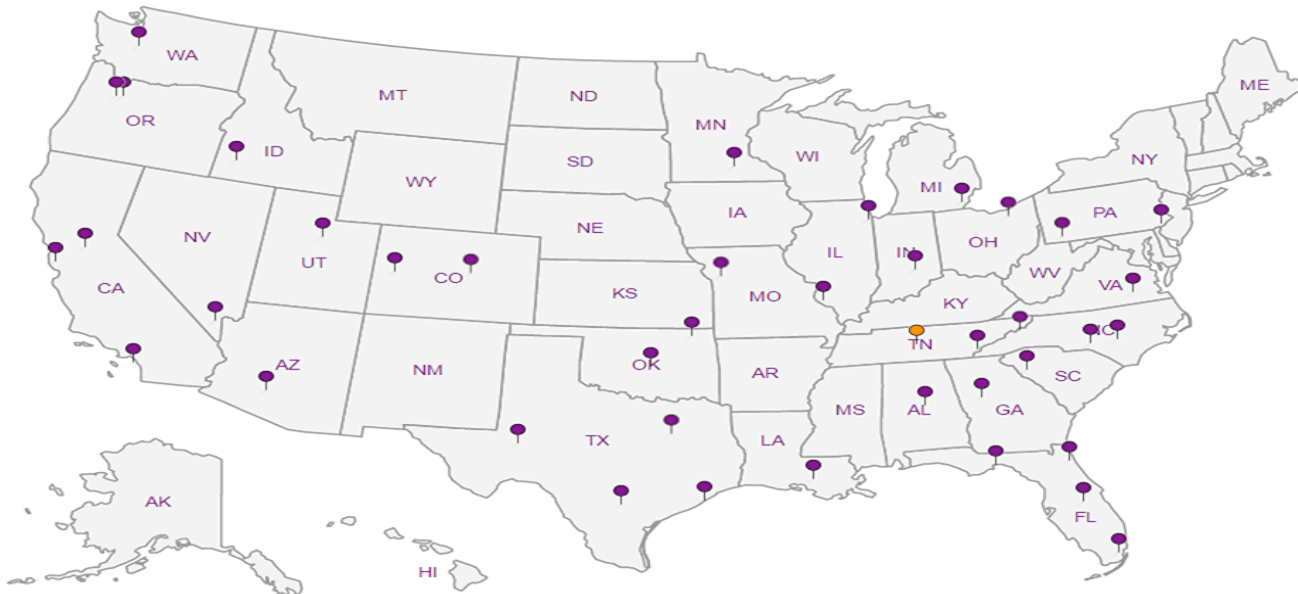
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

PES Environmental, Inc. - WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:

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

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project
Description: **MVSC**

City/State
Collected:

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
SHANNON MCKERNAN

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)

Quote #

Same Day _____ Five Day _____
Next Day _____ 5 Day (Rad Only) _____
Two Day _____ 10 Day (Rad Only) _____
Three Day _____

Date Results Needed

Immediately
Packed on Ice N Y

No.
of
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts	Remarks	Sample # (lab only)
DC-14-071918	GRAB	GW	38.5	7/19/18	1330	3		-01
EQB-1-071918	GRAB	GW	-	7/19/18	1400	3		-02
DC-17-072018	↓	GW	34	7/20/18	0935	3		-03
DC-7-072018	↓	GW	35.5	↓	1040	3		-04
TRIP BLANK	-	GW	-	9/11/17	-	1		-05
DRUM-072018	GRAB	GW	-	7/20/18	1200	3		-06
		GW						
		GW						
		GW						
		GW						

V8260LLC VOCs 40m/Amb-HCl

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other _____

Remarks:

Samples returned via:
UPS FedEx _____ Courier _____

Tracking # **4166 1906 9286**

pH _____ Temp _____
Flow _____ Other _____

COC Seal Present/Intact:	NP	Y	N
COC Signed/Accurate:		X	N
Bottles arrive intact:		X	N
Correct bottles used:		X	N
Sufficient volume sent:		X	N
If Applicable			
VOA Zero Headspace:		X	N
Preservation Correct/Checked:		X	N

Relinquished by: (Signature)
[Signature]
Date: **7/20/18**
Time: **1330**

Received by: (Signature)
[Signature]
Date: _____
Time: _____

Trip Blank Received: Yes No
HCl / MeOH TBR

Temp: **0.3K** °C
Bottles Received: **15**

Date: **7/20/18** Time: **0845**

Received for lab by: (Signature)
[Signature]
Date: _____
Time: _____

If preservation required by Login: Date/Time

Hold: _____ Condition: NCF /

MEMORANDUM

TO: Project File **DATE:** August 8, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center and Harris Family LTD
PROJECT #: 1358.001.01.003
TASK: July 19-20, 2018 Groundwater Samples and Drum Water Sample
LAB: Pace Analytical (formerly ESC Lab Sciences) Sample Delivery Group: L1011421

Three (3) groundwater samples, drum water sample, equipment blank, and trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Center/Harris Family LTD site in Normandy Park, Washington on July 19-20, 2018. Samples associated with SDG L1011421 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Pace Analytical (Pace) of Mt. Juliet, Tennessee.

The monitoring event occurred between July 19 and 20, 2018 and data are also reported in SDG L1011270. The quality assurance review of the laboratory data for SDG L1011421 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 0.3 degrees Centigrade (°C). The

cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. No data qualifications were warranted.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

USEPA Method 8260C: Continuing calibration verification (CCV) issue is noted by Pace for bromomethane and iodomethane (also known as methyl iodide) associated with analytical batch WG1141579 (analyzed on July 22, 2018). These results are qualified by the laboratory "J0" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **The associated sample bromomethane and iodomethane results are laboratory qualified J0, estimated, and qualified (UJ).**

Method Blank Results

A laboratory method blank was included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

The target analytes (VOCs) were not detected in the trip blank at a concentration at or above the reporting detection limits (RDLs).

Equipment Blank Results

An equipment blank sample was collected on July 19, 2018. The target analytes (VOCs) were not detected in the equipment blank at a concentration at or above the reporting detection limits (RDLs).

Field Duplicate Analyses

Field duplicate samples (DC-15-071818 and MW-101-071818) were collected and analyzed for VOCs. Refer to SDG L1011270 for field duplicate results.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's for analytical batch (WG1067406) are within the laboratory control limits. Refer to the field duplicate data for precision information. Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) % Rs and RPDs for analytical batch (WG1141579) are within laboratory control limit criteria with one exception:

- LCS % R for iodomethane (also known as methyl iodide) is low and below laboratory acceptance criteria. **All associated samples iodomethane results are estimated and qualified (UJ) due to low LCS recoveries.**

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 03:41	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 03:41	WG1141579
Benzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromoform	ND		0.500	1	07/23/2018 03:41	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 03:41	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 03:41	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 03:41	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 03:41	WG1141579
Chloroform	1.25		0.500	1	07/23/2018 03:41	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 03:41	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 03:41	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 03:41	WG1141579 JC 8/8/18
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:41	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 03:41	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 03:41	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 03:41	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 03:41	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 03:41	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 03:41	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 03:41	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 03:41	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 03:41	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 03:41	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 03:41	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 03:41	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 03:41	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 03:41	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Styrene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Tetrachloroethene	5.40		0.500	1	07/23/2018 03:41	WG1141579
Toluene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 03:41	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 03:41	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 03:41	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 03:41	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 03:41	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 03:41	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 03:41	WG1141579
(S) Toluene-d8	104		80.0-120		07/23/2018 03:41	WG1141579
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 03:41	WG1141579
(S) 4-Bromofluorobenzene	87.7		80.0-120		07/23/2018 03:41	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 04:01	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 04:01	WG1141579
Benzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromoform	ND		0.500	1	07/23/2018 04:01	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 04:01	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 04:01	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 04:01	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 04:01	WG1141579
Chloroform	ND		0.500	1	07/23/2018 04:01	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 04:01	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 04:01	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 04:01	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 04:01	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 04:01	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 04:01	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:01	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:01	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 04:01	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 04:01	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 04:01	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 04:01	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 04:01	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 04:01	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 04:01	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 04:01	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 04:01	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 04:01	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 04:01	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 04:01	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 04:01	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579
Styrene	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



Collected date/time: 07/19/18 14:00

L1011421

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 04:01	WG1141579	¹ Cp
Tetrachloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579	² Tc
Toluene	ND		0.500	1	07/23/2018 04:01	WG1141579	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 04:01	WG1141579	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 04:01	WG1141579	⁷ Gl
Trichloroethene	ND		0.500	1	07/23/2018 04:01	WG1141579	⁸ Al
Trichlorofluoromethane	ND		2.50	1	07/23/2018 04:01	WG1141579	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 04:01	WG1141579	
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579	
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579	
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 04:01	WG1141579	
Vinyl acetate	ND		5.00	1	07/23/2018 04:01	WG1141579	
Vinyl chloride	ND		0.500	1	07/23/2018 04:01	WG1141579	
Xylenes, Total	ND		1.50	1	07/23/2018 04:01	WG1141579	
(S) Toluene-d8	105		80.0-120		07/23/2018 04:01	WG1141579	
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 04:01	WG1141579	
(S) 4-Bromofluorobenzene	86.8		80.0-120		07/23/2018 04:01	WG1141579	

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 04:21	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 04:21	WG1141579
Benzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromoform	ND		0.500	1	07/23/2018 04:21	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 04:21	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 04:21	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 04:21	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 04:21	WG1141579
Chloroform	ND		0.500	1	07/23/2018 04:21	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 04:21	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 04:21	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 04:21	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:21	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:21	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 04:21	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 04:21	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 04:21	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 04:21	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 04:21	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 04:21	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 04:21	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 04:21	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 04:21	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 04:21	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 04:21	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 04:21	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 04:21	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Styrene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



Collected date/time: 07/20/18 09:35

L1011421

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Tetrachloroethene	8.62		0.500	1	07/23/2018 04:21	WG1141579
Toluene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 04:21	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 04:21	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 04:21	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 04:21	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 04:21	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 04:21	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 04:21	WG1141579
(S) Toluene-d8	105		80.0-120		07/23/2018 04:21	WG1141579
(S) Dibromofluoromethane	102		76.0-123		07/23/2018 04:21	WG1141579
(S) 4-Bromofluorobenzene	87.0		80.0-120		07/23/2018 04:21	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 04:41	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 04:41	WG1141579
Benzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromoform	ND		0.500	1	07/23/2018 04:41	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 04:41	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 04:41	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 04:41	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 04:41	WG1141579
Chloroform	ND		0.500	1	07/23/2018 04:41	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 04:41	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 04:41	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 04:41	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 04:41	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 04:41	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:41	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 04:41	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 04:41	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 04:41	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 04:41	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 04:41	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 04:41	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 04:41	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 04:41	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 04:41	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 04:41	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 04:41	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 04:41	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 04:41	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 04:41	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Styrene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Tetrachloroethene	12.3		0.500	1	07/23/2018 04:41	WG1141579
Toluene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 04:41	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 04:41	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 04:41	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 04:41	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 04:41	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 04:41	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 04:41	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 04:41	WG1141579
(S) Toluene-d8	105		80.0-120		07/23/2018 04:41	WG1141579
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 04:41	WG1141579
(S) 4-Bromofluorobenzene	85.7		80.0-120		07/23/2018 04:41	WG1141579

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

JC 8/8/18



Collected date/time: 09/11/17 00:00

L1011421

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 00:23	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 00:23	WG1141579
Benzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromoform	ND		0.500	1	07/23/2018 00:23	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 00:23	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Carbon disulfide	ND		0.500	1	07/23/2018 00:23	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 00:23	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 00:23	WG1141579
Chloroform	ND		0.500	1	07/23/2018 00:23	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 00:23	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 00:23	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 00:23	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 00:23	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 00:23	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 00:23	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 00:23	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 00:23	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 00:23	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 00:23	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 00:23	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 00:23	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 00:23	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 00:23	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 00:23	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 00:23	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 00:23	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 00:23	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Styrene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 8/8/18



Collected date/time: 09/11/17 00:00

L1011421

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Tetrachloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
Toluene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 00:23	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 00:23	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 00:23	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 00:23	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 00:23	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 00:23	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 00:23	WG1141579
(S) Toluene-d8	103		80.0-120		07/23/2018 00:23	WG1141579
(S) Dibromofluoromethane	98.5		76.0-123		07/23/2018 00:23	WG1141579
(S) 4-Bromofluorobenzene	90.5		80.0-120		07/23/2018 00:23	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	07/23/2018 05:01	WG1141579
Acrylonitrile	ND		5.00	1	07/23/2018 05:01	WG1141579
Benzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromodichloromethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromochloromethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromoform	ND		0.500	1	07/23/2018 05:01	WG1141579
Bromomethane	ND	UJ JO	2.50	1	07/23/2018 05:01	WG1141579
n-Butylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
sec-Butylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
tert-Butylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Carbon disulfide	0.570		0.500	1	07/23/2018 05:01	WG1141579
Carbon tetrachloride	ND		0.500	1	07/23/2018 05:01	WG1141579
Chlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Chlorodibromomethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Chloroethane	ND		2.50	1	07/23/2018 05:01	WG1141579
Chloroform	ND		0.500	1	07/23/2018 05:01	WG1141579
Chloromethane	ND		1.25	1	07/23/2018 05:01	WG1141579
2-Chlorotoluene	ND		0.500	1	07/23/2018 05:01	WG1141579
4-Chlorotoluene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,2-Dibromoethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Dibromomethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,3-Dichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,4-Dichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Dichlorodifluoromethane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,1-Dichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1-Dichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
cis-1,2-Dichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
trans-1,2-Dichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2-Dichloropropane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1-Dichloropropene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,3-Dichloropropane	ND		1.00	1	07/23/2018 05:01	WG1141579
cis-1,3-Dichloropropene	ND		0.500	1	07/23/2018 05:01	WG1141579
trans-1,3-Dichloropropene	ND		0.500	1	07/23/2018 05:01	WG1141579
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/23/2018 05:01	WG1141579
2,2-Dichloropropane	ND		0.500	1	07/23/2018 05:01	WG1141579
Di-isopropyl ether	ND		0.500	1	07/23/2018 05:01	WG1141579
Ethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Hexachloro-1,3-butadiene	ND		1.00	1	07/23/2018 05:01	WG1141579
2-Hexanone	ND		5.00	1	07/23/2018 05:01	WG1141579
n-Hexane	ND		5.00	1	07/23/2018 05:01	WG1141579
Iodomethane	ND	UJ JO J4	10.0	1	07/23/2018 05:01	WG1141579
Isopropylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
p-Isopropyltoluene	ND		0.500	1	07/23/2018 05:01	WG1141579
2-Butanone (MEK)	ND		5.00	1	07/23/2018 05:01	WG1141579
Methylene Chloride	ND		2.50	1	07/23/2018 05:01	WG1141579
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/23/2018 05:01	WG1141579
Methyl tert-butyl ether	ND		0.500	1	07/23/2018 05:01	WG1141579
Naphthalene	ND		2.50	1	07/23/2018 05:01	WG1141579
n-Propylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Styrene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,1,2-Tetrachloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,2,2-Tetrachloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579

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

JC 8/8/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Tetrachloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
Toluene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2,3-Trichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2,4-Trichlorobenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,1-Trichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
1,1,2-Trichloroethane	ND		0.500	1	07/23/2018 05:01	WG1141579
Trichloroethene	ND		0.500	1	07/23/2018 05:01	WG1141579
Trichlorofluoromethane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,2,3-Trichloropropane	ND		2.50	1	07/23/2018 05:01	WG1141579
1,2,4-Trimethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,2,3-Trimethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
1,3,5-Trimethylbenzene	ND		0.500	1	07/23/2018 05:01	WG1141579
Vinyl acetate	ND		5.00	1	07/23/2018 05:01	WG1141579
Vinyl chloride	ND		0.500	1	07/23/2018 05:01	WG1141579
Xylenes, Total	ND		1.50	1	07/23/2018 05:01	WG1141579
(S) Toluene-d8	102		80.0-120		07/23/2018 05:01	WG1141579
(S) Dibromofluoromethane	103		76.0-123		07/23/2018 05:01	WG1141579
(S) 4-Bromofluorobenzene	85.7		80.0-120		07/23/2018 05:01	WG1141579

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

JC 8/8/18

October 25, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L1036062
Samples Received: 10/18/2018
Project Number: 1358.001.01.003
Description: MVSC
Site: MVSC
Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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Sr: Sample Results	6	³Ss
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MW-12-101618 L1036062-02	8	⁴Cn
MW-3-101618 L1036062-03	10	⁵Sr
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MW-9-101718 L1036062-06	16	
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SAMPLE SUMMARY



KMW-2-101618 L1036062-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/16/18 11:15	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 13:23	10/19/18 13:23	BMB

1 Cp

2 Tc

3 Ss

MW-12-101618 L1036062-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/16/18 12:50	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 13:42	10/19/18 13:42	BMB

4 Cn

5 Sr

MW-3-101618 L1036062-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/16/18 14:05	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 14:02	10/19/18 14:02	BMB

6 Qc

7 Gl

MW-4-101618 L1036062-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/16/18 15:55	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 14:22	10/19/18 14:22	BMB

8 Al

9 Sc

MW-13-101618 L1036062-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/16/18 17:10	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 14:42	10/19/18 14:42	BMB

MW-9-101718 L1036062-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/17/18 09:30	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 15:02	10/19/18 15:02	BMB

DC-4-101718 L1036062-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/17/18 14:00	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 15:22	10/19/18 15:22	BMB

DC-3-101718 L1036062-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Ben Hecht				Collected date/time 10/17/18 15:20	Received date/time 10/18/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1183421	1	10/19/18 15:41	10/19/18 15:41	BMB

SAMPLE SUMMARY



TRIP BLANK L1036062-09 GW

Collected by Ben Hecht	Collected date/time 10/16/18 00:00	Received date/time 10/18/18 08:45
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Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1184957	1	10/23/18 14:34	10/23/18 14:34	BMB
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1185371	1	10/25/18 11:02	10/25/18 11:02	ACG

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Brian Ford
Project Manager

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 13:23	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 13:23	WG1183421
Benzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromoform	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 13:23	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 13:23	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 13:23	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 13:23	WG1183421
Chloroform	ND		0.500	1	10/19/2018 13:23	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 13:23	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 13:23	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 13:23	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:23	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:23	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 13:23	WG1183421
2,2-Dichloropropane	ND	J4	0.500	1	10/19/2018 13:23	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 13:23	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 13:23	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 13:23	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 13:23	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 13:23	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 13:23	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 13:23	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 13:23	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 13:23	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 13:23	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 13:23	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Styrene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
Toluene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 13:23	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 13:23	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 13:23	WG1183421
(S) Toluene-d8	99.7		80.0-120		10/19/2018 13:23	WG1183421
(S) Dibromofluoromethane	102		75.0-120		10/19/2018 13:23	WG1183421
(S) 4-Bromofluorobenzene	97.6		77.0-126		10/19/2018 13:23	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 13:42	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 13:42	WG1183421
Benzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromoform	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 13:42	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 13:42	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 13:42	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 13:42	WG1183421
Chloroform	ND		0.500	1	10/19/2018 13:42	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 13:42	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 13:42	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 13:42	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 13:42	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 13:42	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:42	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:42	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 13:42	WG1183421
2,2-Dichloropropane	ND	J4	0.500	1	10/19/2018 13:42	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 13:42	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 13:42	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 13:42	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 13:42	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 13:42	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 13:42	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 13:42	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 13:42	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 13:42	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 13:42	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 13:42	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Styrene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/16/18 12:50

L1036062

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
Toluene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 13:42	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 13:42	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 13:42	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 13:42	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 13:42	WG1183421
(S) Toluene-d8	96.2		80.0-120		10/19/2018 13:42	WG1183421
(S) Dibromofluoromethane	100		75.0-120		10/19/2018 13:42	WG1183421
(S) 4-Bromofluorobenzene	95.2		77.0-126		10/19/2018 13:42	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 14:02	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 14:02	WG1183421
Benzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromoform	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 14:02	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 14:02	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 14:02	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 14:02	WG1183421
Chloroform	ND		0.500	1	10/19/2018 14:02	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 14:02	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 14:02	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 14:02	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:02	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:02	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 14:02	WG1183421
2,2-Dichloropropane	ND	J4	0.500	1	10/19/2018 14:02	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 14:02	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 14:02	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 14:02	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 14:02	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 14:02	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 14:02	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 14:02	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 14:02	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 14:02	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 14:02	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 14:02	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Styrene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
Toluene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 14:02	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 14:02	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 14:02	WG1183421
(S) Toluene-d8	97.4		80.0-120		10/19/2018 14:02	WG1183421
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 14:02	WG1183421
(S) 4-Bromofluorobenzene	99.9		77.0-126		10/19/2018 14:02	WG1183421

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 14:22	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 14:22	WG1183421
Benzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromoform	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 14:22	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 14:22	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 14:22	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 14:22	WG1183421
Chloroform	ND		0.500	1	10/19/2018 14:22	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 14:22	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 14:22	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 14:22	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:22	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:22	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 14:22	WG1183421
2,2-Dichloropropane	ND	<u>J4</u>	0.500	1	10/19/2018 14:22	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 14:22	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 14:22	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 14:22	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 14:22	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 14:22	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 14:22	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 14:22	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 14:22	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 14:22	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 14:22	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 14:22	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Styrene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
Toluene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 14:22	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 14:22	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 14:22	WG1183421
(S) Toluene-d8	98.1		80.0-120		10/19/2018 14:22	WG1183421
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 14:22	WG1183421
(S) 4-Bromofluorobenzene	94.9		77.0-126		10/19/2018 14:22	WG1183421

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 14:42	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 14:42	WG1183421
Benzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromoform	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 14:42	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 14:42	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 14:42	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 14:42	WG1183421
Chloroform	ND		0.500	1	10/19/2018 14:42	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 14:42	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 14:42	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 14:42	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:42	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:42	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 14:42	WG1183421
2,2-Dichloropropane	ND	J4	0.500	1	10/19/2018 14:42	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 14:42	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 14:42	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 14:42	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 14:42	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 14:42	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 14:42	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 14:42	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 14:42	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 14:42	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 14:42	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 14:42	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Styrene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
Toluene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 14:42	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 14:42	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 14:42	WG1183421
(S) Toluene-d8	102		80.0-120		10/19/2018 14:42	WG1183421
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 14:42	WG1183421
(S) 4-Bromofluorobenzene	95.9		77.0-126		10/19/2018 14:42	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 15:02	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 15:02	WG1183421
Benzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromoform	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 15:02	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 15:02	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 15:02	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 15:02	WG1183421
Chloroform	ND		0.500	1	10/19/2018 15:02	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 15:02	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 15:02	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 15:02	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:02	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:02	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 15:02	WG1183421
2,2-Dichloropropane	ND	J4	0.500	1	10/19/2018 15:02	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 15:02	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 15:02	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 15:02	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 15:02	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 15:02	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 15:02	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 15:02	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 15:02	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 15:02	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 15:02	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 15:02	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Styrene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Collected date/time: 10/17/18 09:30

L1036062

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
Toluene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 15:02	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 15:02	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 15:02	WG1183421
(S) Toluene-d8	97.6		80.0-120		10/19/2018 15:02	WG1183421
(S) Dibromofluoromethane	102		75.0-120		10/19/2018 15:02	WG1183421
(S) 4-Bromofluorobenzene	99.8		77.0-126		10/19/2018 15:02	WG1183421

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



Collected date/time: 10/17/18 14:00

L1036062

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 15:22	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 15:22	WG1183421
Benzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromoform	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 15:22	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 15:22	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 15:22	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 15:22	WG1183421
Chloroform	ND		0.500	1	10/19/2018 15:22	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 15:22	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 15:22	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 15:22	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:22	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:22	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 15:22	WG1183421
2,2-Dichloropropane	ND	J4	0.500	1	10/19/2018 15:22	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 15:22	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 15:22	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 15:22	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 15:22	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 15:22	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 15:22	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 15:22	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 15:22	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 15:22	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 15:22	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 15:22	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Styrene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/17/18 14:00

L1036062

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
Toluene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 15:22	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 15:22	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 15:22	WG1183421
(S) Toluene-d8	98.7		80.0-120		10/19/2018 15:22	WG1183421
(S) Dibromofluoromethane	101		75.0-120		10/19/2018 15:22	WG1183421
(S) 4-Bromofluorobenzene	93.5		77.0-126		10/19/2018 15:22	WG1183421

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



Collected date/time: 10/17/18 15:20

L1036062

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 15:41	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 15:41	WG1183421
Benzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromoform	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 15:41	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 15:41	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 15:41	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 15:41	WG1183421
Chloroform	ND		0.500	1	10/19/2018 15:41	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 15:41	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 15:41	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 15:41	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 15:41	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 15:41	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:41	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:41	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 15:41	WG1183421
2,2-Dichloropropane	ND	J4	0.500	1	10/19/2018 15:41	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 15:41	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 15:41	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 15:41	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 15:41	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 15:41	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 15:41	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 15:41	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 15:41	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 15:41	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 15:41	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 15:41	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Styrene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/17/18 15:20

L1036062

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 15:41	WG1183421	¹ Cp
Tetrachloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421	² Tc
Toluene	ND		0.500	1	10/19/2018 15:41	WG1183421	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421	⁷ Gl
Trichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421	⁸ Al
Trichlorofluoromethane	ND		2.50	1	10/19/2018 15:41	WG1183421	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 15:41	WG1183421	
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421	
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421	
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421	
Vinyl acetate	ND		5.00	1	10/19/2018 15:41	WG1183421	
Vinyl chloride	ND		0.500	1	10/19/2018 15:41	WG1183421	
Xylenes, Total	ND		1.50	1	10/19/2018 15:41	WG1183421	
(S) Toluene-d8	98.3		80.0-120		10/19/2018 15:41	WG1183421	
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 15:41	WG1183421	
(S) 4-Bromofluorobenzene	101		77.0-126		10/19/2018 15:41	WG1183421	



Collected date/time: 10/16/18 00:00

L1036062

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND	<u>JO</u>	25.0	1	10/23/2018 14:34	WG1184957
Acrylonitrile	ND		5.00	1	10/23/2018 14:34	WG1184957
Benzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromodichloromethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromochloromethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromoform	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromomethane	ND		2.50	1	10/23/2018 14:34	WG1184957
n-Butylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
sec-Butylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
tert-Butylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Carbon disulfide	ND		0.500	1	10/23/2018 14:34	WG1184957
Carbon tetrachloride	ND		0.500	1	10/23/2018 14:34	WG1184957
Chlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Chlorodibromomethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Chloroethane	ND		2.50	1	10/23/2018 14:34	WG1184957
Chloroform	ND		0.500	1	10/23/2018 14:34	WG1184957
Chloromethane	ND	<u>JO</u>	1.25	1	10/23/2018 14:34	WG1184957
2-Chlorotoluene	ND		0.500	1	10/23/2018 14:34	WG1184957
4-Chlorotoluene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/23/2018 14:34	WG1184957
1,2-Dibromoethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Dibromomethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,3-Dichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,4-Dichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Dichlorodifluoromethane	ND	<u>JO</u>	2.50	1	10/23/2018 14:34	WG1184957
1,1-Dichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1-Dichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
cis-1,2-Dichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
trans-1,2-Dichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dichloropropane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1-Dichloropropene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,3-Dichloropropane	ND		1.00	1	10/23/2018 14:34	WG1184957
cis-1,3-Dichloropropene	ND		0.500	1	10/23/2018 14:34	WG1184957
trans-1,3-Dichloropropene	ND		0.500	1	10/23/2018 14:34	WG1184957
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 11:02	WG1185371
2,2-Dichloropropane	ND		0.500	1	10/23/2018 14:34	WG1184957
Di-isopropyl ether	ND		0.500	1	10/23/2018 14:34	WG1184957
Ethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Hexachloro-1,3-butadiene	ND		1.00	1	10/23/2018 14:34	WG1184957
2-Hexanone	ND		5.00	1	10/23/2018 14:34	WG1184957
n-Hexane	ND		5.00	1	10/23/2018 14:34	WG1184957
Iodomethane	ND		10.0	1	10/23/2018 14:34	WG1184957
Isopropylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
p-Isopropyltoluene	ND		0.500	1	10/23/2018 14:34	WG1184957
2-Butanone (MEK)	ND	<u>JO</u>	5.00	1	10/23/2018 14:34	WG1184957
Methylene Chloride	ND		2.50	1	10/23/2018 14:34	WG1184957
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/23/2018 14:34	WG1184957
Methyl tert-butyl ether	ND		0.500	1	10/23/2018 14:34	WG1184957
Naphthalene	ND		2.50	1	10/23/2018 14:34	WG1184957
n-Propylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Styrene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957

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



Collected date/time: 10/16/18 00:00

L1036062

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Tetrachloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
Toluene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2,3-Trichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2,4-Trichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,1-Trichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,2-Trichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Trichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
Trichlorofluoromethane	ND		2.50	1	10/23/2018 14:34	WG1184957
1,2,3-Trichloropropane	ND		2.50	1	10/23/2018 14:34	WG1184957
1,2,4-Trimethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2,3-Trimethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,3,5-Trimethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Vinyl acetate	ND	<u>JO</u>	5.00	1	10/23/2018 14:34	WG1184957
Vinyl chloride	ND		0.500	1	10/23/2018 14:34	WG1184957
Xylenes, Total	ND		1.50	1	10/23/2018 14:34	WG1184957
(S) Toluene-d8	102		80.0-120		10/23/2018 14:34	WG1184957
(S) Toluene-d8	95.8		80.0-120		10/25/2018 11:02	WG1185371
(S) Dibromofluoromethane	92.2		75.0-120		10/23/2018 14:34	WG1184957
(S) Dibromofluoromethane	113		75.0-120		10/25/2018 11:02	WG1185371
(S) 4-Bromofluorobenzene	97.6		77.0-126		10/23/2018 14:34	WG1184957
(S) 4-Bromofluorobenzene	105		77.0-126		10/25/2018 11:02	WG1185371

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



Method Blank (MB)

(MB) R3352238-4 10/19/18 10:55

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3352238-4 10/19/18 10:55

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	99.0			80.0-120
(S) Dibromofluoromethane	101			75.0-120
(S) 4-Bromofluorobenzene	97.4			77.0-126

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3352238-1 10/19/18 09:37 • (LCSD) R3352238-2 10/19/18 09:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetone	125	106	102	84.5	81.6	19.0-160			3.46	27
Acrylonitrile	125	126	127	101	101	55.0-149			0.565	20
Benzene	25.0	25.6	25.6	102	102	70.0-123			0.0546	20
Bromobenzene	25.0	23.9	25.0	95.7	100	73.0-121			4.36	20
Bromodichloromethane	25.0	25.7	26.1	103	105	75.0-120			1.51	20
Bromochloromethane	25.0	27.1	26.1	108	104	76.0-122			3.86	20
Bromoform	25.0	25.0	26.0	99.8	104	68.0-132			4.13	20
Bromomethane	25.0	28.1	27.2	112	109	10.0-160			3.02	25
n-Butylbenzene	25.0	25.2	26.1	101	104	73.0-125			3.49	20
sec-Butylbenzene	25.0	24.1	25.6	96.3	102	75.0-125			6.20	20
tert-Butylbenzene	25.0	23.9	25.3	95.5	101	76.0-124			5.94	20
Carbon disulfide	25.0	24.5	24.2	97.8	97.0	61.0-128			0.863	20
Carbon tetrachloride	25.0	25.6	25.4	102	102	68.0-126			0.820	20
Chlorobenzene	25.0	24.4	24.7	97.5	98.9	80.0-121			1.35	20
Chlorodibromomethane	25.0	25.1	25.4	101	102	77.0-125			1.19	20
Chloroethane	25.0	24.2	24.7	96.9	98.6	47.0-150			1.79	20
Chloroform	25.0	25.7	25.9	103	103	73.0-120			0.726	20
Chloromethane	25.0	25.8	25.8	103	103	41.0-142			0.166	20
2-Chlorotoluene	25.0	23.7	25.4	94.6	102	76.0-123			7.18	20
4-Chlorotoluene	25.0	24.5	25.7	98.0	103	75.0-122			4.61	20
1,2-Dibromo-3-Chloropropane	25.0	23.7	24.3	94.9	97.2	58.0-134			2.40	20
1,2-Dibromoethane	25.0	22.7	23.3	90.8	93.3	80.0-122			2.71	20
Dibromomethane	25.0	27.6	27.7	110	111	80.0-120			0.523	20
1,2-Dichlorobenzene	25.0	24.7	26.1	98.8	104	79.0-121			5.50	20
1,3-Dichlorobenzene	25.0	25.7	26.7	103	107	79.0-120			3.97	20
1,4-Dichlorobenzene	25.0	23.4	25.1	93.6	100	79.0-120			7.09	20
Dichlorodifluoromethane	25.0	30.7	28.1	123	112	51.0-149			9.10	20
1,1-Dichloroethane	25.0	26.8	26.5	107	106	70.0-126			1.04	20
1,2-Dichloroethane	25.0	26.4	26.4	106	106	70.0-128			0.0383	20
1,1-Dichloroethene	25.0	25.3	24.6	101	98.3	71.0-124			2.78	20
cis-1,2-Dichloroethene	25.0	25.0	25.0	100	100	73.0-120			0.0400	20
trans-1,2-Dichloroethene	25.0	25.7	25.8	103	103	73.0-120			0.208	20
1,2-Dichloropropane	25.0	27.3	26.4	109	105	77.0-125			3.48	20
1,1-Dichloropropene	25.0	26.9	27.2	108	109	74.0-126			0.954	20
1,3-Dichloropropane	25.0	24.6	25.8	98.3	103	80.0-120			4.79	20
cis-1,3-Dichloropropene	25.0	25.9	26.3	104	105	80.0-123			1.65	20
trans-1,3-Dichloropropene	25.0	25.1	26.2	101	105	78.0-124			4.02	20
trans-1,4-Dichloro-2-butene	25.0	22.9	23.4	91.4	93.6	33.0-144			2.35	20
2,2-Dichloropropane	25.0	34.1	35.8	137	143	58.0-130	J4	J4	4.61	20
Di-isopropyl ether	25.0	25.7	25.1	103	101	58.0-138			2.20	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3352238-1 10/19/18 09:37 • (LCSD) R3352238-2 10/19/18 09:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	24.2	24.7	96.9	98.9	79.0-123			1.99	20
Hexachloro-1,3-butadiene	25.0	23.5	25.1	94.0	100	54.0-138			6.60	20
2-Hexanone	125	124	126	98.8	101	67.0-149			1.97	20
n-Hexane	25.0	28.3	27.9	113	111	57.0-133			1.55	20
Iodomethane	125	137	136	110	109	33.0-147			0.754	26
Isopropylbenzene	25.0	23.6	25.5	94.3	102	76.0-127			7.99	20
p-Isopropyltoluene	25.0	23.8	25.6	95.3	103	76.0-125			7.33	20
2-Butanone (MEK)	125	125	125	100	100	44.0-160			0.324	20
Methylene Chloride	25.0	25.8	24.9	103	99.6	67.0-120			3.42	20
4-Methyl-2-pentanone (MIBK)	125	125	124	99.8	99.5	68.0-142			0.371	20
Methyl tert-butyl ether	25.0	24.1	24.6	96.4	98.4	68.0-125			2.09	20
Naphthalene	25.0	23.2	24.8	92.7	99.4	54.0-135			6.91	20
n-Propylbenzene	25.0	24.0	25.0	95.9	99.9	77.0-124			4.16	20
Styrene	25.0	23.9	24.3	95.8	97.2	73.0-130			1.50	20
1,1,1,2-Tetrachloroethane	25.0	25.4	25.3	102	101	75.0-125			0.551	20
1,1,2,2-Tetrachloroethane	25.0	24.5	25.9	98.0	104	65.0-130			5.51	20
1,1,2-Trichlorotrifluoroethane	25.0	20.3	20.7	81.3	82.7	69.0-132			1.69	20
Tetrachloroethene	25.0	25.1	26.0	100	104	72.0-132			3.76	20
Toluene	25.0	24.4	25.2	97.5	101	79.0-120			3.47	20
1,2,3-Trichlorobenzene	25.0	23.2	24.1	92.7	96.4	50.0-138			3.95	20
1,2,4-Trichlorobenzene	25.0	25.3	26.5	101	106	57.0-137			4.90	20
1,1,1-Trichloroethane	25.0	26.3	25.9	105	104	73.0-124			1.52	20
1,1,2-Trichloroethane	25.0	23.9	23.6	95.7	94.6	80.0-120			1.11	20
Trichloroethene	25.0	23.8	24.1	95.2	96.3	78.0-124			1.09	20
Trichlorofluoromethane	25.0	24.9	23.3	99.4	93.1	59.0-147			6.61	20
1,2,3-Trichloropropane	25.0	23.1	25.2	92.5	101	73.0-130			8.50	20
1,2,4-Trimethylbenzene	25.0	23.8	25.1	95.2	100	76.0-121			5.22	20
1,2,3-Trimethylbenzene	25.0	23.6	24.8	94.5	99.2	77.0-120			4.86	20
1,3,5-Trimethylbenzene	25.0	23.9	25.3	95.5	101	76.0-122			5.78	20
Vinyl acetate	125	163	162	130	130	11.0-160			0.0925	20
Vinyl chloride	25.0	27.4	27.3	110	109	67.0-131			0.583	20
Xylenes, Total	75.0	74.6	76.7	99.5	102	79.0-123			2.78	20
(S) Toluene-d8				96.3	98.1	80.0-120				
(S) Dibromofluoromethane				103	100	75.0-120				
(S) 4-Bromofluorobenzene				96.0	98.4	77.0-126				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3353099-4 10/23/18 11:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
Ethylbenzene	U		0.158	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3353099-4 10/23/18 11:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	102			80.0-120
(S) Dibromofluoromethane	93.3			75.0-120
(S) 4-Bromofluorobenzene	95.5			77.0-126

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3353099-1 10/23/18 09:59 • (LCSD) R3353099-2 10/23/18 10:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	88.7	88.4	71.0	70.7	19.0-160			0.440	27
Acrylonitrile	125	104	102	83.4	81.8	55.0-149			1.89	20
Benzene	25.0	22.7	22.8	90.7	91.2	70.0-123			0.579	20
Bromobenzene	25.0	24.2	24.0	96.8	96.0	73.0-121			0.807	20
Bromodichloromethane	25.0	23.3	23.2	93.2	92.7	75.0-120			0.515	20
Bromochloromethane	25.0	24.5	24.3	97.8	97.2	76.0-122			0.647	20
Bromoform	25.0	28.9	29.1	116	116	68.0-132			0.692	20
Bromomethane	25.0	22.4	20.6	89.4	82.6	10.0-160			7.97	25
n-Butylbenzene	25.0	20.9	21.2	83.4	84.7	73.0-125			1.54	20
sec-Butylbenzene	25.0	23.2	23.6	92.9	94.5	75.0-125			1.69	20
tert-Butylbenzene	25.0	24.8	25.1	99.3	100	76.0-124			0.982	20
Carbon disulfide	25.0	24.5	22.1	98.1	88.4	61.0-128			10.3	20
Carbon tetrachloride	25.0	22.8	22.2	91.2	88.6	68.0-126			2.85	20
Chlorobenzene	25.0	26.1	26.7	105	107	80.0-121			1.98	20
Chlorodibromomethane	25.0	26.9	27.0	108	108	77.0-125			0.384	20
Chloroethane	25.0	19.8	19.0	79.3	75.8	47.0-150			4.45	20
Chloroform	25.0	22.7	22.5	91.0	89.8	73.0-120			1.31	20
Chloromethane	25.0	16.6	15.6	66.4	62.6	41.0-142			5.91	20
2-Chlorotoluene	25.0	25.2	25.2	101	101	76.0-123			0.327	20
4-Chlorotoluene	25.0	24.8	25.1	99.2	100	75.0-122			1.25	20
1,2-Dibromo-3-Chloropropane	25.0	23.5	23.6	93.9	94.4	58.0-134			0.562	20
1,2-Dibromoethane	25.0	25.1	25.7	101	103	80.0-122			2.15	20
Dibromomethane	25.0	23.4	23.8	93.6	95.2	80.0-120			1.75	20
1,2-Dichlorobenzene	25.0	23.3	24.1	93.3	96.4	79.0-121			3.34	20
1,3-Dichlorobenzene	25.0	25.1	25.2	100	101	79.0-120			0.656	20
1,4-Dichlorobenzene	25.0	24.2	24.8	96.7	99.0	79.0-120			2.40	20
Dichlorodifluoromethane	25.0	20.9	19.1	83.7	76.4	51.0-149			9.11	20
1,1-Dichloroethane	25.0	22.2	22.0	88.7	88.0	70.0-126			0.816	20
1,2-Dichloroethane	25.0	20.3	20.2	81.2	80.7	70.0-128			0.534	20
1,1-Dichloroethene	25.0	25.3	23.2	101	93.0	71.0-124			8.42	20
cis-1,2-Dichloroethene	25.0	24.5	24.5	98.1	98.1	73.0-120			0.0258	20
trans-1,2-Dichloroethene	25.0	23.9	23.7	95.5	94.7	73.0-120			0.830	20
1,2-Dichloropropane	25.0	23.1	23.6	92.3	94.5	77.0-125			2.28	20
1,1-Dichloropropene	25.0	22.2	22.2	88.9	89.0	74.0-126			0.109	20
1,3-Dichloropropane	25.0	24.4	24.6	97.5	98.6	80.0-120			1.04	20
cis-1,3-Dichloropropene	25.0	25.3	26.0	101	104	80.0-123			2.76	20
trans-1,3-Dichloropropene	25.0	25.4	25.4	102	101	78.0-124			0.158	20
2,2-Dichloropropane	25.0	22.6	21.9	90.3	87.5	58.0-130			3.12	20
Di-isopropyl ether	25.0	21.2	20.8	84.7	83.2	58.0-138			1.89	20
Ethylbenzene	25.0	25.3	26.3	101	105	79.0-123			4.05	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3353099-1 10/23/18 09:59 • (LCSD) R3353099-2 10/23/18 10:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Hexachloro-1,3-butadiene	25.0	22.4	23.1	89.4	92.3	54.0-138			3.17	20
2-Hexanone	125	115	115	91.8	91.9	67.0-149			0.0605	20
n-Hexane	25.0	21.7	21.4	86.6	85.8	57.0-133			0.984	20
Iodomethane	125	133	122	107	97.4	33.0-147			8.93	26
Isopropylbenzene	25.0	25.2	25.5	101	102	76.0-127			1.05	20
p-Isopropyltoluene	25.0	23.4	23.7	93.7	94.8	76.0-125			1.25	20
2-Butanone (MEK)	125	94.2	93.8	75.3	75.0	44.0-160			0.381	20
Methylene Chloride	25.0	23.8	22.1	95.0	88.3	67.0-120			7.36	20
4-Methyl-2-pentanone (MIBK)	125	106	106	84.4	85.2	68.0-142			0.868	20
Methyl tert-butyl ether	25.0	22.6	21.7	90.5	86.9	68.0-125			4.07	20
Naphthalene	25.0	21.3	21.7	85.1	86.9	54.0-135			2.08	20
n-Propylbenzene	25.0	24.5	24.9	98.0	99.5	77.0-124			1.45	20
Styrene	25.0	26.6	27.0	106	108	73.0-130			1.63	20
1,1,1,2-Tetrachloroethane	25.0	27.4	27.9	110	112	75.0-125			1.87	20
1,1,2,2-Tetrachloroethane	25.0	26.2	26.2	105	105	65.0-130			0.0231	20
1,1,2-Trichlorotrifluoroethane	25.0	25.6	25.4	102	102	69.0-132			0.912	20
Tetrachloroethene	25.0	27.1	27.7	109	111	72.0-132			2.08	20
Toluene	25.0	24.6	25.0	98.5	100	79.0-120			1.59	20
1,2,3-Trichlorobenzene	25.0	21.9	22.7	87.8	90.8	50.0-138			3.34	20
1,2,4-Trichlorobenzene	25.0	22.4	22.8	89.7	91.0	57.0-137			1.53	20
1,1,1-Trichloroethane	25.0	23.1	22.4	92.6	89.7	73.0-124			3.09	20
1,1,2-Trichloroethane	25.0	25.6	26.0	103	104	80.0-120			1.48	20
Trichloroethene	25.0	25.2	25.4	101	101	78.0-124			0.629	20
Trichlorofluoromethane	25.0	22.4	20.9	89.7	83.6	59.0-147			6.97	20
1,2,3-Trichloropropane	25.0	26.0	26.0	104	104	73.0-130			0.152	20
1,2,4-Trimethylbenzene	25.0	24.8	24.9	99.4	99.8	76.0-121			0.420	20
1,2,3-Trimethylbenzene	25.0	23.1	23.1	92.4	92.4	77.0-120			0.0426	20
1,3,5-Trimethylbenzene	25.0	25.3	25.5	101	102	76.0-122			0.744	20
Vinyl acetate	125	151	144	120	115	11.0-160			4.62	20
Vinyl chloride	25.0	20.7	20.0	82.9	79.8	67.0-131			3.79	20
Xylenes, Total	75.0	75.9	78.3	101	104	79.0-123			3.11	20
(S) Toluene-d8				101	102	80.0-120				
(S) Dibromofluoromethane				91.6	90.5	75.0-120				
(S) 4-Bromofluorobenzene				95.7	95.9	77.0-126				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3353884-3 10/25/18 10:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
trans-1,4-Dichloro-2-butene	U		0.257	5.00
(S) Toluene-d8	96.7			80.0-120
(S) Dibromofluoromethane	112			75.0-120
(S) 4-Bromofluorobenzene	107			77.0-126

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

(LCS) R3353884-1 10/25/18 09:13 • (LCSD) R3353884-2 10/25/18 09:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
trans-1,4-Dichloro-2-butene	25.0	29.1	30.3	116	121	33.0-144			4.17	20
(S) Toluene-d8				97.8	97.2	80.0-120				
(S) Dibromofluoromethane				109	108	75.0-120				
(S) 4-Bromofluorobenzene				102	102	77.0-126				

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



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier	Description
J0	J0: Calibration verification outside of acceptance limits. Result is estimated.
J4	The associated batch QC was outside the established quality control range for accuracy.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

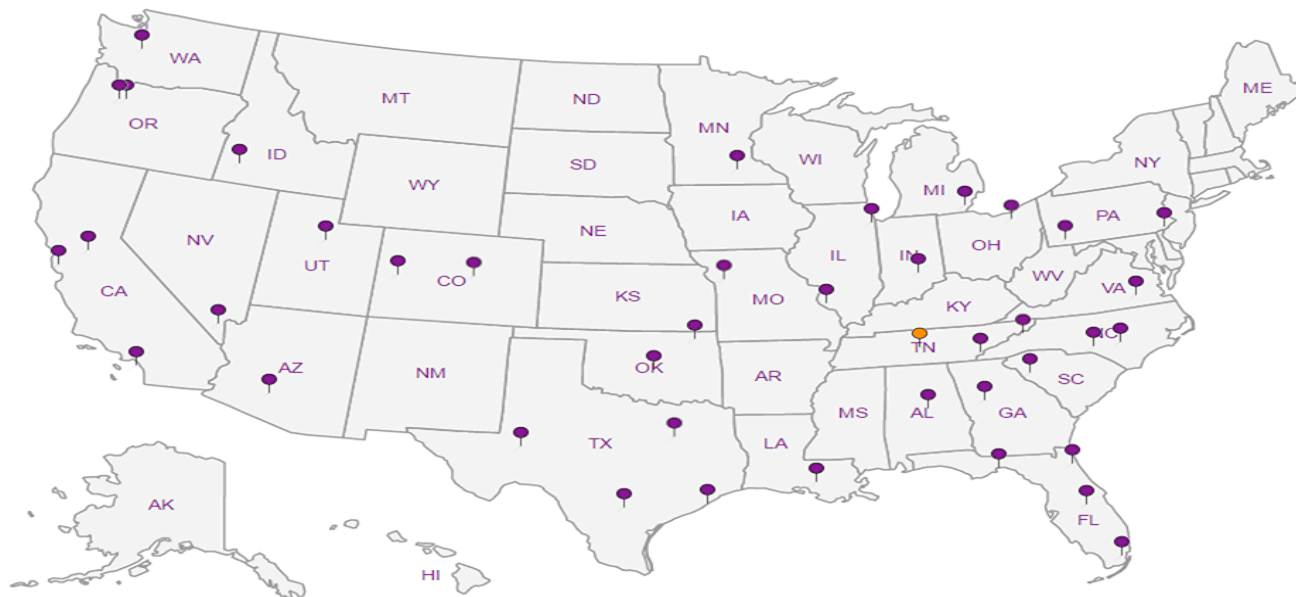
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:

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

Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project
Description: **MVSC**

City/State
Collected:

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
Ben Hecht

Site/Facility ID #
MVSC

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Date Results Needed

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Concs	Analysis / Container / Preservative
KMW-2-101618	Grab	GW	37	10/16/18	11:15	3	
MW-12-101618		GW	42	10/16/18	12:50		
MW-3-101618		GW	41		14:05		
MW-4-101618		GW	40		15:55		
MW-13-101618		GW	38		17:10		
MW-9-101718		GW	34	10/17/18	09:30		
DC-4-101718			44	10/17/18	14:00		
DC-3-101718			45	10/17/18	15:20		
Trip Blanks							



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **1036062**
B063

Acctnum: **PESENVSWA**

Template: **T131700**

Prelogin: **P675999**

TSR: **110 - Brian Ford**

PB: **TB 10-5-18**

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

D1
D2
D3
D4
D5
D6
D7
D8

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Contact Matt Dahl for questions at
MDAHL@PESENV.COM

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
UPS FedEx Courier _____

Tracking # **4624 2995 7139**

Sample Receipt Checklist
COC Seal Present/Intact: N
COC Signed/Accurate: N
Bottles arrive intact: N
Correct bottles used: N
Sufficient volume sent: N
If Applicable
VOA Zero Headspace: N
Preservation Correct/Checked: N
NO SCREEN: <0.5 mR/hr

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: No
NCP/ MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **4.3°C**
4.4 °C
Bottles Received: **24**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: **10/18/18**
Time: **0845**

Hold: Condition: NCF / OK

Kathryn L. Cason



Login #:1036062	Client:PESENVSWA	Date:10/18/18	Evaluated by:K Cason
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Non-Conformance (check applicable items)

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

Login Comments: No analysis marked for Trip Blank listed on COC.

Client informed by:	Call	Email	Voice Mail	Date:	Time:
TSR Initials:bjf	Client Contact:				

Login Instructions:

Place trip blank on hold

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.

MEMORANDUM

TO: Project File **DATE:** November 7, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center
PROJECT #: 1358.001.01.003
TASK: October 16-17, 2018 Groundwater Samples
LAB: Pace Analytical Sample Delivery Group (SDG): L1036062

Eight (8) groundwater samples and one (1) trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Centre site in Normandy Park, Washington on October 16-17, 2018. Samples associated with SDG L1036062 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Pace Analytical (Pace) of Mt. Juliet, Tennessee.

The monitoring event occurred between October 16 and 23, 2018 and data are also reported in SDGs L1037755 and L1037759. The quality assurance review of the laboratory data for SDG L1036062 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report with the following discussion:

- The trip blank was listed on the COC but no analysis was requested. PES later clarified the request submitted the trip blank for analysis.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 4.3 degrees Centigrade (°C). The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. No data qualifications are warranted.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

- *USEPA Method 8260C*: Continuing calibration verification (CCV) issue is noted by Pace for several compounds associated with analytical batch WG1184957 (analyzed on October 23, 2018). No action is taken other than to note the no samples and only the trip blank is associated with this batch. No further action is needed.

Method Blank Results

A laboratory method blank was included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

A trip blank was collected and submitted for analysis. The target analytes (VOCs) were not detected in the trip blank at a concentration at or above the reporting detection limits (RDLs).

Equipment Blank Results

Equipment blank was not collected as planned during this sampling event due to an oversight in the field. No action is taken other than to note that corrective action has been implemented and equipment blanks will be collected in future sampling events.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to SDG L1037759 for field duplicate data or laboratory control sample results associated with this SDG for precision data.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results and/or laboratory control sample results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, trip blank, method blanks, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) %R's and relative percent differences (RPDs) for analytical batch (WG1183421) are within the laboratory control limits with one exception:

- LCS/LCSD recoveries for 2,2-dichloropropane are above laboratory acceptance criteria. Compound 2,2-dichloropropane is not detected in the associated samples. **2,2-dichloropropane is considered not detected (U) in associated samples due to the elevated LCS recoveries.**

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS/LCSD and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No laboratory quality control issues were identified in the laboratory reports with the following discussion:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered into the EDDs.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 13:23	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 13:23	WG1183421
Benzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromoform	ND		0.500	1	10/19/2018 13:23	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 13:23	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 13:23	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 13:23	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 13:23	WG1183421
Chloroform	ND		0.500	1	10/19/2018 13:23	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 13:23	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 13:23	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 13:23	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:23	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:23	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 13:23	WG1183421
2,2-Dichloropropane	ND	U	0.500	1	10/19/2018 13:23	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 13:23	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 13:23	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 13:23	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 13:23	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 13:23	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 13:23	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 13:23	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 13:23	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 13:23	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 13:23	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 13:23	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Styrene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421

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

JC 11/17/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
Toluene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 13:23	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 13:23	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 13:23	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 13:23	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 13:23	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 13:23	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 13:23	WG1183421
(S) Toluene-d8	99.7		80.0-120		10/19/2018 13:23	WG1183421
(S) Dibromofluoromethane	102		75.0-120		10/19/2018 13:23	WG1183421
(S) 4-Bromofluorobenzene	97.6		77.0-126		10/19/2018 13:23	WG1183421

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
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JC 11/17/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
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Bromobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromoform	ND		0.500	1	10/19/2018 13:42	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 13:42	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
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1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 13:42	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 13:42	WG1183421
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1,1-Dichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 13:42	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:42	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 13:42	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 13:42	WG1183421
2,2-Dichloropropane	ND	U	0.500	1	10/19/2018 13:42	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 13:42	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 13:42	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 13:42	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 13:42	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 13:42	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 13:42	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 13:42	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 13:42	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 13:42	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 13:42	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 13:42	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Styrene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421

JC 11/17/18

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
Toluene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 13:42	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 13:42	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 13:42	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 13:42	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 13:42	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 13:42	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 13:42	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 13:42	WG1183421
(S) Toluene-d8	96.2		80.0-120		10/19/2018 13:42	WG1183421
(S) Dibromofluoromethane	100		75.0-120		10/19/2018 13:42	WG1183421
(S) 4-Bromofluorobenzene	95.2		77.0-126		10/19/2018 13:42	WG1183421

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

JC 11/17/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 14:02	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 14:02	WG1183421
Benzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromoform	ND		0.500	1	10/19/2018 14:02	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 14:02	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 14:02	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 14:02	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 14:02	WG1183421
Chloroform	ND		0.500	1	10/19/2018 14:02	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 14:02	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 14:02	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 14:02	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:02	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:02	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 14:02	WG1183421
2,2-Dichloropropane	ND	U	0.500	1	10/19/2018 14:02	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 14:02	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 14:02	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 14:02	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 14:02	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 14:02	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 14:02	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 14:02	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 14:02	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 14:02	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 14:02	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 14:02	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Styrene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

JC 11/17/18

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
Toluene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 14:02	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 14:02	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 14:02	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 14:02	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 14:02	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 14:02	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 14:02	WG1183421
(S) Toluene-d8	97.4		80.0-120		10/19/2018 14:02	WG1183421
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 14:02	WG1183421
(S) 4-Bromofluorobenzene	99.9		77.0-126		10/19/2018 14:02	WG1183421

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

JC 11/17/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 14:22	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 14:22	WG1183421
Benzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromoform	ND		0.500	1	10/19/2018 14:22	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 14:22	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 14:22	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 14:22	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 14:22	WG1183421
Chloroform	ND		0.500	1	10/19/2018 14:22	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 14:22	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 14:22	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 14:22	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:22	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:22	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 14:22	WG1183421
2,2-Dichloropropane	ND	U	0.500	1	10/19/2018 14:22	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 14:22	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 14:22	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 14:22	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 14:22	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 14:22	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 14:22	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 14:22	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 14:22	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 14:22	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 14:22	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 14:22	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Styrene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421

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

JC 11/17/18

U ~~J4~~



Collected date/time: 10/16/18 15:55

L1036062

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
Toluene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 14:22	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 14:22	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 14:22	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 14:22	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 14:22	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 14:22	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 14:22	WG1183421
						JC 11/17/18
(S) Toluene-d8	98.1		80.0-120		10/19/2018 14:22	WG1183421
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 14:22	WG1183421
(S) 4-Bromofluorobenzene	94.9		77.0-126		10/19/2018 14:22	WG1183421

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 14:42	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 14:42	WG1183421
Benzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromoform	ND		0.500	1	10/19/2018 14:42	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 14:42	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 14:42	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 14:42	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 14:42	WG1183421
Chloroform	ND		0.500	1	10/19/2018 14:42	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 14:42	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 14:42	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 14:42	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:42	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 14:42	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 14:42	WG1183421
2,2-Dichloropropane	ND	U J4	0.500	1	10/19/2018 14:42	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 14:42	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 14:42	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 14:42	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 14:42	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 14:42	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 14:42	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 14:42	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 14:42	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 14:42	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 14:42	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 14:42	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Styrene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421

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

JC 11/17/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
Toluene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 14:42	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 14:42	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 14:42	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 14:42	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 14:42	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 14:42	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 14:42	WG1183421
(S) Toluene-d8	102		80.0-120		10/19/2018 14:42	WG1183421
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 14:42	WG1183421
(S) 4-Bromofluorobenzene	95.9		77.0-126		10/19/2018 14:42	WG1183421

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

JC 11/17/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 15:02	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 15:02	WG1183421
Benzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromoform	ND		0.500	1	10/19/2018 15:02	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 15:02	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 15:02	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 15:02	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 15:02	WG1183421
Chloroform	ND		0.500	1	10/19/2018 15:02	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 15:02	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 15:02	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 15:02	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:02	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:02	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 15:02	WG1183421
2,2-Dichloropropane	ND	U	0.500	1	10/19/2018 15:02	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 15:02	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 15:02	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 15:02	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 15:02	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 15:02	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 15:02	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 15:02	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 15:02	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 15:02	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 15:02	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 15:02	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Styrene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421

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

JC 11/17/18

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Collected date/time: 10/17/18 09:30

L1036062

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
Toluene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 15:02	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 15:02	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 15:02	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 15:02	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 15:02	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 15:02	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 15:02	WG1183421
(S) Toluene-d8	97.6		80.0-120		10/19/2018 15:02	WG1183421
(S) Dibromofluoromethane	102		75.0-120		10/19/2018 15:02	WG1183421
(S) 4-Bromofluorobenzene	99.8		77.0-126		10/19/2018 15:02	WG1183421

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

JC 11/17/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 15:22	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 15:22	WG1183421
Benzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromoform	ND		0.500	1	10/19/2018 15:22	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 15:22	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 15:22	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 15:22	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 15:22	WG1183421
Chloroform	ND		0.500	1	10/19/2018 15:22	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 15:22	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 15:22	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 15:22	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:22	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:22	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 15:22	WG1183421
2,2-Dichloropropane	ND	U 14	0.500	1	10/19/2018 15:22	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 15:22	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 15:22	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 15:22	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 15:22	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 15:22	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 15:22	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 15:22	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 15:22	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 15:22	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 15:22	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 15:22	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Styrene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421

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

JC 11/17/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
Toluene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 15:22	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 15:22	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 15:22	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 15:22	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 15:22	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 15:22	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 15:22	WG1183421
(S) Toluene-d8	98.7		80.0-120		10/19/2018 15:22	WG1183421
(S) Dibromofluoromethane	101		75.0-120		10/19/2018 15:22	WG1183421
(S) 4-Bromofluorobenzene	93.5		77.0-126		10/19/2018 15:22	WG1183421

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

JC 11/17/18



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/19/2018 15:41	WG1183421
Acrylonitrile	ND		5.00	1	10/19/2018 15:41	WG1183421
Benzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromodichloromethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromochloromethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromoform	ND		0.500	1	10/19/2018 15:41	WG1183421
Bromomethane	ND		2.50	1	10/19/2018 15:41	WG1183421
n-Butylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
sec-Butylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
tert-Butylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Carbon disulfide	ND		0.500	1	10/19/2018 15:41	WG1183421
Carbon tetrachloride	ND		0.500	1	10/19/2018 15:41	WG1183421
Chlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Chlorodibromomethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Chloroethane	ND		2.50	1	10/19/2018 15:41	WG1183421
Chloroform	ND		0.500	1	10/19/2018 15:41	WG1183421
Chloromethane	ND		1.25	1	10/19/2018 15:41	WG1183421
2-Chlorotoluene	ND		0.500	1	10/19/2018 15:41	WG1183421
4-Chlorotoluene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/19/2018 15:41	WG1183421
1,2-Dibromoethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Dibromomethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,3-Dichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,4-Dichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Dichlorodifluoromethane	ND		2.50	1	10/19/2018 15:41	WG1183421
1,1-Dichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1-Dichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
cis-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
trans-1,2-Dichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2-Dichloropropane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1-Dichloropropene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,3-Dichloropropane	ND		1.00	1	10/19/2018 15:41	WG1183421
cis-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:41	WG1183421
trans-1,3-Dichloropropene	ND		0.500	1	10/19/2018 15:41	WG1183421
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/19/2018 15:41	WG1183421
2,2-Dichloropropane	ND	U	1.4	1	10/19/2018 15:41	WG1183421
Di-isopropyl ether	ND		0.500	1	10/19/2018 15:41	WG1183421
Ethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Hexachloro-1,3-butadiene	ND		1.00	1	10/19/2018 15:41	WG1183421
2-Hexanone	ND		5.00	1	10/19/2018 15:41	WG1183421
n-Hexane	ND		5.00	1	10/19/2018 15:41	WG1183421
Iodomethane	ND		10.0	1	10/19/2018 15:41	WG1183421
Isopropylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
p-Isopropyltoluene	ND		0.500	1	10/19/2018 15:41	WG1183421
2-Butanone (MEK)	ND		5.00	1	10/19/2018 15:41	WG1183421
Methylene Chloride	ND		2.50	1	10/19/2018 15:41	WG1183421
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/19/2018 15:41	WG1183421
Methyl tert-butyl ether	ND		0.500	1	10/19/2018 15:41	WG1183421
Naphthalene	ND		2.50	1	10/19/2018 15:41	WG1183421
n-Propylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Styrene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421

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

JC 11/17/18



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Tetrachloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
Toluene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2,3-Trichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2,4-Trichlorobenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1,1-Trichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
1,1,2-Trichloroethane	ND		0.500	1	10/19/2018 15:41	WG1183421
Trichloroethene	ND		0.500	1	10/19/2018 15:41	WG1183421
Trichlorofluoromethane	ND		2.50	1	10/19/2018 15:41	WG1183421
1,2,3-Trichloropropane	ND		2.50	1	10/19/2018 15:41	WG1183421
1,2,4-Trimethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,2,3-Trimethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
1,3,5-Trimethylbenzene	ND		0.500	1	10/19/2018 15:41	WG1183421
Vinyl acetate	ND		5.00	1	10/19/2018 15:41	WG1183421
Vinyl chloride	ND		0.500	1	10/19/2018 15:41	WG1183421
Xylenes, Total	ND		1.50	1	10/19/2018 15:41	WG1183421
(S) Toluene-d8	98.3		80.0-120		10/19/2018 15:41	WG1183421
(S) Dibromofluoromethane	103		75.0-120		10/19/2018 15:41	WG1183421
(S) 4-Bromofluorobenzene	101		77.0-126		10/19/2018 15:41	WG1183421

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

JC 11/17/18



Collected date/time: 10/16/18 00:00

L1036062

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND	<u>JO</u>	25.0	1	10/23/2018 14:34	WG1184957
Acrylonitrile	ND		5.00	1	10/23/2018 14:34	WG1184957
Benzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromodichloromethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromochloromethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromoform	ND		0.500	1	10/23/2018 14:34	WG1184957
Bromomethane	ND		2.50	1	10/23/2018 14:34	WG1184957
n-Butylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
sec-Butylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
tert-Butylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Carbon disulfide	ND		0.500	1	10/23/2018 14:34	WG1184957
Carbon tetrachloride	ND		0.500	1	10/23/2018 14:34	WG1184957
Chlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Chlorodibromomethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Chloroethane	ND		2.50	1	10/23/2018 14:34	WG1184957
Chloroform	ND		0.500	1	10/23/2018 14:34	WG1184957
Chloromethane	ND	<u>JO</u>	1.25	1	10/23/2018 14:34	WG1184957
2-Chlorotoluene	ND		0.500	1	10/23/2018 14:34	WG1184957
4-Chlorotoluene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/23/2018 14:34	WG1184957
1,2-Dibromoethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Dibromomethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,3-Dichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,4-Dichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Dichlorodifluoromethane	ND	<u>JO</u>	2.50	1	10/23/2018 14:34	WG1184957
1,1-Dichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1-Dichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
cis-1,2-Dichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
trans-1,2-Dichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2-Dichloropropane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1-Dichloropropene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,3-Dichloropropane	ND		1.00	1	10/23/2018 14:34	WG1184957
cis-1,3-Dichloropropene	ND		0.500	1	10/23/2018 14:34	WG1184957
trans-1,3-Dichloropropene	ND		0.500	1	10/23/2018 14:34	WG1184957
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 11:02	WG1185371
2,2-Dichloropropane	ND		0.500	1	10/23/2018 14:34	WG1184957
Di-isopropyl ether	ND		0.500	1	10/23/2018 14:34	WG1184957
Ethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Hexachloro-1,3-butadiene	ND		1.00	1	10/23/2018 14:34	WG1184957
2-Hexanone	ND		5.00	1	10/23/2018 14:34	WG1184957
n-Hexane	ND		5.00	1	10/23/2018 14:34	WG1184957
Iodomethane	ND		10.0	1	10/23/2018 14:34	WG1184957
Isopropylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
p-Isopropyltoluene	ND		0.500	1	10/23/2018 14:34	WG1184957
2-Butanone (MEK)	ND	<u>JO</u>	5.00	1	10/23/2018 14:34	WG1184957
Methylene Chloride	ND		2.50	1	10/23/2018 14:34	WG1184957
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/23/2018 14:34	WG1184957
Methyl tert-butyl ether	ND		0.500	1	10/23/2018 14:34	WG1184957
Naphthalene	ND		2.50	1	10/23/2018 14:34	WG1184957
n-Propylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Styrene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957

1
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

JC 11/17/18



Collected date/time: 10/16/18 00:00

L1036062

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Tetrachloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
Toluene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2,3-Trichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2,4-Trichlorobenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,1-Trichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
1,1,2-Trichloroethane	ND		0.500	1	10/23/2018 14:34	WG1184957
Trichloroethene	ND		0.500	1	10/23/2018 14:34	WG1184957
Trichlorofluoromethane	ND		2.50	1	10/23/2018 14:34	WG1184957
1,2,3-Trichloropropane	ND		2.50	1	10/23/2018 14:34	WG1184957
1,2,4-Trimethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,2,3-Trimethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
1,3,5-Trimethylbenzene	ND		0.500	1	10/23/2018 14:34	WG1184957
Vinyl acetate	ND	<u>JO</u>	5.00	1	10/23/2018 14:34	WG1184957
Vinyl chloride	ND		0.500	1	10/23/2018 14:34	WG1184957
Xylenes, Total	ND		1.50	1	10/23/2018 14:34	WG1184957
(S) Toluene-d8	102		80.0-120		10/23/2018 14:34	WG1184957
(S) Toluene-d8	95.8		80.0-120		10/25/2018 11:02	WG1185371
(S) Dibromofluoromethane	92.2		75.0-120		10/23/2018 14:34	WG1184957
(S) Dibromofluoromethane	113		75.0-120		10/25/2018 11:02	WG1185371
(S) 4-Bromofluorobenzene	97.6		77.0-126		10/23/2018 14:34	WG1184957
(S) 4-Bromofluorobenzene	105		77.0-126		10/25/2018 11:02	WG1185371

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

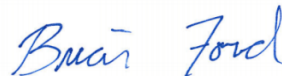
JC 11/17/18

October 31, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L1037755
Samples Received: 10/24/2018
Project Number: 1358.001.01.003
Description: MVSC
Site: MVSC
Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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

SAMPLE SUMMARY



MW-2-101818 L1037755-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/24/18 22:50	10/24/18 22:50	JCP

Collected by Ben Hecht	Collected date/time 10/18/18 16:25	Received date/time 10/24/18 08:45
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1
Cp

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Tc

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Ss

4
Cn

5
Sr

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Qc

7
Gl

8
Al

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Sc

MW-10-101818 L1037755-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/24/18 23:12	10/24/18 23:12	JCP

Collected by Ben Hecht	Collected date/time 10/18/18 12:45	Received date/time 10/24/18 08:45
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MW-15-101818 L1037755-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/24/18 23:34	10/24/18 23:34	JCP

Collected by Ben Hecht	Collected date/time 10/18/18 15:15	Received date/time 10/24/18 08:45
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MW-16-101818 L1037755-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/24/18 23:56	10/24/18 23:56	JCP

Collected by Ben Hecht	Collected date/time 10/18/18 14:10	Received date/time 10/24/18 08:45
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MW-11-101918 L1037755-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 00:18	10/25/18 00:18	JCP

Collected by Ben Hecht	Collected date/time 10/19/18 13:50	Received date/time 10/24/18 08:45
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DC-8-101818 L1037755-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 00:40	10/25/18 00:40	JCP

Collected by Ben Hecht	Collected date/time 10/18/18 10:15	Received date/time 10/24/18 08:45
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DC-11-101818 L1037755-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 01:02	10/25/18 01:02	JCP

Collected by Ben Hecht	Collected date/time 10/18/18 11:35	Received date/time 10/24/18 08:45
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DC-15-101818 L1037755-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 01:24	10/25/18 01:24	JCP

Collected by Ben Hecht	Collected date/time 10/18/18 09:15	Received date/time 10/24/18 08:45
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SAMPLE SUMMARY



DC-17-101918 L1037755-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 01:46	10/25/18 01:46	JCP

Collected by Ben Hecht
 Collected date/time 10/19/18 17:30
 Received date/time 10/24/18 08:45

1 Cp

2 Tc

3 Ss

DC-12-101918 L1037755-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 02:08	10/25/18 02:08	JCP

Collected by Ben Hecht
 Collected date/time 10/19/18 10:45
 Received date/time 10/24/18 08:45

4 Cn

5 Sr

DC-13-101918 L1037755-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 02:29	10/25/18 02:29	JCP

Collected by Ben Hecht
 Collected date/time 10/19/18 16:05
 Received date/time 10/24/18 08:45

6 Qc

7 Gl

DC-18-101918 L1037755-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 02:51	10/25/18 02:51	JCP

Collected by Ben Hecht
 Collected date/time 10/19/18 15:00
 Received date/time 10/24/18 08:45

8 Al

9 Sc

DC-20-101918 L1037755-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186267	1	10/25/18 18:39	10/25/18 18:39	JCP

Collected by Ben Hecht
 Collected date/time 10/19/18 12:15
 Received date/time 10/24/18 08:45

TRIP BLANK L1037755-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186267	1	10/25/18 12:08	10/25/18 12:08	ACG

Collected by Ben Hecht
 Collected date/time 10/19/18 00:00
 Received date/time 10/24/18 08:45

KMW-9-101818 L1037755-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186267	1	10/25/18 19:01	10/25/18 19:01	JCP

Collected by Ben Hecht
 Collected date/time 10/18/18 17:30
 Received date/time 10/24/18 08:45



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

Brian Ford
Project Manager

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	10/24/2018 22:50	WG1186087
Acrylonitrile	ND		5.00	1	10/24/2018 22:50	WG1186087
Benzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Bromobenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Bromodichloromethane	ND		0.500	1	10/24/2018 22:50	WG1186087
Bromochloromethane	ND		0.500	1	10/24/2018 22:50	WG1186087
Bromoform	ND		0.500	1	10/24/2018 22:50	WG1186087
Bromomethane	ND		2.50	1	10/24/2018 22:50	WG1186087
n-Butylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
sec-Butylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
tert-Butylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Carbon disulfide	ND		0.500	1	10/24/2018 22:50	WG1186087
Carbon tetrachloride	ND		0.500	1	10/24/2018 22:50	WG1186087
Chlorobenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Chlorodibromomethane	ND		0.500	1	10/24/2018 22:50	WG1186087
Chloroethane	ND		2.50	1	10/24/2018 22:50	WG1186087
Chloroform	0.843		0.500	1	10/24/2018 22:50	WG1186087
Chloromethane	ND		1.25	1	10/24/2018 22:50	WG1186087
2-Chlorotoluene	ND		0.500	1	10/24/2018 22:50	WG1186087
4-Chlorotoluene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/24/2018 22:50	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/24/2018 22:50	WG1186087
Dibromomethane	ND		0.500	1	10/24/2018 22:50	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/24/2018 22:50	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/24/2018 22:50	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/24/2018 22:50	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/24/2018 22:50	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/24/2018 22:50	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/24/2018 22:50	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/24/2018 22:50	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/24/2018 22:50	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/24/2018 22:50	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/24/2018 22:50	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/24/2018 22:50	WG1186087
Di-isopropyl ether	ND		0.500	1	10/24/2018 22:50	WG1186087
Ethylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/24/2018 22:50	WG1186087
2-Hexanone	ND		5.00	1	10/24/2018 22:50	WG1186087
n-Hexane	ND		5.00	1	10/24/2018 22:50	WG1186087
Iodomethane	ND		10.0	1	10/24/2018 22:50	WG1186087
Isopropylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/24/2018 22:50	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/24/2018 22:50	WG1186087
Methylene Chloride	ND		2.50	1	10/24/2018 22:50	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/24/2018 22:50	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/24/2018 22:50	WG1186087
Naphthalene	ND		2.50	1	10/24/2018 22:50	WG1186087
n-Propylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Styrene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/24/2018 22:50	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/24/2018 22:50	WG1186087

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/24/2018 22:50	WG1186087
Tetrachloroethene	1.17		0.500	1	10/24/2018 22:50	WG1186087
Toluene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/24/2018 22:50	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/24/2018 22:50	WG1186087
Trichloroethene	ND		0.500	1	10/24/2018 22:50	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/24/2018 22:50	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/24/2018 22:50	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/24/2018 22:50	WG1186087
Vinyl acetate	ND		5.00	1	10/24/2018 22:50	WG1186087
Vinyl chloride	ND		0.500	1	10/24/2018 22:50	WG1186087
Xylenes, Total	ND		1.50	1	10/24/2018 22:50	WG1186087
(S) Toluene-d8	96.5		80.0-120		10/24/2018 22:50	WG1186087
(S) Dibromofluoromethane	113		75.0-120		10/24/2018 22:50	WG1186087
(S) 4-Bromofluorobenzene	104		77.0-126		10/24/2018 22:50	WG1186087

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/24/2018 23:12	WG1186087
Acrylonitrile	ND		5.00	1	10/24/2018 23:12	WG1186087
Benzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Bromobenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Bromodichloromethane	ND		0.500	1	10/24/2018 23:12	WG1186087
Bromochloromethane	ND		0.500	1	10/24/2018 23:12	WG1186087
Bromoform	ND		0.500	1	10/24/2018 23:12	WG1186087
Bromomethane	ND		2.50	1	10/24/2018 23:12	WG1186087
n-Butylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
sec-Butylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
tert-Butylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Carbon disulfide	ND		0.500	1	10/24/2018 23:12	WG1186087
Carbon tetrachloride	ND		0.500	1	10/24/2018 23:12	WG1186087
Chlorobenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Chlorodibromomethane	ND		0.500	1	10/24/2018 23:12	WG1186087
Chloroethane	ND		2.50	1	10/24/2018 23:12	WG1186087
Chloroform	ND		0.500	1	10/24/2018 23:12	WG1186087
Chloromethane	ND		1.25	1	10/24/2018 23:12	WG1186087
2-Chlorotoluene	ND		0.500	1	10/24/2018 23:12	WG1186087
4-Chlorotoluene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/24/2018 23:12	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/24/2018 23:12	WG1186087
Dibromomethane	ND		0.500	1	10/24/2018 23:12	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/24/2018 23:12	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/24/2018 23:12	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/24/2018 23:12	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/24/2018 23:12	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/24/2018 23:12	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/24/2018 23:12	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/24/2018 23:12	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/24/2018 23:12	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/24/2018 23:12	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/24/2018 23:12	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/24/2018 23:12	WG1186087
Di-isopropyl ether	ND		0.500	1	10/24/2018 23:12	WG1186087
Ethylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/24/2018 23:12	WG1186087
2-Hexanone	ND		5.00	1	10/24/2018 23:12	WG1186087
n-Hexane	ND		5.00	1	10/24/2018 23:12	WG1186087
Iodomethane	ND		10.0	1	10/24/2018 23:12	WG1186087
Isopropylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/24/2018 23:12	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/24/2018 23:12	WG1186087
Methylene Chloride	ND		2.50	1	10/24/2018 23:12	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/24/2018 23:12	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/24/2018 23:12	WG1186087
Naphthalene	ND		2.50	1	10/24/2018 23:12	WG1186087
n-Propylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Styrene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/24/2018 23:12	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/24/2018 23:12	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/24/2018 23:12	WG1186087
Tetrachloroethene	ND		0.500	1	10/24/2018 23:12	WG1186087
Toluene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/24/2018 23:12	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/24/2018 23:12	WG1186087
Trichloroethene	ND		0.500	1	10/24/2018 23:12	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/24/2018 23:12	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/24/2018 23:12	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/24/2018 23:12	WG1186087
Vinyl acetate	ND		5.00	1	10/24/2018 23:12	WG1186087
Vinyl chloride	ND		0.500	1	10/24/2018 23:12	WG1186087
Xylenes, Total	ND		1.50	1	10/24/2018 23:12	WG1186087
(S) Toluene-d8	95.0		80.0-120		10/24/2018 23:12	WG1186087
(S) Dibromofluoromethane	112		75.0-120		10/24/2018 23:12	WG1186087
(S) 4-Bromofluorobenzene	104		77.0-126		10/24/2018 23:12	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/24/2018 23:34	WG1186087
Acrylonitrile	ND		5.00	1	10/24/2018 23:34	WG1186087
Benzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Bromobenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Bromodichloromethane	ND		0.500	1	10/24/2018 23:34	WG1186087
Bromochloromethane	ND		0.500	1	10/24/2018 23:34	WG1186087
Bromoform	ND		0.500	1	10/24/2018 23:34	WG1186087
Bromomethane	ND		2.50	1	10/24/2018 23:34	WG1186087
n-Butylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
sec-Butylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
tert-Butylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Carbon disulfide	ND		0.500	1	10/24/2018 23:34	WG1186087
Carbon tetrachloride	ND		0.500	1	10/24/2018 23:34	WG1186087
Chlorobenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Chlorodibromomethane	ND		0.500	1	10/24/2018 23:34	WG1186087
Chloroethane	ND		2.50	1	10/24/2018 23:34	WG1186087
Chloroform	ND		0.500	1	10/24/2018 23:34	WG1186087
Chloromethane	ND		1.25	1	10/24/2018 23:34	WG1186087
2-Chlorotoluene	ND		0.500	1	10/24/2018 23:34	WG1186087
4-Chlorotoluene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/24/2018 23:34	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/24/2018 23:34	WG1186087
Dibromomethane	ND		0.500	1	10/24/2018 23:34	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/24/2018 23:34	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/24/2018 23:34	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/24/2018 23:34	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/24/2018 23:34	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/24/2018 23:34	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/24/2018 23:34	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/24/2018 23:34	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/24/2018 23:34	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/24/2018 23:34	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/24/2018 23:34	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/24/2018 23:34	WG1186087
Di-isopropyl ether	ND		0.500	1	10/24/2018 23:34	WG1186087
Ethylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/24/2018 23:34	WG1186087
2-Hexanone	ND		5.00	1	10/24/2018 23:34	WG1186087
n-Hexane	ND		5.00	1	10/24/2018 23:34	WG1186087
Iodomethane	ND		10.0	1	10/24/2018 23:34	WG1186087
Isopropylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/24/2018 23:34	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/24/2018 23:34	WG1186087
Methylene Chloride	ND		2.50	1	10/24/2018 23:34	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/24/2018 23:34	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/24/2018 23:34	WG1186087
Naphthalene	ND		2.50	1	10/24/2018 23:34	WG1186087
n-Propylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Styrene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/24/2018 23:34	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/24/2018 23:34	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/24/2018 23:34	WG1186087
Tetrachloroethene	ND		0.500	1	10/24/2018 23:34	WG1186087
Toluene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/24/2018 23:34	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/24/2018 23:34	WG1186087
Trichloroethene	ND		0.500	1	10/24/2018 23:34	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/24/2018 23:34	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/24/2018 23:34	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/24/2018 23:34	WG1186087
Vinyl acetate	ND		5.00	1	10/24/2018 23:34	WG1186087
Vinyl chloride	ND		0.500	1	10/24/2018 23:34	WG1186087
Xylenes, Total	ND		1.50	1	10/24/2018 23:34	WG1186087
(S) Toluene-d8	95.9		80.0-120		10/24/2018 23:34	WG1186087
(S) Dibromofluoromethane	112		75.0-120		10/24/2018 23:34	WG1186087
(S) 4-Bromofluorobenzene	105		77.0-126		10/24/2018 23:34	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	10/24/2018 23:56	WG1186087
Acrylonitrile	ND		5.00	1	10/24/2018 23:56	WG1186087
Benzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Bromobenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Bromodichloromethane	ND		0.500	1	10/24/2018 23:56	WG1186087
Bromochloromethane	ND		0.500	1	10/24/2018 23:56	WG1186087
Bromoform	ND		0.500	1	10/24/2018 23:56	WG1186087
Bromomethane	ND		2.50	1	10/24/2018 23:56	WG1186087
n-Butylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
sec-Butylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
tert-Butylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Carbon disulfide	ND		0.500	1	10/24/2018 23:56	WG1186087
Carbon tetrachloride	ND		0.500	1	10/24/2018 23:56	WG1186087
Chlorobenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Chlorodibromomethane	ND		0.500	1	10/24/2018 23:56	WG1186087
Chloroethane	ND		2.50	1	10/24/2018 23:56	WG1186087
Chloroform	0.539		0.500	1	10/24/2018 23:56	WG1186087
Chloromethane	ND		1.25	1	10/24/2018 23:56	WG1186087
2-Chlorotoluene	ND		0.500	1	10/24/2018 23:56	WG1186087
4-Chlorotoluene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/24/2018 23:56	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/24/2018 23:56	WG1186087
Dibromomethane	ND		0.500	1	10/24/2018 23:56	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/24/2018 23:56	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/24/2018 23:56	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/24/2018 23:56	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/24/2018 23:56	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/24/2018 23:56	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/24/2018 23:56	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/24/2018 23:56	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/24/2018 23:56	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/24/2018 23:56	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/24/2018 23:56	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/24/2018 23:56	WG1186087
Di-isopropyl ether	ND		0.500	1	10/24/2018 23:56	WG1186087
Ethylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/24/2018 23:56	WG1186087
2-Hexanone	ND		5.00	1	10/24/2018 23:56	WG1186087
n-Hexane	ND		5.00	1	10/24/2018 23:56	WG1186087
Iodomethane	ND		10.0	1	10/24/2018 23:56	WG1186087
Isopropylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/24/2018 23:56	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/24/2018 23:56	WG1186087
Methylene Chloride	ND		2.50	1	10/24/2018 23:56	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/24/2018 23:56	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/24/2018 23:56	WG1186087
Naphthalene	ND		2.50	1	10/24/2018 23:56	WG1186087
n-Propylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Styrene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/24/2018 23:56	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/24/2018 23:56	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/24/2018 23:56	WG1186087
Tetrachloroethene	0.912		0.500	1	10/24/2018 23:56	WG1186087
Toluene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/24/2018 23:56	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/24/2018 23:56	WG1186087
Trichloroethene	ND		0.500	1	10/24/2018 23:56	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/24/2018 23:56	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/24/2018 23:56	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/24/2018 23:56	WG1186087
Vinyl acetate	ND		5.00	1	10/24/2018 23:56	WG1186087
Vinyl chloride	ND		0.500	1	10/24/2018 23:56	WG1186087
Xylenes, Total	ND		1.50	1	10/24/2018 23:56	WG1186087
(S) Toluene-d8	97.5		80.0-120		10/24/2018 23:56	WG1186087
(S) Dibromofluoromethane	111		75.0-120		10/24/2018 23:56	WG1186087
(S) 4-Bromofluorobenzene	103		77.0-126		10/24/2018 23:56	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 00:18	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 00:18	WG1186087
Benzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 00:18	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 00:18	WG1186087
Bromoform	ND		0.500	1	10/25/2018 00:18	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 00:18	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 00:18	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 00:18	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 00:18	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 00:18	WG1186087
Chloroform	ND		0.500	1	10/25/2018 00:18	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 00:18	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 00:18	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 00:18	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 00:18	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 00:18	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 00:18	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 00:18	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 00:18	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 00:18	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 00:18	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 00:18	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 00:18	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 00:18	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 00:18	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 00:18	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 00:18	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 00:18	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 00:18	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 00:18	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 00:18	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 00:18	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 00:18	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 00:18	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 00:18	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 00:18	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 00:18	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 00:18	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Styrene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 00:18	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 00:18	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 00:18	WG1186087
Tetrachloroethene	2.44		0.500	1	10/25/2018 00:18	WG1186087
Toluene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 00:18	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 00:18	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 00:18	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 00:18	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 00:18	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 00:18	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 00:18	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 00:18	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 00:18	WG1186087
(S) Toluene-d8	98.4		80.0-120		10/25/2018 00:18	WG1186087
(S) Dibromofluoromethane	110		75.0-120		10/25/2018 00:18	WG1186087
(S) 4-Bromofluorobenzene	104		77.0-126		10/25/2018 00:18	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/18/18 10:15

L1037755

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 00:40	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 00:40	WG1186087
Benzene	ND		0.500	1	10/25/2018 00:40	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 00:40	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 00:40	WG1186087
Bromoform	ND		0.500	1	10/25/2018 00:40	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 00:40	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 00:40	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 00:40	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 00:40	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 00:40	WG1186087
Chloroform	ND		0.500	1	10/25/2018 00:40	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 00:40	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 00:40	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 00:40	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 00:40	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 00:40	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 00:40	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 00:40	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 00:40	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 00:40	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 00:40	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 00:40	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 00:40	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 00:40	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 00:40	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 00:40	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 00:40	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 00:40	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 00:40	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 00:40	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 00:40	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 00:40	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 00:40	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 00:40	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 00:40	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 00:40	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 00:40	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 00:40	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 00:40	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 00:40	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 00:40	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087
Styrene	ND		0.500	1	10/25/2018 00:40	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 00:40	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 00:40	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/18/18 10:15

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 00:40	WG1186087	1 Cp
Tetrachloroethene	12.1		0.500	1	10/25/2018 00:40	WG1186087	2 Tc
Toluene	ND		0.500	1	10/25/2018 00:40	WG1186087	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 00:40	WG1186087	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 00:40	WG1186087	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 00:40	WG1186087	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 00:40	WG1186087	7 Gl
Trichloroethene	ND		0.500	1	10/25/2018 00:40	WG1186087	8 Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 00:40	WG1186087	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 00:40	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 00:40	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 00:40	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 00:40	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 00:40	WG1186087	
(S) Toluene-d8	95.2		80.0-120		10/25/2018 00:40	WG1186087	
(S) Dibromofluoromethane	113		75.0-120		10/25/2018 00:40	WG1186087	
(S) 4-Bromofluorobenzene	102		77.0-126		10/25/2018 00:40	WG1186087	



Collected date/time: 10/18/18 11:35

L1037755

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 01:02	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 01:02	WG1186087
Benzene	ND		0.500	1	10/25/2018 01:02	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 01:02	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 01:02	WG1186087
Bromoform	ND		0.500	1	10/25/2018 01:02	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 01:02	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 01:02	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 01:02	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 01:02	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 01:02	WG1186087
Chloroform	ND		0.500	1	10/25/2018 01:02	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 01:02	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 01:02	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 01:02	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 01:02	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 01:02	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 01:02	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 01:02	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 01:02	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 01:02	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 01:02	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 01:02	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 01:02	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 01:02	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 01:02	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 01:02	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 01:02	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 01:02	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 01:02	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 01:02	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 01:02	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 01:02	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 01:02	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 01:02	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 01:02	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 01:02	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 01:02	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 01:02	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 01:02	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 01:02	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 01:02	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087
Styrene	ND		0.500	1	10/25/2018 01:02	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 01:02	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 01:02	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/18/18 11:35

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 01:02	WG1186087	1 Cp
Tetrachloroethene	1.25		0.500	1	10/25/2018 01:02	WG1186087	2 Tc
Toluene	ND		0.500	1	10/25/2018 01:02	WG1186087	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 01:02	WG1186087	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 01:02	WG1186087	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 01:02	WG1186087	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 01:02	WG1186087	7 Gl
Trichloroethene	ND		0.500	1	10/25/2018 01:02	WG1186087	8 Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 01:02	WG1186087	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 01:02	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 01:02	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 01:02	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 01:02	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 01:02	WG1186087	
(S) Toluene-d8	97.3		80.0-120		10/25/2018 01:02	WG1186087	
(S) Dibromofluoromethane	110		75.0-120		10/25/2018 01:02	WG1186087	
(S) 4-Bromofluorobenzene	104		77.0-126		10/25/2018 01:02	WG1186087	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 01:24	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 01:24	WG1186087
Benzene	ND		0.500	1	10/25/2018 01:24	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 01:24	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 01:24	WG1186087
Bromoform	ND		0.500	1	10/25/2018 01:24	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 01:24	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 01:24	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 01:24	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 01:24	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 01:24	WG1186087
Chloroform	ND		0.500	1	10/25/2018 01:24	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 01:24	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 01:24	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 01:24	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 01:24	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 01:24	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 01:24	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 01:24	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 01:24	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 01:24	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 01:24	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 01:24	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 01:24	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 01:24	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 01:24	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 01:24	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 01:24	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 01:24	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 01:24	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 01:24	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 01:24	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 01:24	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 01:24	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 01:24	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 01:24	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 01:24	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 01:24	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 01:24	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 01:24	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 01:24	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 01:24	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087
Styrene	ND		0.500	1	10/25/2018 01:24	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 01:24	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 01:24	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/18/18 09:15

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 01:24	WG1186087	1 Cp
Tetrachloroethene	7.65		0.500	1	10/25/2018 01:24	WG1186087	2 Tc
Toluene	ND		0.500	1	10/25/2018 01:24	WG1186087	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 01:24	WG1186087	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 01:24	WG1186087	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 01:24	WG1186087	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 01:24	WG1186087	7 Gl
Trichloroethene	ND		0.500	1	10/25/2018 01:24	WG1186087	8 Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 01:24	WG1186087	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 01:24	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 01:24	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 01:24	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 01:24	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 01:24	WG1186087	
(S) Toluene-d8	95.8		80.0-120		10/25/2018 01:24	WG1186087	
(S) Dibromofluoromethane	112		75.0-120		10/25/2018 01:24	WG1186087	
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 01:24	WG1186087	



Collected date/time: 10/19/18 17:30

L1037755

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 01:46	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 01:46	WG1186087
Benzene	ND		0.500	1	10/25/2018 01:46	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 01:46	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 01:46	WG1186087
Bromoform	ND		0.500	1	10/25/2018 01:46	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 01:46	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 01:46	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 01:46	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 01:46	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 01:46	WG1186087
Chloroform	ND		0.500	1	10/25/2018 01:46	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 01:46	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 01:46	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 01:46	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 01:46	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 01:46	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 01:46	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 01:46	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 01:46	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 01:46	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 01:46	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 01:46	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 01:46	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 01:46	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 01:46	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 01:46	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 01:46	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 01:46	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 01:46	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 01:46	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 01:46	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 01:46	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 01:46	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 01:46	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 01:46	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 01:46	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 01:46	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 01:46	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 01:46	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 01:46	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 01:46	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087
Styrene	ND		0.500	1	10/25/2018 01:46	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 01:46	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 01:46	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/19/18 17:30

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 01:46	WG1186087	¹ Cp
Tetrachloroethene	8.24		0.500	1	10/25/2018 01:46	WG1186087	² Tc
Toluene	ND		0.500	1	10/25/2018 01:46	WG1186087	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 01:46	WG1186087	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 01:46	WG1186087	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 01:46	WG1186087	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 01:46	WG1186087	⁷ Gl
Trichloroethene	ND		0.500	1	10/25/2018 01:46	WG1186087	⁸ Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 01:46	WG1186087	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 01:46	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 01:46	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 01:46	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 01:46	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 01:46	WG1186087	
(S) Toluene-d8	96.1		80.0-120		10/25/2018 01:46	WG1186087	
(S) Dibromofluoromethane	111		75.0-120		10/25/2018 01:46	WG1186087	
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 01:46	WG1186087	



Collected date/time: 10/19/18 10:45

L1037755

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 02:08	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 02:08	WG1186087
Benzene	ND		0.500	1	10/25/2018 02:08	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 02:08	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 02:08	WG1186087
Bromoform	ND		0.500	1	10/25/2018 02:08	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 02:08	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 02:08	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 02:08	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 02:08	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 02:08	WG1186087
Chloroform	ND		0.500	1	10/25/2018 02:08	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 02:08	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 02:08	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 02:08	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 02:08	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 02:08	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 02:08	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 02:08	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 02:08	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 02:08	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 02:08	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 02:08	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 02:08	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 02:08	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 02:08	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 02:08	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 02:08	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 02:08	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 02:08	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 02:08	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 02:08	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 02:08	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 02:08	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 02:08	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 02:08	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 02:08	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 02:08	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 02:08	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 02:08	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 02:08	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 02:08	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087
Styrene	ND		0.500	1	10/25/2018 02:08	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 02:08	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 02:08	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/19/18 10:45

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 02:08	WG1186087	1 Cp
Tetrachloroethene	1.66		0.500	1	10/25/2018 02:08	WG1186087	2 Tc
Toluene	ND		0.500	1	10/25/2018 02:08	WG1186087	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 02:08	WG1186087	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 02:08	WG1186087	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 02:08	WG1186087	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 02:08	WG1186087	7 Gl
Trichloroethene	ND		0.500	1	10/25/2018 02:08	WG1186087	8 Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 02:08	WG1186087	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 02:08	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 02:08	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 02:08	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 02:08	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 02:08	WG1186087	
(S) Toluene-d8	96.0		80.0-120		10/25/2018 02:08	WG1186087	
(S) Dibromofluoromethane	115		75.0-120		10/25/2018 02:08	WG1186087	
(S) 4-Bromofluorobenzene	104		77.0-126		10/25/2018 02:08	WG1186087	



Collected date/time: 10/19/18 16:05

L1037755

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 02:29	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 02:29	WG1186087
Benzene	ND		0.500	1	10/25/2018 02:29	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 02:29	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 02:29	WG1186087
Bromoform	ND		0.500	1	10/25/2018 02:29	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 02:29	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 02:29	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 02:29	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 02:29	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 02:29	WG1186087
Chloroform	ND		0.500	1	10/25/2018 02:29	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 02:29	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 02:29	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 02:29	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 02:29	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 02:29	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 02:29	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 02:29	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 02:29	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 02:29	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 02:29	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 02:29	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 02:29	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 02:29	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 02:29	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 02:29	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 02:29	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 02:29	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 02:29	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 02:29	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 02:29	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 02:29	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 02:29	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 02:29	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 02:29	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 02:29	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 02:29	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 02:29	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 02:29	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 02:29	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 02:29	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087
Styrene	ND		0.500	1	10/25/2018 02:29	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 02:29	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 02:29	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/19/18 16:05

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 02:29	WG1186087	1 Cp
Tetrachloroethene	2.74		0.500	1	10/25/2018 02:29	WG1186087	2 Tc
Toluene	ND		0.500	1	10/25/2018 02:29	WG1186087	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 02:29	WG1186087	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 02:29	WG1186087	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 02:29	WG1186087	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 02:29	WG1186087	7 Gl
Trichloroethene	ND		0.500	1	10/25/2018 02:29	WG1186087	8 Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 02:29	WG1186087	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 02:29	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 02:29	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 02:29	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 02:29	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 02:29	WG1186087	
(S) Toluene-d8	95.6		80.0-120		10/25/2018 02:29	WG1186087	
(S) Dibromofluoromethane	115		75.0-120		10/25/2018 02:29	WG1186087	
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 02:29	WG1186087	



Collected date/time: 10/19/18 15:00

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	10/25/2018 02:51	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 02:51	WG1186087
Benzene	ND		0.500	1	10/25/2018 02:51	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 02:51	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 02:51	WG1186087
Bromoform	ND		0.500	1	10/25/2018 02:51	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 02:51	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 02:51	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 02:51	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 02:51	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 02:51	WG1186087
Chloroform	2.36		0.500	1	10/25/2018 02:51	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 02:51	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 02:51	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 02:51	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 02:51	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 02:51	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 02:51	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 02:51	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 02:51	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 02:51	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 02:51	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 02:51	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 02:51	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 02:51	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 02:51	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 02:51	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 02:51	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 02:51	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 02:51	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 02:51	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 02:51	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 02:51	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 02:51	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 02:51	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 02:51	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 02:51	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 02:51	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 02:51	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 02:51	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 02:51	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 02:51	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087
Styrene	ND		0.500	1	10/25/2018 02:51	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 02:51	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 02:51	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/19/18 15:00

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 02:51	WG1186087	1 Cp
Tetrachloroethene	2.79		0.500	1	10/25/2018 02:51	WG1186087	2 Tc
Toluene	ND		0.500	1	10/25/2018 02:51	WG1186087	3 Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 02:51	WG1186087	4 Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 02:51	WG1186087	5 Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 02:51	WG1186087	6 Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 02:51	WG1186087	7 Gl
Trichloroethene	ND		0.500	1	10/25/2018 02:51	WG1186087	8 Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 02:51	WG1186087	9 Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 02:51	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 02:51	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 02:51	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 02:51	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 02:51	WG1186087	
(S) Toluene-d8	95.8		80.0-120		10/25/2018 02:51	WG1186087	
(S) Dibromofluoromethane	113		75.0-120		10/25/2018 02:51	WG1186087	
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 02:51	WG1186087	



Collected date/time: 10/19/18 12:15

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	10/25/2018 18:39	WG1186267
Acrylonitrile	ND		5.00	1	10/25/2018 18:39	WG1186267
Benzene	0.540		0.500	1	10/25/2018 18:39	WG1186267
Bromobenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
Bromodichloromethane	ND		0.500	1	10/25/2018 18:39	WG1186267
Bromochloromethane	ND		0.500	1	10/25/2018 18:39	WG1186267
Bromoform	ND		0.500	1	10/25/2018 18:39	WG1186267
Bromomethane	ND		2.50	1	10/25/2018 18:39	WG1186267
n-Butylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
sec-Butylbenzene	0.600		0.500	1	10/25/2018 18:39	WG1186267
tert-Butylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
Carbon disulfide	ND		0.500	1	10/25/2018 18:39	WG1186267
Carbon tetrachloride	ND		0.500	1	10/25/2018 18:39	WG1186267
Chlorobenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
Chlorodibromomethane	ND		0.500	1	10/25/2018 18:39	WG1186267
Chloroethane	ND		2.50	1	10/25/2018 18:39	WG1186267
Chloroform	ND		0.500	1	10/25/2018 18:39	WG1186267
Chloromethane	ND		1.25	1	10/25/2018 18:39	WG1186267
2-Chlorotoluene	ND		0.500	1	10/25/2018 18:39	WG1186267
4-Chlorotoluene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 18:39	WG1186267
1,2-Dibromoethane	ND		0.500	1	10/25/2018 18:39	WG1186267
Dibromomethane	ND		0.500	1	10/25/2018 18:39	WG1186267
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 18:39	WG1186267
1,1-Dichloroethane	ND		0.500	1	10/25/2018 18:39	WG1186267
1,2-Dichloroethane	ND		0.500	1	10/25/2018 18:39	WG1186267
1,1-Dichloroethene	ND		0.500	1	10/25/2018 18:39	WG1186267
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 18:39	WG1186267
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,2-Dichloropropane	ND		0.500	1	10/25/2018 18:39	WG1186267
1,1-Dichloropropene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,3-Dichloropropane	ND		1.00	1	10/25/2018 18:39	WG1186267
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 18:39	WG1186267
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 18:39	WG1186267
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 18:39	WG1186267
2,2-Dichloropropane	ND		0.500	1	10/25/2018 18:39	WG1186267
Di-isopropyl ether	ND		0.500	1	10/25/2018 18:39	WG1186267
Ethylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 18:39	WG1186267
2-Hexanone	ND		5.00	1	10/25/2018 18:39	WG1186267
n-Hexane	ND		5.00	1	10/25/2018 18:39	WG1186267
Iodomethane	ND		10.0	1	10/25/2018 18:39	WG1186267
Isopropylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
p-Isopropyltoluene	ND		0.500	1	10/25/2018 18:39	WG1186267
2-Butanone (MEK)	ND		5.00	1	10/25/2018 18:39	WG1186267
Methylene Chloride	ND		2.50	1	10/25/2018 18:39	WG1186267
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 18:39	WG1186267
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 18:39	WG1186267
Naphthalene	ND		2.50	1	10/25/2018 18:39	WG1186267
n-Propylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
Styrene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 18:39	WG1186267
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 18:39	WG1186267

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 18:39	WG1186267
Tetrachloroethene	0.885		0.500	1	10/25/2018 18:39	WG1186267
Toluene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 18:39	WG1186267
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 18:39	WG1186267
Trichloroethene	ND		0.500	1	10/25/2018 18:39	WG1186267
Trichlorofluoromethane	ND		2.50	1	10/25/2018 18:39	WG1186267
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 18:39	WG1186267
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 18:39	WG1186267
Vinyl acetate	ND		5.00	1	10/25/2018 18:39	WG1186267
Vinyl chloride	ND		0.500	1	10/25/2018 18:39	WG1186267
Xylenes, Total	ND		1.50	1	10/25/2018 18:39	WG1186267
(S) Toluene-d8	94.2		80.0-120		10/25/2018 18:39	WG1186267
(S) Dibromofluoromethane	114		75.0-120		10/25/2018 18:39	WG1186267
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 18:39	WG1186267

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/19/18 00:00

L1037755

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 12:08	WG1186267
Acrylonitrile	ND		5.00	1	10/25/2018 12:08	WG1186267
Benzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Bromobenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Bromodichloromethane	ND		0.500	1	10/25/2018 12:08	WG1186267
Bromochloromethane	ND		0.500	1	10/25/2018 12:08	WG1186267
Bromoform	ND		0.500	1	10/25/2018 12:08	WG1186267
Bromomethane	ND		2.50	1	10/25/2018 12:08	WG1186267
n-Butylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
sec-Butylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
tert-Butylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Carbon disulfide	ND		0.500	1	10/25/2018 12:08	WG1186267
Carbon tetrachloride	ND		0.500	1	10/25/2018 12:08	WG1186267
Chlorobenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Chlorodibromomethane	ND		0.500	1	10/25/2018 12:08	WG1186267
Chloroethane	ND		2.50	1	10/25/2018 12:08	WG1186267
Chloroform	ND		0.500	1	10/25/2018 12:08	WG1186267
Chloromethane	ND		1.25	1	10/25/2018 12:08	WG1186267
2-Chlorotoluene	ND		0.500	1	10/25/2018 12:08	WG1186267
4-Chlorotoluene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 12:08	WG1186267
1,2-Dibromoethane	ND		0.500	1	10/25/2018 12:08	WG1186267
Dibromomethane	ND		0.500	1	10/25/2018 12:08	WG1186267
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 12:08	WG1186267
1,1-Dichloroethane	ND		0.500	1	10/25/2018 12:08	WG1186267
1,2-Dichloroethane	ND		0.500	1	10/25/2018 12:08	WG1186267
1,1-Dichloroethene	ND		0.500	1	10/25/2018 12:08	WG1186267
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 12:08	WG1186267
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,2-Dichloropropane	ND		0.500	1	10/25/2018 12:08	WG1186267
1,1-Dichloropropene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,3-Dichloropropane	ND		1.00	1	10/25/2018 12:08	WG1186267
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 12:08	WG1186267
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 12:08	WG1186267
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 12:08	WG1186267
2,2-Dichloropropane	ND		0.500	1	10/25/2018 12:08	WG1186267
Di-isopropyl ether	ND		0.500	1	10/25/2018 12:08	WG1186267
Ethylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 12:08	WG1186267
2-Hexanone	ND		5.00	1	10/25/2018 12:08	WG1186267
n-Hexane	ND		5.00	1	10/25/2018 12:08	WG1186267
Iodomethane	ND		10.0	1	10/25/2018 12:08	WG1186267
Isopropylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
p-Isopropyltoluene	ND		0.500	1	10/25/2018 12:08	WG1186267
2-Butanone (MEK)	ND		5.00	1	10/25/2018 12:08	WG1186267
Methylene Chloride	ND		2.50	1	10/25/2018 12:08	WG1186267
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 12:08	WG1186267
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 12:08	WG1186267
Naphthalene	ND		2.50	1	10/25/2018 12:08	WG1186267
n-Propylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Styrene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 12:08	WG1186267
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 12:08	WG1186267

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/19/18 00:00

L1037755

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 12:08	WG1186267
Tetrachloroethene	ND		0.500	1	10/25/2018 12:08	WG1186267
Toluene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,2,3-Trichlorobenzene	ND	<u>JO</u>	0.500	1	10/25/2018 12:08	WG1186267
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 12:08	WG1186267
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 12:08	WG1186267
Trichloroethene	ND		0.500	1	10/25/2018 12:08	WG1186267
Trichlorofluoromethane	ND		2.50	1	10/25/2018 12:08	WG1186267
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 12:08	WG1186267
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 12:08	WG1186267
Vinyl acetate	ND		5.00	1	10/25/2018 12:08	WG1186267
Vinyl chloride	ND		0.500	1	10/25/2018 12:08	WG1186267
Xylenes, Total	ND		1.50	1	10/25/2018 12:08	WG1186267
(S) Toluene-d8	94.3		80.0-120		10/25/2018 12:08	WG1186267
(S) Dibromofluoromethane	112		75.0-120		10/25/2018 12:08	WG1186267
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 12:08	WG1186267

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	10/25/2018 19:01	WG1186267
Acrylonitrile	ND		5.00	1	10/25/2018 19:01	WG1186267
Benzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Bromobenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Bromodichloromethane	ND		0.500	1	10/25/2018 19:01	WG1186267
Bromochloromethane	ND		0.500	1	10/25/2018 19:01	WG1186267
Bromoform	ND		0.500	1	10/25/2018 19:01	WG1186267
Bromomethane	ND		2.50	1	10/25/2018 19:01	WG1186267
n-Butylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
sec-Butylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
tert-Butylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Carbon disulfide	ND		0.500	1	10/25/2018 19:01	WG1186267
Carbon tetrachloride	ND		0.500	1	10/25/2018 19:01	WG1186267
Chlorobenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Chlorodibromomethane	ND		0.500	1	10/25/2018 19:01	WG1186267
Chloroethane	ND		2.50	1	10/25/2018 19:01	WG1186267
Chloroform	0.699		0.500	1	10/25/2018 19:01	WG1186267
Chloromethane	ND		1.25	1	10/25/2018 19:01	WG1186267
2-Chlorotoluene	ND		0.500	1	10/25/2018 19:01	WG1186267
4-Chlorotoluene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 19:01	WG1186267
1,2-Dibromoethane	ND		0.500	1	10/25/2018 19:01	WG1186267
Dibromomethane	ND		0.500	1	10/25/2018 19:01	WG1186267
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 19:01	WG1186267
1,1-Dichloroethane	ND		0.500	1	10/25/2018 19:01	WG1186267
1,2-Dichloroethane	ND		0.500	1	10/25/2018 19:01	WG1186267
1,1-Dichloroethene	ND		0.500	1	10/25/2018 19:01	WG1186267
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 19:01	WG1186267
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,2-Dichloropropane	ND		0.500	1	10/25/2018 19:01	WG1186267
1,1-Dichloropropene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,3-Dichloropropane	ND		1.00	1	10/25/2018 19:01	WG1186267
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 19:01	WG1186267
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 19:01	WG1186267
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 19:01	WG1186267
2,2-Dichloropropane	ND		0.500	1	10/25/2018 19:01	WG1186267
Di-isopropyl ether	ND		0.500	1	10/25/2018 19:01	WG1186267
Ethylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 19:01	WG1186267
2-Hexanone	ND		5.00	1	10/25/2018 19:01	WG1186267
n-Hexane	ND		5.00	1	10/25/2018 19:01	WG1186267
Iodomethane	ND		10.0	1	10/25/2018 19:01	WG1186267
Isopropylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
p-Isopropyltoluene	ND		0.500	1	10/25/2018 19:01	WG1186267
2-Butanone (MEK)	ND		5.00	1	10/25/2018 19:01	WG1186267
Methylene Chloride	ND		2.50	1	10/25/2018 19:01	WG1186267
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 19:01	WG1186267
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 19:01	WG1186267
Naphthalene	ND		2.50	1	10/25/2018 19:01	WG1186267
n-Propylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Styrene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 19:01	WG1186267
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 19:01	WG1186267

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 19:01	WG1186267
Tetrachloroethene	ND		0.500	1	10/25/2018 19:01	WG1186267
Toluene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 19:01	WG1186267
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 19:01	WG1186267
Trichloroethene	ND		0.500	1	10/25/2018 19:01	WG1186267
Trichlorofluoromethane	ND		2.50	1	10/25/2018 19:01	WG1186267
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 19:01	WG1186267
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 19:01	WG1186267
Vinyl acetate	ND		5.00	1	10/25/2018 19:01	WG1186267
Vinyl chloride	ND		0.500	1	10/25/2018 19:01	WG1186267
Xylenes, Total	ND		1.50	1	10/25/2018 19:01	WG1186267
(S) Toluene-d8	95.3		80.0-120		10/25/2018 19:01	WG1186267
(S) Dibromofluoromethane	115		75.0-120		10/25/2018 19:01	WG1186267
(S) 4-Bromofluorobenzene	104		77.0-126		10/25/2018 19:01	WG1186267

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3354840-3 10/24/18 22:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

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



Method Blank (MB)

(MB) R3354840-3 10/24/18 22:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	96.7			80.0-120
(S) Dibromofluoromethane	110			75.0-120
(S) 4-Bromofluorobenzene	102			77.0-126

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3354840-1 10/24/18 21:01 • (LCSD) R3354840-2 10/24/18 21:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetone	125	175	161	140	128	19.0-160			8.37	27
Acrylonitrile	125	151	146	121	117	55.0-149			3.12	20
Benzene	25.0	26.0	26.0	104	104	70.0-123			0.118	20
Bromobenzene	25.0	25.5	26.3	102	105	73.0-121			3.03	20
Bromodichloromethane	25.0	27.6	28.4	110	114	75.0-120			2.94	20
Bromochloromethane	25.0	26.0	25.9	104	104	76.0-122			0.365	20
Bromoform	25.0	26.3	27.6	105	110	68.0-132			5.02	20
Bromomethane	25.0	24.0	24.1	95.8	96.5	10.0-160			0.746	25
n-Butylbenzene	25.0	24.7	26.4	99.0	106	73.0-125			6.42	20
sec-Butylbenzene	25.0	25.3	26.2	101	105	75.0-125			3.69	20
tert-Butylbenzene	25.0	24.9	26.2	99.7	105	76.0-124			5.09	20
Carbon disulfide	25.0	23.7	20.6	94.8	82.3	61.0-128			14.1	20
Carbon tetrachloride	25.0	28.3	29.0	113	116	68.0-126			2.65	20
Chlorobenzene	25.0	24.7	24.6	98.9	98.3	80.0-121			0.606	20
Chlorodibromomethane	25.0	26.1	26.3	104	105	77.0-125			0.553	20
Chloroethane	25.0	25.7	25.5	103	102	47.0-150			0.731	20
Chloroform	25.0	27.7	27.7	111	111	73.0-120			0.0369	20
Chloromethane	25.0	26.3	27.8	105	111	41.0-142			5.54	20
2-Chlorotoluene	25.0	25.8	26.7	103	107	76.0-123			3.29	20
4-Chlorotoluene	25.0	26.0	26.8	104	107	75.0-122			3.08	20
1,2-Dibromo-3-Chloropropane	25.0	22.3	23.9	89.1	95.7	58.0-134			7.15	20
1,2-Dibromoethane	25.0	25.1	24.8	101	99.1	80.0-122			1.38	20
Dibromomethane	25.0	27.4	27.5	110	110	80.0-120			0.519	20
1,2-Dichlorobenzene	25.0	23.5	24.9	94.0	99.7	79.0-121			5.84	20
1,3-Dichlorobenzene	25.0	24.0	24.5	95.8	98.0	79.0-120			2.20	20
1,4-Dichlorobenzene	25.0	23.5	24.6	94.0	98.5	79.0-120			4.71	20
Dichlorodifluoromethane	25.0	25.1	24.8	100	99.3	51.0-149			1.01	20
1,1-Dichloroethane	25.0	28.3	28.3	113	113	70.0-126			0.175	20
1,2-Dichloroethane	25.0	29.8	29.8	119	119	70.0-128			0.00701	20
1,1-Dichloroethene	25.0	25.1	24.9	101	99.5	71.0-124			1.04	20
cis-1,2-Dichloroethene	25.0	25.6	25.8	102	103	73.0-120			0.927	20
trans-1,2-Dichloroethene	25.0	27.0	26.9	108	107	73.0-120			0.464	20
1,2-Dichloropropane	25.0	25.6	26.1	103	105	77.0-125			1.89	20
1,1-Dichloropropene	25.0	27.4	27.3	110	109	74.0-126			0.437	20
1,3-Dichloropropane	25.0	24.8	24.4	99.0	97.7	80.0-120			1.28	20
cis-1,3-Dichloropropene	25.0	24.7	24.9	98.9	99.6	80.0-123			0.713	20
trans-1,3-Dichloropropene	25.0	25.1	25.3	101	101	78.0-124			0.790	20
trans-1,4-Dichloro-2-butene	25.0	28.6	29.6	114	118	33.0-144			3.45	20
2,2-Dichloropropane	25.0	28.3	29.6	113	118	58.0-130			4.40	20
Di-isopropyl ether	25.0	28.9	29.1	116	117	58.0-138			0.832	20

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



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

(LCS) R3354840-1 10/24/18 21:01 • (LCSD) R3354840-2 10/24/18 21:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	24.8	24.9	99.2	99.4	79.0-123			0.260	20
Hexachloro-1,3-butadiene	25.0	21.6	23.7	86.4	94.9	54.0-138			9.45	20
2-Hexanone	125	136	134	108	107	67.0-149			1.47	20
n-Hexane	25.0	26.6	26.2	106	105	57.0-133			1.57	20
Iodomethane	125	132	131	106	105	33.0-147			1.13	26
Isopropylbenzene	25.0	25.8	26.9	103	108	76.0-127			4.04	20
p-Isopropyltoluene	25.0	25.5	26.7	102	107	76.0-125			4.92	20
2-Butanone (MEK)	125	154	151	123	121	44.0-160			1.62	20
Methylene Chloride	25.0	25.3	25.6	101	102	67.0-120			1.04	20
4-Methyl-2-pentanone (MIBK)	125	144	143	115	115	68.0-142			0.605	20
Methyl tert-butyl ether	25.0	27.3	27.6	109	110	68.0-125			1.16	20
Naphthalene	25.0	20.5	23.3	81.8	93.3	54.0-135			13.0	20
n-Propylbenzene	25.0	25.7	26.6	103	106	77.0-124			3.54	20
Styrene	25.0	26.0	26.9	104	108	73.0-130			3.43	20
1,1,1,2-Tetrachloroethane	25.0	26.2	26.2	105	105	75.0-125			0.0749	20
1,1,2,2-Tetrachloroethane	25.0	24.1	25.0	96.5	100	65.0-130			3.70	20
1,1,2-Trichlorotrifluoroethane	25.0	26.5	25.0	106	100	69.0-132			5.71	20
Tetrachloroethene	25.0	22.9	23.0	91.5	91.8	72.0-132			0.388	20
Toluene	25.0	24.4	24.3	97.8	97.0	79.0-120			0.792	20
1,2,3-Trichlorobenzene	25.0	20.5	23.4	81.9	93.5	50.0-138			13.2	20
1,2,4-Trichlorobenzene	25.0	22.2	23.8	88.9	95.1	57.0-137			6.72	20
1,1,1-Trichloroethane	25.0	29.1	30.0	116	120	73.0-124			2.91	20
1,1,2-Trichloroethane	25.0	24.4	24.0	97.7	96.2	80.0-120			1.62	20
Trichloroethene	25.0	26.3	26.9	105	107	78.0-124			2.25	20
Trichlorofluoromethane	25.0	30.4	30.5	122	122	59.0-147			0.0702	20
1,2,3-Trichloropropane	25.0	27.3	28.0	109	112	73.0-130			2.65	20
1,2,4-Trimethylbenzene	25.0	25.5	26.5	102	106	76.0-121			3.79	20
1,2,3-Trimethylbenzene	25.0	24.8	26.4	99.2	105	77.0-120			6.13	20
1,3,5-Trimethylbenzene	25.0	26.4	27.6	106	110	76.0-122			4.29	20
Vinyl acetate	125	97.3	93.0	77.8	74.4	11.0-160			4.53	20
Vinyl chloride	25.0	26.5	26.2	106	105	67.0-131			0.886	20
Xylenes, Total	75.0	74.1	73.5	98.8	98.0	79.0-123			0.813	20
(S) Toluene-d8				98.5	95.5	80.0-120				
(S) Dibromofluoromethane				110	107	75.0-120				
(S) 4-Bromofluorobenzene				101	103	77.0-126				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3353885-3 10/25/18 10:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3353885-3 10/25/18 10:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	0.532	U	0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	0.255	U	0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	0.564		0.164	0.500
1,2,4-Trichlorobenzene	0.365	U	0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	96.7			80.0-120
(S) Dibromofluoromethane	112			75.0-120
(S) 4-Bromofluorobenzene	107			77.0-126

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3353885-1 10/25/18 09:13 • (LCSD) R3353885-2 10/25/18 09:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	141	131	113	105	19.0-160			7.18	27
Acrylonitrile	125	143	143	114	115	55.0-149			0.226	20
Benzene	25.0	23.7	24.4	94.7	97.6	70.0-123			3.00	20
Bromobenzene	25.0	24.3	25.2	97.2	101	73.0-121			3.45	20
Bromodichloromethane	25.0	26.3	26.6	105	107	75.0-120			1.18	20
Bromochloromethane	25.0	24.1	24.8	96.2	99.4	76.0-122			3.19	20
Bromoform	25.0	25.4	25.9	102	104	68.0-132			1.92	20
Bromomethane	25.0	22.4	22.9	89.5	91.6	10.0-160			2.30	25
n-Butylbenzene	25.0	24.2	25.3	97.0	101	73.0-125			4.21	20
sec-Butylbenzene	25.0	23.7	24.7	94.8	98.6	75.0-125			3.95	20
tert-Butylbenzene	25.0	23.5	24.6	93.8	98.2	76.0-124			4.58	20
Carbon disulfide	25.0	23.1	21.8	92.6	87.1	61.0-128			6.13	20
Carbon tetrachloride	25.0	26.2	26.8	105	107	68.0-126			2.14	20
Chlorobenzene	25.0	22.8	23.3	91.1	93.1	80.0-121			2.18	20
Chlorodibromomethane	25.0	25.1	25.4	100	102	77.0-125			1.31	20
Chloroethane	25.0	24.0	24.3	95.9	97.3	47.0-150			1.41	20
Chloroform	25.0	25.7	26.1	103	104	73.0-120			1.64	20
Chloromethane	25.0	25.5	26.8	102	107	41.0-142			4.85	20
2-Chlorotoluene	25.0	24.3	25.2	97.3	101	76.0-123			3.65	20
4-Chlorotoluene	25.0	24.6	25.6	98.5	102	75.0-122			3.90	20
1,2-Dibromo-3-Chloropropane	25.0	21.7	23.9	86.7	95.8	58.0-134			9.92	20
1,2-Dibromoethane	25.0	23.4	23.8	93.6	95.1	80.0-122			1.57	20
Dibromomethane	25.0	25.5	26.3	102	105	80.0-120			3.11	20
1,2-Dichlorobenzene	25.0	22.5	23.5	90.1	94.2	79.0-121			4.45	20
1,3-Dichlorobenzene	25.0	23.2	23.5	92.7	94.1	79.0-120			1.53	20
1,4-Dichlorobenzene	25.0	22.2	23.6	88.9	94.2	79.0-120			5.85	20
Dichlorodifluoromethane	25.0	25.0	25.6	100	103	51.0-149			2.56	20
1,1-Dichloroethane	25.0	25.7	26.2	103	105	70.0-126			2.18	20
1,2-Dichloroethane	25.0	28.2	28.8	113	115	70.0-128			2.06	20
1,1-Dichloroethene	25.0	23.3	23.0	93.3	92.2	71.0-124			1.25	20
cis-1,2-Dichloroethene	25.0	23.4	24.1	93.5	96.6	73.0-120			3.20	20
trans-1,2-Dichloroethene	25.0	24.4	25.2	97.7	101	73.0-120			3.14	20
1,2-Dichloropropane	25.0	23.6	24.1	94.2	96.4	77.0-125			2.32	20
1,1-Dichloropropene	25.0	24.8	25.5	99.1	102	74.0-126			2.76	20
1,3-Dichloropropane	25.0	23.0	23.7	92.1	94.8	80.0-120			2.84	20
cis-1,3-Dichloropropene	25.0	23.7	24.2	95.0	97.0	80.0-123			2.09	20
trans-1,3-Dichloropropene	25.0	24.6	25.0	98.3	100	78.0-124			1.68	20
trans-1,4-Dichloro-2-butene	25.0	29.1	30.3	116	121	33.0-144			4.17	20
2,2-Dichloropropane	25.0	28.1	28.7	112	115	58.0-130			2.33	20
Di-isopropyl ether	25.0	26.9	27.7	108	111	58.0-138			2.92	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3353885-1 10/25/18 09:13 • (LCSD) R3353885-2 10/25/18 09:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	22.8	23.0	91.0	92.0	79.0-123			1.08	20
Hexachloro-1,3-butadiene	25.0	21.3	24.5	85.1	97.9	54.0-138			14.0	20
2-Hexanone	125	128	131	102	105	67.0-149			2.62	20
n-Hexane	25.0	26.7	26.6	107	106	57.0-133			0.182	20
Iodomethane	125	120	122	96.2	97.6	33.0-147			1.52	26
Isopropylbenzene	25.0	24.2	25.2	96.8	101	76.0-127			3.95	20
p-Isopropyltoluene	25.0	24.0	25.1	96.2	100	76.0-125			4.35	20
2-Butanone (MEK)	125	143	148	114	119	44.0-160			3.92	20
Methylene Chloride	25.0	23.1	24.0	92.3	96.1	67.0-120			4.06	20
4-Methyl-2-pentanone (MIBK)	125	138	140	110	112	68.0-142			1.45	20
Methyl tert-butyl ether	25.0	25.6	26.0	102	104	68.0-125			1.46	20
Naphthalene	25.0	20.2	22.9	80.7	91.5	54.0-135			12.5	20
n-Propylbenzene	25.0	24.4	25.3	97.6	101	77.0-124			3.43	20
Styrene	25.0	24.8	25.6	99.1	103	73.0-130			3.46	20
1,1,1,2-Tetrachloroethane	25.0	24.6	24.7	98.2	98.9	75.0-125			0.649	20
1,1,2,2-Tetrachloroethane	25.0	25.0	25.6	99.8	103	65.0-130			2.72	20
1,1,2-Trichlorotrifluoroethane	25.0	25.6	24.4	103	97.5	69.0-132			5.06	20
Tetrachloroethene	25.0	20.8	21.5	83.2	86.0	72.0-132			3.38	20
Toluene	25.0	22.5	22.7	90.0	90.8	79.0-120			0.909	20
1,2,3-Trichlorobenzene	25.0	19.8	23.3	79.1	93.3	50.0-138			16.5	20
1,2,4-Trichlorobenzene	25.0	21.7	24.2	86.7	96.9	57.0-137			11.1	20
1,1,1-Trichloroethane	25.0	27.4	27.7	110	111	73.0-124			1.02	20
1,1,2-Trichloroethane	25.0	22.9	23.2	91.6	92.7	80.0-120			1.15	20
Trichloroethene	25.0	23.0	23.6	91.8	94.5	78.0-124			2.91	20
Trichlorofluoromethane	25.0	28.4	29.3	114	117	59.0-147			3.00	20
1,2,3-Trichloropropane	25.0	26.7	27.7	107	111	73.0-130			3.76	20
1,2,4-Trimethylbenzene	25.0	24.4	25.2	97.7	101	76.0-121			3.04	20
1,2,3-Trimethylbenzene	25.0	23.7	24.9	94.9	99.6	77.0-120			4.87	20
1,3,5-Trimethylbenzene	25.0	24.9	26.0	99.4	104	76.0-122			4.29	20
Vinyl acetate	125	146	149	117	119	11.0-160			1.87	20
Vinyl chloride	25.0	24.3	25.0	97.0	100	67.0-131			3.08	20
Xylenes, Total	75.0	68.0	69.3	90.7	92.4	79.0-123			1.89	20
(S) Toluene-d8				97.8	97.2	80.0-120				
(S) Dibromofluoromethane				109	108	75.0-120				
(S) 4-Bromofluorobenzene				102	102	77.0-126				

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



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0: Calibration verification outside of acceptance limits. Result is estimated.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

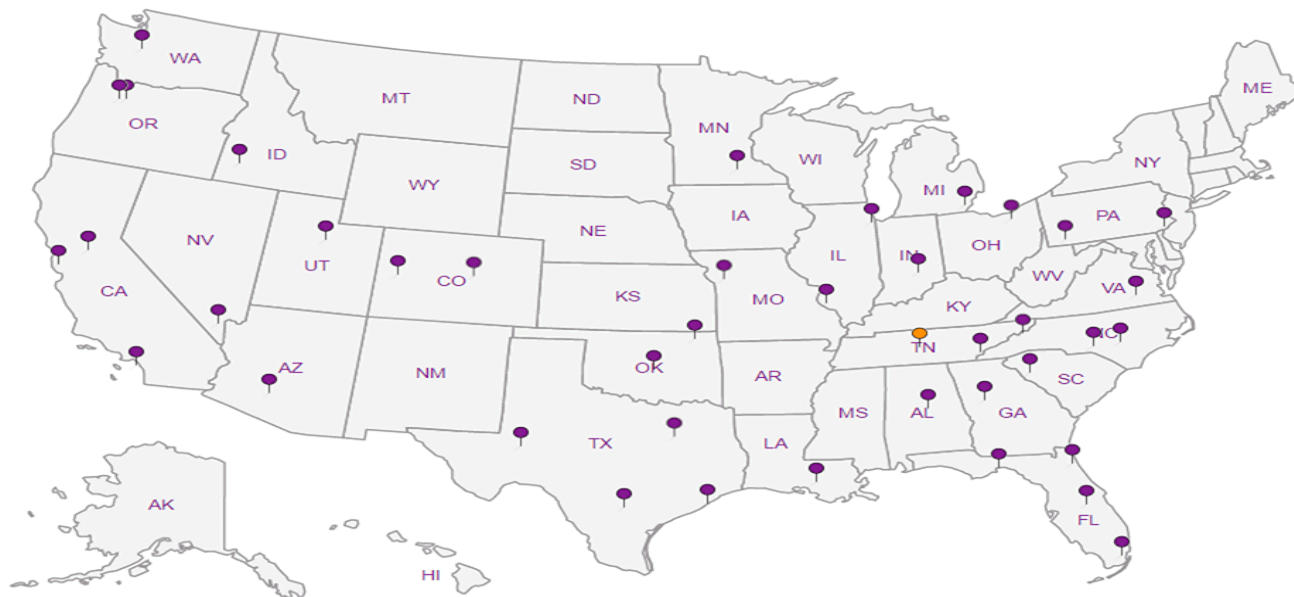
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc


7 Gl

8 Al

9 Sc

PES Environmental, Inc.- WA
 1215 Fourth Ave., Suite 1356
 Seattle, WA 98161

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

Chain of Custody Page 1 of 2

 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

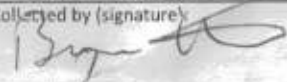
Report to: **Karsten Springstead**
 Email To: kspringstead@pesenv.com; indahl@pesenv.com

Project Description: **MVSC**
 City/State Collected: **Norandy Park, WA**

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

Client Project # **1358.001.01.003**
 Lab Project # **PESENVSWA-MVSC**

Collected by (print): **Ben Hecht**
 Site/Facility ID # **MVSC**

Collected by (signature): 
 Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #
 Date Results Needed

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnt:	Pre Chk	Analysis / Container / Preservative	Chain of Custody
MW-2-101818		GW	38	10/18/18	16:25	3	X		L# 4037755 A156 Acctnum: PESENVSWA Template: T131700 Prelogin: P675999 TSR: 110 - Brian Ford PB: T6 10-5-18 Shipped Via: FedEX Ground
MW-10-101818		GW	37	10/18/18	12:45	3	X		
MW-15-101818		GW	43	↓	15:15	3	X		
MW-16-101818		GW	40	↓	14:10	3	X		
MW-11-101918		GW	38	10/19/18	13:50	3	X		
DL-8-101818		GW	39	10/18/18	10:15	3	X		
DL-11-101818		GW	41	10/18/18	11:35	3	X		
DL-15-101818		GW	38	10/18/18	09:15	3	X		
DL-17-101918		GW	36	10/19/18	17:30	3	X		
DL-12-101918		GW	40	10/19/18	10:45	3	X		

* Matrix: SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

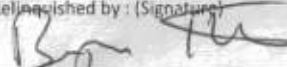
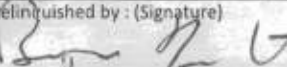
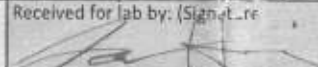
Remarks: **JH**

Samples returned via: UPS FedEx Courier

Tracking # **4624 2995 7140**

pH _____ Temp _____
 Flow _____ Other _____

Sample Receipt Checklist
 COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 If Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

Relinquished by: (Signature) 	Date: 10/19/18	Time: 18:50	Received by: (Signature) Matthew Duce	Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCL/MoOH BR	If preservation required by Login: Date/Time Hold: Condition: NCF / <input checked="" type="checkbox"/>
Relinquished by: (Signature) Matthew Duce	Date: 10/22/18	Time: 21:00	Received by: (Signature) Ben Hecht	Temp: 20.1°C Bottles Received: 407/413	
Relinquished by: (Signature) 	Date: 10/23/18	Time: 16:15	Received for lab by: (Signature) 	Date: 10/24/18 Time: 8:45	

PES Environmental, Inc. - WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Artn: Accounts Payable
215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Pages
Ch:

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



12055 Lebanon Rd
Maury Julet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project
Description: **MVSC**

City/State
Collected: **Normandy Park, WA**

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
Ben Hecht

Site/Facility ID #
MVSC

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Immediately Packed on Ice N Y

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Date Results Needed:

No. of
Containers

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Containers
DC-13-101918		GW	40	10/19/18	16:05	2
DC-18-101918		GW	40	↓	15:00	2
DC-20-101918		GW	41	↓	12:15	3
Trip Blank		GW				1
KMW-9-101818		GW	39.9	10/18/18	17:30	3
		GW				
		GW				
		GW				
		GW				
		GW				

1358.001.01.003

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

3H

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:

UPS FedEx Courier

Tracking # **4624 2995 7140**

Sample Receipt Checklist

COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

RAD SCREEN: <0.5 mR/hr

Relinquished by: (Signature) **Ben Hecht**

Date: **10/19/18** Time: **18:50**

Received by: (Signature) **Matthew D...**

Trip Blank Received: Yes No
HC / MeOH TBR

Relinquished by: (Signature) **Matthew D...**

Date: **10/22/18** Time: **21:00**

Received by: (Signature) **Ben Hecht**

Temp: **2.0°C** Bottles Received: **40 of 43**

Relinquished by: (Signature) **Ben Hecht**

Date: **10/23/18** Time: **16:15**

Received for lab by: (Signature) **Matthew D...**

Date: **10/25** Time: **4:45**

If preservation required by Login: Date/Time
Hold: _____ Condition: **NCF 1**

MEMORANDUM

TO: Project File **DATE:** November 7, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center
PROJECT #: 1358.001.01.003
TASK: October 18-19, 2018 Groundwater Samples
LAB: Pace Analytical Sample Delivery Group (SDG): L1037755

Fourteen (14) groundwater samples and one (1) trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Centre site in Normandy Park, Washington on October 18-19, 2018. Samples associated with SDG L1037755 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Pace Analytical (Pace) of Mt. Juliet, Tennessee.

The monitoring event occurred between October 16 and 23, 2018 and data are also reported in SDGs L1036062 and L1037759. The quality assurance review of the laboratory data for SDG L1037755 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 2.0 degrees Centigrade (°C). Chain of custody notes are hard to read. The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. No data qualifications were warranted.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

- *USEPA Method 8260C*: Continuing calibration verification (CCV) issue is noted by Pace for several compounds associated with analytical batch WG1186267 (analyzed on October 25, 2018). No action is taken other than to note that just the trip blank appears to be associated with the CCV and associated samples are not impacted.

Method Blank Results

A laboratory method blank was included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at a concentration at or above the reporting detection limits (RDLs) with the following exceptions:

- Low levels of hexachloro-1,3-butadiene, naphthalene, and 1,2,4-trichlorobenzene are detected in the method blank associated with samples DC-20-101918, KMW-9-101818, and the trip blank. No action was taken since these compounds are not detected in the associated samples.

Trip Blank Results

A trip blank was collected and submitted for analysis. The target analytes (VOCs) were not detected in the trip blank at a concentration at or above the reporting detection limits (RDLs).

Equipment Blank Results

Equipment blank was not collected as planned during this sampling event due to an oversight in the field. No action is taken other than to note that corrective action has been implemented and equipment blanks will be collected in future sampling events.

Field Duplicate Analyses

Field duplicate samples were not collected. Refer to SDG L1037759 for field duplicate data or laboratory control sample results associated with this SDG for precision data.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results and/or laboratory control sample results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, trip blank, method blanks, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) %R's and relative percent differences (RPDs) for analytical batch are within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS/LCSD and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No laboratory quality control issues were identified in the laboratory reports with the following discussion:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered into the EDDs.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

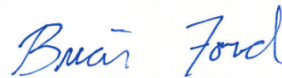
No data qualifiers are assigned. All data are judged to be acceptable for their intended use.

October 30, 2018

PES Environmental, Inc.- WA

Sample Delivery Group: L1037759
Samples Received: 10/24/2018
Project Number: 1358.001.01.003
Description: MVSC
Site: MVSC
Report To: Karsten Springstead
1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	²Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³Ss
DC-7-102318 L1037759-01	5	
MW-14-102318 L1037759-02	7	⁴Cn
MW-7-102318 L1037759-03	9	⁵Sr
MW-7-101010 L1037759-04	11	
KMW-3-102318 L1037759-05	13	⁶Qc
KMW-3-101010 L1037759-06	15	
KMW-7-102318 L1037759-07	17	⁷Gl
KMW-8-102318 L1037759-08	19	⁸Al
Qc: Quality Control Summary	21	
Volatile Organic Compounds (GC/MS) by Method 8260C	21	⁹Sc
Gl: Glossary of Terms	25	
Al: Accreditations & Locations	26	
Sc: Sample Chain of Custody	27	

SAMPLE SUMMARY



DC-7-102318 L1037759-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 03:13	10/25/18 03:13	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 14:45	10/24/18 08:45

1 Cp

2 Tc

3 Ss

MW-14-102318 L1037759-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 04:01	10/25/18 04:01	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 13:30	10/24/18 08:45

4 Cn

5 Sr

MW-7-102318 L1037759-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 04:23	10/25/18 04:23	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 16:20	10/24/18 08:45

6 Qc

7 Gl

MW-7-101010 L1037759-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 04:45	10/25/18 04:45	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 16:30	10/24/18 08:45

8 Al

9 Sc

KMW-3-102318 L1037759-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 05:07	10/25/18 05:07	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 17:15	10/24/18 08:45

KMW-3-101010 L1037759-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 05:29	10/25/18 05:29	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 17:20	10/24/18 08:45

KMW-7-102318 L1037759-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 05:51	10/25/18 05:51	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 10:50	10/24/18 08:45

KMW-8-102318 L1037759-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1186087	1	10/25/18 06:13	10/25/18 06:13	JCP

Collected by	Collected date/time	Received date/time
Ben Hecht	10/23/18 12:15	10/24/18 08:45



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

Brian Ford
Project Manager

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



Collected date/time: 10/23/18 14:45

L1037759

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 03:13	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 03:13	WG1186087
Benzene	ND		0.500	1	10/25/2018 03:13	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 03:13	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 03:13	WG1186087
Bromoform	ND		0.500	1	10/25/2018 03:13	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 03:13	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 03:13	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 03:13	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 03:13	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 03:13	WG1186087
Chloroform	ND		0.500	1	10/25/2018 03:13	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 03:13	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 03:13	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 03:13	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 03:13	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 03:13	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 03:13	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 03:13	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 03:13	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 03:13	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 03:13	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 03:13	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 03:13	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 03:13	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 03:13	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 03:13	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 03:13	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 03:13	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 03:13	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 03:13	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 03:13	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 03:13	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 03:13	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 03:13	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 03:13	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 03:13	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 03:13	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 03:13	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 03:13	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 03:13	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 03:13	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087
Styrene	ND		0.500	1	10/25/2018 03:13	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 03:13	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 03:13	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/23/18 14:45

L1037759

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 03:13	WG1186087	¹ Cp
Tetrachloroethene	11.6		0.500	1	10/25/2018 03:13	WG1186087	² Tc
Toluene	ND		0.500	1	10/25/2018 03:13	WG1186087	³ Ss
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 03:13	WG1186087	⁴ Cn
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 03:13	WG1186087	⁵ Sr
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 03:13	WG1186087	⁶ Qc
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 03:13	WG1186087	⁷ Gl
Trichloroethene	ND		0.500	1	10/25/2018 03:13	WG1186087	⁸ Al
Trichlorofluoromethane	ND		2.50	1	10/25/2018 03:13	WG1186087	⁹ Sc
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 03:13	WG1186087	
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087	
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087	
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 03:13	WG1186087	
Vinyl acetate	ND		5.00	1	10/25/2018 03:13	WG1186087	
Vinyl chloride	ND		0.500	1	10/25/2018 03:13	WG1186087	
Xylenes, Total	ND		1.50	1	10/25/2018 03:13	WG1186087	
(S) Toluene-d8	93.9		80.0-120		10/25/2018 03:13	WG1186087	
(S) Dibromofluoromethane	115		75.0-120		10/25/2018 03:13	WG1186087	
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 03:13	WG1186087	



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 04:01	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 04:01	WG1186087
Benzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 04:01	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 04:01	WG1186087
Bromoform	ND		0.500	1	10/25/2018 04:01	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 04:01	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 04:01	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 04:01	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 04:01	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 04:01	WG1186087
Chloroform	ND		0.500	1	10/25/2018 04:01	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 04:01	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 04:01	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 04:01	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 04:01	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 04:01	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 04:01	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 04:01	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 04:01	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 04:01	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 04:01	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 04:01	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 04:01	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 04:01	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 04:01	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 04:01	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 04:01	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 04:01	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 04:01	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 04:01	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 04:01	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 04:01	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 04:01	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 04:01	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 04:01	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 04:01	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 04:01	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 04:01	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Styrene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 04:01	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 04:01	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 04:01	WG1186087
Tetrachloroethene	ND		0.500	1	10/25/2018 04:01	WG1186087
Toluene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 04:01	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 04:01	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 04:01	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 04:01	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 04:01	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 04:01	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 04:01	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 04:01	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 04:01	WG1186087
(S) Toluene-d8	95.1		80.0-120		10/25/2018 04:01	WG1186087
(S) Dibromofluoromethane	110		75.0-120		10/25/2018 04:01	WG1186087
(S) 4-Bromofluorobenzene	99.1		77.0-126		10/25/2018 04:01	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 04:23	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 04:23	WG1186087
Benzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 04:23	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 04:23	WG1186087
Bromoform	ND		0.500	1	10/25/2018 04:23	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 04:23	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 04:23	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 04:23	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 04:23	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 04:23	WG1186087
Chloroform	ND		0.500	1	10/25/2018 04:23	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 04:23	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 04:23	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 04:23	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 04:23	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 04:23	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 04:23	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 04:23	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 04:23	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 04:23	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 04:23	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 04:23	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 04:23	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 04:23	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 04:23	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 04:23	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 04:23	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 04:23	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 04:23	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 04:23	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 04:23	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 04:23	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 04:23	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 04:23	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 04:23	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 04:23	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 04:23	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 04:23	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Styrene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 04:23	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 04:23	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 04:23	WG1186087
Tetrachloroethene	5.79		0.500	1	10/25/2018 04:23	WG1186087
Toluene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 04:23	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 04:23	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 04:23	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 04:23	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 04:23	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 04:23	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 04:23	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 04:23	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 04:23	WG1186087
(S) Toluene-d8	94.8		80.0-120		10/25/2018 04:23	WG1186087
(S) Dibromofluoromethane	111		75.0-120		10/25/2018 04:23	WG1186087
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 04:23	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 04:45	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 04:45	WG1186087
Benzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 04:45	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 04:45	WG1186087
Bromoform	ND		0.500	1	10/25/2018 04:45	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 04:45	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 04:45	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 04:45	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 04:45	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 04:45	WG1186087
Chloroform	ND		0.500	1	10/25/2018 04:45	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 04:45	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 04:45	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 04:45	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 04:45	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 04:45	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 04:45	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 04:45	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 04:45	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 04:45	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 04:45	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 04:45	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 04:45	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 04:45	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 04:45	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 04:45	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 04:45	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 04:45	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 04:45	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 04:45	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 04:45	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 04:45	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 04:45	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 04:45	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 04:45	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 04:45	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 04:45	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 04:45	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Styrene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 04:45	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 04:45	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 04:45	WG1186087
Tetrachloroethene	6.66		0.500	1	10/25/2018 04:45	WG1186087
Toluene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 04:45	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 04:45	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 04:45	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 04:45	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 04:45	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 04:45	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 04:45	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 04:45	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 04:45	WG1186087
(S) Toluene-d8	98.0		80.0-120		10/25/2018 04:45	WG1186087
(S) Dibromofluoromethane	114		75.0-120		10/25/2018 04:45	WG1186087
(S) 4-Bromofluorobenzene	104		77.0-126		10/25/2018 04:45	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 05:07	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 05:07	WG1186087
Benzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 05:07	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 05:07	WG1186087
Bromoform	ND		0.500	1	10/25/2018 05:07	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 05:07	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 05:07	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 05:07	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 05:07	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 05:07	WG1186087
Chloroform	ND		0.500	1	10/25/2018 05:07	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 05:07	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 05:07	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 05:07	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 05:07	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 05:07	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 05:07	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 05:07	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 05:07	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 05:07	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 05:07	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 05:07	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 05:07	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 05:07	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 05:07	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 05:07	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 05:07	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 05:07	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 05:07	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 05:07	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 05:07	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 05:07	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 05:07	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 05:07	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 05:07	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 05:07	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 05:07	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 05:07	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Styrene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 05:07	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 05:07	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 05:07	WG1186087
Tetrachloroethene	5.41		0.500	1	10/25/2018 05:07	WG1186087
Toluene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 05:07	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 05:07	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 05:07	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 05:07	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 05:07	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 05:07	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 05:07	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 05:07	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 05:07	WG1186087
(S) Toluene-d8	96.1		80.0-120		10/25/2018 05:07	WG1186087
(S) Dibromofluoromethane	113		75.0-120		10/25/2018 05:07	WG1186087
(S) 4-Bromofluorobenzene	104		77.0-126		10/25/2018 05:07	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 05:29	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 05:29	WG1186087
Benzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 05:29	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 05:29	WG1186087
Bromoform	ND		0.500	1	10/25/2018 05:29	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 05:29	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 05:29	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 05:29	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 05:29	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 05:29	WG1186087
Chloroform	ND		0.500	1	10/25/2018 05:29	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 05:29	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 05:29	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 05:29	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 05:29	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 05:29	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 05:29	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 05:29	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 05:29	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 05:29	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 05:29	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 05:29	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 05:29	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 05:29	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 05:29	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 05:29	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 05:29	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 05:29	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 05:29	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 05:29	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 05:29	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 05:29	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 05:29	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 05:29	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 05:29	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 05:29	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 05:29	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 05:29	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Styrene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 05:29	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 05:29	WG1186087

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 05:29	WG1186087
Tetrachloroethene	5.26		0.500	1	10/25/2018 05:29	WG1186087
Toluene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 05:29	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 05:29	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 05:29	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 05:29	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 05:29	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 05:29	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 05:29	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 05:29	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 05:29	WG1186087
(S) Toluene-d8	95.9		80.0-120		10/25/2018 05:29	WG1186087
(S) Dibromofluoromethane	113		75.0-120		10/25/2018 05:29	WG1186087
(S) 4-Bromofluorobenzene	103		77.0-126		10/25/2018 05:29	WG1186087

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



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	10/25/2018 05:51	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 05:51	WG1186087
Benzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 05:51	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 05:51	WG1186087
Bromoform	ND		0.500	1	10/25/2018 05:51	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 05:51	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 05:51	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 05:51	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 05:51	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 05:51	WG1186087
Chloroform	ND		0.500	1	10/25/2018 05:51	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 05:51	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 05:51	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 05:51	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 05:51	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 05:51	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 05:51	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 05:51	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 05:51	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 05:51	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 05:51	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 05:51	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 05:51	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 05:51	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 05:51	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 05:51	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 05:51	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 05:51	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 05:51	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 05:51	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 05:51	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 05:51	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 05:51	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 05:51	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 05:51	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 05:51	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 05:51	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 05:51	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Styrene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 05:51	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 05:51	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 05:51	WG1186087
Tetrachloroethene	0.711		0.500	1	10/25/2018 05:51	WG1186087
Toluene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 05:51	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 05:51	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 05:51	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 05:51	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 05:51	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 05:51	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 05:51	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 05:51	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 05:51	WG1186087
(S) Toluene-d8	95.8		80.0-120		10/25/2018 05:51	WG1186087
(S) Dibromofluoromethane	112		75.0-120		10/25/2018 05:51	WG1186087
(S) 4-Bromofluorobenzene	105		77.0-126		10/25/2018 05:51	WG1186087

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	10/25/2018 06:13	WG1186087
Acrylonitrile	ND		5.00	1	10/25/2018 06:13	WG1186087
Benzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Bromobenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Bromodichloromethane	ND		0.500	1	10/25/2018 06:13	WG1186087
Bromochloromethane	ND		0.500	1	10/25/2018 06:13	WG1186087
Bromoform	ND		0.500	1	10/25/2018 06:13	WG1186087
Bromomethane	ND		2.50	1	10/25/2018 06:13	WG1186087
n-Butylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
sec-Butylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
tert-Butylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Carbon disulfide	ND		0.500	1	10/25/2018 06:13	WG1186087
Carbon tetrachloride	ND		0.500	1	10/25/2018 06:13	WG1186087
Chlorobenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Chlorodibromomethane	ND		0.500	1	10/25/2018 06:13	WG1186087
Chloroethane	ND		2.50	1	10/25/2018 06:13	WG1186087
Chloroform	1.16		0.500	1	10/25/2018 06:13	WG1186087
Chloromethane	ND		1.25	1	10/25/2018 06:13	WG1186087
2-Chlorotoluene	ND		0.500	1	10/25/2018 06:13	WG1186087
4-Chlorotoluene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,2-Dibromo-3-Chloropropane	ND		2.50	1	10/25/2018 06:13	WG1186087
1,2-Dibromoethane	ND		0.500	1	10/25/2018 06:13	WG1186087
Dibromomethane	ND		0.500	1	10/25/2018 06:13	WG1186087
1,2-Dichlorobenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,3-Dichlorobenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,4-Dichlorobenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Dichlorodifluoromethane	ND		2.50	1	10/25/2018 06:13	WG1186087
1,1-Dichloroethane	ND		0.500	1	10/25/2018 06:13	WG1186087
1,2-Dichloroethane	ND		0.500	1	10/25/2018 06:13	WG1186087
1,1-Dichloroethene	ND		0.500	1	10/25/2018 06:13	WG1186087
cis-1,2-Dichloroethene	ND		0.500	1	10/25/2018 06:13	WG1186087
trans-1,2-Dichloroethene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,2-Dichloropropane	ND		0.500	1	10/25/2018 06:13	WG1186087
1,1-Dichloropropene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,3-Dichloropropane	ND		1.00	1	10/25/2018 06:13	WG1186087
cis-1,3-Dichloropropene	ND		0.500	1	10/25/2018 06:13	WG1186087
trans-1,3-Dichloropropene	ND		0.500	1	10/25/2018 06:13	WG1186087
trans-1,4-Dichloro-2-butene	ND		5.00	1	10/25/2018 06:13	WG1186087
2,2-Dichloropropane	ND		0.500	1	10/25/2018 06:13	WG1186087
Di-isopropyl ether	ND		0.500	1	10/25/2018 06:13	WG1186087
Ethylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Hexachloro-1,3-butadiene	ND		1.00	1	10/25/2018 06:13	WG1186087
2-Hexanone	ND		5.00	1	10/25/2018 06:13	WG1186087
n-Hexane	ND		5.00	1	10/25/2018 06:13	WG1186087
Iodomethane	ND		10.0	1	10/25/2018 06:13	WG1186087
Isopropylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
p-Isopropyltoluene	ND		0.500	1	10/25/2018 06:13	WG1186087
2-Butanone (MEK)	ND		5.00	1	10/25/2018 06:13	WG1186087
Methylene Chloride	ND		2.50	1	10/25/2018 06:13	WG1186087
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/25/2018 06:13	WG1186087
Methyl tert-butyl ether	ND		0.500	1	10/25/2018 06:13	WG1186087
Naphthalene	ND		2.50	1	10/25/2018 06:13	WG1186087
n-Propylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Styrene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,1,1,2-Tetrachloroethane	ND		0.500	1	10/25/2018 06:13	WG1186087
1,1,2,2-Tetrachloroethane	ND		0.500	1	10/25/2018 06:13	WG1186087

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	10/25/2018 06:13	WG1186087
Tetrachloroethene	5.26		0.500	1	10/25/2018 06:13	WG1186087
Toluene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,2,3-Trichlorobenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,2,4-Trichlorobenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,1,1-Trichloroethane	ND		0.500	1	10/25/2018 06:13	WG1186087
1,1,2-Trichloroethane	ND		0.500	1	10/25/2018 06:13	WG1186087
Trichloroethene	ND		0.500	1	10/25/2018 06:13	WG1186087
Trichlorofluoromethane	ND		2.50	1	10/25/2018 06:13	WG1186087
1,2,3-Trichloropropane	ND		2.50	1	10/25/2018 06:13	WG1186087
1,2,4-Trimethylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,2,3-Trimethylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
1,3,5-Trimethylbenzene	ND		0.500	1	10/25/2018 06:13	WG1186087
Vinyl acetate	ND		5.00	1	10/25/2018 06:13	WG1186087
Vinyl chloride	ND		0.500	1	10/25/2018 06:13	WG1186087
Xylenes, Total	ND		1.50	1	10/25/2018 06:13	WG1186087
(S) Toluene-d8	94.5		80.0-120		10/25/2018 06:13	WG1186087
(S) Dibromofluoromethane	115		75.0-120		10/25/2018 06:13	WG1186087
(S) 4-Bromofluorobenzene	106		77.0-126		10/25/2018 06:13	WG1186087

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3354840-3 10/24/18 22:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

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



Method Blank (MB)

(MB) R3354840-3 10/24/18 22:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	5.00
n-Hexane	U		0.305	5.00
Iodomethane	U		0.377	10.0
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	5.00
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	96.7			80.0-120
(S) Dibromofluoromethane	110			75.0-120
(S) 4-Bromofluorobenzene	102			77.0-126

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3354840-1 10/24/18 21:01 • (LCSD) R3354840-2 10/24/18 21:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	175	161	140	128	19.0-160			8.37	27
Acrylonitrile	125	151	146	121	117	55.0-149			3.12	20
Benzene	25.0	26.0	26.0	104	104	70.0-123			0.118	20
Bromobenzene	25.0	25.5	26.3	102	105	73.0-121			3.03	20
Bromodichloromethane	25.0	27.6	28.4	110	114	75.0-120			2.94	20
Bromochloromethane	25.0	26.0	25.9	104	104	76.0-122			0.365	20
Bromoform	25.0	26.3	27.6	105	110	68.0-132			5.02	20
Bromomethane	25.0	24.0	24.1	95.8	96.5	10.0-160			0.746	25
n-Butylbenzene	25.0	24.7	26.4	99.0	106	73.0-125			6.42	20
sec-Butylbenzene	25.0	25.3	26.2	101	105	75.0-125			3.69	20
tert-Butylbenzene	25.0	24.9	26.2	99.7	105	76.0-124			5.09	20
Carbon disulfide	25.0	23.7	20.6	94.8	82.3	61.0-128			14.1	20
Carbon tetrachloride	25.0	28.3	29.0	113	116	68.0-126			2.65	20
Chlorobenzene	25.0	24.7	24.6	98.9	98.3	80.0-121			0.606	20
Chlorodibromomethane	25.0	26.1	26.3	104	105	77.0-125			0.553	20
Chloroethane	25.0	25.7	25.5	103	102	47.0-150			0.731	20
Chloroform	25.0	27.7	27.7	111	111	73.0-120			0.0369	20
Chloromethane	25.0	26.3	27.8	105	111	41.0-142			5.54	20
2-Chlorotoluene	25.0	25.8	26.7	103	107	76.0-123			3.29	20
4-Chlorotoluene	25.0	26.0	26.8	104	107	75.0-122			3.08	20
1,2-Dibromo-3-Chloropropane	25.0	22.3	23.9	89.1	95.7	58.0-134			7.15	20
1,2-Dibromoethane	25.0	25.1	24.8	101	99.1	80.0-122			1.38	20
Dibromomethane	25.0	27.4	27.5	110	110	80.0-120			0.519	20
1,2-Dichlorobenzene	25.0	23.5	24.9	94.0	99.7	79.0-121			5.84	20
1,3-Dichlorobenzene	25.0	24.0	24.5	95.8	98.0	79.0-120			2.20	20
1,4-Dichlorobenzene	25.0	23.5	24.6	94.0	98.5	79.0-120			4.71	20
Dichlorodifluoromethane	25.0	25.1	24.8	100	99.3	51.0-149			1.01	20
1,1-Dichloroethane	25.0	28.3	28.3	113	113	70.0-126			0.175	20
1,2-Dichloroethane	25.0	29.8	29.8	119	119	70.0-128			0.00701	20
1,1-Dichloroethene	25.0	25.1	24.9	101	99.5	71.0-124			1.04	20
cis-1,2-Dichloroethene	25.0	25.6	25.8	102	103	73.0-120			0.927	20
trans-1,2-Dichloroethene	25.0	27.0	26.9	108	107	73.0-120			0.464	20
1,2-Dichloropropane	25.0	25.6	26.1	103	105	77.0-125			1.89	20
1,1-Dichloropropene	25.0	27.4	27.3	110	109	74.0-126			0.437	20
1,3-Dichloropropane	25.0	24.8	24.4	99.0	97.7	80.0-120			1.28	20
cis-1,3-Dichloropropene	25.0	24.7	24.9	98.9	99.6	80.0-123			0.713	20
trans-1,3-Dichloropropene	25.0	25.1	25.3	101	101	78.0-124			0.790	20
trans-1,4-Dichloro-2-butene	25.0	28.6	29.6	114	118	33.0-144			3.45	20
2,2-Dichloropropane	25.0	28.3	29.6	113	118	58.0-130			4.40	20
Di-isopropyl ether	25.0	28.9	29.1	116	117	58.0-138			0.832	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

(LCS) R3354840-1 10/24/18 21:01 • (LCSD) R3354840-2 10/24/18 21:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	24.8	24.9	99.2	99.4	79.0-123			0.260	20
Hexachloro-1,3-butadiene	25.0	21.6	23.7	86.4	94.9	54.0-138			9.45	20
2-Hexanone	125	136	134	108	107	67.0-149			1.47	20
n-Hexane	25.0	26.6	26.2	106	105	57.0-133			1.57	20
Iodomethane	125	132	131	106	105	33.0-147			1.13	26
Isopropylbenzene	25.0	25.8	26.9	103	108	76.0-127			4.04	20
p-Isopropyltoluene	25.0	25.5	26.7	102	107	76.0-125			4.92	20
2-Butanone (MEK)	125	154	151	123	121	44.0-160			1.62	20
Methylene Chloride	25.0	25.3	25.6	101	102	67.0-120			1.04	20
4-Methyl-2-pentanone (MIBK)	125	144	143	115	115	68.0-142			0.605	20
Methyl tert-butyl ether	25.0	27.3	27.6	109	110	68.0-125			1.16	20
Naphthalene	25.0	20.5	23.3	81.8	93.3	54.0-135			13.0	20
n-Propylbenzene	25.0	25.7	26.6	103	106	77.0-124			3.54	20
Styrene	25.0	26.0	26.9	104	108	73.0-130			3.43	20
1,1,1,2-Tetrachloroethane	25.0	26.2	26.2	105	105	75.0-125			0.0749	20
1,1,2,2-Tetrachloroethane	25.0	24.1	25.0	96.5	100	65.0-130			3.70	20
1,1,2-Trichlorotrifluoroethane	25.0	26.5	25.0	106	100	69.0-132			5.71	20
Tetrachloroethene	25.0	22.9	23.0	91.5	91.8	72.0-132			0.388	20
Toluene	25.0	24.4	24.3	97.8	97.0	79.0-120			0.792	20
1,2,3-Trichlorobenzene	25.0	20.5	23.4	81.9	93.5	50.0-138			13.2	20
1,2,4-Trichlorobenzene	25.0	22.2	23.8	88.9	95.1	57.0-137			6.72	20
1,1,1-Trichloroethane	25.0	29.1	30.0	116	120	73.0-124			2.91	20
1,1,2-Trichloroethane	25.0	24.4	24.0	97.7	96.2	80.0-120			1.62	20
Trichloroethene	25.0	26.3	26.9	105	107	78.0-124			2.25	20
Trichlorofluoromethane	25.0	30.4	30.5	122	122	59.0-147			0.0702	20
1,2,3-Trichloropropane	25.0	27.3	28.0	109	112	73.0-130			2.65	20
1,2,4-Trimethylbenzene	25.0	25.5	26.5	102	106	76.0-121			3.79	20
1,2,3-Trimethylbenzene	25.0	24.8	26.4	99.2	105	77.0-120			6.13	20
1,3,5-Trimethylbenzene	25.0	26.4	27.6	106	110	76.0-122			4.29	20
Vinyl acetate	125	97.3	93.0	77.8	74.4	11.0-160			4.53	20
Vinyl chloride	25.0	26.5	26.2	106	105	67.0-131			0.886	20
Xylenes, Total	75.0	74.1	73.5	98.8	98.0	79.0-123			0.813	20
(S) Toluene-d8				98.5	95.5	80.0-120				
(S) Dibromofluoromethane				110	107	75.0-120				
(S) 4-Bromofluorobenzene				101	103	77.0-126				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
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- 6 Qc
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Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

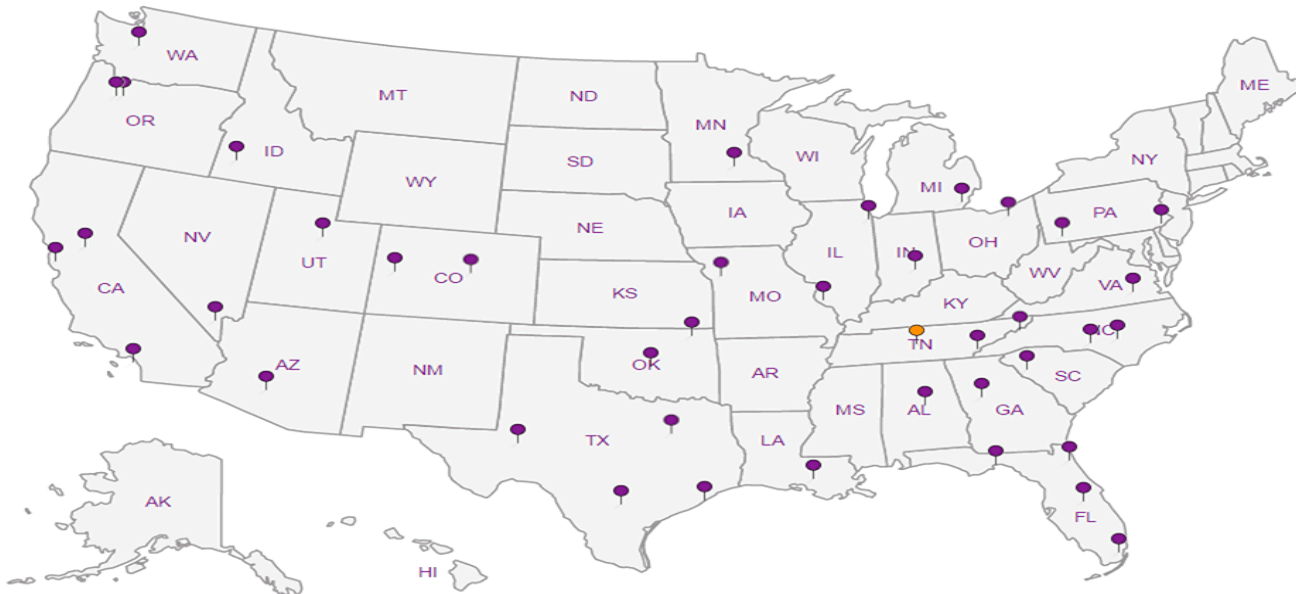
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

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



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing information:
Acctn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Pre-Chi:

Report to:
Karsten Springstead

Email To: kspringstead@pesenv.com;
mdahl@pesenv.com

Project
Description: **MVSC**

City/State
Collected:

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

Client Project #
1358.001.01.003

Lab Project #
PESENVSWA-MVSC

Collected by (print):
Ben Hecht

Site/Facility ID #
MVSC

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #
Date Results Needed

Immediately
Packed on Ice N Y

VOLUME VULS 4011111111111111

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **L1037759**

A157

Acctnum: **PESENVSWA**
 Template: **T131700**
 Prelogin: **P675999**
 TSR: **110 - Brian Ford**
 PB: **T6 10-5-18**
 Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnt.	Remarks	Sample # (lab only)
DC-7-102318		GW	36.5	10/23/18	14:45	3	X	
MW-7-102318		GW	40.6			3	X	-01
MW-14-102318		GW	35		13:30	3	X	
MW-7-102318		GW	40.6	10/23/18	16:20	3	X	-02
MW-7-101010		GW	40.6		16:30	3	X	-03
KMW-3-102318		GW				3	X	-04
KMW-3-102318		GW	29		17:15	3	X	
KMW-3-101010		GW	29		17:20	3	X	-05
KMW-7-102318		GW	33.5		10:50	3	X	-06
KMW-8-102318		GW	40		12:15	3	X	-07
								-08

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - Waste Water
 DW - Drinking Water
 OT - Other

Remarks:
 For questions contact kspringstead@pesenv.com
 or mdahl@pesenv.com

Samples returned via:
 UPS FedEx Courier

Tracking # **4624 2995 7140**

Sample Receipt Checklist
 COC Seal Present/Intact: NP Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N

if Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

RAD SCREEN: <0.5 mR/hr

Relinquished by: (Signature) <i>[Signature]</i>	Date: 10/23/18	Time: 16:15	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	HCL/MeOH TBR	Temp: 2.0°C	Bottles Received: 24	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)					
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 10/24/18	Time: 8:45	Hold:	Condition: NCF / <input checked="" type="checkbox"/>	

MEMORANDUM

TO: Project File **DATE:** November 7, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center
PROJECT #: 1358.001.01.003
TASK: October 23, 2018 Groundwater Samples
LAB: Pace Analytical Sample Delivery Group (SDG): L1037759

Eight (8) groundwater samples including two field duplicates were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Centre site in Normandy Park, Washington on October 23, 2018. Samples associated with SDG L1037755 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Pace Analytical (Pace) of Mt. Juliet, Tennessee.

The monitoring event occurred between October 16 and 23, 2018 and data are also reported in SDGs L1036062 and L1037755. The quality assurance review of the laboratory data for SDG L1037759 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler temperature at the time of receipt was measured at 2.0 degrees Centigrade (°C). The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. No data qualifications were warranted.

Holding Times

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved water). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable and Pace's notes do not indicate any issues with calibration.

Method Blank Results

A laboratory method blank was included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at a concentration at or above the reporting detection limits (RDLs).

Trip Blank Results

A trip blank was not collected. Refer to SDGs L1036062 and L1037755 for trip blank results.

Equipment Blank Results

Equipment blank was not collected as planned during this sampling event due to an oversight in the field. No action is taken other than to note that corrective action has been implemented and equipment blanks will be collected in future sampling events.

Field Duplicate Analyses

Field duplicate sample pairs are as follows:

- Samples MW-7-102318 and MW-7-101010
- Samples KMW-3-102318 and KMW-3-101010

Field duplicate pairs were submitted and analyzed for VOCs. VOC target analyte results are comparable and within a relative percent difference (RPD) of 30% (or $\pm 1x$ RDL for water results $<5X$ the RDL) for the field duplicates.

Laboratory Duplicate Analyses

Laboratory duplicate analysis was not performed. Refer to field duplicate results and/or laboratory control sample results for precision data.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample and laboratory control sample duplicate (LCS/LCSD) %R's and relative percent differences (RPDs) for analytical batch are within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Refer to LCS/LCSD and field duplicate results for accuracy and precision data.

Other Quality Control Issues

No laboratory quality control issues were identified in the laboratory reports with the following discussion:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered into the EDDs.

Quantitation Limits

Results of the USEPA 8260 VOC analyses were reported based on laboratory RDLs. The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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

PES Environmental, Inc.
Matt Dahl
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC
Work Order Number: 1811001

November 07, 2018

Attention Matt Dahl:

Fremont Analytical, Inc. received 2 sample(s) on 10/31/2018 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,

A handwritten signature in black ink, appearing to read "Chelsea Ward".

Chelsea Ward
Project Manager

*DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)*



Date: 11/07/2018

CLIENT: PES Environmental, Inc.
Project: MVSC
Work Order: 1811001

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1811001-001	W-DRUM-103118	10/31/2018 12:30 PM	10/31/2018 5:20 PM
1811001-002	Trip Blank	10/31/2018 12:00 AM	10/31/2018 5:20 PM

CLIENT: PES Environmental, Inc.

Project: MVSC

WorkOrder Narrative:

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").

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

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

Qualifiers:

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

Acronyms:

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



Client: PES Environmental, Inc.

Collection Date: 10/31/2018 12:30:00 PM

Project: MVSC

Lab ID: 1811001-001

Matrix: Groundwater

Client Sample ID: W-DRUM-103118

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

Batch ID: 22488

Analyst: CR

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Chloromethane	ND	2.00		µg/L	1	11/1/2018 4:06:47 PM
Vinyl chloride	ND	0.200		µg/L	1	11/1/2018 4:06:47 PM
Bromomethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Chloroethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Methylene chloride	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	11/1/2018 4:06:47 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Chloroform	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Carbon tetrachloride	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Benzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	11/1/2018 4:06:47 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Bromodichloromethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Dibromomethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Toluene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Dibromochloromethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	11/1/2018 4:06:47 PM
Chlorobenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Ethylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
m,p-Xylene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
o-Xylene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Styrene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Isopropylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Bromoform	ND	2.00		µg/L	1	11/1/2018 4:06:47 PM



Client: PES Environmental, Inc.

Collection Date: 10/31/2018 12:30:00 PM

Project: MVSC

Lab ID: 1811001-001

Matrix: Groundwater

Client Sample ID: W-DRUM-103118

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

Batch ID: 22488

Analyst: CR

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
n-Propylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Bromobenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
2-Chlorotoluene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
4-Chlorotoluene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
tert-Butylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	11/1/2018 4:06:47 PM
sec-Butylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
n-Butylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	11/1/2018 4:06:47 PM
Naphthalene	ND	1.00		µg/L	1	11/1/2018 4:06:47 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	11/1/2018 4:06:47 PM
Surr: Dibromofluoromethane	101	45.4 - 152		%Rec	1	11/1/2018 4:06:47 PM
Surr: Toluene-d8	97.4	40.1 - 139		%Rec	1	11/1/2018 4:06:47 PM
Surr: 1-Bromo-4-fluorobenzene	106	64.2 - 128		%Rec	1	11/1/2018 4:06:47 PM

Work Order: 1811001
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-22488	SampType:	LCS	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	LCSW	Batch ID:	22488	Analysis Date:	11/1/2018	SeqNo:	922339				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	24.9	1.00	20.00	0	124	18.7	171				
Chloromethane	22.3	2.00	20.00	0	111	38.5	171				
Vinyl chloride	21.2	0.200	20.00	0	106	48	145				
Bromomethane	23.3	1.00	20.00	0	117	32.5	184				
Trichlorofluoromethane (CFC-11)	18.7	1.00	20.00	0	93.4	43.5	149				
Chloroethane	21.0	1.00	20.00	0	105	43.8	168				
1,1-Dichloroethene	19.3	1.00	20.00	0	96.4	57.5	150				
Methylene chloride	19.7	1.00	20.00	0	98.4	67.1	131				
trans-1,2-Dichloroethene	19.6	1.00	20.00	0	98.1	71.7	129				
Methyl tert-butyl ether (MTBE)	19.4	1.00	20.00	0	97.2	58	138				
1,1-Dichloroethane	19.4	1.00	20.00	0	96.8	67.9	134				
2,2-Dichloropropane	20.5	2.00	20.00	0	103	26.5	185				
cis-1,2-Dichloroethene	19.5	1.00	20.00	0	97.4	70.2	139				
Chloroform	19.6	1.00	20.00	0	97.9	66.3	131				
1,1,1-Trichloroethane (TCA)	19.0	1.00	20.00	0	95.2	63	140				
1,1-Dichloropropene	19.4	1.00	20.00	0	97.0	69.9	124				
Carbon tetrachloride	18.7	1.00	20.00	0	93.5	66.2	134				
1,2-Dichloroethane (EDC)	19.7	1.00	20.00	0	98.5	67	126				
Benzene	19.3	1.00	20.00	0	96.6	69.3	132				
Trichloroethene (TCE)	19.2	0.500	20.00	0	96.2	65.2	136				
1,2-Dichloropropane	19.7	1.00	20.00	0	98.5	70.5	130				
Bromodichloromethane	19.4	1.00	20.00	0	97.0	67.2	137				
Dibromomethane	19.2	1.00	20.00	0	95.9	69.3	143				
cis-1,3-Dichloropropene	19.2	1.00	20.00	0	95.8	62.6	137				
Toluene	19.0	1.00	20.00	0	95.0	61.3	145				
trans-1,3-Dichloropropylene	18.5	1.00	20.00	0	92.6	56.5	163				
1,1,2-Trichloroethane	19.1	1.00	20.00	0	95.7	71.7	131				
1,3-Dichloropropane	19.2	1.00	20.00	0	96.1	73.5	127				
Tetrachloroethene (PCE)	18.6	1.00	20.00	0	92.9	47.5	147				
Dibromochloromethane	18.8	1.00	20.00	0	93.8	67.2	134				
1,2-Dibromoethane (EDB)	18.7	0.250	20.00	0	93.3	73.6	125				

Work Order: 1811001
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-22488	SampType:	LCS	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	LCSW	Batch ID:	22488	Analysis Date:	11/1/2018	SeqNo:	922339				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	19.0	1.00	20.00	0	94.8	73.9	126				
1,1,1,2-Tetrachloroethane	18.6	1.00	20.00	0	93.1	76.8	124				
Ethylbenzene	19.7	1.00	20.00	0	98.5	72	130				
m,p-Xylene	37.9	1.00	40.00	0	94.7	70.3	134				
o-Xylene	19.2	1.00	20.00	0	96.0	72.1	131				
Styrene	18.7	1.00	20.00	0	93.5	64.3	140				
Isopropylbenzene	19.1	1.00	20.00	0	95.4	73.9	128				
Bromoform	18.1	2.00	20.00	0	90.6	55.3	141				
1,1,2,2-Tetrachloroethane	19.4	1.00	20.00	0	96.9	62.9	132				
n-Propylbenzene	18.6	1.00	20.00	0	92.8	74.5	127				
Bromobenzene	18.5	1.00	20.00	0	92.7	71	131				
1,3,5-Trimethylbenzene	18.9	1.00	20.00	0	94.6	73.1	128				
2-Chlorotoluene	19.0	1.00	20.00	0	94.8	70.8	130				
4-Chlorotoluene	19.2	1.00	20.00	0	96.1	70.1	131				
tert-Butylbenzene	18.5	1.00	20.00	0	92.7	68.2	131				
1,2,3-Trichloropropane	18.1	1.00	20.00	0	90.4	67.7	131				
1,2,4-Trichlorobenzene	19.9	2.00	20.00	0	99.4	41	139				
sec-Butylbenzene	18.7	1.00	20.00	0	93.7	72	129				
4-Isopropyltoluene	18.8	1.00	20.00	0	94.2	69.2	130				
1,3-Dichlorobenzene	19.5	1.00	20.00	0	97.3	69.5	128				
1,4-Dichlorobenzene	19.8	1.00	20.00	0	98.8	66.8	119				
n-Butylbenzene	20.5	1.00	20.00	0	102	73.8	127				
1,2-Dichlorobenzene	19.8	1.00	20.00	0	99.1	69.7	119				
1,2-Dibromo-3-chloropropane	20.9	1.00	20.00	0	104	63.1	136				
1,2,4-Trimethylbenzene	19.1	1.00	20.00	0	95.6	73.4	127				
Hexachloro-1,3-butadiene	19.1	4.00	20.00	0	95.5	58.6	138				
Naphthalene	19.4	1.00	20.00	0	96.9	41.8	165				
1,2,3-Trichlorobenzene	19.6	4.00	20.00	0	98.0	35.8	155				
Surr: Dibromofluoromethane	25.3		25.00		101	45.4	152				
Surr: Toluene-d8	25.1		25.00		100	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.7		25.00		98.9	64.2	128				

Work Order: 1811001
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-22488	SampType:	LCS	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361				
Client ID:	LCSW	Batch ID:	22488			Analysis Date:	11/1/2018	SeqNo:	922339				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	MB-22488	SampType:	MBLK	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361				
Client ID:	MBLKW	Batch ID:	22488			Analysis Date:	11/1/2018	SeqNo:	922340				
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	2.00											
Vinyl chloride	ND	0.200											
Bromomethane	ND	1.00											
Trichlorofluoromethane (CFC-11)	ND	1.00											
Chloroethane	ND	1.00											
1,1-Dichloroethene	ND	1.00											
Methylene chloride	ND	1.00											
trans-1,2-Dichloroethene	ND	1.00											
Methyl tert-butyl ether (MTBE)	ND	1.00											
1,1-Dichloroethane	ND	1.00											
2,2-Dichloropropane	ND	2.00											
cis-1,2-Dichloroethene	ND	1.00											
Chloroform	ND	1.00											
1,1,1-Trichloroethane (TCA)	ND	1.00											
1,1-Dichloropropene	ND	1.00											
Carbon tetrachloride	ND	1.00											
1,2-Dichloroethane (EDC)	ND	1.00											
Benzene	ND	1.00											
Trichloroethene (TCE)	ND	0.500											
1,2-Dichloropropane	ND	1.00											
Bromodichloromethane	ND	1.00											
Dibromomethane	ND	1.00											
cis-1,3-Dichloropropene	ND	1.00											
Toluene	ND	1.00											

Work Order: 1811001
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: MB-22488	SampType: MBLK	Units: µg/L	Prep Date: 11/1/2018	RunNo: 47361
Client ID: MBLKW	Batch ID: 22488		Analysis Date: 11/1/2018	SeqNo: 922340

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.250									
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	2.00									
1,1,1,2,2-Pentachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									

Work Order: 1811001
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	MB-22488	SampType:	MBLK	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	MBLKW	Batch ID:	22488			Analysis Date:	11/1/2018	SeqNo:	922340		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	24.6		25.00		98.4	45.4	152				
Surr: Toluene-d8	25.3		25.00		101	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	64.2	128				

Sample ID	1810507-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	BATCH	Batch ID:	22488			Analysis Date:	11/1/2018	SeqNo:	922325		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	

Work Order: 1811001
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1810507-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	BATCH	Batch ID:	22488	Analysis Date:	11/1/2018	SeqNo:	922325				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	

Work Order: 1811001
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1810507-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	BATCH	Batch ID:	22488			Analysis Date:	11/1/2018	SeqNo:	922325		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	24.8		25.00		99.2	45.4	152		0		
Surr: Toluene-d8	25.5		25.00		102	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.2		25.00		101	64.2	128		0		

Sample ID	LCS D-22488	SampType:	LCS D	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	LCS W02	Batch ID:	22488			Analysis Date:	11/1/2018	SeqNo:	922338		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	25.1	1.00	20.00	0	126	18.7	171	24.87	0.978	20	
Chloromethane	22.5	2.00	20.00	0	113	38.5	171	22.27	1.20	20	
Vinyl chloride	22.9	0.200	20.00	0	114	48	145	21.21	7.53	20	
Bromomethane	28.3	1.00	20.00	0	142	32.5	184	23.34	19.3	20	
Trichlorofluoromethane (CFC-11)	20.3	1.00	20.00	0	102	43.5	149	18.67	8.48	20	
Chloroethane	22.6	1.00	20.00	0	113	43.8	168	20.99	7.20	20	
1,1-Dichloroethene	21.1	1.00	20.00	0	105	57.5	150	19.29	8.95	20	
Methylene chloride	22.2	1.00	20.00	0	111	67.1	131	19.68	12.0	20	
trans-1,2-Dichloroethene	21.6	1.00	20.00	0	108	71.7	129	19.62	9.78	20	
Methyl tert-butyl ether (MTBE)	22.9	1.00	20.00	0	114	58	138	19.43	16.3	20	
1,1-Dichloroethane	21.8	1.00	20.00	0	109	67.9	134	19.36	11.8	20	
2,2-Dichloropropane	21.3	2.00	20.00	0	106	26.5	185	20.55	3.47	20	
cis-1,2-Dichloroethene	21.6	1.00	20.00	0	108	70.2	139	19.47	10.4	20	

Work Order: 1811001
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: LCS D-22488	SampType: LCS D	Units: µg/L	Prep Date: 11/1/2018	RunNo: 47361
Client ID: LCS W02	Batch ID: 22488		Analysis Date: 11/1/2018	SeqNo: 922338

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	22.3	1.00	20.00	0	112	66.3	131	19.59	13.0	20	
1,1,1-Trichloroethane (TCA)	20.8	1.00	20.00	0	104	63	140	19.03	8.81	20	
1,1-Dichloropropene	21.1	1.00	20.00	0	106	69.9	124	19.40	8.61	20	
Carbon tetrachloride	20.2	1.00	20.00	0	101	66.2	134	18.71	7.84	20	
1,2-Dichloroethane (EDC)	23.3	1.00	20.00	0	117	68.8	123	19.70	16.9	20	
Benzene	21.7	1.00	20.00	0	109	69.3	132	19.33	11.7	20	
Trichloroethene (TCE)	20.9	0.500	20.00	0	105	65.2	136	19.24	8.48	20	
1,2-Dichloropropane	22.5	1.00	20.00	0	113	70.5	130	19.70	13.3	20	
Bromodichloromethane	22.3	1.00	20.00	0	111	74.6	127	19.40	13.8	20	
Dibromomethane	23.1	1.00	20.00	0	116	69.3	143	19.19	18.6	20	
cis-1,3-Dichloropropene	21.7	1.00	20.00	0	108	62.6	137	19.17	12.2	20	
Toluene	21.1	1.00	20.00	0	105	61.3	145	19.00	10.5	20	
trans-1,3-Dichloropropylene	21.3	1.00	20.00	0	107	56.5	163	18.51	14.2	20	
1,1,2-Trichloroethane	22.4	1.00	20.00	0	112	71.7	131	19.14	15.7	20	
1,3-Dichloropropane	22.7	1.00	20.00	0	114	73.5	127	19.22	16.8	20	
Tetrachloroethene (PCE)	19.9	1.00	20.00	0	99.4	47.5	147	18.58	6.77	20	
Dibromochloromethane	21.2	1.00	20.00	0	106	67.2	134	18.76	12.4	20	
1,2-Dibromoethane (EDB)	22.1	0.250	20.00	0	111	73.6	125	18.67	17.0	20	
Chlorobenzene	20.9	1.00	20.00	0	104	73.9	126	18.97	9.67	20	
1,1,1,2-Tetrachloroethane	20.8	1.00	20.00	0	104	76.8	124	18.63	10.8	20	
Ethylbenzene	21.3	1.00	20.00	0	106	72	130	19.69	7.81	20	
m,p-Xylene	40.8	1.00	40.00	0	102	70.3	134	37.88	7.35	20	
o-Xylene	20.8	1.00	20.00	0	104	72.1	131	19.19	8.17	20	
Styrene	20.9	1.00	20.00	0	104	64.3	140	18.71	10.9	20	
Isopropylbenzene	20.6	1.00	20.00	0	103	73.9	128	19.08	7.45	20	
Bromoform	21.6	2.00	20.00	0	108	55.3	141	18.11	17.6	20	
1,1,2,2-Tetrachloroethane	25.1	1.00	20.00	0	125	62.9	132	19.39	25.6	20	R
n-Propylbenzene	20.8	1.00	20.00	0	104	74.5	127	18.57	11.4	20	
Bromobenzene	21.1	1.00	20.00	0	106	71	131	18.55	13.0	20	
1,3,5-Trimethylbenzene	20.5	1.00	20.00	0	103	73.1	128	18.91	8.27	20	
2-Chlorotoluene	21.8	1.00	20.00	0	109	70.8	130	18.96	14.0	20	

Work Order: 1811001
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS D-22488	SampType:	LCS D	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	LCS W02	Batch ID:	22488	Analysis Date:	11/1/2018	SeqNo:	922338				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	19.9	1.00	20.00	0	99.4	70.1	131	19.21	3.46	20	
tert-Butylbenzene	19.7	1.00	20.00	0	98.4	68.2	131	18.54	5.97	20	
1,2,3-Trichloropropane	23.2	1.00	20.00	0	116	67.7	131	18.08	25.0	20	R
1,2,4-Trichlorobenzene	21.1	2.00	20.00	0	105	41	139	19.88	5.92	20	
sec-Butylbenzene	20.3	1.00	20.00	0	102	72	129	18.75	8.00	20	
4-Isopropyltoluene	20.3	1.00	20.00	0	102	69.2	130	18.84	7.66	20	
1,3-Dichlorobenzene	20.9	1.00	20.00	0	104	69.5	128	19.45	6.96	20	
1,4-Dichlorobenzene	21.4	1.00	20.00	0	107	66.8	119	19.76	8.03	20	
n-Butylbenzene	20.7	1.00	20.00	0	103	73.8	127	20.47	0.908	20	
1,2-Dichlorobenzene	21.7	1.00	20.00	0	109	69.7	119	19.83	9.15	20	
1,2-Dibromo-3-chloropropane	25.8	1.00	20.00	0	129	63.1	136	20.88	21.0	20	R
1,2,4-Trimethylbenzene	20.9	1.00	20.00	0	105	73.4	127	19.11	9.01	20	
Hexachloro-1,3-butadiene	18.7	4.00	20.00	0	93.3	58.6	138	19.11	2.35	20	
Naphthalene	22.5	1.00	20.00	0	113	41.8	165	19.37	15.1	20	
1,2,3-Trichlorobenzene	21.1	4.00	20.00	0	105	35.8	155	19.59	7.41	20	
Surr: Dibromofluoromethane	25.8		25.00		103	45.4	152		0		
Surr: Toluene-d8	25.5		25.00		102	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.0		25.00		99.9	64.2	128		0		

NOTES:

R - High RPD observed, spike recoveries are within range.

Sample ID	1811016-002ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	BATCH	Batch ID:	22488	Analysis Date:	11/1/2018	SeqNo:	922334				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	

Work Order: 1811001
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1811016-002ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	BATCH	Batch ID:	22488	Analysis Date:	11/1/2018	SeqNo:	922334				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	

Work Order: 1811001
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1811016-002ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/1/2018	RunNo:	47361		
Client ID:	BATCH	Batch ID:	22488	Analysis Date:	11/1/2018	SeqNo:	922334				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
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	25.7		25.00		103	45.4	152		0		
Surr: Toluene-d8	25.6		25.00		103	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	64.2	128		0		

Client Name: **PES**

 Work Order Number: **1811001**

 Logged by: **Brianna Barnes**

 Date Received: **10/31/2018 5:20:00 PM**
Chain of Custody

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

Log In

3. Coolers are present? Yes No NA
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	3.2
Sample	6.1

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



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

Chain of Custody Record & Laboratory Services Agreement

Date: 10-31-18 Page: 1 of 1

Project Name: MUSE

Project No: 1358.001.01.003

Collected by: K. Spradley

Location: Normandy Park, WA

Report To (PM): Matt Dahl

PM Email: mdahl@seawinc.com

Client: P&S Environmental
Address: 1215 4th Ave Ste 1350
City, State, Zip: SEATTLE, WA 98161
Telephone: 206-529-3980
Fax: 206-529-3985

Laboratory Project No (Internal): 1911001

Special Remarks:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes														Comments			
				VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	EDB (8011)					
1 W-BAMA-103118	10-31-18	1306	GW	X																	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SI = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water
 **Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn
 ***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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

Relinquished	Date/Time	Received	Date/Time
<i>[Signature]</i>	10-31-18 / 1335	<i>[Signature]</i>	10-31-18 / 12:35
Relinquished	Date/Time	Received	Date/Time
<i>[Signature]</i>	10/31/18-17:22	<i>[Signature]</i>	10/31/18 1720



PES Environmental, Inc.

Matt Dahl
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC

Work Order Number: 1804291

April 27, 2018

Attention Matt Dahl:

Fremont Analytical, Inc. received 23 sample(s) on 4/18/2018 for the analyses presented in the following report.

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

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager



CLIENT: PES Environmental, Inc.
Project: MVSC
Work Order: 1804291

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1804291-001	SB-10-6	04/16/2018 9:05 AM	04/18/2018 8:42 AM
1804291-002	SB-10-10	04/16/2018 9:10 AM	04/18/2018 8:42 AM
1804291-003	SB-11-8	04/16/2018 9:40 AM	04/18/2018 8:42 AM
1804291-004	SB-11-15	04/16/2018 9:50 AM	04/18/2018 8:42 AM
1804291-005	SB-12-1	04/16/2018 10:10 AM	04/18/2018 8:42 AM
1804291-006	SB-12-5	04/16/2018 10:20 AM	04/18/2018 8:42 AM
1804291-007	SB-12-10	04/16/2018 10:30 AM	04/18/2018 8:42 AM
1804291-008	SB-13-5	04/16/2018 12:25 PM	04/18/2018 8:42 AM
1804291-009	SB-13-10	04/16/2018 12:30 PM	04/18/2018 8:42 AM
1804291-010	SB-13-20	04/16/2018 12:45 PM	04/18/2018 8:42 AM
1804291-011	SB-13-29	04/16/2018 1:05 PM	04/18/2018 8:42 AM
1804291-012	SB-14-5	04/16/2018 1:30 PM	04/18/2018 8:42 AM
1804291-013	SB-14-10	04/16/2018 1:40 PM	04/18/2018 8:42 AM
1804291-014	SB-14-20	04/16/2018 1:50 PM	04/18/2018 8:42 AM
1804291-015	SB-14-30	04/16/2018 2:20 PM	04/18/2018 8:42 AM
1804291-016	SB-15-10	04/17/2018 8:20 AM	04/18/2018 8:42 AM
1804291-017	SB-15-20	04/17/2018 8:30 AM	04/18/2018 8:42 AM
1804291-018	SB-15-30	04/17/2018 8:45 AM	04/18/2018 8:42 AM
1804291-019	SB-15-40	04/17/2018 9:20 AM	04/18/2018 8:42 AM
1804291-020	TRIP BLANK	04/11/2018 4:39 PM	04/18/2018 8:42 AM
1804291-021	SB-16-20	04/17/2018 10:38 AM	04/18/2018 8:42 AM
1804291-022	SB-16-30	04/17/2018 11:15 AM	04/18/2018 8:42 AM
1804291-023	SB-16-40	04/17/2018 12:05 PM	04/18/2018 8:42 AM

CLIENT: PES Environmental, Inc.

Project: MVSC

I. SAMPLE RECEIPT:

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

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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

Qualifiers:

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

Acronyms:

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



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:05:00 AM

Project: MVSC

Lab ID: 1804291-001

Matrix: Soil

Client Sample ID: SB-10-6

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0237	Q-	mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chloromethane	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Vinyl chloride	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromomethane	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Trichlorofluoromethane (CFC-11)	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chloroethane	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1-Dichloroethene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Methylene chloride	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
trans-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Methyl tert-butyl ether (MTBE)	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1-Dichloroethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
2,2-Dichloropropane	ND	0.119		mg/Kg-dry	1	4/24/2018 8:06:22 AM
cis-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chloroform	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1,1-Trichloroethane (TCA)	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1-Dichloropropene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Carbon tetrachloride	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dichloroethane (EDC)	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Benzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Trichloroethene (TCE)	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dichloropropane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromodichloromethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Dibromomethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
cis-1,3-Dichloropropene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Toluene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
trans-1,3-Dichloropropylene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1,2-Trichloroethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,3-Dichloropropane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Tetrachloroethene (PCE)	0.193	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Dibromochloromethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dibromoethane (EDB)	ND	0.00593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1,1,2-Tetrachloroethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Ethylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
m,p-Xylene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
o-Xylene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Styrene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Isopropylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromoform	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:05:00 AM

Project: MVSC

Lab ID: 1804291-001

Matrix: Soil

Client Sample ID: SB-10-6

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
n-Propylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,3,5-Trimethylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
2-Chlorotoluene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
4-Chlorotoluene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
tert-Butylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,3-Trichloropropane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,4-Trichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
sec-Butylbenzene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
4-Isopropyltoluene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,3-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,4-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
n-Butylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dibromo-3-chloropropane	ND	0.593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,4-Trimethylbenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Hexachlorobutadiene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Naphthalene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,3-Trichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Surr: Dibromofluoromethane	89.9	56.5 - 129		%Rec	1	4/24/2018 8:06:22 AM
Surr: Toluene-d8	79.7	64.5 - 151		%Rec	1	4/24/2018 8:06:22 AM
Surr: 1-Bromo-4-fluorobenzene	91.3	43.2 - 143		%Rec	1	4/24/2018 8:06:22 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	7.36	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:10:00 AM

Project: MVSC

Lab ID: 1804291-002

Matrix: Soil

Client Sample ID: SB-10-10

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0287	Q-	mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chloromethane	ND	0.0718	Q-	mg/Kg-dry	1	4/24/2018 12:46:48 PM
Vinyl chloride	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromomethane	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Trichlorofluoromethane (CFC-11)	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chloroethane	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1-Dichloroethene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Methylene chloride	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
trans-1,2-Dichloroethene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Methyl tert-butyl ether (MTBE)	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1-Dichloroethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
2,2-Dichloropropane	ND	0.144		mg/Kg-dry	1	4/24/2018 12:46:48 PM
cis-1,2-Dichloroethene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chloroform	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1,1-Trichloroethane (TCA)	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1-Dichloropropene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Carbon tetrachloride	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dichloroethane (EDC)	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Benzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Trichloroethene (TCE)	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dichloropropane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromodichloromethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Dibromomethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
cis-1,3-Dichloropropene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Toluene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
trans-1,3-Dichloropropylene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1,2-Trichloroethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,3-Dichloropropane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Tetrachloroethene (PCE)	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Dibromochloromethane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dibromoethane (EDB)	ND	0.00718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chlorobenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1,1,2-Tetrachloroethane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Ethylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
m,p-Xylene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
o-Xylene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Styrene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Isopropylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromoform	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:10:00 AM

Project: MVSC

Lab ID: 1804291-002

Matrix: Soil

Client Sample ID: SB-10-10

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
n-Propylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,3,5-Trimethylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
2-Chlorotoluene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
4-Chlorotoluene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
tert-Butylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,3-Trichloropropane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,4-Trichlorobenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
sec-Butylbenzene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
4-Isopropyltoluene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,3-Dichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,4-Dichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
n-Butylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dibromo-3-chloropropane	ND	0.718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,4-Trimethylbenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Hexachlorobutadiene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Naphthalene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,3-Trichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Surr: Dibromofluoromethane	94.1	56.5 - 129		%Rec	1	4/24/2018 12:46:48 PM
Surr: Toluene-d8	84.0	64.5 - 151		%Rec	1	4/24/2018 12:46:48 PM
Surr: 1-Bromo-4-fluorobenzene	91.7	43.2 - 143		%Rec	1	4/24/2018 12:46:48 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	12.7	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:40:00 AM

Project: MVSC

Lab ID: 1804291-003

Matrix: Soil

Client Sample ID: SB-11-8

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0278	Q-	mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chloromethane	ND	0.0695	Q-	mg/Kg-dry	1	4/24/2018 1:17:54 PM
Vinyl chloride	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromomethane	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Trichlorofluoromethane (CFC-11)	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chloroethane	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1-Dichloroethene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Methylene chloride	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
trans-1,2-Dichloroethene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Methyl tert-butyl ether (MTBE)	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1-Dichloroethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
2,2-Dichloropropane	ND	0.139		mg/Kg-dry	1	4/24/2018 1:17:54 PM
cis-1,2-Dichloroethene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chloroform	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1,1-Trichloroethane (TCA)	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1-Dichloropropene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Carbon tetrachloride	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dichloroethane (EDC)	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Benzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Trichloroethene (TCE)	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dichloropropane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromodichloromethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Dibromomethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
cis-1,3-Dichloropropene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Toluene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
trans-1,3-Dichloropropylene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1,2-Trichloroethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,3-Dichloropropane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Tetrachloroethene (PCE)	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Dibromochloromethane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dibromoethane (EDB)	ND	0.00695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chlorobenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1,1,2-Tetrachloroethane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Ethylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
m,p-Xylene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
o-Xylene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Styrene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Isopropylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromoform	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:40:00 AM

Project: MVSC

Lab ID: 1804291-003

Matrix: Soil

Client Sample ID: SB-11-8

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
n-Propylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,3,5-Trimethylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
2-Chlorotoluene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
4-Chlorotoluene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
tert-Butylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,3-Trichloropropane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,4-Trichlorobenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
sec-Butylbenzene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
4-Isopropyltoluene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,3-Dichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,4-Dichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
n-Butylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dibromo-3-chloropropane	ND	0.695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,4-Trimethylbenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Hexachlorobutadiene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Naphthalene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,3-Trichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Surr: Dibromofluoromethane	96.5	56.5 - 129		%Rec	1	4/24/2018 1:17:54 PM
Surr: Toluene-d8	91.1	64.5 - 151		%Rec	1	4/24/2018 1:17:54 PM
Surr: 1-Bromo-4-fluorobenzene	92.4	43.2 - 143		%Rec	1	4/24/2018 1:17:54 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	14.8	0.500		wt%	1	4/19/2018 7:59:11 AM
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Analytical Report

Work Order: 1804291
Date Reported: 4/27/2018

Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:50:00 AM

Project: MVSC

Lab ID: 1804291-004

Matrix: Soil

Client Sample ID: SB-11-15

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0282	Q-	mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chloromethane	ND	0.0705	Q-	mg/Kg-dry	1	4/24/2018 2:20:03 PM
Vinyl chloride	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromomethane	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Trichlorofluoromethane (CFC-11)	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chloroethane	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1-Dichloroethene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Methylene chloride	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
trans-1,2-Dichloroethene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Methyl tert-butyl ether (MTBE)	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1-Dichloroethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
2,2-Dichloropropane	ND	0.141		mg/Kg-dry	1	4/24/2018 2:20:03 PM
cis-1,2-Dichloroethene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chloroform	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1,1-Trichloroethane (TCA)	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1-Dichloropropene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Carbon tetrachloride	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dichloroethane (EDC)	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Benzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Trichloroethene (TCE)	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dichloropropane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromodichloromethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Dibromomethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
cis-1,3-Dichloropropene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Toluene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
trans-1,3-Dichloropropylene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1,2-Trichloroethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,3-Dichloropropane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Tetrachloroethene (PCE)	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Dibromochloromethane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dibromoethane (EDB)	ND	0.00705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chlorobenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1,1,2-Tetrachloroethane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Ethylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
m,p-Xylene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
o-Xylene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Styrene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Isopropylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromoform	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:50:00 AM

Project: MVSC

Lab ID: 1804291-004

Matrix: Soil

Client Sample ID: SB-11-15

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
n-Propylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,3,5-Trimethylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
2-Chlorotoluene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
4-Chlorotoluene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
tert-Butylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,3-Trichloropropane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,4-Trichlorobenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
sec-Butylbenzene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
4-Isopropyltoluene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,3-Dichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,4-Dichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
n-Butylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dibromo-3-chloropropane	ND	0.705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,4-Trimethylbenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Hexachlorobutadiene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Naphthalene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,3-Trichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Surr: Dibromofluoromethane	104	56.5 - 129		%Rec	1	4/24/2018 2:20:03 PM
Surr: Toluene-d8	104	64.5 - 151		%Rec	1	4/24/2018 2:20:03 PM
Surr: 1-Bromo-4-fluorobenzene	95.3	43.2 - 143		%Rec	1	4/24/2018 2:20:03 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	10.6	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 10:10:00 AM

Project: MVSC

Lab ID: 1804291-005

Matrix: Soil

Client Sample ID: SB-12-1

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0279	Q-	mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chloromethane	ND	0.0696	Q-	mg/Kg-dry	1	4/24/2018 2:51:15 PM
Vinyl chloride	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromomethane	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Trichlorofluoromethane (CFC-11)	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chloroethane	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1-Dichloroethene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Methylene chloride	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
trans-1,2-Dichloroethene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Methyl tert-butyl ether (MTBE)	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1-Dichloroethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
2,2-Dichloropropane	ND	0.139		mg/Kg-dry	1	4/24/2018 2:51:15 PM
cis-1,2-Dichloroethene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chloroform	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1,1-Trichloroethane (TCA)	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1-Dichloropropene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Carbon tetrachloride	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dichloroethane (EDC)	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Benzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Trichloroethene (TCE)	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dichloropropane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromodichloromethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Dibromomethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
cis-1,3-Dichloropropene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Toluene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
trans-1,3-Dichloropropylene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1,2-Trichloroethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,3-Dichloropropane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Tetrachloroethene (PCE)	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Dibromochloromethane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dibromoethane (EDB)	ND	0.00696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chlorobenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1,1,2-Tetrachloroethane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Ethylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
m,p-Xylene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
o-Xylene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Styrene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Isopropylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromoform	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 10:10:00 AM

Project: MVSC

Lab ID: 1804291-005

Matrix: Soil

Client Sample ID: SB-12-1

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
n-Propylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,3,5-Trimethylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
2-Chlorotoluene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
4-Chlorotoluene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
tert-Butylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,3-Trichloropropane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,4-Trichlorobenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
sec-Butylbenzene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
4-Isopropyltoluene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,3-Dichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,4-Dichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
n-Butylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dibromo-3-chloropropane	ND	0.696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,4-Trimethylbenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Hexachlorobutadiene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Naphthalene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,3-Trichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Surr: Dibromofluoromethane	94.3	56.5 - 129		%Rec	1	4/24/2018 2:51:15 PM
Surr: Toluene-d8	95.4	64.5 - 151		%Rec	1	4/24/2018 2:51:15 PM
Surr: 1-Bromo-4-fluorobenzene	95.9	43.2 - 143		%Rec	1	4/24/2018 2:51:15 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	26.1	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 10:20:00 AM

Project: MVSC

Lab ID: 1804291-006

Matrix: Soil

Client Sample ID: SB-12-5

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0280	Q-	mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chloromethane	ND	0.0700	Q-	mg/Kg-dry	1	4/24/2018 3:22:27 PM
Vinyl chloride	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromomethane	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Trichlorofluoromethane (CFC-11)	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chloroethane	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1-Dichloroethene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Methylene chloride	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
trans-1,2-Dichloroethene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Methyl tert-butyl ether (MTBE)	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1-Dichloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
2,2-Dichloropropane	ND	0.140		mg/Kg-dry	1	4/24/2018 3:22:27 PM
cis-1,2-Dichloroethene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chloroform	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1,1-Trichloroethane (TCA)	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1-Dichloropropene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Carbon tetrachloride	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dichloroethane (EDC)	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Benzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Trichloroethene (TCE)	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dichloropropane	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromodichloromethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Dibromomethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
cis-1,3-Dichloropropene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Toluene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
trans-1,3-Dichloropropylene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1,2-Trichloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,3-Dichloropropane	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Tetrachloroethene (PCE)	0.138	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Dibromochloromethane	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dibromoethane (EDB)	ND	0.00700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chlorobenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1,1,2-Tetrachloroethane	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Ethylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
m,p-Xylene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
o-Xylene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Styrene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Isopropylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromoform	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-006
Client Sample ID: SB-12-5

Collection Date: 4/16/2018 10:20:00 AM
Matrix: Soil

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
n-Propylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,3,5-Trimethylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
2-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
4-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
tert-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,3-Trichloropropane	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,4-Trichlorobenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
sec-Butylbenzene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
4-Isopropyltoluene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,3-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,4-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
n-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dibromo-3-chloropropane	ND	0.700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,4-Trimethylbenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Hexachlorobutadiene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Naphthalene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,3-Trichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Surr: Dibromofluoromethane	113	56.5 - 129		%Rec	1	4/24/2018 3:22:27 PM
Surr: Toluene-d8	104	64.5 - 151		%Rec	1	4/24/2018 3:22:27 PM
Surr: 1-Bromo-4-fluorobenzene	94.2	43.2 - 143		%Rec	1	4/24/2018 3:22:27 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	7.11	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 10:30:00 AM

Project: MVSC

Lab ID: 1804291-007

Matrix: Soil

Client Sample ID: SB-12-10

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0260	Q-	mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chloromethane	ND	0.0650	Q-	mg/Kg-dry	1	4/24/2018 3:53:29 PM
Vinyl chloride	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromomethane	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Trichlorofluoromethane (CFC-11)	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chloroethane	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1-Dichloroethene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Methylene chloride	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
trans-1,2-Dichloroethene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Methyl tert-butyl ether (MTBE)	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1-Dichloroethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
2,2-Dichloropropane	ND	0.130		mg/Kg-dry	1	4/24/2018 3:53:29 PM
cis-1,2-Dichloroethene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chloroform	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1,1-Trichloroethane (TCA)	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1-Dichloropropene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Carbon tetrachloride	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dichloroethane (EDC)	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Benzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Trichloroethene (TCE)	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dichloropropane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromodichloromethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Dibromomethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
cis-1,3-Dichloropropene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Toluene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
trans-1,3-Dichloropropylene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1,2-Trichloroethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,3-Dichloropropane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Tetrachloroethene (PCE)	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Dibromochloromethane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dibromoethane (EDB)	ND	0.00650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chlorobenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1,1,2-Tetrachloroethane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Ethylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
m,p-Xylene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
o-Xylene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Styrene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Isopropylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromoform	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-007
Client Sample ID: SB-12-10

Collection Date: 4/16/2018 10:30:00 AM
Matrix: Soil

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

Batch ID: 20465 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
n-Propylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,3,5-Trimethylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
2-Chlorotoluene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
4-Chlorotoluene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
tert-Butylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,3-Trichloropropane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,4-Trichlorobenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
sec-Butylbenzene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
4-Isopropyltoluene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,3-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,4-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
n-Butylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dibromo-3-chloropropane	ND	0.650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,4-Trimethylbenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Hexachlorobutadiene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Naphthalene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,3-Trichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Surr: Dibromofluoromethane	115	56.5 - 129		%Rec	1	4/24/2018 3:53:29 PM
Surr: Toluene-d8	105	64.5 - 151		%Rec	1	4/24/2018 3:53:29 PM
Surr: 1-Bromo-4-fluorobenzene	95.7	43.2 - 143		%Rec	1	4/24/2018 3:53:29 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972 Analyst: CG

Percent Moisture	2.55	0.500		wt%	1	4/19/2018 7:59:11 AM
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Analytical Report

Work Order: 1804291
Date Reported: 4/27/2018

Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:25:00 PM

Project: MVSC

Lab ID: 1804291-008

Matrix: Soil

Client Sample ID: SB-13-5

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0280	Q-	mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chloromethane	ND	0.0700	Q-	mg/Kg-dry	1	4/24/2018 4:24:36 PM
Vinyl chloride	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromomethane	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Trichlorofluoromethane (CFC-11)	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chloroethane	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1-Dichloroethene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Methylene chloride	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
trans-1,2-Dichloroethene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Methyl tert-butyl ether (MTBE)	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1-Dichloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
2,2-Dichloropropane	ND	0.140		mg/Kg-dry	1	4/24/2018 4:24:36 PM
cis-1,2-Dichloroethene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chloroform	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1,1-Trichloroethane (TCA)	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1-Dichloropropene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Carbon tetrachloride	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dichloroethane (EDC)	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Benzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Trichloroethene (TCE)	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dichloropropane	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromodichloromethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Dibromomethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
cis-1,3-Dichloropropene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Toluene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
trans-1,3-Dichloropropylene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1,2-Trichloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,3-Dichloropropane	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Tetrachloroethene (PCE)	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Dibromochloromethane	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dibromoethane (EDB)	ND	0.00700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chlorobenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1,1,2-Tetrachloroethane	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Ethylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
m,p-Xylene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
o-Xylene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Styrene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Isopropylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromoform	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:25:00 PM

Project: MVSC

Lab ID: 1804291-008

Matrix: Soil

Client Sample ID: SB-13-5

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
n-Propylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,3,5-Trimethylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
2-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
4-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
tert-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,3-Trichloropropane	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,4-Trichlorobenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
sec-Butylbenzene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
4-Isopropyltoluene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,3-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,4-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
n-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dibromo-3-chloropropane	ND	0.700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,4-Trimethylbenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Hexachlorobutadiene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Naphthalene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,3-Trichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Surr: Dibromofluoromethane	109	56.5 - 129		%Rec	1	4/24/2018 4:24:36 PM
Surr: Toluene-d8	103	64.5 - 151		%Rec	1	4/24/2018 4:24:36 PM
Surr: 1-Bromo-4-fluorobenzene	96.2	43.2 - 143		%Rec	1	4/24/2018 4:24:36 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	21.4	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804291-009

Matrix: Soil

Client Sample ID: SB-13-10

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0297	Q-	mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chloromethane	ND	0.0742	Q-	mg/Kg-dry	1	4/24/2018 4:55:41 PM
Vinyl chloride	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromomethane	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Trichlorofluoromethane (CFC-11)	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chloroethane	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1-Dichloroethene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Methylene chloride	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
trans-1,2-Dichloroethene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Methyl tert-butyl ether (MTBE)	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1-Dichloroethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
2,2-Dichloropropane	ND	0.148		mg/Kg-dry	1	4/24/2018 4:55:41 PM
cis-1,2-Dichloroethene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chloroform	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1,1-Trichloroethane (TCA)	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1-Dichloropropene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Carbon tetrachloride	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dichloroethane (EDC)	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Benzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Trichloroethene (TCE)	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dichloropropane	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromodichloromethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Dibromomethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
cis-1,3-Dichloropropene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Toluene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
trans-1,3-Dichloropropylene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1,2-Trichloroethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,3-Dichloropropane	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Tetrachloroethene (PCE)	0.128	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Dibromochloromethane	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dibromoethane (EDB)	ND	0.00742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chlorobenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1,1,2-Tetrachloroethane	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Ethylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
m,p-Xylene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
o-Xylene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Styrene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Isopropylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromoform	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804291-009

Matrix: Soil

Client Sample ID: SB-13-10

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
n-Propylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,3,5-Trimethylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
2-Chlorotoluene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
4-Chlorotoluene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
tert-Butylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,3-Trichloropropane	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,4-Trichlorobenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
sec-Butylbenzene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
4-Isopropyltoluene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,3-Dichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,4-Dichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
n-Butylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dibromo-3-chloropropane	ND	0.742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,4-Trimethylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Hexachlorobutadiene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Naphthalene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,3-Trichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Surr: Dibromofluoromethane	114	56.5 - 129		%Rec	1	4/24/2018 4:55:41 PM
Surr: Toluene-d8	104	64.5 - 151		%Rec	1	4/24/2018 4:55:41 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	43.2 - 143		%Rec	1	4/24/2018 4:55:41 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	15.0	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:45:00 PM

Project: MVSC

Lab ID: 1804291-010

Matrix: Soil

Client Sample ID: SB-13-20

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0230	Q-	mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chloromethane	ND	0.0576	Q-	mg/Kg-dry	1	4/24/2018 6:28:48 PM
Vinyl chloride	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromomethane	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Trichlorofluoromethane (CFC-11)	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chloroethane	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1-Dichloroethene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Methylene chloride	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
trans-1,2-Dichloroethene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Methyl tert-butyl ether (MTBE)	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1-Dichloroethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
2,2-Dichloropropane	ND	0.115		mg/Kg-dry	1	4/24/2018 6:28:48 PM
cis-1,2-Dichloroethene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chloroform	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1,1-Trichloroethane (TCA)	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1-Dichloropropene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Carbon tetrachloride	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dichloroethane (EDC)	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Benzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Trichloroethene (TCE)	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dichloropropane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromodichloromethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Dibromomethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
cis-1,3-Dichloropropene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Toluene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
trans-1,3-Dichloropropylene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1,2-Trichloroethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,3-Dichloropropane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Tetrachloroethene (PCE)	6.03	0.288	D	mg/Kg-dry	10	4/24/2018 5:26:49 PM
Dibromochloromethane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dibromoethane (EDB)	ND	0.00576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chlorobenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1,1,2-Tetrachloroethane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Ethylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
m,p-Xylene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
o-Xylene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Styrene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Isopropylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromoform	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:45:00 PM

Project: MVSC

Lab ID: 1804291-010

Matrix: Soil

Client Sample ID: SB-13-20

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
n-Propylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,3,5-Trimethylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
2-Chlorotoluene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
4-Chlorotoluene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
tert-Butylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,3-Trichloropropane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,4-Trichlorobenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
sec-Butylbenzene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
4-Isopropyltoluene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,3-Dichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,4-Dichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
n-Butylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dibromo-3-chloropropane	ND	0.576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,4-Trimethylbenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Hexachlorobutadiene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Naphthalene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,3-Trichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Surr: Dibromofluoromethane	106	56.5 - 129		%Rec	1	4/24/2018 6:28:48 PM
Surr: Toluene-d8	105	64.5 - 151		%Rec	1	4/24/2018 6:28:48 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	43.2 - 143		%Rec	1	4/24/2018 6:28:48 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	7.93	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:05:00 PM

Project: MVSC

Lab ID: 1804291-011

Matrix: Soil

Client Sample ID: SB-13-29

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0238	Q-	mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chloromethane	ND	0.0596	Q-	mg/Kg-dry	1	4/24/2018 5:57:51 PM
Vinyl chloride	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromomethane	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Trichlorofluoromethane (CFC-11)	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chloroethane	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Methylene chloride	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
trans-1,2-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Methyl tert-butyl ether (MTBE)	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1-Dichloroethane	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
2,2-Dichloropropane	ND	0.119		mg/Kg-dry	1	4/24/2018 5:57:51 PM
cis-1,2-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chloroform	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1,1-Trichloroethane (TCA)	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1-Dichloropropene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Carbon tetrachloride	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dichloroethane (EDC)	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Benzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Trichloroethene (TCE)	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dichloropropane	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromodichloromethane	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Dibromomethane	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
cis-1,3-Dichloropropene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Toluene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
trans-1,3-Dichloropropylene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1,2-Trichloroethane	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,3-Dichloropropane	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Tetrachloroethene (PCE)	0.110	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Dibromochloromethane	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dibromoethane (EDB)	ND	0.00596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chlorobenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1,1,2-Tetrachloroethane	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Ethylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
m,p-Xylene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
o-Xylene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Styrene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Isopropylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromoform	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:05:00 PM

Project: MVSC

Lab ID: 1804291-011

Matrix: Soil

Client Sample ID: SB-13-29

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
n-Propylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,3,5-Trimethylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
2-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
4-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
tert-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,3-Trichloropropane	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,4-Trichlorobenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
sec-Butylbenzene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
4-Isopropyltoluene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,3-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,4-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
n-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dibromo-3-chloropropane	ND	0.596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,4-Trimethylbenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Hexachlorobutadiene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Naphthalene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,3-Trichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Surr: Dibromofluoromethane	114	56.5 - 129		%Rec	1	4/24/2018 5:57:51 PM
Surr: Toluene-d8	103	64.5 - 151		%Rec	1	4/24/2018 5:57:51 PM
Surr: 1-Bromo-4-fluorobenzene	97.6	43.2 - 143		%Rec	1	4/24/2018 5:57:51 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	5.69	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:30:00 PM

Project: MVSC

Lab ID: 1804291-012

Matrix: Soil

Client Sample ID: SB-14-5

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chloromethane	ND	0.0633	Q-	mg/Kg-dry	1	4/25/2018 3:05:10 AM
Vinyl chloride	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromomethane	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Trichlorofluoromethane (CFC-11)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chloroethane	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1-Dichloroethene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Methylene chloride	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
trans-1,2-Dichloroethene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Methyl tert-butyl ether (MTBE)	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1-Dichloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
2,2-Dichloropropane	ND	0.127		mg/Kg-dry	1	4/25/2018 3:05:10 AM
cis-1,2-Dichloroethene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chloroform	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1,1-Trichloroethane (TCA)	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1-Dichloropropene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Carbon tetrachloride	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dichloroethane (EDC)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Benzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Trichloroethene (TCE)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dichloropropane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromodichloromethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Dibromomethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
cis-1,3-Dichloropropene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Toluene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
trans-1,3-Dichloropropylene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1,2-Trichloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,3-Dichloropropane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Tetrachloroethene (PCE)	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Dibromochloromethane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dibromoethane (EDB)	ND	0.00633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chlorobenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1,1,2-Tetrachloroethane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Ethylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
m,p-Xylene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
o-Xylene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Styrene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Isopropylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromoform	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:30:00 PM

Project: MVSC

Lab ID: 1804291-012

Matrix: Soil

Client Sample ID: SB-14-5

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
n-Propylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,3,5-Trimethylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
2-Chlorotoluene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
4-Chlorotoluene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
tert-Butylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,3-Trichloropropane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,4-Trichlorobenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
sec-Butylbenzene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
4-Isopropyltoluene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,3-Dichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,4-Dichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
n-Butylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dibromo-3-chloropropane	ND	0.633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,4-Trimethylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Hexachlorobutadiene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Naphthalene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,3-Trichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Surr: Dibromofluoromethane	91.8	56.5 - 129		%Rec	1	4/25/2018 3:05:10 AM
Surr: Toluene-d8	85.0	64.5 - 151		%Rec	1	4/25/2018 3:05:10 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	43.2 - 143		%Rec	1	4/25/2018 3:05:10 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	22.9	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:40:00 PM

Project: MVSC

Lab ID: 1804291-013

Matrix: Soil

Client Sample ID: SB-14-10

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chloromethane	ND	0.0595	Q-	mg/Kg-dry	1	4/25/2018 3:35:22 AM
Vinyl chloride	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromomethane	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Trichlorofluoromethane (CFC-11)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chloroethane	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Methylene chloride	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
trans-1,2-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Methyl tert-butyl ether (MTBE)	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1-Dichloroethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
2,2-Dichloropropane	ND	0.119		mg/Kg-dry	1	4/25/2018 3:35:22 AM
cis-1,2-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chloroform	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1,1-Trichloroethane (TCA)	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1-Dichloropropene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Carbon tetrachloride	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dichloroethane (EDC)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Benzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Trichloroethene (TCE)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dichloropropane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromodichloromethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Dibromomethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
cis-1,3-Dichloropropene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Toluene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
trans-1,3-Dichloropropylene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1,2-Trichloroethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,3-Dichloropropane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Tetrachloroethene (PCE)	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Dibromochloromethane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dibromoethane (EDB)	ND	0.00595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chlorobenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1,1,2-Tetrachloroethane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Ethylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
m,p-Xylene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
o-Xylene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Styrene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Isopropylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromoform	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:40:00 PM

Project: MVSC

Lab ID: 1804291-013

Matrix: Soil

Client Sample ID: SB-14-10

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
n-Propylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,3,5-Trimethylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
2-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
4-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
tert-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,3-Trichloropropane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,4-Trichlorobenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
sec-Butylbenzene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
4-Isopropyltoluene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,3-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,4-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
n-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dibromo-3-chloropropane	ND	0.595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,4-Trimethylbenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Hexachlorobutadiene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Naphthalene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,3-Trichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Surr: Dibromofluoromethane	93.6	56.5 - 129		%Rec	1	4/25/2018 3:35:22 AM
Surr: Toluene-d8	86.8	64.5 - 151		%Rec	1	4/25/2018 3:35:22 AM
Surr: 1-Bromo-4-fluorobenzene	89.0	43.2 - 143		%Rec	1	4/25/2018 3:35:22 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	18.2	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:50:00 PM

Project: MVSC

Lab ID: 1804291-014

Matrix: Soil

Client Sample ID: SB-14-20

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chloromethane	ND	0.0506	Q-	mg/Kg-dry	1	4/25/2018 4:35:37 AM
Vinyl chloride	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromomethane	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Trichlorofluoromethane (CFC-11)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chloroethane	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1-Dichloroethene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Methylene chloride	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
trans-1,2-Dichloroethene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Methyl tert-butyl ether (MTBE)	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1-Dichloroethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
2,2-Dichloropropane	ND	0.101		mg/Kg-dry	1	4/25/2018 4:35:37 AM
cis-1,2-Dichloroethene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chloroform	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1,1-Trichloroethane (TCA)	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1-Dichloropropene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Carbon tetrachloride	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dichloroethane (EDC)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Benzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Trichloroethene (TCE)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dichloropropane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromodichloromethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Dibromomethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
cis-1,3-Dichloropropene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Toluene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
trans-1,3-Dichloropropylene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1,2-Trichloroethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,3-Dichloropropane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Tetrachloroethene (PCE)	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Dibromochloromethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dibromoethane (EDB)	ND	0.00506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1,1,2-Tetrachloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Ethylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
m,p-Xylene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
o-Xylene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Styrene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Isopropylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromoform	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-014
Client Sample ID: SB-14-20

Collection Date: 4/16/2018 1:50:00 PM
Matrix: Soil

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
n-Propylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,3,5-Trimethylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
2-Chlorotoluene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
4-Chlorotoluene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
tert-Butylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,3-Trichloropropane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,4-Trichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
sec-Butylbenzene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
4-Isopropyltoluene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,3-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,4-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
n-Butylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dibromo-3-chloropropane	ND	0.506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,4-Trimethylbenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Hexachlorobutadiene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Naphthalene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,3-Trichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Surr: Dibromofluoromethane	88.8	56.5 - 129		%Rec	1	4/25/2018 4:35:37 AM
Surr: Toluene-d8	90.7	64.5 - 151		%Rec	1	4/25/2018 4:35:37 AM
Surr: 1-Bromo-4-fluorobenzene	91.9	43.2 - 143		%Rec	1	4/25/2018 4:35:37 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	7.28	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/16/2018 2:20:00 PM

Project: MVSC

Lab ID: 1804291-015

Matrix: Soil

Client Sample ID: SB-14-30

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chloromethane	ND	0.0608	Q-	mg/Kg-dry	1	4/25/2018 5:05:49 AM
Vinyl chloride	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromomethane	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Trichlorofluoromethane (CFC-11)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chloroethane	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1-Dichloroethene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Methylene chloride	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
trans-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Methyl tert-butyl ether (MTBE)	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1-Dichloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
2,2-Dichloropropane	ND	0.122		mg/Kg-dry	1	4/25/2018 5:05:49 AM
cis-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chloroform	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1,1-Trichloroethane (TCA)	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1-Dichloropropene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Carbon tetrachloride	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dichloroethane (EDC)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Benzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Trichloroethene (TCE)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dichloropropane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromodichloromethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Dibromomethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
cis-1,3-Dichloropropene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Toluene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
trans-1,3-Dichloropropylene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1,2-Trichloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,3-Dichloropropane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Tetrachloroethene (PCE)	0.109	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Dibromochloromethane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dibromoethane (EDB)	ND	0.00608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chlorobenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1,1,2-Tetrachloroethane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Ethylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
m,p-Xylene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
o-Xylene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Styrene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Isopropylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromoform	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-015
Client Sample ID: SB-14-30

Collection Date: 4/16/2018 2:20:00 PM
Matrix: Soil

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

Batch ID: 20486 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
n-Propylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,3,5-Trimethylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
2-Chlorotoluene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
4-Chlorotoluene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
tert-Butylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,3-Trichloropropane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,4-Trichlorobenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
sec-Butylbenzene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
4-Isopropyltoluene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,3-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,4-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
n-Butylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dibromo-3-chloropropane	ND	0.608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,4-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Hexachlorobutadiene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Naphthalene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,3-Trichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Surr: Dibromofluoromethane	94.2	56.5 - 129		%Rec	1	4/25/2018 5:05:49 AM
Surr: Toluene-d8	92.3	64.5 - 151		%Rec	1	4/25/2018 5:05:49 AM
Surr: 1-Bromo-4-fluorobenzene	91.5	43.2 - 143		%Rec	1	4/25/2018 5:05:49 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972 Analyst: CG

Percent Moisture	5.27	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-016
Client Sample ID: SB-15-10

Collection Date: 4/17/2018 8:20:00 AM
Matrix: Soil

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chloromethane	ND	0.0669	Q-	mg/Kg-dry	1	4/25/2018 5:35:55 AM
Vinyl chloride	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromomethane	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Trichlorofluoromethane (CFC-11)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chloroethane	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1-Dichloroethene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Methylene chloride	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
trans-1,2-Dichloroethene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Methyl tert-butyl ether (MTBE)	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1-Dichloroethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
2,2-Dichloropropane	ND	0.134		mg/Kg-dry	1	4/25/2018 5:35:55 AM
cis-1,2-Dichloroethene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chloroform	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1,1-Trichloroethane (TCA)	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1-Dichloropropene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Carbon tetrachloride	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dichloroethane (EDC)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Benzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Trichloroethene (TCE)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dichloropropane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromodichloromethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Dibromomethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
cis-1,3-Dichloropropene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Toluene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
trans-1,3-Dichloropropylene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1,2-Trichloroethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,3-Dichloropropane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Tetrachloroethene (PCE)	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Dibromochloromethane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dibromoethane (EDB)	ND	0.00669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chlorobenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1,1,2-Tetrachloroethane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Ethylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
m,p-Xylene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
o-Xylene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Styrene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Isopropylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromoform	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-016
Client Sample ID: SB-15-10

Collection Date: 4/17/2018 8:20:00 AM
Matrix: Soil

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

Batch ID: 20486 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
n-Propylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,3,5-Trimethylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
2-Chlorotoluene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
4-Chlorotoluene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
tert-Butylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,3-Trichloropropane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,4-Trichlorobenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
sec-Butylbenzene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
4-Isopropyltoluene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,3-Dichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,4-Dichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
n-Butylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dibromo-3-chloropropane	ND	0.669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,4-Trimethylbenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Hexachlorobutadiene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Naphthalene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,3-Trichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Surr: Dibromofluoromethane	99.8	56.5 - 129		%Rec	1	4/25/2018 5:35:55 AM
Surr: Toluene-d8	101	64.5 - 151		%Rec	1	4/25/2018 5:35:55 AM
Surr: 1-Bromo-4-fluorobenzene	93.9	43.2 - 143		%Rec	1	4/25/2018 5:35:55 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972 Analyst: CG

Percent Moisture	15.1	0.500		wt%	1	4/19/2018 7:59:11 AM
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Client: PES Environmental, Inc.

Collection Date: 4/17/2018 8:30:00 AM

Project: MVSC

Lab ID: 1804291-017

Matrix: Soil

Client Sample ID: SB-15-20

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Chloromethane	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Vinyl chloride	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Bromomethane	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Trichlorofluoromethane (CFC-11)	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Chloroethane	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,1-Dichloroethene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Methylene chloride	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
trans-1,2-Dichloroethene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Methyl tert-butyl ether (MTBE)	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,1-Dichloroethane	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
2,2-Dichloropropane	ND	0.129		mg/Kg-dry	1	4/25/2018 9:08:56 AM
cis-1,2-Dichloroethene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Chloroform	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,1,1-Trichloroethane (TCA)	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,1-Dichloropropene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Carbon tetrachloride	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2-Dichloroethane (EDC)	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Benzene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Trichloroethene (TCE)	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2-Dichloropropane	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Bromodichloromethane	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Dibromomethane	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
cis-1,3-Dichloropropene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Toluene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
trans-1,3-Dichloropropylene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,1,2-Trichloroethane	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,3-Dichloropropane	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Tetrachloroethene (PCE)	0.0781	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Dibromochloromethane	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2-Dibromoethane (EDB)	ND	0.00647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Chlorobenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,1,1,2-Tetrachloroethane	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Ethylbenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
m,p-Xylene	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
o-Xylene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Styrene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Isopropylbenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Bromoform	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM



Client: PES Environmental, Inc.

Collection Date: 4/17/2018 8:30:00 AM

Project: MVSC

Lab ID: 1804291-017

Matrix: Soil

Client Sample ID: SB-15-20

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
n-Propylbenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Bromobenzene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,3,5-Trimethylbenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
2-Chlorotoluene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
4-Chlorotoluene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
tert-Butylbenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2,3-Trichloropropane	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2,4-Trichlorobenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
sec-Butylbenzene	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
4-Isopropyltoluene	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,3-Dichlorobenzene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,4-Dichlorobenzene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
n-Butylbenzene	ND	0.0324		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2-Dichlorobenzene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2-Dibromo-3-chloropropane	ND	0.647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2,4-Trimethylbenzene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Hexachlorobutadiene	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Naphthalene	ND	0.0647		mg/Kg-dry	1	4/25/2018 9:08:56 AM
1,2,3-Trichlorobenzene	ND	0.0259		mg/Kg-dry	1	4/25/2018 9:08:56 AM
Surr: Dibromofluoromethane	100	56.5 - 129		%Rec	1	4/25/2018 9:08:56 AM
Surr: Toluene-d8	111	64.5 - 151		%Rec	1	4/25/2018 9:08:56 AM
Surr: 1-Bromo-4-fluorobenzene	94.9	43.2 - 143		%Rec	1	4/25/2018 9:08:56 AM

Sample Moisture (Percent Moisture)

Batch ID: R43003

Analyst: CG

Percent Moisture	20.7	0.500		wt%	1	4/20/2018 9:51:17 AM
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Client: PES Environmental, Inc.

Collection Date: 4/17/2018 8:45:00 AM

Project: MVSC

Lab ID: 1804291-018

Matrix: Soil

Client Sample ID: SB-15-30

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Chloromethane	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Vinyl chloride	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Bromomethane	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Trichlorofluoromethane (CFC-11)	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Chloroethane	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,1-Dichloroethene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Methylene chloride	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
trans-1,2-Dichloroethene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Methyl tert-butyl ether (MTBE)	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,1-Dichloroethane	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
2,2-Dichloropropane	ND	0.116		mg/Kg-dry	1	4/25/2018 9:40:03 AM
cis-1,2-Dichloroethene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Chloroform	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,1,1-Trichloroethane (TCA)	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,1-Dichloropropene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Carbon tetrachloride	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2-Dichloroethane (EDC)	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Benzene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Trichloroethene (TCE)	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2-Dichloropropane	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Bromodichloromethane	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Dibromomethane	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
cis-1,3-Dichloropropene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Toluene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
trans-1,3-Dichloropropylene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,1,2-Trichloroethane	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,3-Dichloropropane	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Tetrachloroethene (PCE)	0.0645	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Dibromochloromethane	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2-Dibromoethane (EDB)	ND	0.00580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Chlorobenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,1,1,2-Tetrachloroethane	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Ethylbenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
m,p-Xylene	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
o-Xylene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Styrene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Isopropylbenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Bromoform	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM



Client: PES Environmental, Inc.

Collection Date: 4/17/2018 8:45:00 AM

Project: MVSC

Lab ID: 1804291-018

Matrix: Soil

Client Sample ID: SB-15-30

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
n-Propylbenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Bromobenzene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,3,5-Trimethylbenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
2-Chlorotoluene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
4-Chlorotoluene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
tert-Butylbenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2,3-Trichloropropane	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2,4-Trichlorobenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
sec-Butylbenzene	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
4-Isopropyltoluene	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,3-Dichlorobenzene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,4-Dichlorobenzene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
n-Butylbenzene	ND	0.0290		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2-Dichlorobenzene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2-Dibromo-3-chloropropane	ND	0.580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2,4-Trimethylbenzene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Hexachlorobutadiene	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Naphthalene	ND	0.0580		mg/Kg-dry	1	4/25/2018 9:40:03 AM
1,2,3-Trichlorobenzene	ND	0.0232		mg/Kg-dry	1	4/25/2018 9:40:03 AM
Surr: Dibromofluoromethane	92.5	56.5 - 129		%Rec	1	4/25/2018 9:40:03 AM
Surr: Toluene-d8	113	64.5 - 151		%Rec	1	4/25/2018 9:40:03 AM
Surr: 1-Bromo-4-fluorobenzene	95.4	43.2 - 143		%Rec	1	4/25/2018 9:40:03 AM

Sample Moisture (Percent Moisture)

Batch ID: R43003

Analyst: CG

Percent Moisture	8.97	0.500		wt%	1	4/20/2018 9:51:17 AM
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Client: PES Environmental, Inc.

Collection Date: 4/17/2018 9:20:00 AM

Project: MVSC

Lab ID: 1804291-019

Matrix: Soil

Client Sample ID: SB-15-40

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Chloromethane	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Vinyl chloride	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Bromomethane	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Trichlorofluoromethane (CFC-11)	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Chloroethane	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,1-Dichloroethene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Methylene chloride	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
trans-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Methyl tert-butyl ether (MTBE)	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,1-Dichloroethane	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
2,2-Dichloropropane	ND	0.107		mg/Kg-dry	1	4/25/2018 10:11:07 AM
cis-1,2-Dichloroethene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Chloroform	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,1,1-Trichloroethane (TCA)	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,1-Dichloropropene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Carbon tetrachloride	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2-Dichloroethane (EDC)	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Benzene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Trichloroethene (TCE)	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2-Dichloropropane	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Bromodichloromethane	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Dibromomethane	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
cis-1,3-Dichloropropene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Toluene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
trans-1,3-Dichloropropylene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,1,2-Trichloroethane	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,3-Dichloropropane	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Tetrachloroethene (PCE)	0.132	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Dibromochloromethane	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2-Dibromoethane (EDB)	ND	0.00536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Chlorobenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,1,1,2-Tetrachloroethane	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Ethylbenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
m,p-Xylene	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
o-Xylene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Styrene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Isopropylbenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Bromoform	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM



Client: PES Environmental, Inc.

Collection Date: 4/17/2018 9:20:00 AM

Project: MVSC

Lab ID: 1804291-019

Matrix: Soil

Client Sample ID: SB-15-40

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
n-Propylbenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Bromobenzene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,3,5-Trimethylbenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
2-Chlorotoluene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
4-Chlorotoluene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
tert-Butylbenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2,3-Trichloropropane	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2,4-Trichlorobenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
sec-Butylbenzene	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
4-Isopropyltoluene	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,3-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,4-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
n-Butylbenzene	ND	0.0268		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2-Dichlorobenzene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2-Dibromo-3-chloropropane	ND	0.536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2,4-Trimethylbenzene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Hexachlorobutadiene	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Naphthalene	ND	0.0536		mg/Kg-dry	1	4/25/2018 10:11:07 AM
1,2,3-Trichlorobenzene	ND	0.0214		mg/Kg-dry	1	4/25/2018 10:11:07 AM
Surr: Dibromofluoromethane	91.2	56.5 - 129		%Rec	1	4/25/2018 10:11:07 AM
Surr: Toluene-d8	102	64.5 - 151		%Rec	1	4/25/2018 10:11:07 AM
Surr: 1-Bromo-4-fluorobenzene	92.7	43.2 - 143		%Rec	1	4/25/2018 10:11:07 AM

Sample Moisture (Percent Moisture)

Batch ID: R43003

Analyst: CG

Percent Moisture	10.4	0.500		wt%	1	4/20/2018 9:51:17 AM
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Client: PES Environmental, Inc.

Collection Date: 4/17/2018 10:38:00 AM

Project: MVSC

Lab ID: 1804291-021

Matrix: Soil

Client Sample ID: SB-16-20

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Chloromethane	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Vinyl chloride	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Bromomethane	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Trichlorofluoromethane (CFC-11)	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Chloroethane	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,1-Dichloroethene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Methylene chloride	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
trans-1,2-Dichloroethene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Methyl tert-butyl ether (MTBE)	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,1-Dichloroethane	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
2,2-Dichloropropane	ND	0.146		mg/Kg-dry	1	4/25/2018 11:13:15 AM
cis-1,2-Dichloroethene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Chloroform	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,1,1-Trichloroethane (TCA)	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,1-Dichloropropene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Carbon tetrachloride	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2-Dichloroethane (EDC)	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Benzene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Trichloroethene (TCE)	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2-Dichloropropane	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Bromodichloromethane	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Dibromomethane	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
cis-1,3-Dichloropropene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Toluene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
trans-1,3-Dichloropropylene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,1,2-Trichloroethane	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,3-Dichloropropane	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Tetrachloroethene (PCE)	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Dibromochloromethane	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2-Dibromoethane (EDB)	ND	0.00732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Chlorobenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,1,1,2-Tetrachloroethane	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Ethylbenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
m,p-Xylene	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
o-Xylene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Styrene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Isopropylbenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Bromoform	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM



Client: PES Environmental, Inc.

Collection Date: 4/17/2018 10:38:00 AM

Project: MVSC

Lab ID: 1804291-021

Matrix: Soil

Client Sample ID: SB-16-20

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
n-Propylbenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Bromobenzene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,3,5-Trimethylbenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
2-Chlorotoluene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
4-Chlorotoluene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
tert-Butylbenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2,3-Trichloropropane	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2,4-Trichlorobenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
sec-Butylbenzene	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
4-Isopropyltoluene	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,3-Dichlorobenzene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,4-Dichlorobenzene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
n-Butylbenzene	ND	0.0366		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2-Dichlorobenzene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2-Dibromo-3-chloropropane	ND	0.732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2,4-Trimethylbenzene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Hexachlorobutadiene	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Naphthalene	ND	0.0732		mg/Kg-dry	1	4/25/2018 11:13:15 AM
1,2,3-Trichlorobenzene	ND	0.0293		mg/Kg-dry	1	4/25/2018 11:13:15 AM
Surr: Dibromofluoromethane	112	56.5 - 129		%Rec	1	4/25/2018 11:13:15 AM
Surr: Toluene-d8	101	64.5 - 151		%Rec	1	4/25/2018 11:13:15 AM
Surr: 1-Bromo-4-fluorobenzene	94.1	43.2 - 143		%Rec	1	4/25/2018 11:13:15 AM

Sample Moisture (Percent Moisture)

Batch ID: R43003

Analyst: CG

Percent Moisture	4.44	0.500		wt%	1	4/20/2018 9:51:17 AM
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Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-022
Client Sample ID: SB-16-30

Collection Date: 4/17/2018 11:15:00 AM
Matrix: Soil

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Chloromethane	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Vinyl chloride	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Bromomethane	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Trichlorofluoromethane (CFC-11)	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Chloroethane	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,1-Dichloroethene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Methylene chloride	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
trans-1,2-Dichloroethene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Methyl tert-butyl ether (MTBE)	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,1-Dichloroethane	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
2,2-Dichloropropane	ND	0.104		mg/Kg-dry	1	4/25/2018 11:44:18 AM
cis-1,2-Dichloroethene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Chloroform	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,1,1-Trichloroethane (TCA)	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,1-Dichloropropene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Carbon tetrachloride	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2-Dichloroethane (EDC)	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Benzene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Trichloroethene (TCE)	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2-Dichloropropane	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Bromodichloromethane	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Dibromomethane	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
cis-1,3-Dichloropropene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Toluene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
trans-1,3-Dichloropropylene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,1,2-Trichloroethane	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,3-Dichloropropane	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Tetrachloroethene (PCE)	0.0505	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Dibromochloromethane	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2-Dibromoethane (EDB)	ND	0.00521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Chlorobenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,1,1,2-Tetrachloroethane	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Ethylbenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
m,p-Xylene	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
o-Xylene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Styrene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Isopropylbenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Bromoform	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-022
Client Sample ID: SB-16-30

Collection Date: 4/17/2018 11:15:00 AM
Matrix: Soil

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
n-Propylbenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Bromobenzene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,3,5-Trimethylbenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
2-Chlorotoluene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
4-Chlorotoluene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
tert-Butylbenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2,3-Trichloropropane	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2,4-Trichlorobenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
sec-Butylbenzene	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
4-Isopropyltoluene	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,3-Dichlorobenzene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,4-Dichlorobenzene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
n-Butylbenzene	ND	0.0261		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2-Dichlorobenzene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2-Dibromo-3-chloropropane	ND	0.521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2,4-Trimethylbenzene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Hexachlorobutadiene	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Naphthalene	ND	0.0521		mg/Kg-dry	1	4/25/2018 11:44:18 AM
1,2,3-Trichlorobenzene	ND	0.0208		mg/Kg-dry	1	4/25/2018 11:44:18 AM
Surr: Dibromofluoromethane	91.8	56.5 - 129		%Rec	1	4/25/2018 11:44:18 AM
Surr: Toluene-d8	89.3	64.5 - 151		%Rec	1	4/25/2018 11:44:18 AM
Surr: 1-Bromo-4-fluorobenzene	87.7	43.2 - 143		%Rec	1	4/25/2018 11:44:18 AM

Sample Moisture (Percent Moisture)

Batch ID: R43003

Analyst: CG

Percent Moisture	7.92	0.500		wt%	1	4/20/2018 9:51:17 AM
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Client: PES Environmental, Inc.

Collection Date: 4/17/2018 12:05:00 PM

Project: MVSC

Lab ID: 1804291-023

Matrix: Soil

Client Sample ID: SB-16-40

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Chloromethane	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Vinyl chloride	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Bromomethane	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Trichlorofluoromethane (CFC-11)	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Chloroethane	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,1-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Methylene chloride	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
trans-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Methyl tert-butyl ether (MTBE)	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,1-Dichloroethane	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
2,2-Dichloropropane	ND	0.112		mg/Kg-dry	1	4/25/2018 12:15:14 PM
cis-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Chloroform	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,1,1-Trichloroethane (TCA)	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,1-Dichloropropene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Carbon tetrachloride	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2-Dichloroethane (EDC)	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Benzene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Trichloroethene (TCE)	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2-Dichloropropane	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Bromodichloromethane	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Dibromomethane	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
cis-1,3-Dichloropropene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Toluene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
trans-1,3-Dichloropropylene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,1,2-Trichloroethane	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,3-Dichloropropane	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Tetrachloroethene (PCE)	0.0575	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Dibromochloromethane	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2-Dibromoethane (EDB)	ND	0.00561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Chlorobenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,1,1,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Ethylbenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
m,p-Xylene	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
o-Xylene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Styrene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Isopropylbenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Bromoform	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-023
Client Sample ID: SB-16-40

Collection Date: 4/17/2018 12:05:00 PM
Matrix: Soil

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
n-Propylbenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Bromobenzene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,3,5-Trimethylbenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
2-Chlorotoluene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
4-Chlorotoluene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
tert-Butylbenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2,3-Trichloropropane	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2,4-Trichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
sec-Butylbenzene	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
4-Isopropyltoluene	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,3-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,4-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
n-Butylbenzene	ND	0.0280		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2-Dibromo-3-chloropropane	ND	0.561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2,4-Trimethylbenzene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Hexachlorobutadiene	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Naphthalene	ND	0.0561		mg/Kg-dry	1	4/25/2018 12:15:14 PM
1,2,3-Trichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/25/2018 12:15:14 PM
Surr: Dibromofluoromethane	87.8	56.5 - 129		%Rec	1	4/25/2018 12:15:14 PM
Surr: Toluene-d8	85.4	64.5 - 151		%Rec	1	4/25/2018 12:15:14 PM
Surr: 1-Bromo-4-fluorobenzene	91.0	43.2 - 143		%Rec	1	4/25/2018 12:15:14 PM

Sample Moisture (Percent Moisture)

Batch ID: R43003

Analyst: CG

Percent Moisture	10.5	0.500		wt%	1	4/20/2018 9:51:17 AM
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Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Sample Moisture (Percent Moisture)

Sample ID 1804325-002ADUP	SampType: DUP	Units: wt%	Prep Date: 4/20/2018	RunNo: 43003							
Client ID: BATCH	Batch ID: R43003	Analysis Date: 4/20/2018	SeqNo: 831162								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	12.9	0.500						10.82	17.8	20	

Sample ID 1804291-018ADUP	SampType: DUP	Units: wt%	Prep Date: 4/20/2018	RunNo: 43003							
Client ID: SB-15-30	Batch ID: R43003	Analysis Date: 4/20/2018	SeqNo: 831175								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	9.40	0.500						8.969	4.71	20	



Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Sample Moisture (Percent Moisture)

Sample ID 1804291-001ADUP	SampType: DUP	Units: wt%	Prep Date: 4/19/2018	RunNo: 42972							
Client ID: SB-10-6	Batch ID: R42972	Analysis Date: 4/19/2018	SeqNo: 830566								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	7.00	0.500						7.363	5.10	20	

Sample ID 1804291-016ADUP	SampType: DUP	Units: wt%	Prep Date: 4/19/2018	RunNo: 42972							
Client ID: SB-15-10	Batch ID: R42972	Analysis Date: 4/19/2018	SeqNo: 830582								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	14.9	0.500						15.10	1.60	20	

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20486	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/24/2018	RunNo:	43108		
Client ID:	LCSS	Batch ID:	20486	Analysis Date:	4/24/2018	SeqNo:	833296				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.749	0.0200	1.000	0	74.9	14.3	167				
Chloromethane	0.623	0.0500	1.000	0	62.3	32	156				
Vinyl chloride	0.603	0.0250	1.000	0	60.3	43.4	151				
Bromomethane	1.20	0.0500	1.000	0	120	35	155				
Trichlorofluoromethane (CFC-11)	1.85	0.0200	1.000	0	185	33.8	156				S
Chloroethane	0.974	0.0500	1.000	0	97.4	33.1	147				
1,1-Dichloroethene	0.667	0.0200	1.000	0	66.7	39	144				
Methylene chloride	0.924	0.0200	1.000	0	92.4	46.3	140				
trans-1,2-Dichloroethene	1.01	0.0200	1.000	0	101	68	130				
Methyl tert-butyl ether (MTBE)	0.950	0.0500	1.000	0	95.0	44.1	152				
1,1-Dichloroethane	1.02	0.0200	1.000	0	102	61.9	137				
2,2-Dichloropropane	1.20	0.100	1.000	0	120	35.5	186				
cis-1,2-Dichloroethene	0.920	0.0200	1.000	0	92.0	71.3	135				
Chloroform	0.958	0.0200	1.000	0	95.8	69	145				
1,1,1-Trichloroethane (TCA)	1.03	0.0250	1.000	0	103	69	132				
1,1-Dichloropropene	1.04	0.0200	1.000	0	104	72.7	131				
Carbon tetrachloride	1.05	0.0250	1.000	0	105	63.4	137				
1,2-Dichloroethane (EDC)	0.956	0.0200	1.000	0	95.6	50.9	162				
Benzene	0.999	0.0200	1.000	0	99.9	64.3	133				
Trichloroethene (TCE)	0.911	0.0200	1.000	0	91.1	65.5	137				
1,2-Dichloropropane	0.825	0.0200	1.000	0	82.5	63.2	142				
Bromodichloromethane	0.851	0.0200	1.000	0	85.1	53.4	131				
Dibromomethane	0.861	0.0200	1.000	0	86.1	60.1	146				
cis-1,3-Dichloropropene	0.880	0.0200	1.000	0	88.0	59.1	143				
Toluene	0.902	0.0200	1.000	0	90.2	67.3	138				
trans-1,3-Dichloropropylene	0.898	0.0200	1.000	0	89.8	49.2	149				
1,1,2-Trichloroethane	0.859	0.0200	1.000	0	85.9	56.9	147				
1,3-Dichloropropane	0.778	0.0250	1.000	0	77.8	56.1	153				
Tetrachloroethene (PCE)	0.978	0.0250	1.000	0	97.8	52.7	150				
Dibromochloromethane	0.879	0.0250	1.000	0	87.9	70.6	144				
1,2-Dibromoethane (EDB)	0.933	0.00500	1.000	0	93.3	50.5	154				

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20486	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/24/2018	RunNo:	43108
Client ID:	LCSS	Batch ID:	20486			Analysis Date:	4/24/2018	SeqNo:	833296

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.04	0.0250	1.000	0	104	84.9	125				
1,1,1,2-Tetrachloroethane	1.02	0.0250	1.000	0	102	65.9	141				
Ethylbenzene	1.05	0.0250	1.000	0	105	74	129				
m,p-Xylene	2.23	0.0500	2.000	0	111	70	124				
o-Xylene	1.08	0.0250	1.000	0	108	68.1	139				
Styrene	1.06	0.0250	1.000	0	106	73.3	146				
Isopropylbenzene	1.09	0.0250	1.000	0	109	70	130				
Bromoform	0.985	0.0500	1.000	0	98.5	44.3	130				
1,1,2,2-Tetrachloroethane	0.953	0.0200	1.000	0	95.3	44.8	165				
n-Propylbenzene	1.08	0.0250	1.000	0	108	75.8	139				
Bromobenzene	1.06	0.0200	1.000	0	106	49.2	144				
1,3,5-Trimethylbenzene	1.10	0.0250	1.000	0	110	76.5	135				
2-Chlorotoluene	1.06	0.0250	1.000	0	106	76.7	129				
4-Chlorotoluene	1.07	0.0250	1.000	0	107	77.5	125				
tert-Butylbenzene	1.10	0.0250	1.000	0	110	66.2	130				
1,2,3-Trichloropropane	0.972	0.0250	1.000	0	97.2	67.9	136				
1,2,4-Trichlorobenzene	1.03	0.0250	1.000	0	103	65.5	150				
sec-Butylbenzene	1.10	0.0500	1.000	0	110	75.6	133				
4-Isopropyltoluene	1.11	0.0500	1.000	0	111	76.8	131				
1,3-Dichlorobenzene	1.08	0.0200	1.000	0	108	72.8	128				
1,4-Dichlorobenzene	1.06	0.0200	1.000	0	106	72.6	126				
n-Butylbenzene	1.04	0.0250	1.000	0	104	78.4	140				
1,2-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.8	126				
1,2-Dibromo-3-chloropropane	0.892	0.500	1.000	0	89.2	40.2	155				
1,2,4-Trimethylbenzene	1.10	0.0200	1.000	0	110	77.5	129				
Hexachlorobutadiene	1.09	0.0500	1.000	0	109	42	151				
Naphthalene	0.945	0.0500	1.000	0	94.5	46.5	167				
1,2,3-Trichlorobenzene	1.00	0.0200	1.000	0	100	64.5	149				
Surr: Dibromofluoromethane	1.18		1.250		94.6	56.5	129				
Surr: Toluene-d8	0.926		1.250		74.1	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.19		1.250		94.9	43.2	143				

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20486	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/24/2018	RunNo:	43108				
Client ID:	LCSS	Batch ID:	20486			Analysis Date:	4/24/2018	SeqNo:	833296				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.

Sample ID	MB-20486	SampType:	MBLK	Units:	mg/Kg	Prep Date:	4/24/2018	RunNo:	43108				
Client ID:	MBLKS	Batch ID:	20486			Analysis Date:	4/24/2018	SeqNo:	833297				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0200											
Chloromethane	ND	0.0500											Q
Vinyl chloride	ND	0.0250											
Bromomethane	ND	0.0500											
Trichlorofluoromethane (CFC-11)	ND	0.0200											
Chloroethane	ND	0.0500											
1,1-Dichloroethene	ND	0.0200											
Methylene chloride	ND	0.0200											
trans-1,2-Dichloroethene	ND	0.0200											
Methyl tert-butyl ether (MTBE)	ND	0.0500											
1,1-Dichloroethane	ND	0.0200											
2,2-Dichloropropane	ND	0.100											
cis-1,2-Dichloroethene	ND	0.0200											
Chloroform	ND	0.0200											
1,1,1-Trichloroethane (TCA)	ND	0.0250											
1,1-Dichloropropene	ND	0.0200											
Carbon tetrachloride	ND	0.0250											
1,2-Dichloroethane (EDC)	ND	0.0200											
Benzene	ND	0.0200											
Trichloroethene (TCE)	ND	0.0200											
1,2-Dichloropropane	ND	0.0200											
Bromodichloromethane	ND	0.0200											
Dibromomethane	ND	0.0200											
cis-1,3-Dichloropropene	ND	0.0200											

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20486	SampType: MBLK	Units: mg/Kg	Prep Date: 4/24/2018	RunNo: 43108							
Client ID: MBLKS	Batch ID: 20486		Analysis Date: 4/24/2018	SeqNo: 833297							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Toluene	ND	0.0200									
trans-1,3-Dichloropropylene	ND	0.0200									
1,1,2-Trichloroethane	ND	0.0200									
1,3-Dichloropropane	ND	0.0250									
Tetrachloroethene (PCE)	ND	0.0250									
Dibromochloromethane	ND	0.0250									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0250									
1,1,1,2-Tetrachloroethane	ND	0.0250									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Styrene	ND	0.0250									
Isopropylbenzene	ND	0.0250									
Bromoform	ND	0.0500									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0250									
Bromobenzene	ND	0.0200									
1,3,5-Trimethylbenzene	ND	0.0250									
2-Chlorotoluene	ND	0.0250									
4-Chlorotoluene	ND	0.0250									
tert-Butylbenzene	ND	0.0250									
1,2,3-Trichloropropane	ND	0.0250									
1,2,4-Trichlorobenzene	ND	0.0250									
sec-Butylbenzene	ND	0.0500									
4-Isopropyltoluene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0250									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	MB-20486	SampType:	MBLK	Units:	mg/Kg	Prep Date:	4/24/2018	RunNo:	43108		
Client ID:	MBLKS	Batch ID:	20486			Analysis Date:	4/24/2018	SeqNo:	833297		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,2,4-Trimethylbenzene	ND	0.0200									
Hexachlorobutadiene	ND	0.0500									
Naphthalene	ND	0.0500									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.13		1.250		90.1	56.5	129				
Surr: Toluene-d8	0.917		1.250		73.4	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.15		1.250		92.1	43.2	143				

NOTES:

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

Sample ID	1804291-013BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	4/24/2018	RunNo:	43108		
Client ID:	SB-14-10	Batch ID:	20486			Analysis Date:	4/25/2018	SeqNo:	833275		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0238						0		30	
Chloromethane	ND	0.0595						0		30	Q
Vinyl chloride	ND	0.0298						0		30	
Bromomethane	ND	0.0595						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0238						0		30	
Chloroethane	ND	0.0595						0		30	
1,1-Dichloroethene	ND	0.0238						0		30	
Methylene chloride	ND	0.0238						0		30	
trans-1,2-Dichloroethene	ND	0.0238						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0595						0		30	
1,1-Dichloroethane	ND	0.0238						0		30	
2,2-Dichloropropane	ND	0.119						0		30	
cis-1,2-Dichloroethene	ND	0.0238						0		30	
Chloroform	ND	0.0238						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0298						0		30	
1,1-Dichloropropene	ND	0.0238						0		30	
Carbon tetrachloride	ND	0.0298						0		30	

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-013BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108							
Client ID: SB-14-10	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833275							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,2-Dichloroethane (EDC)	ND	0.0238						0		30	
Benzene	ND	0.0238						0		30	
Trichloroethene (TCE)	ND	0.0238						0		30	
1,2-Dichloropropane	ND	0.0238						0		30	
Bromodichloromethane	ND	0.0238						0		30	
Dibromomethane	ND	0.0238						0		30	
cis-1,3-Dichloropropene	ND	0.0238						0		30	
Toluene	ND	0.0238						0		30	
trans-1,3-Dichloropropylene	ND	0.0238						0		30	
1,1,2-Trichloroethane	ND	0.0238						0		30	
1,3-Dichloropropane	ND	0.0298						0		30	
Tetrachloroethene (PCE)	ND	0.0298						0		30	
Dibromochloromethane	ND	0.0298						0		30	
1,2-Dibromoethane (EDB)	ND	0.00595						0		30	
Chlorobenzene	ND	0.0298						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0298						0		30	
Ethylbenzene	ND	0.0298						0		30	
m,p-Xylene	ND	0.0595						0		30	
o-Xylene	ND	0.0298						0		30	
Styrene	ND	0.0298						0		30	
Isopropylbenzene	ND	0.0298						0		30	
Bromoform	ND	0.0595						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0238						0		30	
n-Propylbenzene	ND	0.0298						0		30	
Bromobenzene	ND	0.0238						0		30	
1,3,5-Trimethylbenzene	ND	0.0298						0		30	
2-Chlorotoluene	ND	0.0298						0		30	
4-Chlorotoluene	ND	0.0298						0		30	
tert-Butylbenzene	ND	0.0298						0		30	
1,2,3-Trichloropropane	ND	0.0298						0		30	
1,2,4-Trichlorobenzene	ND	0.0298						0		30	

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-013BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108							
Client ID: SB-14-10	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833275							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

sec-Butylbenzene	ND	0.0595						0		30	
4-Isopropyltoluene	ND	0.0595						0		30	
1,3-Dichlorobenzene	ND	0.0238						0		30	
1,4-Dichlorobenzene	ND	0.0238						0		30	
n-Butylbenzene	ND	0.0298						0		30	
1,2-Dichlorobenzene	ND	0.0238						0		30	
1,2-Dibromo-3-chloropropane	ND	0.595						0		30	
1,2,4-Trimethylbenzene	ND	0.0238						0		30	
Hexachlorobutadiene	ND	0.0595						0		30	
Naphthalene	ND	0.0595						0		30	
1,2,3-Trichlorobenzene	ND	0.0238						0		30	
Surr: Dibromofluoromethane	1.31		1.489		88.1	56.5	129		0		
Surr: Toluene-d8	1.24		1.489		83.0	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.36		1.489		91.1	43.2	143		0		

NOTES:

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

Sample ID 1804291-016BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108							
Client ID: SB-15-10	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833279							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	1.17	0.0267	1.337	0	87.6	43.5	121				
Chloromethane	1.02	0.0669	1.337	0	76.6	45	130				
Vinyl chloride	1.02	0.0334	1.337	0	76.4	43.6	150				
Bromomethane	1.89	0.0669	1.337	0	141	21.3	120				S
Trichlorofluoromethane (CFC-11)	2.75	0.0267	1.337	0	206	35	131				S
Chloroethane	1.89	0.0669	1.337	0	141	31.9	123				S
1,1-Dichloroethene	1.07	0.0267	1.337	0	80.0	47.3	147				
Methylene chloride	1.66	0.0267	1.337	0	124	54.7	142				
trans-1,2-Dichloroethene	1.59	0.0267	1.337	0	119	52	136				
Methyl tert-butyl ether (MTBE)	1.45	0.0669	1.337	0	109	58.5	167				

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-016BMS	SampType:	MS	Units:	mg/Kg-dry	Prep Date:	4/24/2018	RunNo:	43108		
Client ID:	SB-15-10	Batch ID:	20486			Analysis Date:	4/25/2018	SeqNo:	833279		
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
1,1-Dichloroethane	1.28	0.0267	1.337	0	95.5	51.8	141				
2,2-Dichloropropane	1.23	0.134	1.337	0	91.6	36	123				
cis-1,2-Dichloroethane	1.24	0.0267	1.337	0	92.9	58.6	136				
Chloroform	1.35	0.0267	1.337	0	101	53.2	129				
1,1,1-Trichloroethane (TCA)	1.35	0.0334	1.337	0	101	58.3	145				
1,1-Dichloropropene	1.39	0.0267	1.337	0	104	55.1	138				
Carbon tetrachloride	1.32	0.0334	1.337	0	98.4	53.3	144				
1,2-Dichloroethane (EDC)	1.37	0.0267	1.337	0	102	51.3	139				
Benzene	1.41	0.0267	1.337	0	106	63.5	133				
Trichloroethene (TCE)	1.37	0.0267	1.337	0	102	61.6	147				
1,2-Dichloropropane	1.47	0.0267	1.337	0	110	59	136				
Bromodichloromethane	1.53	0.0267	1.337	0	115	50.7	141				
Dibromomethane	1.36	0.0267	1.337	0	102	50.6	137				
cis-1,3-Dichloropropene	1.63	0.0267	1.337	0	122	50.4	138				
Toluene	1.70	0.0267	1.337	0	127	63.4	132				
trans-1,3-Dichloropropylene	1.76	0.0267	1.337	0	132	44.1	147				
1,1,2-Trichloroethane	1.62	0.0267	1.337	0	121	51.6	137				
1,3-Dichloropropane	1.71	0.0334	1.337	0	128	53.1	134				
Tetrachloroethene (PCE)	1.40	0.0334	1.337	0	105	35.6	158				
Dibromochloromethane	1.47	0.0334	1.337	0	110	55.3	140				
1,2-Dibromoethane (EDB)	1.58	0.00669	1.337	0	118	50.4	136				
Chlorobenzene	1.32	0.0334	1.337	0	98.7	60	133				
1,1,1,2-Tetrachloroethane	1.27	0.0334	1.337	0	94.9	53.1	142				
Ethylbenzene	1.38	0.0334	1.337	0	103	54.5	134				
m,p-Xylene	2.69	0.0669	2.674	0	101	53.1	132				
o-Xylene	1.35	0.0334	1.337	0	101	53.3	139				
Styrene	1.36	0.0334	1.337	0	101	51.1	132				
Isopropylbenzene	1.36	0.0334	1.337	0	101	58.9	138				
Bromoform	1.18	0.0669	1.337	0	88.6	57.9	130				
1,1,2,2-Tetrachloroethane	1.28	0.0267	1.337	0	96.0	51.9	131				
n-Propylbenzene	1.39	0.0334	1.337	0	104	53.6	140				

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-016BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108							
Client ID: SB-15-10	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833279							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Bromobenzene	1.22	0.0267	1.337	0	91.3	54.2	140				
1,3,5-Trimethylbenzene	1.37	0.0334	1.337	0	102	51.8	136				
2-Chlorotoluene	1.40	0.0334	1.337	0	105	51.6	136				
4-Chlorotoluene	1.42	0.0334	1.337	0	106	50.1	139				
tert-Butylbenzene	1.31	0.0334	1.337	0	98.0	50.5	135				
1,2,3-Trichloropropane	1.31	0.0334	1.337	0	98.1	50.5	131				
1,2,4-Trichlorobenzene	1.17	0.0334	1.337	0	87.4	50.8	130				
sec-Butylbenzene	1.36	0.0669	1.337	0	102	52.6	141				
4-Isopropyltoluene	1.32	0.0669	1.337	0	98.3	52.9	134				
1,3-Dichlorobenzene	1.33	0.0267	1.337	0	99.7	52.6	131				
1,4-Dichlorobenzene	1.32	0.0267	1.337	0	99.1	52.9	129				
n-Butylbenzene	1.43	0.0334	1.337	0	107	52.6	130				
1,2-Dichlorobenzene	1.30	0.0267	1.337	0	97.0	55.8	129				
1,2-Dibromo-3-chloropropane	1.27	0.669	1.337	0	94.9	40.5	131				
1,2,4-Trimethylbenzene	1.36	0.0267	1.337	0	102	50.6	137				
Hexachlorobutadiene	1.13	0.0669	1.337	0	84.2	40.6	158				
Naphthalene	1.15	0.0669	1.337	0	86.1	52.3	124				
1,2,3-Trichlorobenzene	1.14	0.0267	1.337	0	85.1	54.4	124				
Surr: Dibromofluoromethane	1.70		1.672		102	56.5	129				
Surr: Toluene-d8	1.85		1.672		111	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.71		1.672		102	43.2	143				

NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID 1804291-016BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108							
Client ID: SB-15-10	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833280							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	1.13	0.0267	1.337	0	84.2	43.5	121	1.171	4.01	30	
Chloromethane	1.02	0.0669	1.337	0	76.4	45	130	1.024	0.292	30	
Vinyl chloride	0.926	0.0334	1.337	0	69.2	43.6	150	1.021	9.81	30	

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-016BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108
Client ID: SB-15-10	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833280

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	1.61	0.0669	1.337	0	121	21.3	120	1.888	15.8	30	S
Trichlorofluoromethane (CFC-11)	2.35	0.0267	1.337	0	176	35	131	2.750	15.6	30	S
Chloroethane	1.56	0.0669	1.337	0	117	31.9	123	1.892	19.1	30	
1,1-Dichloroethene	0.863	0.0267	1.337	0	64.6	47.3	147	1.069	21.3	30	
Methylene chloride	1.34	0.0267	1.337	0	99.9	54.7	142	1.663	21.8	30	
trans-1,2-Dichloroethene	1.34	0.0267	1.337	0	100	52	136	1.589	17.3	30	
Methyl tert-butyl ether (MTBE)	1.36	0.0669	1.337	0	102	58.5	167	1.452	6.49	30	
1,1-Dichloroethane	1.60	0.0267	1.337	0	120	51.8	141	1.277	22.5	30	
2,2-Dichloropropane	1.59	0.134	1.337	0	119	36	123	1.225	26.1	30	
cis-1,2-Dichloroethene	1.49	0.0267	1.337	0	111	58.6	136	1.242	17.9	30	
Chloroform	1.65	0.0267	1.337	0	123	53.2	129	1.348	19.9	30	
1,1,1-Trichloroethane (TCA)	1.58	0.0334	1.337	0	118	58.3	145	1.353	15.7	30	
1,1-Dichloropropene	1.63	0.0267	1.337	0	122	55.1	138	1.395	15.7	30	
Carbon tetrachloride	1.48	0.0334	1.337	0	111	53.3	144	1.316	11.7	30	
1,2-Dichloroethane (EDC)	1.76	0.0267	1.337	0	131	51.3	139	1.368	24.8	30	
Benzene	1.66	0.0267	1.337	0	124	63.5	133	1.413	16.2	30	
Trichloroethene (TCE)	1.53	0.0267	1.337	0	114	61.6	147	1.368	11.1	30	
1,2-Dichloropropane	1.78	0.0267	1.337	0	133	59	136	1.471	19.0	30	
Bromodichloromethane	1.49	0.0267	1.337	0	112	50.7	141	1.532	2.66	30	
Dibromomethane	1.53	0.0267	1.337	0	114	50.6	137	1.357	11.8	30	
cis-1,3-Dichloropropene	1.60	0.0267	1.337	0	119	50.4	138	1.626	1.84	30	
Toluene	1.55	0.0267	1.337	0	116	63.4	132	1.701	9.37	30	
trans-1,3-Dichloropropylene	1.62	0.0267	1.337	0	121	44.1	147	1.763	8.23	30	
1,1,2-Trichloroethane	1.48	0.0267	1.337	0	111	51.6	137	1.617	8.71	30	
1,3-Dichloropropane	1.55	0.0334	1.337	0	116	53.1	134	1.714	9.85	30	
Tetrachloroethene (PCE)	1.29	0.0334	1.337	0	96.8	35.6	158	1.404	8.13	30	
Dibromochloromethane	1.39	0.0334	1.337	0	104	55.3	140	1.471	5.74	30	
1,2-Dibromoethane (EDB)	1.46	0.00669	1.337	0	109	50.4	136	1.581	7.95	30	
Chlorobenzene	1.30	0.0334	1.337	0	97.4	60	133	1.320	1.36	30	
1,1,1,2-Tetrachloroethane	1.27	0.0334	1.337	0	94.7	53.1	142	1.269	0.209	30	
Ethylbenzene	1.36	0.0334	1.337	0	102	54.5	134	1.380	1.21	30	

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-016BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108
Client ID: SB-15-10	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833280

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	2.68	0.0669	2.674	0	100	53.1	132	2.693	0.642	30	
o-Xylene	1.33	0.0334	1.337	0	99.8	53.3	139	1.348	1.05	30	
Styrene	1.34	0.0334	1.337	0	99.9	51.1	132	1.355	1.47	30	
Isopropylbenzene	1.34	0.0334	1.337	0	100	58.9	138	1.357	1.07	30	
Bromoform	1.20	0.0669	1.337	0	89.5	57.9	130	1.185	0.980	30	
1,1,2,2-Tetrachloroethane	1.28	0.0267	1.337	0	95.8	51.9	131	1.283	0.205	30	
n-Propylbenzene	1.38	0.0334	1.337	0	103	53.6	140	1.390	0.544	30	
Bromobenzene	1.21	0.0267	1.337	0	90.4	54.2	140	1.221	1.06	30	
1,3,5-Trimethylbenzene	1.35	0.0334	1.337	0	101	51.8	136	1.365	1.08	30	
2-Chlorotoluene	1.38	0.0334	1.337	0	103	51.6	136	1.403	1.42	30	
4-Chlorotoluene	1.40	0.0334	1.337	0	105	50.1	139	1.417	1.01	30	
tert-Butylbenzene	1.31	0.0334	1.337	0	97.9	50.5	135	1.310	0.0571	30	
1,2,3-Trichloropropane	1.29	0.0334	1.337	0	96.6	50.5	131	1.312	1.54	30	
1,2,4-Trichlorobenzene	1.18	0.0334	1.337	0	87.9	50.8	130	1.169	0.496	30	
sec-Butylbenzene	1.35	0.0669	1.337	0	101	52.6	141	1.357	0.527	30	
4-Isopropyltoluene	1.31	0.0669	1.337	0	98.0	52.9	134	1.315	0.372	30	
1,3-Dichlorobenzene	1.34	0.0267	1.337	0	99.9	52.6	131	1.333	0.270	30	
1,4-Dichlorobenzene	1.33	0.0267	1.337	0	99.2	52.9	129	1.325	0.0869	30	
n-Butylbenzene	1.45	0.0334	1.337	0	108	52.6	130	1.427	1.51	30	
1,2-Dichlorobenzene	1.30	0.0267	1.337	0	97.0	55.8	129	1.298	0.0485	30	
1,2-Dibromo-3-chloropropane	1.29	0.669	1.337	0	96.3	40.5	131	1.268	1.52	30	
1,2,4-Trimethylbenzene	1.35	0.0267	1.337	0	101	50.6	137	1.359	0.512	30	
Hexachlorobutadiene	1.14	0.0669	1.337	0	85.5	40.6	158	1.127	1.47	30	
Naphthalene	1.18	0.0669	1.337	0	87.9	52.3	124	1.152	2.01	30	
1,2,3-Trichlorobenzene	1.16	0.0267	1.337	0	86.4	54.4	124	1.138	1.45	30	
Surr: Dibromofluoromethane	1.95		1.672		117	56.5	129		0		
Surr: Toluene-d8	1.72		1.672		103	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.70		1.672		102	43.2	143		0		

NOTES:
 S - Outlying spike recovery(ies) observed.

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-019BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	4/24/2018	RunNo:	43108		
Client ID:	SB-15-40	Batch ID:	20486			Analysis Date:	4/25/2018	SeqNo:	833284		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0214						0		30	
Chloromethane	ND	0.0536						0		30	
Vinyl chloride	ND	0.0268						0		30	
Bromomethane	ND	0.0536						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0214						0		30	
Chloroethane	ND	0.0536						0		30	
1,1-Dichloroethene	ND	0.0214						0		30	
Methylene chloride	ND	0.0214						0		30	
trans-1,2-Dichloroethene	ND	0.0214						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0536						0		30	
1,1-Dichloroethane	ND	0.0214						0		30	
2,2-Dichloropropane	ND	0.107						0		30	
cis-1,2-Dichloroethene	ND	0.0214						0		30	
Chloroform	ND	0.0214						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0268						0		30	
1,1-Dichloropropene	ND	0.0214						0		30	
Carbon tetrachloride	ND	0.0268						0		30	
1,2-Dichloroethane (EDC)	ND	0.0214						0		30	
Benzene	ND	0.0214						0		30	
Trichloroethene (TCE)	ND	0.0214						0		30	
1,2-Dichloropropane	ND	0.0214						0		30	
Bromodichloromethane	ND	0.0214						0		30	
Dibromomethane	ND	0.0214						0		30	
cis-1,3-Dichloropropene	ND	0.0214						0		30	
Toluene	ND	0.0214						0		30	
trans-1,3-Dichloropropylene	ND	0.0214						0		30	
1,1,2-Trichloroethane	ND	0.0214						0		30	
1,3-Dichloropropane	ND	0.0268						0		30	
Tetrachloroethene (PCE)	0.137	0.0268						0.1316	4.00	30	
Dibromochloromethane	ND	0.0268						0		30	
1,2-Dibromoethane (EDB)	ND	0.00536						0		30	

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-019BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/24/2018	RunNo: 43108							
Client ID: SB-15-40	Batch ID: 20486		Analysis Date: 4/25/2018	SeqNo: 833284							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chlorobenzene	ND	0.0268						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0268						0		30	
Ethylbenzene	ND	0.0268						0		30	
m,p-Xylene	ND	0.0536						0		30	
o-Xylene	ND	0.0268						0		30	
Styrene	ND	0.0268						0		30	
Isopropylbenzene	ND	0.0268						0		30	
Bromoform	ND	0.0536						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0214						0		30	
n-Propylbenzene	ND	0.0268						0		30	
Bromobenzene	ND	0.0214						0		30	
1,3,5-Trimethylbenzene	ND	0.0268						0		30	
2-Chlorotoluene	ND	0.0268						0		30	
4-Chlorotoluene	ND	0.0268						0		30	
tert-Butylbenzene	ND	0.0268						0		30	
1,2,3-Trichloropropane	ND	0.0268						0		30	
1,2,4-Trichlorobenzene	ND	0.0268						0		30	
sec-Butylbenzene	ND	0.0536						0		30	
4-Isopropyltoluene	ND	0.0536						0		30	
1,3-Dichlorobenzene	ND	0.0214						0		30	
1,4-Dichlorobenzene	ND	0.0214						0		30	
n-Butylbenzene	ND	0.0268						0		30	
1,2-Dichlorobenzene	ND	0.0214						0		30	
1,2-Dibromo-3-chloropropane	ND	0.536						0		30	
1,2,4-Trimethylbenzene	ND	0.0214						0		30	
Hexachlorobutadiene	ND	0.0536						0		30	
Naphthalene	ND	0.0536						0		30	
1,2,3-Trichlorobenzene	ND	0.0214						0		30	
Surr: Dibromofluoromethane	1.53		1.339		114	56.5	129		0		
Surr: Toluene-d8	1.42		1.339		106	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.28		1.339		96.0	43.2	143		0		



Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-019BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	4/24/2018	RunNo:	43108		
Client ID:	SB-15-40	Batch ID:	20486			Analysis Date:	4/25/2018	SeqNo:	833284		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20465	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	LCSS	Batch ID:	20465	Analysis Date:	4/24/2018	SeqNo:	832444				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.873	0.0200	1.000	0	87.3	14.3	167				
Chloromethane	0.815	0.0500	1.000	0	81.5	32	156				
Vinyl chloride	0.753	0.0250	1.000	0	75.3	43.4	151				
Bromomethane	1.07	0.0500	1.000	0	107	35	155				
Trichlorofluoromethane (CFC-11)	1.05	0.0200	1.000	0	105	33.8	156				
Chloroethane	0.974	0.0500	1.000	0	97.4	33.1	147				
1,1-Dichloroethene	0.987	0.0200	1.000	0	98.7	39	144				
Methylene chloride	1.09	0.0200	1.000	0	109	46.3	140				
trans-1,2-Dichloroethene	1.08	0.0200	1.000	0	108	68	130				
Methyl tert-butyl ether (MTBE)	1.07	0.0500	1.000	0	107	44.1	152				
1,1-Dichloroethane	1.09	0.0200	1.000	0	109	61.9	137				
2,2-Dichloropropane	0.871	0.100	1.000	0	87.1	35.5	186				
cis-1,2-Dichloroethene	0.936	0.0200	1.000	0	93.6	71.3	135				
Chloroform	0.987	0.0200	1.000	0	98.7	69	145				
1,1,1-Trichloroethane (TCA)	1.00	0.0250	1.000	0	100	69	132				
1,1-Dichloropropene	0.967	0.0200	1.000	0	96.7	72.7	131				
Carbon tetrachloride	0.984	0.0250	1.000	0	98.4	63.4	137				
1,2-Dichloroethane (EDC)	0.948	0.0200	1.000	0	94.8	50.9	162				
Benzene	0.976	0.0200	1.000	0	97.6	64.3	133				
Trichloroethene (TCE)	1.07	0.0200	1.000	0	107	65.5	137				
1,2-Dichloropropane	1.06	0.0200	1.000	0	106	63.2	142				
Bromodichloromethane	1.06	0.0200	1.000	0	106	53.4	131				
Dibromomethane	1.07	0.0200	1.000	0	107	60.1	146				
cis-1,3-Dichloropropene	1.06	0.0200	1.000	0	106	59.1	143				
Toluene	1.10	0.0200	1.000	0	110	67.3	138				
trans-1,3-Dichloropropylene	1.02	0.0200	1.000	0	102	49.2	149				
1,1,2-Trichloroethane	1.05	0.0200	1.000	0	105	56.9	147				
1,3-Dichloropropane	1.00	0.0250	1.000	0	100	56.1	153				
Tetrachloroethene (PCE)	1.04	0.0250	1.000	0	104	52.7	150				
Dibromochloromethane	1.05	0.0250	1.000	0	105	70.6	144				
1,2-Dibromoethane (EDB)	1.02	0.00500	1.000	0	102	50.5	154				

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20465	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/20/2018	RunNo:	43070
Client ID:	LCSS	Batch ID:	20465			Analysis Date:	4/24/2018	SeqNo:	832444

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.02	0.0250	1.000	0	102	84.9	125				
1,1,1,2-Tetrachloroethane	1.02	0.0250	1.000	0	102	65.9	141				
Ethylbenzene	1.02	0.0250	1.000	0	102	74	129				
m,p-Xylene	2.07	0.0500	2.000	0	104	70	124				
o-Xylene	1.04	0.0250	1.000	0	104	68.1	139				
Styrene	1.03	0.0250	1.000	0	103	73.3	146				
Isopropylbenzene	1.05	0.0250	1.000	0	105	70	130				
Bromoform	1.08	0.0500	1.000	0	108	44.3	130				
1,1,2,2-Tetrachloroethane	1.01	0.0200	1.000	0	101	44.8	165				
n-Propylbenzene	1.02	0.0250	1.000	0	102	75.8	139				
Bromobenzene	1.02	0.0200	1.000	0	102	49.2	144				
1,3,5-Trimethylbenzene	1.04	0.0250	1.000	0	104	76.5	135				
2-Chlorotoluene	1.02	0.0250	1.000	0	102	76.7	129				
4-Chlorotoluene	1.02	0.0250	1.000	0	102	77.5	125				
tert-Butylbenzene	1.05	0.0250	1.000	0	105	66.2	130				
1,2,3-Trichloropropane	1.00	0.0250	1.000	0	100	67.9	136				
1,2,4-Trichlorobenzene	1.05	0.0250	1.000	0	105	65.5	150				
sec-Butylbenzene	1.04	0.0500	1.000	0	104	75.6	133				
4-Isopropyltoluene	1.04	0.0500	1.000	0	104	76.8	131				
1,3-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.8	128				
1,4-Dichlorobenzene	1.04	0.0200	1.000	0	104	72.6	126				
n-Butylbenzene	0.988	0.0250	1.000	0	98.8	78.4	140				
1,2-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.8	126				
1,2-Dibromo-3-chloropropane	1.04	0.500	1.000	0	104	40.2	155				
1,2,4-Trimethylbenzene	1.04	0.0200	1.000	0	104	77.5	129				
Hexachlorobutadiene	1.07	0.0500	1.000	0	107	42	151				
Naphthalene	1.04	0.0500	1.000	0	104	46.5	167				
1,2,3-Trichlorobenzene	1.04	0.0200	1.000	0	104	64.5	149				
Surr: Dibromofluoromethane	1.20		1.250		96.2	56.5	129				
Surr: Toluene-d8	1.16		1.250		92.6	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.20		1.250		95.8	43.2	143				

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20465	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	LCSS	Batch ID:	20465			Analysis Date:	4/24/2018	SeqNo:	832444		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	MB-20465	SampType:	MBLK	Units:	mg/Kg	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	MBLKS	Batch ID:	20465			Analysis Date:	4/24/2018	SeqNo:	832445		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0200									Q
Chloromethane	ND	0.0500									
Vinyl chloride	ND	0.0250									
Bromomethane	ND	0.0500									
Trichlorofluoromethane (CFC-11)	ND	0.0200									
Chloroethane	ND	0.0500									
1,1-Dichloroethene	ND	0.0200									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.100									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0250									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0250									
1,2-Dichloroethane (EDC)	ND	0.0200									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0200									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20465	SampType: MBLK	Units: mg/Kg	Prep Date: 4/20/2018	RunNo: 43070
Client ID: MBLKS	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832445

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	0.0200									
1,1,2-Trichloroethane	ND	0.0200									
1,3-Dichloropropane	ND	0.0250									
Tetrachloroethene (PCE)	ND	0.0250									
Dibromochloromethane	ND	0.0250									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0250									
1,1,1,2-Tetrachloroethane	ND	0.0250									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Styrene	ND	0.0250									
Isopropylbenzene	ND	0.0250									
Bromoform	ND	0.0500									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0250									
Bromobenzene	ND	0.0200									
1,3,5-Trimethylbenzene	ND	0.0250									
2-Chlorotoluene	ND	0.0250									
4-Chlorotoluene	ND	0.0250									
tert-Butylbenzene	ND	0.0250									
1,2,3-Trichloropropane	ND	0.0250									
1,2,4-Trichlorobenzene	ND	0.0250									
sec-Butylbenzene	ND	0.0500									
4-Isopropyltoluene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0250									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20465	SampType: MBLK	Units: mg/Kg	Prep Date: 4/20/2018	RunNo: 43070							
Client ID: MBLKS	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832445							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexachlorobutadiene	ND	0.0500									
Naphthalene	ND	0.0500									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.09		1.250		87.5	56.5	129				
Surr: Toluene-d8	1.05		1.250		84.0	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.30		1.250		104	43.2	143				

NOTES:

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

Sample ID 1804291-001BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/20/2018	RunNo: 43070							
Client ID: SB-10-6	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832439							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0237						0		30	Q
Chloromethane	ND	0.0593						0		30	
Vinyl chloride	ND	0.0297						0		30	
Bromomethane	ND	0.0593						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0237						0		30	
Chloroethane	ND	0.0593						0		30	
1,1-Dichloroethene	ND	0.0237						0		30	
Methylene chloride	ND	0.0237						0		30	
trans-1,2-Dichloroethene	ND	0.0237						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0593						0		30	
1,1-Dichloroethane	ND	0.0237						0		30	
2,2-Dichloropropane	ND	0.119						0		30	
cis-1,2-Dichloroethene	ND	0.0237						0		30	
Chloroform	ND	0.0237						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0297						0		30	
1,1-Dichloropropene	ND	0.0237						0		30	
Carbon tetrachloride	ND	0.0297						0		30	
1,2-Dichloroethane (EDC)	ND	0.0237						0		30	

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-001BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	4/20/2018	RunNo:	43070
Client ID:	SB-10-6	Batch ID:	20465			Analysis Date:	4/24/2018	SeqNo:	832439

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0237						0		30	
Trichloroethene (TCE)	ND	0.0237						0		30	
1,2-Dichloropropane	ND	0.0237						0		30	
Bromodichloromethane	ND	0.0237						0		30	
Dibromomethane	ND	0.0237						0		30	
cis-1,3-Dichloropropene	ND	0.0237						0		30	
Toluene	ND	0.0237						0		30	
trans-1,3-Dichloropropylene	ND	0.0237						0		30	
1,1,2-Trichloroethane	ND	0.0237						0		30	
1,3-Dichloropropane	ND	0.0297						0		30	
Tetrachloroethene (PCE)	0.203	0.0297						0.1927	5.45	30	
Dibromochloromethane	ND	0.0297						0		30	
1,2-Dibromoethane (EDB)	ND	0.00593						0		30	
Chlorobenzene	ND	0.0297						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0297						0		30	
Ethylbenzene	ND	0.0297						0		30	
m,p-Xylene	ND	0.0593						0		30	
o-Xylene	ND	0.0297						0		30	
Styrene	ND	0.0297						0		30	
Isopropylbenzene	ND	0.0297						0		30	
Bromoform	ND	0.0593						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0237						0		30	
n-Propylbenzene	ND	0.0297						0		30	
Bromobenzene	ND	0.0237						0		30	
1,3,5-Trimethylbenzene	ND	0.0297						0		30	
2-Chlorotoluene	ND	0.0297						0		30	
4-Chlorotoluene	ND	0.0297						0		30	
tert-Butylbenzene	ND	0.0297						0		30	
1,2,3-Trichloropropane	ND	0.0297						0		30	
1,2,4-Trichlorobenzene	ND	0.0297						0		30	
sec-Butylbenzene	ND	0.0593						0		30	

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-001BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/20/2018	RunNo: 43070							
Client ID: SB-10-6	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832439							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

4-Isopropyltoluene	ND	0.0593						0		30	
1,3-Dichlorobenzene	ND	0.0237						0		30	
1,4-Dichlorobenzene	ND	0.0237						0		30	
n-Butylbenzene	ND	0.0297						0		30	
1,2-Dichlorobenzene	ND	0.0237						0		30	
1,2-Dibromo-3-chloropropane	ND	0.593						0		30	
1,2,4-Trimethylbenzene	ND	0.0237						0		30	
Hexachlorobutadiene	ND	0.0593						0		30	
Naphthalene	ND	0.0593						0		30	
1,2,3-Trichlorobenzene	ND	0.0237						0		30	
Surr: Dibromofluoromethane	1.37		1.483		92.3	56.5	129		0		
Surr: Toluene-d8	1.28		1.483		86.0	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.42		1.483		96.0	43.2	143		0		

NOTES:

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

Sample ID 1804291-006BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 4/20/2018	RunNo: 43070							
Client ID: SB-12-5	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832440							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	1.27	0.0280	1.400	0	90.5	43.5	121				
Chloromethane	1.28	0.0700	1.400	0	91.2	45	130				
Vinyl chloride	1.28	0.0350	1.400	0	91.7	43.6	150				
Bromomethane	1.44	0.0700	1.400	0	103	21.3	120				
Trichlorofluoromethane (CFC-11)	1.57	0.0280	1.400	0	112	35	131				
Chloroethane	1.54	0.0700	1.400	0	110	31.9	123				
1,1-Dichloroethene	1.65	0.0280	1.400	0	118	47.3	147				
Methylene chloride	1.71	0.0280	1.400	0	122	54.7	142				
trans-1,2-Dichloroethene	1.65	0.0280	1.400	0	118	52	136				
Methyl tert-butyl ether (MTBE)	1.77	0.0700	1.400	0	126	58.5	167				
1,1-Dichloroethane	2.21	0.0280	1.400	0	158	51.8	141				S

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-006BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 4/20/2018	RunNo: 43070							
Client ID: SB-12-5	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832440							
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
2,2-Dichloropropane	1.25	0.140	1.400	0	89.4	36	123				
cis-1,2-Dichloroethene	1.85	0.0280	1.400	0	132	58.6	136				
Chloroform	1.92	0.0280	1.400	0	137	53.2	129				S
1,1,1-Trichloroethane (TCA)	1.43	0.0350	1.400	0	102	58.3	145				
1,1-Dichloropropene	1.47	0.0280	1.400	0	105	55.1	138				
Carbon tetrachloride	1.42	0.0350	1.400	0	102	53.3	144				
1,2-Dichloroethane (EDC)	1.50	0.0280	1.400	0	107	51.3	139				
Benzene	1.51	0.0280	1.400	0	108	63.5	133				
Trichloroethene (TCE)	1.43	0.0280	1.400	0	102	61.6	147				
1,2-Dichloropropane	1.63	0.0280	1.400	0	116	59	136				
Bromodichloromethane	1.49	0.0280	1.400	0	107	50.7	141				
Dibromomethane	1.48	0.0280	1.400	0	106	50.6	137				
cis-1,3-Dichloropropene	1.90	0.0280	1.400	0	136	50.4	138				
Toluene	2.08	0.0280	1.400	0	148	63.4	132				S
trans-1,3-Dichloropropylene	1.97	0.0280	1.400	0	141	44.1	147				
1,1,2-Trichloroethane	2.13	0.0280	1.400	0	152	51.6	137				S
1,3-Dichloropropane	2.23	0.0350	1.400	0	159	53.1	134				S
Tetrachloroethene (PCE)	1.92	0.0350	1.400	0.1384	127	35.6	158				
Dibromochloromethane	1.88	0.0350	1.400	0	135	55.3	140				
1,2-Dibromoethane (EDB)	2.01	0.00700	1.400	0	144	50.4	136				S
Chlorobenzene	1.46	0.0350	1.400	0	105	60	133				
1,1,1,2-Tetrachloroethane	1.44	0.0350	1.400	0	103	53.1	142				
Ethylbenzene	1.55	0.0350	1.400	0	111	54.5	134				
m,p-Xylene	2.98	0.0700	2.799	0	106	53.1	132				
o-Xylene	1.49	0.0350	1.400	0	106	53.3	139				
Styrene	1.51	0.0350	1.400	0	108	51.1	132				
Isopropylbenzene	1.50	0.0350	1.400	0	107	58.9	138				
Bromoform	1.46	0.0700	1.400	0	104	57.9	130				
1,1,1,2,2-Tetrachloroethane	1.67	0.0280	1.400	0	119	51.9	131				
n-Propylbenzene	1.54	0.0350	1.400	0	110	53.6	140				
Bromobenzene	1.39	0.0280	1.400	0	99.7	54.2	140				

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-006BMS	SampType:	MS	Units:	mg/Kg-dry	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	SB-12-5	Batch ID:	20465			Analysis Date:	4/24/2018	SeqNo:	832440		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,3,5-Trimethylbenzene	1.50	0.0350	1.400	0	107	51.8	136				
2-Chlorotoluene	1.56	0.0350	1.400	0	111	51.6	136				
4-Chlorotoluene	1.56	0.0350	1.400	0	112	50.1	139				
tert-Butylbenzene	1.45	0.0350	1.400	0	104	50.5	135				
1,2,3-Trichloropropane	1.61	0.0350	1.400	0	115	50.5	131				
1,2,4-Trichlorobenzene	1.35	0.0350	1.400	0	96.3	50.8	130				
sec-Butylbenzene	1.49	0.0700	1.400	0	107	52.6	141				
4-Isopropyltoluene	1.44	0.0700	1.400	0	103	52.9	134				
1,3-Dichlorobenzene	1.47	0.0280	1.400	0	105	52.6	131				
1,4-Dichlorobenzene	1.48	0.0280	1.400	0	106	52.9	129				
n-Butylbenzene	1.55	0.0350	1.400	0	111	52.6	130				
1,2-Dichlorobenzene	1.48	0.0280	1.400	0	106	55.8	129				
1,2-Dibromo-3-chloropropane	1.76	0.700	1.400	0	126	40.5	131				
1,2,4-Trimethylbenzene	1.49	0.0280	1.400	0	107	50.6	137				
Hexachlorobutadiene	1.31	0.0700	1.400	0	93.3	40.6	158				
Naphthalene	1.52	0.0700	1.400	0	108	52.3	124				
1,2,3-Trichlorobenzene	1.38	0.0280	1.400	0	98.6	54.4	124				
Surr: Dibromofluoromethane	1.68		1.750		96.2	56.5	129				
Surr: Toluene-d8	2.12		1.750		121	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.80		1.750		103	43.2	143				

NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID	1804291-006BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	SB-12-5	Batch ID:	20465			Analysis Date:	4/24/2018	SeqNo:	832441		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	0.951	0.0280	1.400	0	68.0	43.5	121	1.267	28.5	30	
Chloromethane	1.03	0.0700	1.400	0	73.6	45	130	1.277	21.4	30	
Vinyl chloride	0.976	0.0350	1.400	0	69.7	43.6	150	1.283	27.2	30	
Bromomethane	1.52	0.0700	1.400	0	108	21.3	120	1.441	5.07	30	

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-006BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 4/20/2018	RunNo: 43070
Client ID: SB-12-5	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832441

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	1.33	0.0280	1.400	0	94.7	35	131	1.567	16.7	30	
Chloroethane	1.49	0.0700	1.400	0	106	31.9	123	1.542	3.56	30	
1,1-Dichloroethene	1.54	0.0280	1.400	0	110	47.3	147	1.648	6.87	30	
Methylene chloride	2.03	0.0280	1.400	0	145	54.7	142	1.708	17.0	30	S
trans-1,2-Dichloroethene	1.47	0.0280	1.400	0	105	52	136	1.653	11.6	30	
Methyl tert-butyl ether (MTBE)	1.70	0.0700	1.400	0	121	58.5	167	1.765	3.94	30	
1,1-Dichloroethane	1.78	0.0280	1.400	0	127	51.8	141	2.214	21.9	30	
2,2-Dichloropropane	0.969	0.140	1.400	0	69.3	36	123	1.252	25.5	30	
cis-1,2-Dichloroethene	1.44	0.0280	1.400	0	103	58.6	136	1.845	24.3	30	
Chloroform	1.96	0.0280	1.400	0	140	53.2	129	1.917	2.25	30	S
1,1,1-Trichloroethane (TCA)	1.31	0.0350	1.400	0	93.8	58.3	145	1.426	8.31	30	
1,1-Dichloropropene	1.33	0.0280	1.400	0	95.1	55.1	138	1.467	9.75	30	
Carbon tetrachloride	1.32	0.0350	1.400	0	94.5	53.3	144	1.424	7.35	30	
1,2-Dichloroethane (EDC)	1.37	0.0280	1.400	0	97.6	51.3	139	1.496	9.12	30	
Benzene	1.36	0.0280	1.400	0	97.4	63.5	133	1.511	10.2	30	
Trichloroethene (TCE)	1.17	0.0280	1.400	0	83.3	61.6	147	1.430	20.3	30	
1,2-Dichloropropane	1.10	0.0280	1.400	0	78.5	59	136	1.630	38.9	30	R
Bromodichloromethane	1.15	0.0280	1.400	0	81.8	50.7	141	1.492	26.3	30	
Dibromomethane	1.18	0.0280	1.400	0	84.3	50.6	137	1.480	22.5	30	
cis-1,3-Dichloropropene	1.08	0.0280	1.400	0	77.2	50.4	138	1.898	54.9	30	R
Toluene	1.27	0.0280	1.400	0	90.9	63.4	132	2.075	48.0	30	R
trans-1,3-Dichloropropylene	1.18	0.0280	1.400	0	84.6	44.1	147	1.974	50.1	30	R
1,1,2-Trichloroethane	1.36	0.0280	1.400	0	97.1	51.6	137	2.133	44.3	30	R
1,3-Dichloropropane	1.29	0.0350	1.400	0	92.0	53.1	134	2.229	53.5	30	R
Tetrachloroethene (PCE)	1.39	0.0350	1.400	0.1384	89.2	35.6	158	1.921	32.3	30	R
Dibromochloromethane	1.34	0.0350	1.400	0	95.6	55.3	140	1.884	33.9	30	R
1,2-Dibromoethane (EDB)	1.33	0.00700	1.400	0	95.1	50.4	136	2.013	40.7	30	R
Chlorobenzene	1.38	0.0350	1.400	0	98.4	60	133	1.463	5.99	30	
1,1,1,2-Tetrachloroethane	1.38	0.0350	1.400	0	98.4	53.1	142	1.441	4.56	30	
Ethylbenzene	1.35	0.0350	1.400	0	96.5	54.5	134	1.552	13.9	30	
m,p-Xylene	2.76	0.0700	2.799	0	98.5	53.1	132	2.977	7.72	30	

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-006BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	SB-12-5	Batch ID:	20465	Analysis Date:	4/24/2018	SeqNo:	832441				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	1.39	0.0350	1.400	0	99.1	53.3	139	1.490	7.16	30	
Styrene	1.40	0.0350	1.400	0	100	51.1	132	1.505	7.00	30	
Isopropylbenzene	1.39	0.0350	1.400	0	99.0	58.9	138	1.501	7.93	30	
Bromoform	1.49	0.0700	1.400	0	107	57.9	130	1.457	2.45	30	
1,1,2,2-Tetrachloroethane	1.44	0.0280	1.400	0	103	51.9	131	1.667	14.9	30	
n-Propylbenzene	1.35	0.0350	1.400	0	96.8	53.6	140	1.542	12.9	30	
Bromobenzene	1.41	0.0280	1.400	0	101	54.2	140	1.395	1.13	30	
1,3,5-Trimethylbenzene	1.39	0.0350	1.400	0	99.6	51.8	136	1.496	7.04	30	
2-Chlorotoluene	1.39	0.0350	1.400	0	99.2	51.6	136	1.555	11.4	30	
4-Chlorotoluene	1.38	0.0350	1.400	0	98.9	50.1	139	1.562	12.0	30	
tert-Butylbenzene	1.40	0.0350	1.400	0	99.8	50.5	135	1.454	4.06	30	
1,2,3-Trichloropropane	1.36	0.0350	1.400	0	97.0	50.5	131	1.612	17.2	30	
1,2,4-Trichlorobenzene	1.41	0.0350	1.400	0	101	50.8	130	1.348	4.63	30	
sec-Butylbenzene	1.37	0.0700	1.400	0	98.2	52.6	141	1.494	8.33	30	
4-Isopropyltoluene	1.39	0.0700	1.400	0	99.2	52.9	134	1.441	3.73	30	
1,3-Dichlorobenzene	1.42	0.0280	1.400	0	101	52.6	131	1.470	3.51	30	
1,4-Dichlorobenzene	1.41	0.0280	1.400	0	101	52.9	129	1.477	4.78	30	
n-Butylbenzene	1.27	0.0350	1.400	0	90.9	52.6	130	1.554	19.9	30	
1,2-Dichlorobenzene	1.42	0.0280	1.400	0	101	55.8	129	1.478	4.18	30	
1,2-Dibromo-3-chloropropane	1.49	0.700	1.400	0	106	40.5	131	1.763	16.9	30	
1,2,4-Trimethylbenzene	1.40	0.0280	1.400	0	100	50.6	137	1.491	6.06	30	
Hexachlorobutadiene	1.40	0.0700	1.400	0	99.9	40.6	158	1.306	6.79	30	
Naphthalene	1.48	0.0700	1.400	0	106	52.3	124	1.516	2.55	30	
1,2,3-Trichlorobenzene	1.44	0.0280	1.400	0	103	54.4	124	1.379	4.45	30	
Surr: Dibromofluoromethane	1.66		1.750		95.1	56.5	129		0		
Surr: Toluene-d8	1.39		1.750		79.4	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.70		1.750		97.4	43.2	143		0		

NOTES:

S - Outlying spike recovery(ies) observed.
 R - High RPD observed. The method is in control as indicated by the LCS.

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804291-003BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/20/2018	RunNo: 43070							
Client ID: SB-11-8	Batch ID: 20465		Analysis Date: 4/24/2018	SeqNo: 832867							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0278						0		30	Q
Chloromethane	ND	0.0695						0		30	Q
Vinyl chloride	ND	0.0347						0		30	
Bromomethane	ND	0.0695						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0278						0		30	
Chloroethane	ND	0.0695						0		30	
1,1-Dichloroethene	ND	0.0278						0		30	
Methylene chloride	ND	0.0278						0		30	
trans-1,2-Dichloroethene	ND	0.0278						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0695						0		30	
1,1-Dichloroethane	ND	0.0278						0		30	
2,2-Dichloropropane	ND	0.139						0		30	
cis-1,2-Dichloroethene	ND	0.0278						0		30	
Chloroform	ND	0.0278						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0347						0		30	
1,1-Dichloropropene	ND	0.0278						0		30	
Carbon tetrachloride	ND	0.0347						0		30	
1,2-Dichloroethane (EDC)	ND	0.0278						0		30	
Benzene	ND	0.0278						0		30	
Trichloroethene (TCE)	ND	0.0278						0		30	
1,2-Dichloropropane	ND	0.0278						0		30	
Bromodichloromethane	ND	0.0278						0		30	
Dibromomethane	ND	0.0278						0		30	
cis-1,3-Dichloropropene	ND	0.0278						0		30	
Toluene	ND	0.0278						0		30	
trans-1,3-Dichloropropylene	ND	0.0278						0		30	
1,1,2-Trichloroethane	ND	0.0278						0		30	
1,3-Dichloropropane	ND	0.0347						0		30	
Tetrachloroethene (PCE)	ND	0.0347						0		30	
Dibromochloromethane	ND	0.0347						0		30	
1,2-Dibromoethane (EDB)	ND	0.00695						0		30	

Work Order: 1804291
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-003BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	SB-11-8	Batch ID:	20465			Analysis Date:	4/24/2018	SeqNo:	832867		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chlorobenzene	ND	0.0347						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0347						0		30	
Ethylbenzene	ND	0.0347						0		30	
m,p-Xylene	ND	0.0695						0		30	
o-Xylene	ND	0.0347						0		30	
Styrene	ND	0.0347						0		30	
Isopropylbenzene	ND	0.0347						0		30	
Bromoform	ND	0.0695						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0278						0		30	
n-Propylbenzene	ND	0.0347						0		30	
Bromobenzene	ND	0.0278						0		30	
1,3,5-Trimethylbenzene	ND	0.0347						0		30	
2-Chlorotoluene	ND	0.0347						0		30	
4-Chlorotoluene	ND	0.0347						0		30	
tert-Butylbenzene	ND	0.0347						0		30	
1,2,3-Trichloropropane	ND	0.0347						0		30	
1,2,4-Trichlorobenzene	ND	0.0347						0		30	
sec-Butylbenzene	ND	0.0695						0		30	
4-Isopropyltoluene	ND	0.0695						0		30	
1,3-Dichlorobenzene	ND	0.0278						0		30	
1,4-Dichlorobenzene	ND	0.0278						0		30	
n-Butylbenzene	ND	0.0347						0		30	
1,2-Dichlorobenzene	ND	0.0278						0		30	
1,2-Dibromo-3-chloropropane	ND	0.695						0		30	
1,2,4-Trimethylbenzene	ND	0.0278						0		30	
Hexachlorobutadiene	ND	0.0695						0		30	
Naphthalene	ND	0.0695						0		30	
1,2,3-Trichlorobenzene	ND	0.0278						0		30	
Surr: Dibromofluoromethane	1.76		1.737		101	56.5	129		0		
Surr: Toluene-d8	1.55		1.737		89.5	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.68		1.737		96.7	43.2	143		0		

Work Order: 1804291
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804291-003BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	4/20/2018	RunNo:	43070		
Client ID:	SB-11-8	Batch ID:	20465	Analysis Date:	4/24/2018	SeqNo:	832867				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

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

Client Name: **PES**

Work Order Number: **1804291**

Logged by: **Brianna Barnes**

Date Received: **4/18/2018 8:42:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified:	<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	5.6
Sample	3.4
Temp Blank	3.0

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



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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/16/18 Page: 1 of 3

Project Name: MISC
Laboratory Project No (Internal): 180492A1

Client: RES Environmental, Inc.
Project No: 1358.001.01.009

Address: 1215 4th Ave Suite 1350
Collected by: C. DeBor

City, State, Zip: Seattle, WA 98161
Location: Normandy Park, WA

Telephone: (206) 529-3980
Report To (PM): Matt Dahl

Fax: (206) 529-3985
PM Email: mhdahl@resenv.com

Special Remarks:
Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Metals (IC)***	EDB (801)	Comments	
1 SB-10-6	4/16/18	905	Soil	X														
2 SB-10-10		910	Soil															
3 SB-11-8		940	Soil															
4 SB-11-15		950	Soil															
5 SB-12-1		1010	Soil															
6 SB-12-5		1020	Soil															
7 SB-12-10		1030	Soil															
8 SB-13-5		1225	Soil															
9 SB-13-10		1230	Soil															
10 SB-13-20		1245	Soil															

*Matrix: 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

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

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

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

Relinquished Date/Time: 4/18/18 8:12

Received Date/Time: 4/16/18 0642

Relinquished Date/Time: 4/18/18 8:12

Received Date/Time: 4/16/18 0642

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
Same Day (specify)



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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 4/16/18 Page: 2 of 3

Laboratory Project No (Internal): 1904291

Client: RES Environ mental Data

Project No: 1358, 001, 01, 004

Address:

Collected by:

City, State, Zip:

Location:

Telephone:

Report To (PM):

Fax:

PM Email:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HClD)	Diesel/Heavy Oil Range Organics (DX)	SVOCS (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (Cl)**	EDB (801-L)	Comments
1 SB-13-29	4/16/18	1305	Soil	X													
2 SB-14-5	4/16/18	1330	Soil	X													
3 SB-14-10	4/16/18	1340	Soil	X													
4 SB-14-20	4/16/18	1350	Soil	X													
5 SB-14-30	4/16/18	1400	Soil	X													
6 SB-15-10	4/17/18	820	Soil	X													
7 SB-15-20	4/17/18	830	Soil	X													
8 SB-15-30	4/17/18	845	Soil	X													
9 SB-15-40	4/17/18	900	Soil	X													
10 TRSD BLANK																	

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

Relinquished Date/Time: 4/18/18 842

Received Date/Time: 4/18/18 842



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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/17/18 Page: 3 of 3
Project Name: MVSC

Laboratory Project No (Internal): 1904291
Special Remarks:

Client: RES Construction Materials, Inc.

Address:

City, State, Zip:

Telephone:

Fax:

Project No:

Collected by:

Location:

Report To (PM):

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (801)	Comments
1 SB-16-20	4/17/18	1038	Soil	X	X	X	X	X	X	X	X	X	X	X	X	X	
2 SB-16-36		1115	Soil	X	X	X	X	X	X	X	X	X	X	X	X	X	
3 SB-16-40		1205	Soil	X	X	X	X	X	X	X	X	X	X	X	X	X	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

*Matrix: 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

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

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

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

Relinquished Date/Time: 4/18/18 843
 Received Date/Time: 4/16/18 0843
 Relinquished Date/Time: _____
 Received Date/Time: _____

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (specify) _____



Fremont
Analytical

3600 Fremont Ave N.
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Chain of Custody Record & Laboratory Services Agreement

Date: 9/16/18 Page: 1 of: 3 Laboratory Project No (internal): 1004201
 Project Name: MVSC Special Remarks:
 Project No: 1358.001.01.009
 Collected by: C. De Boer
 Location: Normandy Park, WA
 Report To (PM): Matt Dahl Sample Disposal: Return to client Disposal by lab (after 30 days)
 PM Email: mdahl@pescenv.com

Client: PESC Environmental, Inc.
 Address: 1215 4th Ave Suite 1350
 City, State, Zip: Seattle, WA 98161
 Telephone: (206) 529-3980
 Fax: (206) 529-3985

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes														Comments										
				VOCs (EPA 8260 / 824)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DHR)	SVOCs (EPA 8270 / 825)	PAHs (EPA 8270 / 825)	PCBs (EPA 8270 / 825)	Metals** (EPA 8082 / 808)	Total (T) Disolved (D)	Anions (CI)**	EDB (8011)	HOLD											
1 SB-10-6	4/16/18	9:05	Soil	<input checked="" type="checkbox"/>																								
2 SB-10-10		9:10		<input checked="" type="checkbox"/>																								
3 SB-11-8		9:40		<input checked="" type="checkbox"/>																								
4 SB-11-15		9:50		<input checked="" type="checkbox"/>																								
5 SB-12-1		10:10		<input checked="" type="checkbox"/>																								
6 SB-12-5		10:20		<input checked="" type="checkbox"/>																								
7 SB-12-10		10:30		<input checked="" type="checkbox"/>																								
8 SB-13-5		12:25		<input checked="" type="checkbox"/>																								
9 SB-13-10		12:30		<input checked="" type="checkbox"/>																								
10 SB-13-20		12:45		<input checked="" type="checkbox"/>																								

*Matrix: 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
 **Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn
 ***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite
 Turn-around Time: Standard 3 Day 2 Day Next Day Same Day (specify)
 I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.
 Relinquished: Chris DeBoer Date/Time: 4/16/18 8:42 Received: [Signature] Date/Time: 4/16/18 08:42
 Relinquished: x Date/Time: x Received: x Date/Time: x



Fremont Analytical

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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/16/18 Page: 2 of 3 Laboratory Project No (internal): 1804291

Project Name: MVSC Special Remarks:

Client: PES Environmental, Inc. Project No: 1358.001.01.00A

Address: Collected by:

City, State, Zip: Location:

Telephone: see page 1 Report To (PM): see page 2

Fax: PM Email:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (C)**	EDB (8011)	Comments	
				<i>Hold</i>														
1 SB-13-29	4/16/18	1305	Soil	X														
2 SB-14-5		1330		X														
3 SB-14-10		1340		X														
4 SB-14-20		1350		X														
5 SB-14-30		1420		X														
6 SB-15-10	4/17/18	820		X														
7 SB-15-20		830		X														
8 SB-15-30		845		X														
9 SB-15-40		920		X														
10 TRIP BLANK	-	-	-	X														

modified by Chris DeBoer 4/26/18 Chris DeBoer.

*Matrix: 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

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

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

Turn-around Time:

Standard

3 Day

2 Day

Next Day

Same Day (specify)

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

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	4/13/18 842	x [Signature]	4/15/18 D 6542
Relinquished	Date/Time	Received	Date/Time
x		x	

MEMORANDUM

TO: Project File **DATE:** June 12, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center
PROJECT #: 1358.001.01.003
TASK: April 16 and 17, 2018 Soil Samples
LAB: Fremont Work Order Number 1804291

Twenty-two (22) soil samples and a trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Centre site in Normandy Park, Washington on April 16 and 17, 2018. Samples associated with Work Order Number 1804291 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Fremont Analytical (Fremont) of Seattle, Washington.

The monitoring event occurred between April 16 and 25, 2018. Sample results associated with this monitoring event include four work orders (1804291, 1804329, 1804368, and 1804398). The quality assurance review of the laboratory data for Work Order Number 1804291 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler and sample temperatures at the time of receipt were measured at 5.6 degrees Centigrade

(°C) and 3.4°C, respectively. The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. Samples were received in good condition with the following discussion:

- Four samples (SB-10-10, SB-12-10, SB-14-30, and Trip Blank) were placed on hold. Samples SB-10-10, SB-12-10, and SB-14-30 were submitted for VOC analysis per PES's April 26, 2018 request.

No data were qualified based upon the sample collection and preservation information.

Holding Times

USEPA Method 8260C:

All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days for soils. All holding time criteria were met.

Total Solids by USEPA Method 8000D:

Soil samples were analyzed within the USEPA recommended holding time of seven days for total solids.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Fremont's notes indicate the following:

- Continuing calibration verification (CCV) issues were noted by Fremont for dichlorodifluoromethane (CFC-12) and/or chloromethane associated with analytical batch 20465 (analyzed on April 24, 2018). These results are qualified by the laboratory "Q-" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **All associated dichlorodifluoromethane (CFC-12) and/or chloromethane results with laboratory qualified (Q-) results are estimated and qualified (J/UJ).**

Method Blank Results

Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at concentrations at or above the reporting limits (RLs).

Trip Blank Results

A trip blank was collected but not submitted for analysis.

Equipment Blank Results

Equipment blanks were not collected.

Field Duplicate Analyses

Field duplicate samples were not collected.

Laboratory Duplicate Analyses

USEPA Method 8260C:

Laboratory duplicate analysis was performed on client samples SB-14-10, SB-15-40, SB-10-6, and SB-11-8. Results are comparable and within 30% relative percent difference (RPD).

Total Solids by USEPA Method 8000D:

Laboratory duplicate sample analyses were performed on client and non-client samples within the analytical batches. The primary/duplicate RPDs for total solids analyses are within the laboratory control limit of 20%.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blanks, laboratory duplicates, matrix spike samples, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's are within the laboratory control limits with one exception:

- Analytical Batch 20486 (soil): LCS % recovery for trichlorofluoromethane (CFC-11) is above laboratory acceptance criteria and laboratory qualified (S). No action was taken since this compound was not detected in the associated samples.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on client samples SB-15-10 and SB-12-5. MS/MSD % Rs and RPDs are within the laboratory control limits with the following exceptions:

- Analytical Batch 20486 (soil): Sample SB-15-10 MS and/or MSD % recoveries for bromomethane, trichlorofluoromethane (CFC-11), and chloroethane are above laboratory acceptance criteria and laboratory qualified (S). No action was taken since these compounds were not detected in the associated samples.
- Analytical Batch 20465 (soil): Sample SB-12-5 MS/MSD % recoveries for multiple recoveries are above laboratory acceptance criteria and laboratory qualified (S). Multiple RPDs were elevated, above criteria, and laboratory qualified (R). No action was taken since outlying compounds were not detected in the samples with one exception. Tetrachloroethene (PCE) RPD was elevated but no action was taken since both recoveries are within criteria. Refer to LCS and laboratory duplicates for additional accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260C VOC analyses were reported based on laboratory RLs. The RLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. Assigned qualifiers were added to the electronic data deliverables under the appropriate field. All data, including qualified data, are judged to be acceptable for their intended use.



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:05:00 AM

Project: MVSC

Lab ID: 1804291-001

Matrix: Soil

Client Sample ID: SB-10-6

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND UJ	0.0237	Q-	mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chloromethane	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Vinyl chloride	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromomethane	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Trichlorofluoromethane (CFC-11)	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chloroethane	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1-Dichloroethene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Methylene chloride	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
trans-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Methyl tert-butyl ether (MTBE)	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1-Dichloroethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
2,2-Dichloropropane	ND	0.119		mg/Kg-dry	1	4/24/2018 8:06:22 AM
cis-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chloroform	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1,1-Trichloroethane (TCA)	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1-Dichloropropene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Carbon tetrachloride	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dichloroethane (EDC)	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Benzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Trichloroethene (TCE)	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dichloropropane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromodichloromethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Dibromomethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
cis-1,3-Dichloropropene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Toluene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
trans-1,3-Dichloropropylene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1,2-Trichloroethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,3-Dichloropropane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Tetrachloroethene (PCE)	0.193	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Dibromochloromethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dibromoethane (EDB)	ND	0.00593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Chlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,1,1,2-Tetrachloroethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Ethylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
m,p-Xylene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
o-Xylene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Styrene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Isopropylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromoform	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:05:00 AM

Project: MVSC

Lab ID: 1804291-001

Matrix: Soil

Client Sample ID: SB-10-6

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
n-Propylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Bromobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,3,5-Trimethylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
2-Chlorotoluene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
4-Chlorotoluene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
tert-Butylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,3-Trichloropropane	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,4-Trichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
sec-Butylbenzene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
4-Isopropyltoluene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,3-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,4-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
n-Butylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2-Dibromo-3-chloropropane	ND	0.593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,4-Trimethylbenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Hexachlorobutadiene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Naphthalene	ND	0.0593		mg/Kg-dry	1	4/24/2018 8:06:22 AM
1,2,3-Trichlorobenzene	ND	0.0237		mg/Kg-dry	1	4/24/2018 8:06:22 AM
Surr: Dibromofluoromethane	89.9	56.5 - 129		%Rec	1	4/24/2018 8:06:22 AM
Surr: Toluene-d8	79.7	64.5 - 151		%Rec	1	4/24/2018 8:06:22 AM
Surr: 1-Bromo-4-fluorobenzene	91.3	43.2 - 143		%Rec	1	4/24/2018 8:06:22 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	7.36	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:10:00 AM

Project: MVSC

Lab ID: 1804291-002

Matrix: Soil

Client Sample ID: SB-10-10

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND UJ	0.0287	Q-	mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chloromethane	ND UJ	0.0718	Q-	mg/Kg-dry	1	4/24/2018 12:46:48 PM
Vinyl chloride	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromomethane	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Trichlorofluoromethane (CFC-11)	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chloroethane	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1-Dichloroethene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Methylene chloride	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
trans-1,2-Dichloroethene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Methyl tert-butyl ether (MTBE)	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1-Dichloroethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
2,2-Dichloropropane	ND	0.144		mg/Kg-dry	1	4/24/2018 12:46:48 PM
cis-1,2-Dichloroethene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chloroform	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1,1-Trichloroethane (TCA)	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1-Dichloropropene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Carbon tetrachloride	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dichloroethane (EDC)	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Benzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Trichloroethene (TCE)	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dichloropropane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromodichloromethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Dibromomethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
cis-1,3-Dichloropropene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Toluene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
trans-1,3-Dichloropropylene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1,2-Trichloroethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,3-Dichloropropane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Tetrachloroethene (PCE)	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Dibromochloromethane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dibromoethane (EDB)	ND	0.00718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Chlorobenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,1,1,2-Tetrachloroethane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Ethylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
m,p-Xylene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
o-Xylene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Styrene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Isopropylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromoform	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:10:00 AM

Project: MVSC

Lab ID: 1804291-002

Matrix: Soil

Client Sample ID: SB-10-10

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
n-Propylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Bromobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,3,5-Trimethylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
2-Chlorotoluene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
4-Chlorotoluene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
tert-Butylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,3-Trichloropropane	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,4-Trichlorobenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
sec-Butylbenzene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
4-Isopropyltoluene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,3-Dichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,4-Dichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
n-Butylbenzene	ND	0.0359		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2-Dibromo-3-chloropropane	ND	0.718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,4-Trimethylbenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Hexachlorobutadiene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Naphthalene	ND	0.0718		mg/Kg-dry	1	4/24/2018 12:46:48 PM
1,2,3-Trichlorobenzene	ND	0.0287		mg/Kg-dry	1	4/24/2018 12:46:48 PM
Surr: Dibromofluoromethane	94.1	56.5 - 129		%Rec	1	4/24/2018 12:46:48 PM
Surr: Toluene-d8	84.0	64.5 - 151		%Rec	1	4/24/2018 12:46:48 PM
Surr: 1-Bromo-4-fluorobenzene	91.7	43.2 - 143		%Rec	1	4/24/2018 12:46:48 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	12.7	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Analytical Report

Work Order: 1804291
Date Reported: 4/27/2018

Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:40:00 AM

Project: MVSC

Lab ID: 1804291-003

Matrix: Soil

Client Sample ID: SB-11-8

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND UJ	0.0278	Q-	mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chloromethane	ND UJ	0.0695	Q-	mg/Kg-dry	1	4/24/2018 1:17:54 PM
Vinyl chloride	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromomethane	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Trichlorofluoromethane (CFC-11)	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chloroethane	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1-Dichloroethene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Methylene chloride	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
trans-1,2-Dichloroethene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Methyl tert-butyl ether (MTBE)	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1-Dichloroethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
2,2-Dichloropropane	ND	0.139		mg/Kg-dry	1	4/24/2018 1:17:54 PM
cis-1,2-Dichloroethene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chloroform	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1,1-Trichloroethane (TCA)	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1-Dichloropropene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Carbon tetrachloride	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dichloroethane (EDC)	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Benzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Trichloroethene (TCE)	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dichloropropane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromodichloromethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Dibromomethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
cis-1,3-Dichloropropene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Toluene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
trans-1,3-Dichloropropylene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1,2-Trichloroethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,3-Dichloropropane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Tetrachloroethene (PCE)	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Dibromochloromethane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dibromoethane (EDB)	ND	0.00695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Chlorobenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,1,1,2-Tetrachloroethane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Ethylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
m,p-Xylene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
o-Xylene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Styrene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Isopropylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromoform	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:40:00 AM

Project: MVSC

Lab ID: 1804291-003

Matrix: Soil

Client Sample ID: SB-11-8

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
n-Propylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Bromobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,3,5-Trimethylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
2-Chlorotoluene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
4-Chlorotoluene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
tert-Butylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,3-Trichloropropane	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,4-Trichlorobenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
sec-Butylbenzene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
4-Isopropyltoluene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,3-Dichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,4-Dichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
n-Butylbenzene	ND	0.0347		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2-Dibromo-3-chloropropane	ND	0.695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,4-Trimethylbenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Hexachlorobutadiene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Naphthalene	ND	0.0695		mg/Kg-dry	1	4/24/2018 1:17:54 PM
1,2,3-Trichlorobenzene	ND	0.0278		mg/Kg-dry	1	4/24/2018 1:17:54 PM
Surr: Dibromofluoromethane	96.5	56.5 - 129		%Rec	1	4/24/2018 1:17:54 PM
Surr: Toluene-d8	91.1	64.5 - 151		%Rec	1	4/24/2018 1:17:54 PM
Surr: 1-Bromo-4-fluorobenzene	92.4	43.2 - 143		%Rec	1	4/24/2018 1:17:54 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	14.8	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:50:00 AM

Project: MVSC

Lab ID: 1804291-004

Matrix: Soil

Client Sample ID: SB-11-15

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND UJ	0.0282	Q-	mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chloromethane	ND UJ	0.0705	Q-	mg/Kg-dry	1	4/24/2018 2:20:03 PM
Vinyl chloride	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromomethane	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Trichlorofluoromethane (CFC-11)	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chloroethane	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1-Dichloroethene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Methylene chloride	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
trans-1,2-Dichloroethene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Methyl tert-butyl ether (MTBE)	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1-Dichloroethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
2,2-Dichloropropane	ND	0.141		mg/Kg-dry	1	4/24/2018 2:20:03 PM
cis-1,2-Dichloroethene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chloroform	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1,1-Trichloroethane (TCA)	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1-Dichloropropene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Carbon tetrachloride	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dichloroethane (EDC)	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Benzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Trichloroethene (TCE)	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dichloropropane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromodichloromethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Dibromomethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
cis-1,3-Dichloropropene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Toluene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
trans-1,3-Dichloropropylene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1,2-Trichloroethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,3-Dichloropropane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Tetrachloroethene (PCE)	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Dibromochloromethane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dibromoethane (EDB)	ND	0.00705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Chlorobenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,1,1,2-Tetrachloroethane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Ethylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
m,p-Xylene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
o-Xylene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Styrene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Isopropylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromoform	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 9:50:00 AM

Project: MVSC

Lab ID: 1804291-004

Matrix: Soil

Client Sample ID: SB-11-15

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
n-Propylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Bromobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,3,5-Trimethylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
2-Chlorotoluene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
4-Chlorotoluene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
tert-Butylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,3-Trichloropropane	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,4-Trichlorobenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
sec-Butylbenzene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
4-Isopropyltoluene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,3-Dichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,4-Dichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
n-Butylbenzene	ND	0.0353		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2-Dibromo-3-chloropropane	ND	0.705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,4-Trimethylbenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Hexachlorobutadiene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Naphthalene	ND	0.0705		mg/Kg-dry	1	4/24/2018 2:20:03 PM
1,2,3-Trichlorobenzene	ND	0.0282		mg/Kg-dry	1	4/24/2018 2:20:03 PM
Surr: Dibromofluoromethane	104	56.5 - 129		%Rec	1	4/24/2018 2:20:03 PM
Surr: Toluene-d8	104	64.5 - 151		%Rec	1	4/24/2018 2:20:03 PM
Surr: 1-Bromo-4-fluorobenzene	95.3	43.2 - 143		%Rec	1	4/24/2018 2:20:03 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	10.6	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 10:10:00 AM

Project: MVSC

Lab ID: 1804291-005

Matrix: Soil

Client Sample ID: SB-12-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>						
					Batch ID: 20465	Analyst: MW
Dichlorodifluoromethane (CFC-12)	ND UJ	0.0279	Q-	mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chloromethane	ND UJ	0.0696	Q-	mg/Kg-dry	1	4/24/2018 2:51:15 PM
Vinyl chloride	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromomethane	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Trichlorofluoromethane (CFC-11)	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chloroethane	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1-Dichloroethene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Methylene chloride	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
trans-1,2-Dichloroethene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Methyl tert-butyl ether (MTBE)	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1-Dichloroethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
2,2-Dichloropropane	ND	0.139		mg/Kg-dry	1	4/24/2018 2:51:15 PM
cis-1,2-Dichloroethene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chloroform	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1,1-Trichloroethane (TCA)	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1-Dichloropropene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Carbon tetrachloride	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dichloroethane (EDC)	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Benzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Trichloroethene (TCE)	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dichloropropane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromodichloromethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Dibromomethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
cis-1,3-Dichloropropene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Toluene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
trans-1,3-Dichloropropylene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1,2-Trichloroethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,3-Dichloropropane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Tetrachloroethene (PCE)	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Dibromochloromethane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dibromoethane (EDB)	ND	0.00696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Chlorobenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,1,1,2-Tetrachloroethane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Ethylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
m,p-Xylene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
o-Xylene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Styrene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Isopropylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromoform	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-005
Client Sample ID: SB-12-1

Collection Date: 4/16/2018 10:10:00 AM
Matrix: Soil

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

Batch ID: 20465 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
n-Propylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Bromobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,3,5-Trimethylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
2-Chlorotoluene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
4-Chlorotoluene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
tert-Butylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,3-Trichloropropane	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,4-Trichlorobenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
sec-Butylbenzene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
4-Isopropyltoluene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,3-Dichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,4-Dichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
n-Butylbenzene	ND	0.0348		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2-Dibromo-3-chloropropane	ND	0.696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,4-Trimethylbenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Hexachlorobutadiene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Naphthalene	ND	0.0696		mg/Kg-dry	1	4/24/2018 2:51:15 PM
1,2,3-Trichlorobenzene	ND	0.0279		mg/Kg-dry	1	4/24/2018 2:51:15 PM
Surr: Dibromofluoromethane	94.3	56.5 - 129		%Rec	1	4/24/2018 2:51:15 PM
Surr: Toluene-d8	95.4	64.5 - 151		%Rec	1	4/24/2018 2:51:15 PM
Surr: 1-Bromo-4-fluorobenzene	95.9	43.2 - 143		%Rec	1	4/24/2018 2:51:15 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972 Analyst: CG

Percent Moisture	26.1	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Analytical Report

Work Order: 1804291
Date Reported: 4/27/2018

Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-006
Client Sample ID: SB-12-5

Collection Date: 4/16/2018 10:20:00 AM
Matrix: Soil

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

Batch ID: 20465 Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	UJ	0.0280	Q-	mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chloromethane	ND	UJ	0.0700	Q-	mg/Kg-dry	1	4/24/2018 3:22:27 PM
Vinyl chloride	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromomethane	ND		0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Trichlorofluoromethane (CFC-11)	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chloroethane	ND		0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1-Dichloroethene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Methylene chloride	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
trans-1,2-Dichloroethene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Methyl tert-butyl ether (MTBE)	ND		0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1-Dichloroethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
2,2-Dichloropropane	ND		0.140		mg/Kg-dry	1	4/24/2018 3:22:27 PM
cis-1,2-Dichloroethene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chloroform	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1,1-Trichloroethane (TCA)	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1-Dichloropropene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Carbon tetrachloride	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dichloroethane (EDC)	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Benzene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Trichloroethene (TCE)	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dichloropropane	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromodichloromethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Dibromomethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
cis-1,3-Dichloropropene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Toluene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
trans-1,3-Dichloropropylene	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1,2-Trichloroethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,3-Dichloropropane	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Tetrachloroethene (PCE)	0.138		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Dibromochloromethane	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dibromoethane (EDB)	ND		0.00700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Chlorobenzene	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,1,1,2-Tetrachloroethane	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Ethylbenzene	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
m,p-Xylene	ND		0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
o-Xylene	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Styrene	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Isopropylbenzene	ND		0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromoform	ND		0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-006
Client Sample ID: SB-12-5

Collection Date: 4/16/2018 10:20:00 AM
Matrix: Soil

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
n-Propylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Bromobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,3,5-Trimethylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
2-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
4-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
tert-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,3-Trichloropropane	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,4-Trichlorobenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
sec-Butylbenzene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
4-Isopropyltoluene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,3-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,4-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
n-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2-Dibromo-3-chloropropane	ND	0.700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,4-Trimethylbenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Hexachlorobutadiene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Naphthalene	ND	0.0700		mg/Kg-dry	1	4/24/2018 3:22:27 PM
1,2,3-Trichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 3:22:27 PM
Surr: Dibromofluoromethane	113	56.5 - 129		%Rec	1	4/24/2018 3:22:27 PM
Surr: Toluene-d8	104	64.5 - 151		%Rec	1	4/24/2018 3:22:27 PM
Surr: 1-Bromo-4-fluorobenzene	94.2	43.2 - 143		%Rec	1	4/24/2018 3:22:27 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	7.11	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 10:30:00 AM

Project: MVSC

Lab ID: 1804291-007

Matrix: Soil

Client Sample ID: SB-12-10

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND UJ	0.0260	Q-	mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chloromethane	ND UJ	0.0650	Q-	mg/Kg-dry	1	4/24/2018 3:53:29 PM
Vinyl chloride	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromomethane	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Trichlorofluoromethane (CFC-11)	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chloroethane	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1-Dichloroethene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Methylene chloride	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
trans-1,2-Dichloroethene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Methyl tert-butyl ether (MTBE)	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1-Dichloroethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
2,2-Dichloropropane	ND	0.130		mg/Kg-dry	1	4/24/2018 3:53:29 PM
cis-1,2-Dichloroethene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chloroform	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1,1-Trichloroethane (TCA)	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1-Dichloropropene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Carbon tetrachloride	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dichloroethane (EDC)	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Benzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Trichloroethene (TCE)	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dichloropropane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromodichloromethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Dibromomethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
cis-1,3-Dichloropropene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Toluene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
trans-1,3-Dichloropropylene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1,2-Trichloroethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,3-Dichloropropane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Tetrachloroethene (PCE)	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Dibromochloromethane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dibromoethane (EDB)	ND	0.00650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Chlorobenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,1,1,2-Tetrachloroethane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Ethylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
m,p-Xylene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
o-Xylene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Styrene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Isopropylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromoform	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 10:30:00 AM

Project: MVSC

Lab ID: 1804291-007

Matrix: Soil

Client Sample ID: SB-12-10

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
n-Propylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Bromobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,3,5-Trimethylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
2-Chlorotoluene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
4-Chlorotoluene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
tert-Butylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,3-Trichloropropane	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,4-Trichlorobenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
sec-Butylbenzene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
4-Isopropyltoluene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,3-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,4-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
n-Butylbenzene	ND	0.0325		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2-Dibromo-3-chloropropane	ND	0.650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,4-Trimethylbenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Hexachlorobutadiene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Naphthalene	ND	0.0650		mg/Kg-dry	1	4/24/2018 3:53:29 PM
1,2,3-Trichlorobenzene	ND	0.0260		mg/Kg-dry	1	4/24/2018 3:53:29 PM
Surr: Dibromofluoromethane	115	56.5 - 129		%Rec	1	4/24/2018 3:53:29 PM
Surr: Toluene-d8	105	64.5 - 151		%Rec	1	4/24/2018 3:53:29 PM
Surr: 1-Bromo-4-fluorobenzene	95.7	43.2 - 143		%Rec	1	4/24/2018 3:53:29 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	2.55	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-008
Client Sample ID: SB-13-5

Collection Date: 4/16/2018 12:25:00 PM
Matrix: Soil

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	UJ	0.0280	Q-	mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chloromethane	ND	UJ	0.0700	Q-	mg/Kg-dry	1	4/24/2018 4:24:36 PM
Vinyl chloride	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromomethane	ND		0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Trichlorofluoromethane (CFC-11)	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chloroethane	ND		0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1-Dichloroethene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Methylene chloride	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
trans-1,2-Dichloroethene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Methyl tert-butyl ether (MTBE)	ND		0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1-Dichloroethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
2,2-Dichloropropane	ND		0.140		mg/Kg-dry	1	4/24/2018 4:24:36 PM
cis-1,2-Dichloroethene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chloroform	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1,1-Trichloroethane (TCA)	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1-Dichloropropene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Carbon tetrachloride	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dichloroethane (EDC)	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Benzene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Trichloroethene (TCE)	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dichloropropane	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromodichloromethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Dibromomethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
cis-1,3-Dichloropropene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Toluene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
trans-1,3-Dichloropropylene	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1,2-Trichloroethane	ND		0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,3-Dichloropropane	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Tetrachloroethene (PCE)	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Dibromochloromethane	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dibromoethane (EDB)	ND		0.00700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Chlorobenzene	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,1,1,2-Tetrachloroethane	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Ethylbenzene	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
m,p-Xylene	ND		0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
o-Xylene	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Styrene	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Isopropylbenzene	ND		0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromoform	ND		0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:25:00 PM

Project: MVSC

Lab ID: 1804291-008

Matrix: Soil

Client Sample ID: SB-13-5

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
n-Propylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Bromobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,3,5-Trimethylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
2-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
4-Chlorotoluene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
tert-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,3-Trichloropropane	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,4-Trichlorobenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
sec-Butylbenzene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
4-Isopropyltoluene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,3-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,4-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
n-Butylbenzene	ND	0.0350		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2-Dibromo-3-chloropropane	ND	0.700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,4-Trimethylbenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Hexachlorobutadiene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Naphthalene	ND	0.0700		mg/Kg-dry	1	4/24/2018 4:24:36 PM
1,2,3-Trichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/24/2018 4:24:36 PM
Surr: Dibromofluoromethane	109	56.5 - 129		%Rec	1	4/24/2018 4:24:36 PM
Surr: Toluene-d8	103	64.5 - 151		%Rec	1	4/24/2018 4:24:36 PM
Surr: 1-Bromo-4-fluorobenzene	96.2	43.2 - 143		%Rec	1	4/24/2018 4:24:36 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	21.4	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804291-009

Matrix: Soil

Client Sample ID: SB-13-10

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	UJ	0.0297	Q-	mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chloromethane	ND	UJ	0.0742	Q-	mg/Kg-dry	1	4/24/2018 4:55:41 PM
Vinyl chloride	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromomethane	ND		0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Trichlorofluoromethane (CFC-11)	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chloroethane	ND		0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1-Dichloroethene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Methylene chloride	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
trans-1,2-Dichloroethene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Methyl tert-butyl ether (MTBE)	ND		0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1-Dichloroethane	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
2,2-Dichloropropane	ND		0.148		mg/Kg-dry	1	4/24/2018 4:55:41 PM
cis-1,2-Dichloroethene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chloroform	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1,1-Trichloroethane (TCA)	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1-Dichloropropene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Carbon tetrachloride	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dichloroethane (EDC)	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Benzene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Trichloroethene (TCE)	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dichloropropane	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromodichloromethane	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Dibromomethane	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
cis-1,3-Dichloropropene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Toluene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
trans-1,3-Dichloropropylene	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1,2-Trichloroethane	ND		0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,3-Dichloropropane	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Tetrachloroethene (PCE)	0.128		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Dibromochloromethane	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dibromoethane (EDB)	ND		0.00742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Chlorobenzene	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,1,1,2-Tetrachloroethane	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Ethylbenzene	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
m,p-Xylene	ND		0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
o-Xylene	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Styrene	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Isopropylbenzene	ND		0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromoform	ND		0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804291-009

Matrix: Soil

Client Sample ID: SB-13-10

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
n-Propylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Bromobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,3,5-Trimethylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
2-Chlorotoluene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
4-Chlorotoluene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
tert-Butylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,3-Trichloropropane	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,4-Trichlorobenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
sec-Butylbenzene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
4-Isopropyltoluene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,3-Dichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,4-Dichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
n-Butylbenzene	ND	0.0371		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2-Dibromo-3-chloropropane	ND	0.742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,4-Trimethylbenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Hexachlorobutadiene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Naphthalene	ND	0.0742		mg/Kg-dry	1	4/24/2018 4:55:41 PM
1,2,3-Trichlorobenzene	ND	0.0297		mg/Kg-dry	1	4/24/2018 4:55:41 PM
Surr: Dibromofluoromethane	114	56.5 - 129		%Rec	1	4/24/2018 4:55:41 PM
Surr: Toluene-d8	104	64.5 - 151		%Rec	1	4/24/2018 4:55:41 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	43.2 - 143		%Rec	1	4/24/2018 4:55:41 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	15.0	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 12:45:00 PM

Project: MVSC

Lab ID: 1804291-010

Matrix: Soil

Client Sample ID: SB-13-20

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>						
					Batch ID: 20465	Analyst: MW
Dichlorodifluoromethane (CFC-12)	ND UJ	0.0230	Q-	mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chloromethane	ND UJ	0.0576	Q-	mg/Kg-dry	1	4/24/2018 6:28:48 PM
Vinyl chloride	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromomethane	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Trichlorofluoromethane (CFC-11)	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chloroethane	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1-Dichloroethene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Methylene chloride	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
trans-1,2-Dichloroethene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Methyl tert-butyl ether (MTBE)	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1-Dichloroethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
2,2-Dichloropropane	ND	0.115		mg/Kg-dry	1	4/24/2018 6:28:48 PM
cis-1,2-Dichloroethene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chloroform	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1,1-Trichloroethane (TCA)	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1-Dichloropropene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Carbon tetrachloride	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dichloroethane (EDC)	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Benzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Trichloroethene (TCE)	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dichloropropane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromodichloromethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Dibromomethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
cis-1,3-Dichloropropene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Toluene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
trans-1,3-Dichloropropylene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1,2-Trichloroethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,3-Dichloropropane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Tetrachloroethene (PCE)	6.03	0.288	D	mg/Kg-dry	10	4/24/2018 5:26:49 PM
Dibromochloromethane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dibromoethane (EDB)	ND	0.00576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Chlorobenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,1,1,2-Tetrachloroethane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Ethylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
m,p-Xylene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
o-Xylene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Styrene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Isopropylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromoform	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-010
Client Sample ID: SB-13-20

Collection Date: 4/16/2018 12:45:00 PM
Matrix: Soil

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

Batch ID: 20465 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
n-Propylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Bromobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,3,5-Trimethylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
2-Chlorotoluene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
4-Chlorotoluene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
tert-Butylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,3-Trichloropropane	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,4-Trichlorobenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
sec-Butylbenzene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
4-Isopropyltoluene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,3-Dichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,4-Dichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
n-Butylbenzene	ND	0.0288		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2-Dibromo-3-chloropropane	ND	0.576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,4-Trimethylbenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Hexachlorobutadiene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Naphthalene	ND	0.0576		mg/Kg-dry	1	4/24/2018 6:28:48 PM
1,2,3-Trichlorobenzene	ND	0.0230		mg/Kg-dry	1	4/24/2018 6:28:48 PM
Surr: Dibromofluoromethane	106	56.5 - 129		%Rec	1	4/24/2018 6:28:48 PM
Surr: Toluene-d8	105	64.5 - 151		%Rec	1	4/24/2018 6:28:48 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	43.2 - 143		%Rec	1	4/24/2018 6:28:48 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972 Analyst: CG

Percent Moisture	7.93	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Analytical Report

Work Order: 1804291
Date Reported: 4/27/2018

Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:05:00 PM

Project: MVSC

Lab ID: 1804291-011

Matrix: Soil

Client Sample ID: SB-13-29

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

Batch ID: 20465

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	UJ	0.0238	Q-	mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chloromethane	ND	UJ	0.0596	Q-	mg/Kg-dry	1	4/24/2018 5:57:51 PM
Vinyl chloride	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromomethane	ND		0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Trichlorofluoromethane (CFC-11)	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chloroethane	ND		0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1-Dichloroethene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Methylene chloride	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
trans-1,2-Dichloroethene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Methyl tert-butyl ether (MTBE)	ND		0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1-Dichloroethane	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
2,2-Dichloropropane	ND		0.119		mg/Kg-dry	1	4/24/2018 5:57:51 PM
cis-1,2-Dichloroethene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chloroform	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1,1-Trichloroethane (TCA)	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1-Dichloropropene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Carbon tetrachloride	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dichloroethane (EDC)	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Benzene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Trichloroethene (TCE)	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dichloropropane	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromodichloromethane	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Dibromomethane	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
cis-1,3-Dichloropropene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Toluene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
trans-1,3-Dichloropropylene	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1,2-Trichloroethane	ND		0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,3-Dichloropropane	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Tetrachloroethene (PCE)	0.110		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Dibromochloromethane	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dibromoethane (EDB)	ND		0.00596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Chlorobenzene	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,1,1,2-Tetrachloroethane	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Ethylbenzene	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
m,p-Xylene	ND		0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
o-Xylene	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Styrene	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Isopropylbenzene	ND		0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromoform	ND		0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:05:00 PM

Project: MVSC

Lab ID: 1804291-011

Matrix: Soil

Client Sample ID: SB-13-29

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

Batch ID: 20465

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
n-Propylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Bromobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,3,5-Trimethylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
2-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
4-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
tert-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,3-Trichloropropane	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,4-Trichlorobenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
sec-Butylbenzene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
4-Isopropyltoluene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,3-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,4-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
n-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2-Dibromo-3-chloropropane	ND	0.596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,4-Trimethylbenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Hexachlorobutadiene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Naphthalene	ND	0.0596		mg/Kg-dry	1	4/24/2018 5:57:51 PM
1,2,3-Trichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/24/2018 5:57:51 PM
Surr: Dibromofluoromethane	114	56.5 - 129		%Rec	1	4/24/2018 5:57:51 PM
Surr: Toluene-d8	103	64.5 - 151		%Rec	1	4/24/2018 5:57:51 PM
Surr: 1-Bromo-4-fluorobenzene	97.6	43.2 - 143		%Rec	1	4/24/2018 5:57:51 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	5.69	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:30:00 PM

Project: MVSC

Lab ID: 1804291-012

Matrix: Soil

Client Sample ID: SB-14-5

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chloromethane	ND	0.0633	UJ	mg/Kg-dry	1	4/25/2018 3:05:10 AM
Vinyl chloride	ND	0.0317	Q-	mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromomethane	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Trichlorofluoromethane (CFC-11)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chloroethane	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1-Dichloroethene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Methylene chloride	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
trans-1,2-Dichloroethene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Methyl tert-butyl ether (MTBE)	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1-Dichloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
2,2-Dichloropropane	ND	0.127		mg/Kg-dry	1	4/25/2018 3:05:10 AM
cis-1,2-Dichloroethene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chloroform	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1,1-Trichloroethane (TCA)	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1-Dichloropropene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Carbon tetrachloride	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dichloroethane (EDC)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Benzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Trichloroethene (TCE)	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dichloropropane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromodichloromethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Dibromomethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
cis-1,3-Dichloropropene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Toluene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
trans-1,3-Dichloropropylene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1,2-Trichloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,3-Dichloropropane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Tetrachloroethene (PCE)	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Dibromochloromethane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dibromoethane (EDB)	ND	0.00633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Chlorobenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,1,1,2-Tetrachloroethane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Ethylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
m,p-Xylene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
o-Xylene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Styrene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Isopropylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromoform	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-012
Client Sample ID: SB-14-5

Collection Date: 4/16/2018 1:30:00 PM
Matrix: Soil

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

Batch ID: 20486 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
n-Propylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Bromobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,3,5-Trimethylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
2-Chlorotoluene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
4-Chlorotoluene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
tert-Butylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,3-Trichloropropane	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,4-Trichlorobenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
sec-Butylbenzene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
4-Isopropyltoluene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,3-Dichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,4-Dichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
n-Butylbenzene	ND	0.0317		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2-Dibromo-3-chloropropane	ND	0.633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,4-Trimethylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Hexachlorobutadiene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Naphthalene	ND	0.0633		mg/Kg-dry	1	4/25/2018 3:05:10 AM
1,2,3-Trichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 3:05:10 AM
Surr: Dibromofluoromethane	91.8	56.5 - 129		%Rec	1	4/25/2018 3:05:10 AM
Surr: Toluene-d8	85.0	64.5 - 151		%Rec	1	4/25/2018 3:05:10 AM
Surr: 1-Bromo-4-fluorobenzene	94.0	43.2 - 143		%Rec	1	4/25/2018 3:05:10 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972 Analyst: CG

Percent Moisture	22.9	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:40:00 PM

Project: MVSC

Lab ID: 1804291-013

Matrix: Soil

Client Sample ID: SB-14-10

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chloromethane	ND	UJ 0.0595	Q-	mg/Kg-dry	1	4/25/2018 3:35:22 AM
Vinyl chloride	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromomethane	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Trichlorofluoromethane (CFC-11)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chloroethane	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Methylene chloride	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
trans-1,2-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Methyl tert-butyl ether (MTBE)	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1-Dichloroethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
2,2-Dichloropropane	ND	0.119		mg/Kg-dry	1	4/25/2018 3:35:22 AM
cis-1,2-Dichloroethene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chloroform	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1,1-Trichloroethane (TCA)	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1-Dichloropropene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Carbon tetrachloride	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dichloroethane (EDC)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Benzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Trichloroethene (TCE)	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dichloropropane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromodichloromethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Dibromomethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
cis-1,3-Dichloropropene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Toluene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
trans-1,3-Dichloropropylene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1,2-Trichloroethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,3-Dichloropropane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Tetrachloroethene (PCE)	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Dibromochloromethane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dibromoethane (EDB)	ND	0.00595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Chlorobenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,1,1,2-Tetrachloroethane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Ethylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
m,p-Xylene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
o-Xylene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Styrene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Isopropylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromoform	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:40:00 PM

Project: MVSC

Lab ID: 1804291-013

Matrix: Soil

Client Sample ID: SB-14-10

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
n-Propylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Bromobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,3,5-Trimethylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
2-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
4-Chlorotoluene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
tert-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,3-Trichloropropane	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,4-Trichlorobenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
sec-Butylbenzene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
4-Isopropyltoluene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,3-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,4-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
n-Butylbenzene	ND	0.0298		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2-Dibromo-3-chloropropane	ND	0.595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,4-Trimethylbenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Hexachlorobutadiene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Naphthalene	ND	0.0595		mg/Kg-dry	1	4/25/2018 3:35:22 AM
1,2,3-Trichlorobenzene	ND	0.0238		mg/Kg-dry	1	4/25/2018 3:35:22 AM
Surr: Dibromofluoromethane	93.6	56.5 - 129		%Rec	1	4/25/2018 3:35:22 AM
Surr: Toluene-d8	86.8	64.5 - 151		%Rec	1	4/25/2018 3:35:22 AM
Surr: 1-Bromo-4-fluorobenzene	89.0	43.2 - 143		%Rec	1	4/25/2018 3:35:22 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	18.2	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/16/2018 1:50:00 PM

Project: MVSC

Lab ID: 1804291-014

Matrix: Soil

Client Sample ID: SB-14-20

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chloromethane	ND	0.0506	UJ	mg/Kg-dry	1	4/25/2018 4:35:37 AM
Vinyl chloride	ND	0.0253	Q-	mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromomethane	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Trichlorofluoromethane (CFC-11)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chloroethane	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1-Dichloroethene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Methylene chloride	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
trans-1,2-Dichloroethene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Methyl tert-butyl ether (MTBE)	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1-Dichloroethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
2,2-Dichloropropane	ND	0.101		mg/Kg-dry	1	4/25/2018 4:35:37 AM
cis-1,2-Dichloroethene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chloroform	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1,1-Trichloroethane (TCA)	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1-Dichloropropene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Carbon tetrachloride	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dichloroethane (EDC)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Benzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Trichloroethene (TCE)	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dichloropropane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromodichloromethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Dibromomethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
cis-1,3-Dichloropropene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Toluene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
trans-1,3-Dichloropropylene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1,2-Trichloroethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,3-Dichloropropane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Tetrachloroethene (PCE)	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Dibromochloromethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dibromoethane (EDB)	ND	0.00506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Chlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,1,1,2-Tetrachloroethane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Ethylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
m,p-Xylene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
o-Xylene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Styrene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Isopropylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromoform	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-014
Client Sample ID: SB-14-20

Collection Date: 4/16/2018 1:50:00 PM
Matrix: Soil

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

Batch ID: 20486 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
n-Propylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Bromobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,3,5-Trimethylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
2-Chlorotoluene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
4-Chlorotoluene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
tert-Butylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,3-Trichloropropane	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,4-Trichlorobenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
sec-Butylbenzene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
4-Isopropyltoluene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,3-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,4-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
n-Butylbenzene	ND	0.0253		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2-Dibromo-3-chloropropane	ND	0.506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,4-Trimethylbenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Hexachlorobutadiene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Naphthalene	ND	0.0506		mg/Kg-dry	1	4/25/2018 4:35:37 AM
1,2,3-Trichlorobenzene	ND	0.0202		mg/Kg-dry	1	4/25/2018 4:35:37 AM
Surr: Dibromofluoromethane	88.8	56.5 - 129		%Rec	1	4/25/2018 4:35:37 AM
Surr: Toluene-d8	90.7	64.5 - 151		%Rec	1	4/25/2018 4:35:37 AM
Surr: 1-Bromo-4-fluorobenzene	91.9	43.2 - 143		%Rec	1	4/25/2018 4:35:37 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972 Analyst: CG

Percent Moisture	7.28	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-015
Client Sample ID: SB-14-30

Collection Date: 4/16/2018 2:20:00 PM
Matrix: Soil

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chloromethane	ND	0.0608	UJ	mg/Kg-dry	1	4/25/2018 5:05:49 AM
Vinyl chloride	ND	0.0304	Q-	mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromomethane	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Trichlorofluoromethane (CFC-11)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chloroethane	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1-Dichloroethene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Methylene chloride	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
trans-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Methyl tert-butyl ether (MTBE)	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1-Dichloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
2,2-Dichloropropane	ND	0.122		mg/Kg-dry	1	4/25/2018 5:05:49 AM
cis-1,2-Dichloroethene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chloroform	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1,1-Trichloroethane (TCA)	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1-Dichloropropene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Carbon tetrachloride	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dichloroethane (EDC)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Benzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Trichloroethene (TCE)	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dichloropropane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromodichloromethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Dibromomethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
cis-1,3-Dichloropropene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Toluene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
trans-1,3-Dichloropropylene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1,2-Trichloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,3-Dichloropropane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Tetrachloroethene (PCE)	0.109	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Dibromochloromethane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dibromoethane (EDB)	ND	0.00608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Chlorobenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,1,1,2-Tetrachloroethane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Ethylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
m,p-Xylene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
o-Xylene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Styrene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Isopropylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromoform	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804291-015
Client Sample ID: SB-14-30

Collection Date: 4/16/2018 2:20:00 PM
Matrix: Soil

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
n-Propylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Bromobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,3,5-Trimethylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
2-Chlorotoluene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
4-Chlorotoluene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
tert-Butylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,3-Trichloropropane	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,4-Trichlorobenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
sec-Butylbenzene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
4-Isopropyltoluene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,3-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,4-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
n-Butylbenzene	ND	0.0304		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2-Dibromo-3-chloropropane	ND	0.608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,4-Trimethylbenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Hexachlorobutadiene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Naphthalene	ND	0.0608		mg/Kg-dry	1	4/25/2018 5:05:49 AM
1,2,3-Trichlorobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2018 5:05:49 AM
Surr: Dibromofluoromethane	94.2	56.5 - 129		%Rec	1	4/25/2018 5:05:49 AM
Surr: Toluene-d8	92.3	64.5 - 151		%Rec	1	4/25/2018 5:05:49 AM
Surr: 1-Bromo-4-fluorobenzene	91.5	43.2 - 143		%Rec	1	4/25/2018 5:05:49 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	5.27	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/17/2018 8:20:00 AM

Project: MVSC

Lab ID: 1804291-016

Matrix: Soil

Client Sample ID: SB-15-10

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

Batch ID: 20486

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chloromethane	ND	UJ 0.0669	Q-	mg/Kg-dry	1	4/25/2018 5:35:55 AM
Vinyl chloride	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromomethane	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Trichlorofluoromethane (CFC-11)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chloroethane	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1-Dichloroethene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Methylene chloride	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
trans-1,2-Dichloroethene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Methyl tert-butyl ether (MTBE)	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1-Dichloroethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
2,2-Dichloropropane	ND	0.134		mg/Kg-dry	1	4/25/2018 5:35:55 AM
cis-1,2-Dichloroethene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chloroform	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1,1-Trichloroethane (TCA)	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1-Dichloropropene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Carbon tetrachloride	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dichloroethane (EDC)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Benzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Trichloroethene (TCE)	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dichloropropane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromodichloromethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Dibromomethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
cis-1,3-Dichloropropene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Toluene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
trans-1,3-Dichloropropylene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1,2-Trichloroethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,3-Dichloropropane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Tetrachloroethene (PCE)	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Dibromochloromethane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dibromoethane (EDB)	ND	0.00669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Chlorobenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,1,1,2-Tetrachloroethane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Ethylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
m,p-Xylene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
o-Xylene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Styrene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Isopropylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromoform	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM



Client: PES Environmental, Inc.

Collection Date: 4/17/2018 8:20:00 AM

Project: MVSC

Lab ID: 1804291-016

Matrix: Soil

Client Sample ID: SB-15-10

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

Batch ID: 20486

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
n-Propylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Bromobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,3,5-Trimethylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
2-Chlorotoluene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
4-Chlorotoluene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
tert-Butylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,3-Trichloropropane	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,4-Trichlorobenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
sec-Butylbenzene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
4-Isopropyltoluene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,3-Dichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,4-Dichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
n-Butylbenzene	ND	0.0334		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2-Dibromo-3-chloropropane	ND	0.669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,4-Trimethylbenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Hexachlorobutadiene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Naphthalene	ND	0.0669		mg/Kg-dry	1	4/25/2018 5:35:55 AM
1,2,3-Trichlorobenzene	ND	0.0267		mg/Kg-dry	1	4/25/2018 5:35:55 AM
Surr: Dibromofluoromethane	99.8	56.5 - 129		%Rec	1	4/25/2018 5:35:55 AM
Surr: Toluene-d8	101	64.5 - 151		%Rec	1	4/25/2018 5:35:55 AM
Surr: 1-Bromo-4-fluorobenzene	93.9	43.2 - 143		%Rec	1	4/25/2018 5:35:55 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R42972

Analyst: CG

Percent Moisture	15.1	0.500		wt%	1	4/19/2018 7:59:11 AM
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JC 6/5/18



PES Environmental, Inc.

Matt Dahl
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC

Work Order Number: 1804329

April 27, 2018

Attention Matt Dahl:

Fremont Analytical, Inc. received 9 sample(s) on 4/20/2018 for the analyses presented in the following report.

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

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager



Date: 04/27/2018

CLIENT: PES Environmental, Inc.
Project: MVSC
Work Order: 1804329

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1804329-001	SB-17-20	04/18/2018 12:00 PM	04/20/2018 8:32 AM
1804329-002	SB-17-30	04/18/2018 12:30 PM	04/20/2018 8:32 AM
1804329-003	SB-17-40	04/18/2018 12:50 PM	04/20/2018 8:32 AM
1804329-004	SB-18-40	04/18/2018 3:10 PM	04/20/2018 8:32 AM
1804329-005	SB-18-30	04/18/2018 2:35 PM	04/20/2018 8:32 AM
1804329-006	SB-19-GW	04/19/2018 10:45 AM	04/20/2018 8:32 AM
1804329-007	SB-20-GW	04/19/2018 1:45 PM	04/20/2018 8:32 AM
1804329-008	SB-21-GW	04/19/2018 3:35 PM	04/20/2018 8:32 AM
1804329-009	Trip Blank	04/17/2018 3:06 PM	04/20/2018 8:32 AM

CLIENT: PES Environmental, Inc.

Project: MVSC

I. SAMPLE RECEIPT:

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

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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

Qualifiers:

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

Acronyms:

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



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:00:00 PM

Project: MVSC

Lab ID: 1804329-001

Matrix: Soil

Client Sample ID: SB-17-20

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>						
					Batch ID: 20504	Analyst: MW
Dichlorodifluoromethane (CFC-12)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chloromethane	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Vinyl chloride	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromomethane	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Trichlorofluoromethane (CFC-11)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chloroethane	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1-Dichloroethene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Methylene chloride	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
trans-1,2-Dichloroethene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Methyl tert-butyl ether (MTBE)	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1-Dichloroethane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
2,2-Dichloropropane	ND	0.147		mg/Kg-dry	1	4/26/2018 10:06:44 PM
cis-1,2-Dichloroethene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chloroform	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1,1-Trichloroethane (TCA)	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1-Dichloropropene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Carbon tetrachloride	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dichloroethane (EDC)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Benzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Trichloroethene (TCE)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dichloropropane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromodichloromethane	ND	0.0295	Q-	mg/Kg-dry	1	4/26/2018 10:06:44 PM
Dibromomethane	ND	0.0295	Q-	mg/Kg-dry	1	4/26/2018 10:06:44 PM
cis-1,3-Dichloropropene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Toluene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
trans-1,3-Dichloropropylene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1,2-Trichloroethane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,3-Dichloropropane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Tetrachloroethene (PCE)	0.0435	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Dibromochloromethane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dibromoethane (EDB)	ND	0.00737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chlorobenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1,1,2-Tetrachloroethane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Ethylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
m,p-Xylene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
o-Xylene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Styrene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Isopropylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromoform	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:00:00 PM

Project: MVSC

Lab ID: 1804329-001

Matrix: Soil

Client Sample ID: SB-17-20

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

Batch ID: 20504

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
n-Propylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,3,5-Trimethylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
2-Chlorotoluene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
4-Chlorotoluene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
tert-Butylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,3-Trichloropropane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,4-Trichlorobenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
sec-Butylbenzene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
4-Isopropyltoluene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,3-Dichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,4-Dichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
n-Butylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dibromo-3-chloropropane	ND	0.737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,4-Trimethylbenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Hexachlorobutadiene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Naphthalene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,3-Trichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Surr: Dibromofluoromethane	88.5	56.5 - 129		%Rec	1	4/26/2018 10:06:44 PM
Surr: Toluene-d8	126	64.5 - 151		%Rec	1	4/26/2018 10:06:44 PM
Surr: 1-Bromo-4-fluorobenzene	97.2	43.2 - 143		%Rec	1	4/26/2018 10:06:44 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040

Analyst: NG

Percent Moisture	14.8	0.500		wt%	1	4/23/2018 10:57:52 AM
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Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804329-002

Matrix: Soil

Client Sample ID: SB-17-30

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Chloromethane	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Vinyl chloride	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Bromomethane	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Trichlorofluoromethane (CFC-11)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Chloroethane	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,1-Dichloroethene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Methylene chloride	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
trans-1,2-Dichloroethene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Methyl tert-butyl ether (MTBE)	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,1-Dichloroethane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
2,2-Dichloropropane	ND	0.113		mg/Kg-dry	1	4/26/2018 10:36:41 PM
cis-1,2-Dichloroethene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Chloroform	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,1,1-Trichloroethane (TCA)	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,1-Dichloropropene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Carbon tetrachloride	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2-Dichloroethane (EDC)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Benzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Trichloroethene (TCE)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2-Dichloropropane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Bromodichloromethane	ND	0.0225	Q-	mg/Kg-dry	1	4/26/2018 10:36:41 PM
Dibromomethane	ND	0.0225	Q-	mg/Kg-dry	1	4/26/2018 10:36:41 PM
cis-1,3-Dichloropropene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Toluene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
trans-1,3-Dichloropropylene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,1,2-Trichloroethane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,3-Dichloropropane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Tetrachloroethene (PCE)	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Dibromochloromethane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2-Dibromoethane (EDB)	ND	0.00563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Chlorobenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,1,1,2-Tetrachloroethane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Ethylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
m,p-Xylene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
o-Xylene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Styrene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Isopropylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Bromoform	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804329-002

Matrix: Soil

Client Sample ID: SB-17-30

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

Batch ID: 20504

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
n-Propylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Bromobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,3,5-Trimethylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
2-Chlorotoluene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
4-Chlorotoluene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
tert-Butylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,3-Trichloropropane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,4-Trichlorobenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
sec-Butylbenzene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
4-Isopropyltoluene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,3-Dichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,4-Dichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
n-Butylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2-Dichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2-Dibromo-3-chloropropane	ND	0.563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,4-Trimethylbenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Hexachlorobutadiene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Naphthalene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,3-Trichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Surr: Dibromofluoromethane	97.5	56.5 - 129		%Rec	1	4/26/2018 10:36:41 PM
Surr: Toluene-d8	68.5	64.5 - 151		%Rec	1	4/26/2018 10:36:41 PM
Surr: 1-Bromo-4-fluorobenzene	96.7	43.2 - 143		%Rec	1	4/26/2018 10:36:41 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040

Analyst: NG

Percent Moisture	4.95	0.500		wt%	1	4/23/2018 10:57:52 AM
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Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:50:00 PM

Project: MVSC

Lab ID: 1804329-003

Matrix: Soil

Client Sample ID: SB-17-40

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>						
					Batch ID: 20504	Analyst: MW
Dichlorodifluoromethane (CFC-12)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Chloromethane	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Vinyl chloride	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Bromomethane	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Trichlorofluoromethane (CFC-11)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Chloroethane	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,1-Dichloroethene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Methylene chloride	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
trans-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Methyl tert-butyl ether (MTBE)	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,1-Dichloroethane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
2,2-Dichloropropane	ND	0.0924		mg/Kg-dry	1	4/26/2018 11:36:24 PM
cis-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Chloroform	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,1,1-Trichloroethane (TCA)	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,1-Dichloropropene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Carbon tetrachloride	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2-Dichloroethane (EDC)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Benzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Trichloroethene (TCE)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2-Dichloropropane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Bromodichloromethane	ND	0.0185	Q-	mg/Kg-dry	1	4/26/2018 11:36:24 PM
Dibromomethane	ND	0.0185	Q-	mg/Kg-dry	1	4/26/2018 11:36:24 PM
cis-1,3-Dichloropropene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Toluene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
trans-1,3-Dichloropropylene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,1,2-Trichloroethane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,3-Dichloropropane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Tetrachloroethene (PCE)	0.0286	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Dibromochloromethane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2-Dibromoethane (EDB)	ND	0.00462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Chlorobenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,1,1,2-Tetrachloroethane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Ethylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
m,p-Xylene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
o-Xylene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Styrene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Isopropylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Bromoform	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804329-003
Client Sample ID: SB-17-40

Collection Date: 4/18/2018 12:50:00 PM
Matrix: Soil

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

Batch ID: 20504 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
n-Propylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Bromobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,3,5-Trimethylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
2-Chlorotoluene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
4-Chlorotoluene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
tert-Butylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,3-Trichloropropane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,4-Trichlorobenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
sec-Butylbenzene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
4-Isopropyltoluene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,3-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,4-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
n-Butylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2-Dibromo-3-chloropropane	ND	0.462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,4-Trimethylbenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Hexachlorobutadiene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Naphthalene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,3-Trichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Surr: Dibromofluoromethane	91.3	56.5 - 129		%Rec	1	4/26/2018 11:36:24 PM
Surr: Toluene-d8	83.6	64.5 - 151		%Rec	1	4/26/2018 11:36:24 PM
Surr: 1-Bromo-4-fluorobenzene	93.5	43.2 - 143		%Rec	1	4/26/2018 11:36:24 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040 Analyst: NG

Percent Moisture	9.45	0.500		wt%	1	4/23/2018 10:57:52 AM
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Client: PES Environmental, Inc.

Collection Date: 4/18/2018 3:10:00 PM

Project: MVSC

Lab ID: 1804329-004

Matrix: Soil

Client Sample ID: SB-18-40

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Chloromethane	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Vinyl chloride	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Bromomethane	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Chloroethane	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,1-Dichloroethene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Methylene chloride	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
trans-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,1-Dichloroethane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
2,2-Dichloropropane	ND	0.108		mg/Kg-dry	1	4/27/2018 3:05:00 AM
cis-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Chloroform	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,1-Dichloropropene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Carbon tetrachloride	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2-Dichloroethane (EDC)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Benzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Trichloroethene (TCE)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2-Dichloropropane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Bromodichloromethane	ND	0.0215	Q-	mg/Kg-dry	1	4/27/2018 3:05:00 AM
Dibromomethane	ND	0.0215	Q-	mg/Kg-dry	1	4/27/2018 3:05:00 AM
cis-1,3-Dichloropropene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Toluene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
trans-1,3-Dichloropropylene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,1,2-Trichloroethane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,3-Dichloropropane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Tetrachloroethene (PCE)	0.0284	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Dibromochloromethane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2-Dibromoethane (EDB)	ND	0.00538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Chlorobenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Ethylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
m,p-Xylene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
o-Xylene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Styrene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Isopropylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Bromoform	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 3:10:00 PM

Project: MVSC

Lab ID: 1804329-004

Matrix: Soil

Client Sample ID: SB-18-40

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

Batch ID: 20504

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
n-Propylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Bromobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,3,5-Trimethylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
2-Chlorotoluene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
4-Chlorotoluene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
tert-Butylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,3-Trichloropropane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,4-Trichlorobenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
sec-Butylbenzene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
4-Isopropyltoluene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,3-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,4-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
n-Butylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2-Dibromo-3-chloropropane	ND	0.538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,4-Trimethylbenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Hexachlorobutadiene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Naphthalene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,3-Trichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Surr: Dibromofluoromethane	103	56.5 - 129		%Rec	1	4/27/2018 3:05:00 AM
Surr: Toluene-d8	105	64.5 - 151		%Rec	1	4/27/2018 3:05:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.0	43.2 - 143		%Rec	1	4/27/2018 3:05:00 AM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040

Analyst: NG

Percent Moisture	9.96	0.500		wt%	1	4/23/2018 10:57:52 AM
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Client: PES Environmental, Inc.

Collection Date: 4/18/2018 2:35:00 PM

Project: MVSC

Lab ID: 1804329-005

Matrix: Soil

Client Sample ID: SB-18-30

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Chloromethane	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Vinyl chloride	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Bromomethane	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Trichlorofluoromethane (CFC-11)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Chloroethane	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,1-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Methylene chloride	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
trans-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,1-Dichloroethane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
2,2-Dichloropropane	ND	0.112		mg/Kg-dry	1	4/27/2018 3:34:00 AM
cis-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Chloroform	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,1,1-Trichloroethane (TCA)	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,1-Dichloropropene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Carbon tetrachloride	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2-Dichloroethane (EDC)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Benzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Trichloroethene (TCE)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2-Dichloropropane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Bromodichloromethane	ND	0.0224	Q-	mg/Kg-dry	1	4/27/2018 3:34:00 AM
Dibromomethane	ND	0.0224	Q-	mg/Kg-dry	1	4/27/2018 3:34:00 AM
cis-1,3-Dichloropropene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Toluene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
trans-1,3-Dichloropropylene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,1,2-Trichloroethane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,3-Dichloropropane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Tetrachloroethene (PCE)	0.0429	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Dibromochloromethane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2-Dibromoethane (EDB)	ND	0.00560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Chlorobenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,1,1,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Ethylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
m,p-Xylene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
o-Xylene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Styrene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Isopropylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Bromoform	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 2:35:00 PM

Project: MVSC

Lab ID: 1804329-005

Matrix: Soil

Client Sample ID: SB-18-30

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

Batch ID: 20504

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
n-Propylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Bromobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,3,5-Trimethylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
2-Chlorotoluene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
4-Chlorotoluene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
tert-Butylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,3-Trichloropropane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,4-Trichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
sec-Butylbenzene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
4-Isopropyltoluene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,3-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,4-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
n-Butylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2-Dibromo-3-chloropropane	ND	0.560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,4-Trimethylbenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Hexachlorobutadiene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Naphthalene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,3-Trichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Surr: Dibromofluoromethane	94.1	56.5 - 129		%Rec	1	4/27/2018 3:34:00 AM
Surr: Toluene-d8	103	64.5 - 151		%Rec	1	4/27/2018 3:34:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.8	43.2 - 143		%Rec	1	4/27/2018 3:34:00 AM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040

Analyst: NG

Percent Moisture	2.81	0.500		wt%	1	4/23/2018 10:57:52 AM
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Client: PES Environmental, Inc.

Collection Date: 4/19/2018 10:45:00 AM

Project: MVSC

Lab ID: 1804329-006

Matrix: Groundwater

Client Sample ID: SB-19-GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>						
					Batch ID: 20470	Analyst: MW
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Chloromethane	ND	2.00		µg/L	1	4/22/2018 3:53:27 AM
Vinyl chloride	ND	0.200		µg/L	1	4/22/2018 3:53:27 AM
Bromomethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Chloroethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Methylene chloride	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/22/2018 3:53:27 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Chloroform	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Carbon tetrachloride	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Benzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/22/2018 3:53:27 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Bromodichloromethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Dibromomethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Toluene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Tetrachloroethene (PCE)	14.8	1.00		µg/L	1	4/22/2018 3:53:27 AM
Dibromochloromethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/22/2018 3:53:27 AM
Chlorobenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Ethylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
m,p-Xylene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
o-Xylene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Styrene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Isopropylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Bromoform	ND	2.00		µg/L	1	4/22/2018 3:53:27 AM



Client: PES Environmental, Inc.

Collection Date: 4/19/2018 10:45:00 AM

Project: MVSC

Lab ID: 1804329-006

Matrix: Groundwater

Client Sample ID: SB-19-GW

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

Batch ID: 20470

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
n-Propylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Bromobenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
2-Chlorotoluene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
4-Chlorotoluene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
tert-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/22/2018 3:53:27 AM
sec-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
n-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/22/2018 3:53:27 AM
Naphthalene	ND	1.00		µg/L	1	4/22/2018 3:53:27 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/22/2018 3:53:27 AM
Surr: Dibromofluoromethane	119	45.4 - 152		%Rec	1	4/22/2018 3:53:27 AM
Surr: Toluene-d8	102	40.1 - 139		%Rec	1	4/22/2018 3:53:27 AM
Surr: 1-Bromo-4-fluorobenzene	102	64.2 - 128		%Rec	1	4/22/2018 3:53:27 AM



Client: PES Environmental, Inc.

Collection Date: 4/19/2018 1:45:00 PM

Project: MVSC

Lab ID: 1804329-007

Matrix: Groundwater

Client Sample ID: SB-20-GW

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

Batch ID: 20470

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Chloromethane	ND	2.00		µg/L	1	4/22/2018 4:23:55 AM
Vinyl chloride	ND	0.200		µg/L	1	4/22/2018 4:23:55 AM
Bromomethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Chloroethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Methylene chloride	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/22/2018 4:23:55 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Chloroform	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Carbon tetrachloride	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Benzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/22/2018 4:23:55 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Bromodichloromethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Dibromomethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Toluene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Tetrachloroethene (PCE)	10.8	1.00		µg/L	1	4/22/2018 4:23:55 AM
Dibromochloromethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/22/2018 4:23:55 AM
Chlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Ethylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
m,p-Xylene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
o-Xylene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Styrene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Isopropylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Bromoform	ND	2.00		µg/L	1	4/22/2018 4:23:55 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804329-007
Client Sample ID: SB-20-GW

Collection Date: 4/19/2018 1:45:00 PM
Matrix: Groundwater

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

Batch ID: 20470

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
n-Propylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Bromobenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
2-Chlorotoluene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
4-Chlorotoluene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
tert-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/22/2018 4:23:55 AM
sec-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
n-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/22/2018 4:23:55 AM
Naphthalene	ND	1.00		µg/L	1	4/22/2018 4:23:55 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/22/2018 4:23:55 AM
Surr: Dibromofluoromethane	116	45.4 - 152		%Rec	1	4/22/2018 4:23:55 AM
Surr: Toluene-d8	102	40.1 - 139		%Rec	1	4/22/2018 4:23:55 AM
Surr: 1-Bromo-4-fluorobenzene	99.0	64.2 - 128		%Rec	1	4/22/2018 4:23:55 AM



Client: PES Environmental, Inc.

Collection Date: 4/19/2018 3:35:00 PM

Project: MVSC

Lab ID: 1804329-008

Matrix: Groundwater

Client Sample ID: SB-21-GW

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

Batch ID: 20470

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Chloromethane	ND	2.00		µg/L	1	4/22/2018 4:54:17 AM
Vinyl chloride	ND	0.200		µg/L	1	4/22/2018 4:54:17 AM
Bromomethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Chloroethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Methylene chloride	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/22/2018 4:54:17 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Chloroform	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Carbon tetrachloride	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Benzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/22/2018 4:54:17 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Bromodichloromethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Dibromomethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Toluene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Tetrachloroethene (PCE)	8.18	1.00		µg/L	1	4/22/2018 4:54:17 AM
Dibromochloromethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/22/2018 4:54:17 AM
Chlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Ethylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
m,p-Xylene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
o-Xylene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Styrene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Isopropylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Bromoform	ND	2.00		µg/L	1	4/22/2018 4:54:17 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804329-008
Client Sample ID: SB-21-GW

Collection Date: 4/19/2018 3:35:00 PM
Matrix: Groundwater

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

Batch ID: 20470

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
n-Propylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Bromobenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
2-Chlorotoluene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
4-Chlorotoluene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
tert-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/22/2018 4:54:17 AM
sec-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
n-Butylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/22/2018 4:54:17 AM
Naphthalene	ND	1.00		µg/L	1	4/22/2018 4:54:17 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/22/2018 4:54:17 AM
Surr: Dibromofluoromethane	116	45.4 - 152		%Rec	1	4/22/2018 4:54:17 AM
Surr: Toluene-d8	103	40.1 - 139		%Rec	1	4/22/2018 4:54:17 AM
Surr: 1-Bromo-4-fluorobenzene	101	64.2 - 128		%Rec	1	4/22/2018 4:54:17 AM



Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Sample Moisture (Percent Moisture)

Sample ID 1804337-002ADUP	SampType: DUP	Units: wt%	Prep Date: 4/23/2018	RunNo: 43040							
Client ID: BATCH	Batch ID: R43040	Analysis Date: 4/23/2018	SeqNo: 831806								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	19.5	0.500						19.58	0.281	20	

Sample ID 1804329-003ADUP	SampType: DUP	Units: wt%	Prep Date: 4/23/2018	RunNo: 43040							
Client ID: SB-17-40	Batch ID: R43040	Analysis Date: 4/23/2018	SeqNo: 831811								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	10.3	0.500						9.450	8.46	20	

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20504	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/25/2018	RunNo:	43140		
Client ID:	LCSS	Batch ID:	20504	Analysis Date:	4/26/2018	SeqNo:	833921				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.881	0.0200	1.000	0	88.1	14.3	167				
Chloromethane	0.860	0.0500	1.000	0	86.0	32	156				
Vinyl chloride	0.811	0.0250	1.000	0	81.1	43.4	151				
Bromomethane	1.38	0.0500	1.000	0	138	35	155				
Trichlorofluoromethane (CFC-11)	1.05	0.0200	1.000	0	105	33.8	156				
Chloroethane	0.932	0.0500	1.000	0	93.2	33.1	147				
1,1-Dichloroethene	1.34	0.0200	1.000	0	134	39	144				
Methylene chloride	0.739	0.0200	1.000	0	73.9	46.3	140				
trans-1,2-Dichloroethene	0.748	0.0200	1.000	0	74.8	68	130				
Methyl tert-butyl ether (MTBE)	0.744	0.0500	1.000	0	74.4	44.1	152				
1,1-Dichloroethane	0.743	0.0200	1.000	0	74.3	61.9	137				
2,2-Dichloropropane	0.923	0.100	1.000	0	92.3	35.5	186				
cis-1,2-Dichloroethene	0.802	0.0200	1.000	0	80.2	71.3	135				
Chloroform	0.821	0.0200	1.000	0	82.1	69	145				
1,1,1-Trichloroethane (TCA)	0.865	0.0250	1.000	0	86.5	69	132				
1,1-Dichloropropene	0.839	0.0200	1.000	0	83.9	72.7	131				
Carbon tetrachloride	0.865	0.0250	1.000	0	86.5	63.4	137				
1,2-Dichloroethane (EDC)	0.925	0.0200	1.000	0	92.5	50.9	162				
Benzene	0.892	0.0200	1.000	0	89.2	64.3	133				
Trichloroethene (TCE)	1.19	0.0200	1.000	0	119	65.5	137				
1,2-Dichloropropane	1.27	0.0200	1.000	0	127	63.2	142				
Bromodichloromethane	1.22	0.0200	1.000	0	122	53.4	131				
Dibromomethane	1.17	0.0200	1.000	0	117	60.1	146				
cis-1,3-Dichloropropene	1.16	0.0200	1.000	0	116	59.1	143				
Toluene	1.14	0.0200	1.000	0	114	67.3	138				
trans-1,3-Dichloropropylene	1.18	0.0200	1.000	0	118	49.2	149				
1,1,2-Trichloroethane	1.08	0.0200	1.000	0	108	56.9	147				
1,3-Dichloropropane	1.05	0.0250	1.000	0	105	56.1	153				
Tetrachloroethene (PCE)	1.07	0.0250	1.000	0	107	52.7	150				
Dibromochloromethane	1.08	0.0250	1.000	0	108	70.6	144				
1,2-Dibromoethane (EDB)	1.08	0.00500	1.000	0	108	50.5	154				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20504	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/25/2018	RunNo:	43140
Client ID:	LCSS	Batch ID:	20504			Analysis Date:	4/26/2018	SeqNo:	833921

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	0.968	0.0250	1.000	0	96.8	84.9	125				
1,1,1,2-Tetrachloroethane	0.982	0.0250	1.000	0	98.2	65.9	141				
Ethylbenzene	1.01	0.0250	1.000	0	101	74	129				
m,p-Xylene	1.95	0.0500	2.000	0	97.7	70	124				
o-Xylene	0.968	0.0250	1.000	0	96.8	68.1	139				
Styrene	0.996	0.0250	1.000	0	99.6	73.3	146				
Isopropylbenzene	1.02	0.0250	1.000	0	102	70	130				
Bromoform	1.07	0.0500	1.000	0	107	44.3	130				
1,1,2,2-Tetrachloroethane	1.06	0.0200	1.000	0	106	44.8	165				
n-Propylbenzene	1.05	0.0250	1.000	0	105	75.8	139				
Bromobenzene	0.983	0.0200	1.000	0	98.3	49.2	144				
1,3,5-Trimethylbenzene	1.02	0.0250	1.000	0	102	76.5	135				
2-Chlorotoluene	1.01	0.0250	1.000	0	101	76.7	129				
4-Chlorotoluene	1.01	0.0250	1.000	0	101	77.5	125				
tert-Butylbenzene	0.993	0.0250	1.000	0	99.3	66.2	130				
1,2,3-Trichloropropane	1.04	0.0250	1.000	0	104	67.9	136				
1,2,4-Trichlorobenzene	0.998	0.0250	1.000	0	99.8	65.5	150				
sec-Butylbenzene	1.04	0.0500	1.000	0	104	75.6	133				
4-Isopropyltoluene	1.04	0.0500	1.000	0	104	76.8	131				
1,3-Dichlorobenzene	1.01	0.0200	1.000	0	101	72.8	128				
1,4-Dichlorobenzene	0.998	0.0200	1.000	0	99.8	72.6	126				
n-Butylbenzene	1.02	0.0250	1.000	0	102	78.4	140				
1,2-Dichlorobenzene	0.999	0.0200	1.000	0	99.9	72.8	126				
1,2-Dibromo-3-chloropropane	1.08	0.500	1.000	0	108	40.2	155				
1,2,4-Trimethylbenzene	1.03	0.0200	1.000	0	103	77.5	129				
Hexachlorobutadiene	0.988	0.0500	1.000	0	98.8	42	151				
Naphthalene	1.06	0.0500	1.000	0	106	46.5	167				
1,2,3-Trichlorobenzene	1.02	0.0200	1.000	0	102	64.5	149				
Surr: Dibromofluoromethane	1.23		1.250		98.2	56.5	129				
Surr: Toluene-d8	1.42		1.250		114	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.32		1.250		106	43.2	143				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20504	SampType:	LCS	Units:	mg/Kg	Prep Date:	4/25/2018	RunNo:	43140		
Client ID:	LCSS	Batch ID:	20504			Analysis Date:	4/26/2018	SeqNo:	833921		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	MB-20504	SampType:	MBLK	Units:	mg/Kg	Prep Date:	4/25/2018	RunNo:	43140		
Client ID:	MBLKS	Batch ID:	20504			Analysis Date:	4/26/2018	SeqNo:	833922		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0200									
Chloromethane	ND	0.0500									
Vinyl chloride	ND	0.0250									
Bromomethane	ND	0.0500									
Trichlorofluoromethane (CFC-11)	ND	0.0200									
Chloroethane	ND	0.0500									
1,1-Dichloroethene	ND	0.0200									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.100									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0250									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0250									
1,2-Dichloroethane (EDC)	ND	0.0200									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									Q
Dibromomethane	ND	0.0200									Q
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									

Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20504	SampType: MBLK	Units: mg/Kg	Prep Date: 4/25/2018	RunNo: 43140
Client ID: MBLKS	Batch ID: 20504		Analysis Date: 4/26/2018	SeqNo: 833922

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	0.0200									
1,1,2-Trichloroethane	ND	0.0200									
1,3-Dichloropropane	ND	0.0250									
Tetrachloroethene (PCE)	ND	0.0250									
Dibromochloromethane	ND	0.0250									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0250									
1,1,1,2-Tetrachloroethane	ND	0.0250									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Styrene	ND	0.0250									
Isopropylbenzene	ND	0.0250									
Bromoform	ND	0.0500									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0250									
Bromobenzene	ND	0.0200									
1,3,5-Trimethylbenzene	ND	0.0250									
2-Chlorotoluene	ND	0.0250									
4-Chlorotoluene	ND	0.0250									
tert-Butylbenzene	ND	0.0250									
1,2,3-Trichloropropane	ND	0.0250									
1,2,4-Trichlorobenzene	ND	0.0250									
sec-Butylbenzene	ND	0.0500									
4-Isopropyltoluene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0250									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20504	SampType: MBLK	Units: mg/Kg	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: MBLKS	Batch ID: 20504		Analysis Date: 4/26/2018	SeqNo: 833922							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexachlorobutadiene	ND	0.0500									
Naphthalene	ND	0.0500									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.35		1.250		108	56.5	129				
Surr: Toluene-d8	0.901		1.250		72.1	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.22		1.250		97.5	43.2	143				

NOTES:

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

Sample ID 1804329-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: SB-17-30	Batch ID: 20504		Analysis Date: 4/26/2018	SeqNo: 833897							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0225						0		30	
Chloromethane	ND	0.0563						0		30	
Vinyl chloride	ND	0.0281						0		30	
Bromomethane	ND	0.0563						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0225						0		30	
Chloroethane	ND	0.0563						0		30	
1,1-Dichloroethene	ND	0.0225						0		30	
Methylene chloride	ND	0.0225						0		30	
trans-1,2-Dichloroethene	ND	0.0225						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0563						0		30	
1,1-Dichloroethane	ND	0.0225						0		30	
2,2-Dichloropropane	ND	0.113						0		30	
cis-1,2-Dichloroethene	ND	0.0225						0		30	
Chloroform	ND	0.0225						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0281						0		30	
1,1-Dichloropropene	ND	0.0225						0		30	
Carbon tetrachloride	ND	0.0281						0		30	
1,2-Dichloroethane (EDC)	ND	0.0225						0		30	

Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804329-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140
Client ID: SB-17-30	Batch ID: 20504		Analysis Date: 4/26/2018	SeqNo: 833897

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0225						0		30	
Trichloroethene (TCE)	ND	0.0225						0		30	
1,2-Dichloropropane	ND	0.0225						0		30	
Bromodichloromethane	ND	0.0225						0		30	Q
Dibromomethane	ND	0.0225						0		30	Q
cis-1,3-Dichloropropene	ND	0.0225						0		30	
Toluene	ND	0.0225						0		30	
trans-1,3-Dichloropropylene	ND	0.0225						0		30	
1,1,2-Trichloroethane	ND	0.0225						0		30	
1,3-Dichloropropane	ND	0.0281						0		30	
Tetrachloroethene (PCE)	ND	0.0281						0		30	
Dibromochloromethane	ND	0.0281						0		30	
1,2-Dibromoethane (EDB)	ND	0.00563						0		30	
Chlorobenzene	ND	0.0281						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0281						0		30	
Ethylbenzene	ND	0.0281						0		30	
m,p-Xylene	ND	0.0563						0		30	
o-Xylene	ND	0.0281						0		30	
Styrene	ND	0.0281						0		30	
Isopropylbenzene	ND	0.0281						0		30	
Bromoform	ND	0.0563						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0225						0		30	
n-Propylbenzene	ND	0.0281						0		30	
Bromobenzene	ND	0.0225						0		30	
1,3,5-Trimethylbenzene	ND	0.0281						0		30	
2-Chlorotoluene	ND	0.0281						0		30	
4-Chlorotoluene	ND	0.0281						0		30	
tert-Butylbenzene	ND	0.0281						0		30	
1,2,3-Trichloropropane	ND	0.0281						0		30	
1,2,4-Trichlorobenzene	ND	0.0281						0		30	
sec-Butylbenzene	ND	0.0563						0		30	

Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804329-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: SB-17-30	Batch ID: 20504		Analysis Date: 4/26/2018	SeqNo: 833897							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

4-Isopropyltoluene	ND	0.0563						0		30	
1,3-Dichlorobenzene	ND	0.0225						0		30	
1,4-Dichlorobenzene	ND	0.0225						0		30	
n-Butylbenzene	ND	0.0281						0		30	
1,2-Dichlorobenzene	ND	0.0225						0		30	
1,2-Dibromo-3-chloropropane	ND	0.563						0		30	
1,2,4-Trimethylbenzene	ND	0.0225						0		30	
Hexachlorobutadiene	ND	0.0563						0		30	
Naphthalene	ND	0.0563						0		30	
1,2,3-Trichlorobenzene	ND	0.0225						0		30	
Surr: Dibromofluoromethane	1.33		1.407		94.3	56.5	129		0		
Surr: Toluene-d8	1.20		1.407		85.7	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.28		1.407		91.3	43.2	143		0		

NOTES:

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

Sample ID 1804329-003BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: SB-17-40	Batch ID: 20504		Analysis Date: 4/27/2018	SeqNo: 833899							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	1.06	0.0185	0.9243	0	114	43.5	121				
Chloromethane	0.687	0.0462	0.9243	0	74.3	45	130				
Vinyl chloride	0.839	0.0231	0.9243	0	90.7	43.6	150				
Bromomethane	2.17	0.0462	0.9243	0	235	21.3	120				S
Trichlorofluoromethane (CFC-11)	1.36	0.0185	0.9243	0	147	35	131				S
Chloroethane	1.09	0.0462	0.9243	0	118	31.9	123				
1,1-Dichloroethene	1.24	0.0185	0.9243	0	134	47.3	147				
Methylene chloride	0.968	0.0185	0.9243	0	105	54.7	142				
trans-1,2-Dichloroethene	0.969	0.0185	0.9243	0	105	52	136				
Methyl tert-butyl ether (MTBE)	0.846	0.0462	0.9243	0	91.5	58.5	167				
1,1-Dichloroethane	0.967	0.0185	0.9243	0	105	51.8	141				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804329-003BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: SB-17-40	Batch ID: 20504		Analysis Date: 4/27/2018	SeqNo: 833899							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2,2-Dichloropropane	0.941	0.0924	0.9243	0	102	36	123				
cis-1,2-Dichloroethene	0.919	0.0185	0.9243	0	99.5	58.6	136				
Chloroform	0.832	0.0185	0.9243	0	90.0	53.2	129				
1,1,1-Trichloroethane (TCA)	0.939	0.0231	0.9243	0	102	58.3	145				
1,1-Dichloropropene	0.911	0.0185	0.9243	0	98.5	55.1	138				
Carbon tetrachloride	0.972	0.0231	0.9243	0	105	53.3	144				
1,2-Dichloroethane (EDC)	0.831	0.0185	0.9243	0	89.9	51.3	139				
Benzene	0.878	0.0185	0.9243	0	95.0	63.5	133				
Trichloroethene (TCE)	0.931	0.0185	0.9243	0	101	61.6	147				
1,2-Dichloropropane	0.896	0.0185	0.9243	0	97.0	59	136				
Bromodichloromethane	0.879	0.0185	0.9243	0	95.1	50.7	141				
Dibromomethane	0.818	0.0185	0.9243	0	88.5	50.6	137				
cis-1,3-Dichloropropene	0.813	0.0185	0.9243	0	87.9	50.4	138				
Toluene	0.894	0.0185	0.9243	0	96.7	63.4	132				
trans-1,3-Dichloropropylene	0.733	0.0185	0.9243	0	79.3	44.1	147				
1,1,2-Trichloroethane	0.678	0.0185	0.9243	0	73.4	51.6	137				
1,3-Dichloropropane	0.628	0.0231	0.9243	0	67.9	53.1	134				
Tetrachloroethene (PCE)	0.979	0.0231	0.9243	0.02855	103	35.6	158				
Dibromochloromethane	0.732	0.0231	0.9243	0	79.2	55.3	140				
1,2-Dibromoethane (EDB)	0.682	0.00462	0.9243	0	73.8	50.4	136				
Chlorobenzene	0.953	0.0231	0.9243	0	103	60	133				
1,1,1,2-Tetrachloroethane	0.938	0.0231	0.9243	0	101	53.1	142				
Ethylbenzene	0.981	0.0231	0.9243	0	106	54.5	134				
m,p-Xylene	1.96	0.0462	1.849	0	106	53.1	132				
o-Xylene	0.961	0.0231	0.9243	0	104	53.3	139				
Styrene	0.953	0.0231	0.9243	0	103	51.1	132				
Isopropylbenzene	1.06	0.0231	0.9243	0	114	58.9	138				
Bromoform	0.927	0.0462	0.9243	0	100	57.9	130				
1,1,2,2-Tetrachloroethane	0.786	0.0185	0.9243	0	85.1	51.9	131				
n-Propylbenzene	1.03	0.0231	0.9243	0	111	53.6	140				
Bromobenzene	0.998	0.0185	0.9243	0	108	54.2	140				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804329-003BMS	SampType:	MS	Units:	mg/Kg-dry	Prep Date:	4/25/2018	RunNo:	43140		
Client ID:	SB-17-40	Batch ID:	20504	Analysis Date:	4/27/2018	SeqNo:	833899				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	1.02	0.0231	0.9243	0	110	51.8	136				
2-Chlorotoluene	0.930	0.0231	0.9243	0	101	51.6	136				
4-Chlorotoluene	0.944	0.0231	0.9243	0	102	50.1	139				
tert-Butylbenzene	1.06	0.0231	0.9243	0	115	50.5	135				
1,2,3-Trichloropropane	0.764	0.0231	0.9243	0	82.6	50.5	131				
1,2,4-Trichlorobenzene	0.984	0.0231	0.9243	0	106	50.8	130				
sec-Butylbenzene	1.08	0.0462	0.9243	0	117	52.6	141				
4-Isopropyltoluene	1.07	0.0462	0.9243	0	116	52.9	134				
1,3-Dichlorobenzene	0.962	0.0185	0.9243	0	104	52.6	131				
1,4-Dichlorobenzene	0.969	0.0185	0.9243	0	105	52.9	129				
n-Butylbenzene	0.911	0.0231	0.9243	0	98.5	52.6	130				
1,2-Dichlorobenzene	0.942	0.0185	0.9243	0	102	55.8	129				
1,2-Dibromo-3-chloropropane	0.703	0.462	0.9243	0	76.1	40.5	131				
1,2,4-Trimethylbenzene	1.01	0.0185	0.9243	0	109	50.6	137				
Hexachlorobutadiene	1.15	0.0462	0.9243	0	124	40.6	158				
Naphthalene	0.847	0.0462	0.9243	0	91.6	52.3	124				
1,2,3-Trichlorobenzene	0.924	0.0185	0.9243	0	100	54.4	124				
Surr: Dibromofluoromethane	1.16		1.155		100	56.5	129				
Surr: Toluene-d8	1.03		1.155		89.5	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.16		1.155		100	43.2	143				

NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID	1804329-003BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	4/25/2018	RunNo:	43140		
Client ID:	SB-17-40	Batch ID:	20504	Analysis Date:	4/27/2018	SeqNo:	833900				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.08	0.0185	0.9243	0	117	43.5	121	1.057	1.94	30	
Chloromethane	0.720	0.0462	0.9243	0	77.9	45	130	0.6870	4.75	30	
Vinyl chloride	0.870	0.0231	0.9243	0	94.1	43.6	150	0.8386	3.62	30	
Bromomethane	2.19	0.0462	0.9243	0	237	21.3	120	2.171	0.810	30	S

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804329-003BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	4/25/2018	RunNo:	43140
Client ID:	SB-17-40	Batch ID:	20504			Analysis Date:	4/27/2018	SeqNo:	833900

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	1.35	0.0185	0.9243	0	146	35	131	1.361	0.755	30	S
Chloroethane	1.11	0.0462	0.9243	0	120	31.9	123	1.086	2.35	30	
1,1-Dichloroethene	1.29	0.0185	0.9243	0	139	47.3	147	1.242	3.56	30	
Methylene chloride	0.957	0.0185	0.9243	0	104	54.7	142	0.9681	1.17	30	
trans-1,2-Dichloroethene	0.990	0.0185	0.9243	0	107	52	136	0.9691	2.09	30	
Methyl tert-butyl ether (MTBE)	0.863	0.0462	0.9243	0	93.4	58.5	167	0.8461	1.98	30	
1,1-Dichloroethane	0.957	0.0185	0.9243	0	103	51.8	141	0.9667	1.06	30	
2,2-Dichloropropane	0.933	0.0924	0.9243	0	101	36	123	0.9408	0.884	30	
cis-1,2-Dichloroethene	0.909	0.0185	0.9243	0	98.4	58.6	136	0.9194	1.09	30	
Chloroform	0.865	0.0185	0.9243	0	93.6	53.2	129	0.8323	3.86	30	
1,1,1-Trichloroethane (TCA)	0.946	0.0231	0.9243	0	102	58.3	145	0.9394	0.688	30	
1,1-Dichloropropene	0.907	0.0185	0.9243	0	98.1	55.1	138	0.9108	0.409	30	
Carbon tetrachloride	0.979	0.0231	0.9243	0	106	53.3	144	0.9722	0.732	30	
1,2-Dichloroethane (EDC)	0.846	0.0185	0.9243	0	91.6	51.3	139	0.8311	1.82	30	
Benzene	0.888	0.0185	0.9243	0	96.1	63.5	133	0.8783	1.13	30	
Trichloroethene (TCE)	0.961	0.0185	0.9243	0	104	61.6	147	0.9308	3.22	30	
1,2-Dichloropropane	0.925	0.0185	0.9243	0	100	59	136	0.8962	3.18	30	
Bromodichloromethane	0.896	0.0185	0.9243	0	96.9	50.7	141	0.8791	1.91	30	
Dibromomethane	0.819	0.0185	0.9243	0	88.6	50.6	137	0.8179	0.0831	30	
cis-1,3-Dichloropropene	0.851	0.0185	0.9243	0	92.0	50.4	138	0.8128	4.54	30	
Toluene	0.935	0.0185	0.9243	0	101	63.4	132	0.8939	4.52	30	
trans-1,3-Dichloropropylene	0.794	0.0185	0.9243	0	85.9	44.1	147	0.7329	7.95	30	
1,1,2-Trichloroethane	0.695	0.0185	0.9243	0	75.2	51.6	137	0.6784	2.45	30	
1,3-Dichloropropane	0.662	0.0231	0.9243	0	71.7	53.1	134	0.6279	5.36	30	
Tetrachloroethene (PCE)	1.01	0.0231	0.9243	0.02855	106	35.6	158	0.9791	2.71	30	
Dibromochloromethane	0.762	0.0231	0.9243	0	82.5	55.3	140	0.7317	4.11	30	
1,2-Dibromoethane (EDB)	0.719	0.00462	0.9243	0	77.8	50.4	136	0.6825	5.27	30	
Chlorobenzene	0.941	0.0231	0.9243	0	102	60	133	0.9534	1.28	30	
1,1,1,2-Tetrachloroethane	0.927	0.0231	0.9243	0	100	53.1	142	0.9380	1.20	30	
Ethylbenzene	0.973	0.0231	0.9243	0	105	54.5	134	0.9815	0.851	30	
m,p-Xylene	1.93	0.0462	1.849	0	105	53.1	132	1.961	1.39	30	

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1804329-003BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140
Client ID: SB-17-40	Batch ID: 20504		Analysis Date: 4/27/2018	SeqNo: 833900

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	0.961	0.0231	0.9243	0	104	53.3	139	0.9611	0.0662	30	
Styrene	0.940	0.0231	0.9243	0	102	51.1	132	0.9533	1.39	30	
Isopropylbenzene	1.04	0.0231	0.9243	0	113	58.9	138	1.055	1.27	30	
Bromoform	0.893	0.0462	0.9243	0	96.6	57.9	130	0.9272	3.74	30	
1,1,2,2-Tetrachloroethane	0.766	0.0185	0.9243	0	82.9	51.9	131	0.7863	2.57	30	
n-Propylbenzene	1.03	0.0231	0.9243	0	112	53.6	140	1.027	0.744	30	
Bromobenzene	0.967	0.0185	0.9243	0	105	54.2	140	0.9976	3.11	30	
1,3,5-Trimethylbenzene	1.00	0.0231	0.9243	0	109	51.8	136	1.019	1.45	30	
2-Chlorotoluene	0.938	0.0231	0.9243	0	101	51.6	136	0.9303	0.803	30	
4-Chlorotoluene	0.939	0.0231	0.9243	0	102	50.1	139	0.9440	0.485	30	
tert-Butylbenzene	1.03	0.0231	0.9243	0	111	50.5	135	1.058	2.97	30	
1,2,3-Trichloropropane	0.782	0.0231	0.9243	0	84.6	50.5	131	0.7637	2.35	30	
1,2,4-Trichlorobenzene	1.09	0.0231	0.9243	0	118	50.8	130	0.9841	10.3	30	
sec-Butylbenzene	1.06	0.0462	0.9243	0	115	52.6	141	1.083	1.66	30	
4-Isopropyltoluene	1.06	0.0462	0.9243	0	114	52.9	134	1.074	1.55	30	
1,3-Dichlorobenzene	0.952	0.0185	0.9243	0	103	52.6	131	0.9617	1.04	30	
1,4-Dichlorobenzene	0.963	0.0185	0.9243	0	104	52.9	129	0.9688	0.594	30	
n-Butylbenzene	0.976	0.0231	0.9243	0	106	52.6	130	0.9106	6.91	30	
1,2-Dichlorobenzene	0.953	0.0185	0.9243	0	103	55.8	129	0.9423	1.17	30	
1,2-Dibromo-3-chloropropane	0.892	0.462	0.9243	0	96.5	40.5	131	0.7033	23.6	30	
1,2,4-Trimethylbenzene	0.986	0.0185	0.9243	0	107	50.6	137	1.008	2.15	30	
Hexachlorobutadiene	1.23	0.0462	0.9243	0	134	40.6	158	1.151	6.99	30	
Naphthalene	1.01	0.0462	0.9243	0	110	52.3	124	0.8467	18.0	30	
1,2,3-Trichlorobenzene	1.05	0.0185	0.9243	0	114	54.4	124	0.9240	13.2	30	
Surr: Dibromofluoromethane	1.19		1.155		103	56.5	129		0		
Surr: Toluene-d8	1.08		1.155		93.7	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.17		1.155		101	43.2	143		0		

NOTES:

S - Outlying spike recovery(ies) observed.

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804377-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: BATCH	Batch ID: 20504		Analysis Date: 4/27/2018	SeqNo: 833914							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0192						0		30	
Chloromethane	ND	0.0481						0		30	
Vinyl chloride	ND	0.0241						0		30	
Bromomethane	ND	0.0481						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0192						0		30	
Chloroethane	ND	0.0481						0		30	
1,1-Dichloroethene	ND	0.0192						0		30	
Methylene chloride	ND	0.0192						0		30	
trans-1,2-Dichloroethene	ND	0.0192						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0481						0		30	
1,1-Dichloroethane	ND	0.0192						0		30	
2,2-Dichloropropane	ND	0.0962						0		30	
cis-1,2-Dichloroethene	ND	0.0192						0		30	
Chloroform	ND	0.0192						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0241						0		30	
1,1-Dichloropropene	ND	0.0192						0		30	
Carbon tetrachloride	ND	0.0241						0		30	
1,2-Dichloroethane (EDC)	ND	0.0192						0		30	
Benzene	ND	0.0192						0		30	
Trichloroethene (TCE)	ND	0.0192						0		30	
1,2-Dichloropropane	ND	0.0192						0		30	
Bromodichloromethane	ND	0.0192						0		30	Q
Dibromomethane	ND	0.0192						0		30	Q
cis-1,3-Dichloropropene	ND	0.0192						0		30	
Toluene	ND	0.0192						0		30	
trans-1,3-Dichloropropylene	ND	0.0192						0		30	
1,1,2-Trichloroethane	ND	0.0192						0		30	
1,3-Dichloropropane	ND	0.0241						0		30	
Tetrachloroethene (PCE)	ND	0.0241						0		30	
Dibromochloromethane	ND	0.0241						0		30	
1,2-Dibromoethane (EDB)	ND	0.00481						0		30	

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804377-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: BATCH	Batch ID: 20504		Analysis Date: 4/27/2018	SeqNo: 833914							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chlorobenzene	ND	0.0241						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0241						0		30	
Ethylbenzene	ND	0.0241						0		30	
m,p-Xylene	ND	0.0481						0		30	
o-Xylene	ND	0.0241						0		30	
Styrene	ND	0.0241						0		30	
Isopropylbenzene	ND	0.0241						0		30	
Bromoform	ND	0.0481						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0192						0		30	
n-Propylbenzene	ND	0.0241						0		30	
Bromobenzene	ND	0.0192						0		30	
1,3,5-Trimethylbenzene	ND	0.0241						0		30	
2-Chlorotoluene	ND	0.0241						0		30	
4-Chlorotoluene	ND	0.0241						0		30	
tert-Butylbenzene	ND	0.0241						0		30	
1,2,3-Trichloropropane	ND	0.0241						0		30	
1,2,4-Trichlorobenzene	ND	0.0241						0		30	
sec-Butylbenzene	ND	0.0481						0		30	
4-Isopropyltoluene	ND	0.0481						0		30	
1,3-Dichlorobenzene	ND	0.0192						0		30	
1,4-Dichlorobenzene	ND	0.0192						0		30	
n-Butylbenzene	ND	0.0241						0		30	
1,2-Dichlorobenzene	ND	0.0192						0		30	
1,2-Dibromo-3-chloropropane	ND	0.481						0		30	
1,2,4-Trimethylbenzene	ND	0.0192						0		30	
Hexachlorobutadiene	ND	0.0481						0		30	
Naphthalene	ND	0.0481						0		30	
1,2,3-Trichlorobenzene	ND	0.0192						0		30	
Surr: Dibromofluoromethane	1.35		1.203		112	56.5	129		0		
Surr: Toluene-d8	1.19		1.203		99.2	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.19		1.203		98.6	43.2	143		0		



Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804377-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 4/25/2018	RunNo: 43140							
Client ID: BATCH	Batch ID: 20504	Analysis Date: 4/27/2018	SeqNo: 833914								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

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

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20470	SampType:	LCS	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035		
Client ID:	LCSW	Batch ID:	20470	Analysis Date:	4/21/2018	SeqNo:	831735				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	15.7	1.00	20.00	0	78.7	18.7	171				
Chloromethane	19.9	2.00	20.00	0	99.7	38.5	171				
Vinyl chloride	18.1	0.200	20.00	0	90.4	48	145				
Bromomethane	15.2	1.00	20.00	0	76.0	32.5	184				
Trichlorofluoromethane (CFC-11)	20.0	1.00	20.00	0	100	43.5	149				
Chloroethane	22.2	1.00	20.00	0	111	43.8	168				
1,1-Dichloroethene	20.4	1.00	20.00	0	102	57.5	150				
Methylene chloride	20.6	1.00	20.00	0	103	67.1	131				
trans-1,2-Dichloroethene	21.2	1.00	20.00	0	106	71.7	129				
Methyl tert-butyl ether (MTBE)	21.9	1.00	20.00	0	109	58	138				
1,1-Dichloroethane	29.2	1.00	20.00	0	146	67.9	134				S
2,2-Dichloropropane	40.6	2.00	20.00	0	203	26.5	185				S
cis-1,2-Dichloroethene	21.0	1.00	20.00	0	105	70.2	139				
Chloroform	21.7	1.00	20.00	0	108	66.3	131				
1,1,1-Trichloroethane (TCA)	21.1	1.00	20.00	0	106	63	140				
1,1-Dichloropropene	21.3	1.00	20.00	0	106	69.9	124				
Carbon tetrachloride	21.4	1.00	20.00	0	107	66.2	134				
1,2-Dichloroethane (EDC)	20.6	1.00	20.00	0	103	67	126				
Benzene	21.5	1.00	20.00	0	107	69.3	132				
Trichloroethene (TCE)	20.5	0.500	20.00	0	103	65.2	136				
1,2-Dichloropropane	21.7	1.00	20.00	0	109	70.5	130				
Bromodichloromethane	22.0	1.00	20.00	0	110	67.2	137				
Dibromomethane	21.9	1.00	20.00	0	109	69.3	143				
cis-1,3-Dichloropropene	22.1	1.00	20.00	0	110	62.6	137				
Toluene	22.0	1.00	20.00	0	110	61.3	145				
trans-1,3-Dichloropropylene	22.2	1.00	20.00	0	111	56.5	163				
1,1,2-Trichloroethane	20.9	1.00	20.00	0	105	71.7	131				
1,3-Dichloropropane	22.0	1.00	20.00	0	110	73.5	127				
Tetrachloroethene (PCE)	20.8	1.00	20.00	0	104	47.5	147				
Dibromochloromethane	22.2	1.00	20.00	0	111	67.2	134				
1,2-Dibromoethane (EDB)	20.7	0.250	20.00	0	103	73.6	125				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20470	SampType:	LCS	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035
Client ID:	LCSW	Batch ID:	20470			Analysis Date:	4/21/2018	SeqNo:	831735

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	21.0	1.00	20.00	0	105	73.9	126				
1,1,1,2-Tetrachloroethane	20.6	1.00	20.00	0	103	76.8	124				
Ethylbenzene	21.4	1.00	20.00	0	107	72	130				
m,p-Xylene	42.3	1.00	40.00	0	106	70.3	134				
o-Xylene	21.7	1.00	20.00	0	108	72.1	131				
Styrene	21.2	1.00	20.00	0	106	64.3	140				
Isopropylbenzene	21.3	1.00	20.00	0	106	73.9	128				
Bromoform	21.4	2.00	20.00	0	107	55.3	141				
1,1,2,2-Tetrachloroethane	21.7	1.00	20.00	0	109	62.9	132				
n-Propylbenzene	21.9	1.00	20.00	0	109	74.5	127				
Bromobenzene	20.4	1.00	20.00	0	102	71	131				
1,3,5-Trimethylbenzene	21.1	1.00	20.00	0	106	73.1	128				
2-Chlorotoluene	21.0	1.00	20.00	0	105	70.8	130				
4-Chlorotoluene	20.3	1.00	20.00	0	102	70.1	131				
tert-Butylbenzene	20.0	1.00	20.00	0	99.9	68.2	131				
1,2,3-Trichloropropane	20.9	1.00	20.00	0	104	67.7	131				
1,2,4-Trichlorobenzene	21.0	2.00	20.00	0	105	41	139				
sec-Butylbenzene	20.9	1.00	20.00	0	105	72	129				
4-Isopropyltoluene	20.9	1.00	20.00	0	104	69.2	130				
1,3-Dichlorobenzene	19.7	1.00	20.00	0	98.3	80.4	124				
1,4-Dichlorobenzene	20.9	1.00	20.00	0	104	66.8	119				
n-Butylbenzene	22.2	1.00	20.00	0	111	73.8	127				
1,2-Dichlorobenzene	20.8	1.00	20.00	0	104	69.7	119				
1,2-Dibromo-3-chloropropane	22.9	1.00	20.00	0	114	63.1	136				
1,2,4-Trimethylbenzene	21.1	1.00	20.00	0	106	73.4	127				
Hexachloro-1,3-butadiene	22.1	4.00	20.00	0	110	58.6	138				
Naphthalene	19.7	1.00	20.00	0	98.3	41.8	165				
1,2,3-Trichlorobenzene	20.9	4.00	20.00	0	104	35.8	155				
Surr: Dibromofluoromethane	32.5		25.00		130	45.4	152				
Surr: Toluene-d8	25.8		25.00		103	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.2		25.00		105	64.2	128				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID LCS-20470	SampType: LCS	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: LCSW	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831735							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.

Sample ID MB-20470	SampType: MBLK	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: MBLKW	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831736							
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	2.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									

Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20470	SampType: MBLK	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: MBLKW	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831736							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Toluene	ND	1.00									
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.250									
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	2.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20470	SampType: MBLK	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: MBLKW	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831736							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	28.8		25.00		115	45.4	152				
Surr: Toluene-d8	25.7		25.00		103	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	23.8		25.00		95.3	64.2	128				

Sample ID 1804338-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: BATCH	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831718							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	



Date: 4/27/2018

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804338-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: BATCH	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831718							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804338-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035		
Client ID:	BATCH	Batch ID:	20470	Analysis Date:	4/21/2018	SeqNo:	831718				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	29.1		25.00		116	45.4	152		0		
Surr: Toluene-d8	25.4		25.00		102	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.4		25.00		97.7	64.2	128		0		

Sample ID	1804338-006ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035		
Client ID:	BATCH	Batch ID:	20470	Analysis Date:	4/21/2018	SeqNo:	831724				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804338-006ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: BATCH	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831724							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	2.00						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: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804338-006ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035		
Client ID:	BATCH	Batch ID:	20470	Analysis Date:	4/21/2018	SeqNo:	831724				
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	29.1		25.00		116	45.4	152		0		
Surr: Toluene-d8	25.5		25.00		102	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.5		25.00		98.0	64.2	128		0		

Sample ID	1804334-002EMS	SampType:	MS	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035		
Client ID:	BATCH	Batch ID:	20470	Analysis Date:	4/21/2018	SeqNo:	831714				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	14.9	1.00	20.00	0	74.3	33.3	122				
Chloromethane	18.7	2.00	20.00	0	93.5	39.7	143				
Vinyl chloride	18.2	0.200	20.00	0	91.1	41	165				
Bromomethane	13.9	1.00	20.00	0	69.3	31.5	135				
Trichlorofluoromethane (CFC-11)	22.1	1.00	20.00	0	111	54.7	138				
Chloroethane	22.1	1.00	20.00	0	110	49.9	143				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804334-002EMS	SampType: MS	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035							
Client ID: BATCH	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831714							
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
1,1-Dichloroethene	21.7	1.00	20.00	0	109	51.6	164				
Methylene chloride	19.5	1.00	20.00	0	97.5	61.6	135				
trans-1,2-Dichloroethene	21.4	1.00	20.00	0	107	63.5	138				
Methyl tert-butyl ether (MTBE)	20.6	1.00	20.00	0	103	60.9	132				
1,1-Dichloroethane	29.4	1.00	20.00	0	147	55.7	151				
2,2-Dichloropropane	29.6	2.00	20.00	0	148	37.7	150				
cis-1,2-Dichloroethene	20.7	1.00	20.00	0	103	60	154				
Chloroform	21.1	1.00	20.00	0	105	48.1	140				
1,1,1-Trichloroethane (TCA)	21.9	1.00	20.00	0	110	64.2	146				
1,1-Dichloropropene	22.9	1.00	20.00	0	114	73.8	136				
Carbon tetrachloride	22.5	1.00	20.00	0	112	62.7	146				
1,2-Dichloroethane (EDC)	19.3	1.00	20.00	0	96.7	63.4	137				
Benzene	21.1	1.00	20.00	0	106	65.4	138				
Trichloroethene (TCE)	20.5	0.500	20.00	0	103	60.4	134				
1,2-Dichloropropane	20.9	1.00	20.00	0	104	62.6	138				
Bromodichloromethane	20.9	1.00	20.00	0	105	59.4	139				
Dibromomethane	20.8	1.00	20.00	0	104	58.7	148				
cis-1,3-Dichloropropene	20.1	1.00	20.00	0	100	63.8	132				
Toluene	21.2	1.00	20.00	0	106	52	147				
trans-1,3-Dichloropropylene	20.2	1.00	20.00	0	101	57.7	125				
1,1,2-Trichloroethane	19.6	1.00	20.00	0	97.8	57.5	153				
1,3-Dichloropropane	19.1	1.00	20.00	0	95.5	54.1	157				
Tetrachloroethene (PCE)	21.7	1.00	20.00	0	109	50.3	133				
Dibromochloromethane	20.7	1.00	20.00	0	103	61.6	139				
1,2-Dibromoethane (EDB)	19.7	0.250	20.00	0	98.5	63.2	134				
Chlorobenzene	19.5	1.00	20.00	0	97.7	65.8	134				
1,1,1,2-Tetrachloroethane	18.9	1.00	20.00	0	94.3	65.4	135				
Ethylbenzene	20.6	1.00	20.00	0	103	64.5	136				
m,p-Xylene	39.9	1.00	40.00	0	99.7	63.3	135				
o-Xylene	19.4	1.00	20.00	0	97.1	64.8	150				
Styrene	19.6	1.00	20.00	0	97.8	52.9	163				

Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804334-002EMS	SampType: MS	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035
Client ID: BATCH	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831714

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropylbenzene	20.3	1.00	20.00	0	101	56	147				
Bromoform	19.2	2.00	20.00	0	95.9	57.7	139				
1,1,2,2-Tetrachloroethane	20.7	1.00	20.00	0	103	59.8	146				
n-Propylbenzene	21.3	1.00	20.00	0	107	57.6	142				
Bromobenzene	18.9	1.00	20.00	0	94.5	69.3	157				
1,3,5-Trimethylbenzene	20.0	1.00	20.00	0	99.9	59.9	136				
2-Chlorotoluene	18.9	1.00	20.00	0	94.7	61.7	134				
4-Chlorotoluene	19.0	1.00	20.00	0	95.2	58.4	134				
tert-Butylbenzene	20.3	1.00	20.00	0	101	66.8	141				
1,2,3-Trichloropropane	18.7	1.00	20.00	0	93.6	62.4	129				
1,2,4-Trichlorobenzene	20.0	2.00	20.00	0	100	50.9	133				
sec-Butylbenzene	21.2	1.00	20.00	0	106	56	146				
4-Isopropyltoluene	20.6	1.00	20.00	0	103	56.4	136				
1,3-Dichlorobenzene	18.9	1.00	20.00	0	94.7	58.2	128				
1,4-Dichlorobenzene	20.1	1.00	20.00	0	101	60.1	123				
n-Butylbenzene	22.9	1.00	20.00	0	114	54.6	135				
1,2-Dichlorobenzene	20.1	1.00	20.00	0	101	65.4	133				
1,2-Dibromo-3-chloropropane	22.0	1.00	20.00	0	110	51.8	142				
1,2,4-Trimethylbenzene	19.7	1.00	20.00	0	98.5	63.7	132				
Hexachloro-1,3-butadiene	22.7	4.00	20.00	0	114	58.1	130				
Naphthalene	20.0	1.00	20.00	0	99.9	50.7	154				
1,2,3-Trichlorobenzene	20.4	4.00	20.00	0	102	57	131				
Surr: Dibromofluoromethane	32.4		25.00		130	45.4	152				
Surr: Toluene-d8	25.9		25.00		104	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		102	64.2	128				

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804334-002EMSD	SampType:	MSD	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035		
Client ID:	BATCH	Batch ID:	20470	Analysis Date:	4/21/2018	SeqNo:	831715				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	15.2	1.00	20.00	0	75.9	33.3	122	14.85	2.14	30	
Chloromethane	19.0	2.00	20.00	0	95.0	39.7	143	18.71	1.49	30	
Vinyl chloride	18.3	0.200	20.00	0	91.5	41	165	18.23	0.430	30	
Bromomethane	18.0	1.00	20.00	0	90.2	31.5	135	13.87	26.2	30	
Trichlorofluoromethane (CFC-11)	22.9	1.00	20.00	0	115	54.7	138	22.11	3.56	30	
Chloroethane	22.9	1.00	20.00	0	114	49.9	143	22.09	3.42	30	
1,1-Dichloroethene	22.0	1.00	20.00	0	110	51.6	164	21.75	0.960	30	
Methylene chloride	19.8	1.00	20.00	0	99.2	61.6	135	19.49	1.79	30	
trans-1,2-Dichloroethene	21.6	1.00	20.00	0	108	63.5	138	21.36	1.29	30	
Methyl tert-butyl ether (MTBE)	26.0	1.00	20.00	0	130	60.9	132	20.56	23.4	30	
1,1-Dichloroethane	31.9	1.00	20.00	0	159	55.7	151	29.37	8.22	30	S
2,2-Dichloropropane	46.9	2.00	20.00	0	234	37.7	150	29.62	45.1	30	RS
cis-1,2-Dichloroethene	21.1	1.00	20.00	0	106	60	154	20.67	2.20	30	
Chloroform	21.7	1.00	20.00	0	109	48.1	140	21.10	2.88	30	
1,1,1-Trichloroethane (TCA)	22.8	1.00	20.00	0	114	64.2	146	21.91	4.08	30	
1,1-Dichloropropene	23.4	1.00	20.00	0	117	73.8	136	22.86	2.29	30	
Carbon tetrachloride	23.7	1.00	20.00	0	118	62.7	146	22.49	5.13	30	
1,2-Dichloroethane (EDC)	19.9	1.00	20.00	0	99.7	63.4	137	19.34	3.04	30	
Benzene	21.5	1.00	20.00	0	107	65.4	138	21.13	1.52	30	
Trichloroethene (TCE)	20.7	0.500	20.00	0	103	60.4	134	20.54	0.724	30	
1,2-Dichloropropane	21.0	1.00	20.00	0	105	62.6	138	20.87	0.559	30	
Bromodichloromethane	21.5	1.00	20.00	0	107	59.4	139	20.93	2.66	30	
Dibromomethane	21.8	1.00	20.00	0	109	58.7	148	20.83	4.45	30	
cis-1,3-Dichloropropene	21.6	1.00	20.00	0	108	63.8	132	20.05	7.65	30	
Toluene	21.6	1.00	20.00	0	108	52	147	21.17	1.95	30	
trans-1,3-Dichloropropylene	21.7	1.00	20.00	0	109	57.7	125	20.16	7.59	30	
1,1,2-Trichloroethane	20.3	1.00	20.00	0	102	57.5	153	19.55	3.78	30	
1,3-Dichloropropane	22.7	1.00	20.00	0	113	54.1	157	19.10	17.1	30	
Tetrachloroethene (PCE)	22.1	1.00	20.00	0	110	50.3	133	21.72	1.53	30	
Dibromochloromethane	22.0	1.00	20.00	0	110	61.6	139	20.67	6.22	30	
1,2-Dibromoethane (EDB)	21.3	0.250	20.00	0	106	63.2	134	19.71	7.64	30	

Work Order: 1804329
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804334-002EMSD	SampType: MSD	Units: µg/L	Prep Date: 4/20/2018	RunNo: 43035
Client ID: BATCH	Batch ID: 20470		Analysis Date: 4/21/2018	SeqNo: 831715

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.8	1.00	20.00	0	104	65.8	134	19.55	6.11	30	
1,1,1,2-Tetrachloroethane	20.1	1.00	20.00	0	100	65.4	135	18.86	6.13	30	
Ethylbenzene	21.3	1.00	20.00	0	106	64.5	136	20.59	3.23	30	
m,p-Xylene	41.7	1.00	40.00	0	104	63.3	135	39.88	4.49	30	
o-Xylene	21.4	1.00	20.00	0	107	64.8	150	19.42	9.61	30	
Styrene	20.8	1.00	20.00	0	104	52.9	163	19.56	6.10	30	
Isopropylbenzene	22.5	1.00	20.00	0	113	56	147	20.25	10.7	30	
Bromoform	21.7	2.00	20.00	0	109	57.7	139	19.17	12.5	30	
1,1,2,2-Tetrachloroethane	24.5	1.00	20.00	0	123	59.8	146	20.68	17.0	30	
n-Propylbenzene	23.2	1.00	20.00	0	116	57.6	142	21.34	8.40	30	
Bromobenzene	20.5	1.00	20.00	0	102	69.3	157	18.89	7.98	30	
1,3,5-Trimethylbenzene	21.9	1.00	20.00	0	109	59.9	136	19.98	9.11	30	
2-Chlorotoluene	21.1	1.00	20.00	0	105	61.7	134	18.94	10.7	30	
4-Chlorotoluene	21.2	1.00	20.00	0	106	58.4	134	19.04	10.7	30	
tert-Butylbenzene	22.8	1.00	20.00	0	114	66.8	141	20.25	11.6	30	
1,2,3-Trichloropropane	21.6	1.00	20.00	0	108	62.4	129	18.72	14.4	30	
1,2,4-Trichlorobenzene	19.7	2.00	20.00	0	98.6	50.9	133	19.99	1.39	30	
sec-Butylbenzene	23.3	1.00	20.00	0	117	56	146	21.22	9.43	30	
4-Isopropyltoluene	22.2	1.00	20.00	0	111	56.4	136	20.64	7.32	30	
1,3-Dichlorobenzene	22.2	1.00	20.00	0	111	58.2	128	18.94	15.7	30	
1,4-Dichlorobenzene	20.4	1.00	20.00	0	102	60.1	123	20.11	1.65	30	
n-Butylbenzene	23.4	1.00	20.00	0	117	54.6	135	22.85	2.49	30	
1,2-Dichlorobenzene	21.3	1.00	20.00	0	106	65.4	133	20.13	5.43	30	
1,2-Dibromo-3-chloropropane	25.5	1.00	20.00	0	127	51.8	142	21.98	14.8	30	
1,2,4-Trimethylbenzene	21.4	1.00	20.00	0	107	63.7	132	19.70	8.07	30	
Hexachloro-1,3-butadiene	23.1	4.00	20.00	0	115	58.1	130	22.72	1.60	30	
Naphthalene	19.6	1.00	20.00	0	97.9	50.7	154	19.98	2.02	30	
1,2,3-Trichlorobenzene	19.3	4.00	20.00	0	96.5	57	131	20.37	5.41	30	
Surr: Dibromofluoromethane	33.4		25.00		134	45.4	152		0		
Surr: Toluene-d8	25.8		25.00		103	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	26.3		25.00		105	64.2	128		0		



Work Order: 1804329
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804334-002EMSD	SampType:	MSD	Units:	µg/L	Prep Date:	4/20/2018	RunNo:	43035				
Client ID:	BATCH	Batch ID:	20470			Analysis Date:	4/21/2018	SeqNo:	831715				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.
R - High RPD observed.

Client Name: **PES**

Work Order Number: **1804329**

Logged by: **Brianna Barnes**

Date Received: **4/20/2018 8:32:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified:	<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	4.1
Sample	3.2
Temp Blank	2.6

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



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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/18/18 Page: 1 of 1
Project Name: MW5C

Project No: 1358.001.01.00A

Collected by: C. DePoe

Location: Normandy Park

Report To (PM): M. Dahl

PM Email: mdahl@psew.com

Laboratory Project No (Internal): 1004329

Special Remarks:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Client: PES Environmental, Inc.
Address: 1215 4th Ave Suite 1350
City, State, Zip: Seattle WA 98161
Telephone: (206) 529-3980
Fax: (206) 529-3985

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GY/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1 SB-17-20	4-18-18	1200	Soil	X	X	X	X	X	X	X	X	X	X	X	X	X	
2 SB-17-30		1230		X	X	X	X	X	X	X	X	X	X	X	X	X	
3 SB-17-40		1250		X	X	X	X	X	X	X	X	X	X	X	X	X	
4 SB-18-40		1510		X	X	X	X	X	X	X	X	X	X	X	X	X	
5 SB-18-30		1435		X	X	X	X	X	X	X	X	X	X	X	X	X	
6 SB-19-GW	4/19/18	1045	GW	X	X	X	X	X	X	X	X	X	X	X	X	X	
7 SB-20-GW		1345		X	X	X	X	X	X	X	X	X	X	X	X	X	
8 SB-21-GW		1535		X	X	X	X	X	X	X	X	X	X	X	X	X	
9 TRAP BLANK																	
10																	

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SI = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water
 **Metals (Circle): MTCAS RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn
 ***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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

Relinquished Date/Time: 4/20/18 700
 Received Date/Time: 4/20/18 0832
 Relinquished Date/Time: _____
 Received Date/Time: _____

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (specify) _____

MEMORANDUM

TO: Project File **DATE:** June 12, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center
PROJECT #: 1358.001.01.003
TASK: April 18 and 19, 2018 Soil and Groundwater Samples
LAB: Fremont Work Order Number 1804329

Five (5) soil samples, three (3) groundwater samples, and a trip blank were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Centre site in Normandy Park, Washington on April 18 and 19, 2018. Samples associated with Work Order Number 1804329 were analyzed for VOCs by USEPA Method 8260C. The trip blank was placed on hold. Laboratory analytical services were provided by Fremont Analytical (Fremont) of Seattle, Washington.

The monitoring event occurred between April 16 and 25, 2018. Sample results associated with this sampling period include four work orders (1804291, 1804329, 1804368, and 1804398). The quality assurance review of the laboratory data for Work Order Number 1804329 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies are identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler and sample temperatures at the time of receipt were measured at 4.1 degrees Centigrade (°C) and 3.2°C, respectively. The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

Holding Times

USEPA Method 8260C:

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (soils and preserved waters). All holding time criteria were met.

Total Solids by USEPA Method 8000D:

Soil samples were analyzed within the USEPA recommended holding time of seven days for total solids.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Fremont's notes indicate the following:

- Continuing calibration verification (CCV) issues were noted by Fremont for bromodichloromethane and dibromomethane associated with analytical batch 20504 (analyzed on April 26, 2018). These results are qualified by the laboratory "Q-" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **All associated bromodichloromethane and dibromomethane results with laboratory qualified (Q-) results are estimated and qualified (J/UJ).**

Method Blank Results

Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at concentrations at or above the reporting limits (RLs).

Trip Blank Results

A trip blank was collected but not submitted for analysis.

Equipment Blank Results

Equipment blanks were not collected.

Field Duplicate Analyses

Field duplicate samples were not collected.

Laboratory Duplicate Analyses

USEPA Method 8260C:

Laboratory duplicate analysis was performed on client sample SB-17-30 and on non-client samples. Results are comparable and within 30% relative percent difference (RPD).

Total Solids by USEPA Method 8000D:

Laboratory duplicate sample analyses were performed on client and non-client samples within the analytical batches. The primary/duplicate RPDs for total solids analyses are within the laboratory control limit of 20%.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blanks, laboratory duplicates, matrix spike samples, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's are within the laboratory control limits with one exception:

- Analytical Batch 20470 (water): LCS % recoveries for 1,1-dichloroethane and 2,2-dichloropropane are above laboratory acceptance criteria and laboratory qualified (S). No action was taken since these compounds were not detected in the associated samples.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on client samples SB-17-40 and on a non-client sample. MS/MSD % Rs and RPDs are within the laboratory control limits with the following exceptions:

- Analytical Batch 20504 (soil): Sample SB-17-40 MS/MSD % recoveries for bromomethane and trichlorofluoromethane (CFC-11) are above laboratory acceptance criteria and laboratory qualified (S). No action was taken since these compounds were not detected in the associated samples.
- Analytical Batch 20470 (water): Batch MSD % recoveries for 1,1-dichloroethane and 2,2-dichloropropane are above laboratory acceptance criteria and laboratory qualified (S). Batch RPD for 2,2-dichloropropane is elevated and above criteria. No action was taken since the spike was performed on a non-client sample. Refer to the LCS discussion for more information.

Refer to LCS and laboratory duplicates for accuracy and precision data.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260C VOC analyses were reported based on laboratory RLs. The RLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. Assigned qualifiers were added to the electronic data deliverables under the appropriate field. All data, including qualified data, are judged to be acceptable for their intended use.



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:00:00 PM

Project: MVSC

Lab ID: 1804329-001

Matrix: Soil

Client Sample ID: SB-17-20

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chloromethane	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Vinyl chloride	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromomethane	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Trichlorofluoromethane (CFC-11)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chloroethane	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1-Dichloroethene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Methylene chloride	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
trans-1,2-Dichloroethene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Methyl tert-butyl ether (MTBE)	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1-Dichloroethane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
2,2-Dichloropropane	ND	0.147		mg/Kg-dry	1	4/26/2018 10:06:44 PM
cis-1,2-Dichloroethene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chloroform	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1,1-Trichloroethane (TCA)	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1-Dichloropropene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Carbon tetrachloride	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dichloroethane (EDC)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Benzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Trichloroethene (TCE)	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dichloropropane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromodichloromethane	ND	0.0295	UJ	mg/Kg-dry	1	4/26/2018 10:06:44 PM
Dibromomethane	ND	0.0295	UJ	mg/Kg-dry	1	4/26/2018 10:06:44 PM
cis-1,3-Dichloropropene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Toluene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
trans-1,3-Dichloropropylene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1,2-Trichloroethane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,3-Dichloropropane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Tetrachloroethene (PCE)	0.0435	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Dibromochloromethane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dibromoethane (EDB)	ND	0.00737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Chlorobenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,1,1,2-Tetrachloroethane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Ethylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
m,p-Xylene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
o-Xylene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Styrene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Isopropylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromoform	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:00:00 PM

Project: MVSC

Lab ID: 1804329-001

Matrix: Soil

Client Sample ID: SB-17-20

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

Batch ID: 20504

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
n-Propylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Bromobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,3,5-Trimethylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
2-Chlorotoluene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
4-Chlorotoluene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
tert-Butylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,3-Trichloropropane	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,4-Trichlorobenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
sec-Butylbenzene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
4-Isopropyltoluene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,3-Dichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,4-Dichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
n-Butylbenzene	ND	0.0369		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2-Dibromo-3-chloropropane	ND	0.737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,4-Trimethylbenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Hexachlorobutadiene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Naphthalene	ND	0.0737		mg/Kg-dry	1	4/26/2018 10:06:44 PM
1,2,3-Trichlorobenzene	ND	0.0295		mg/Kg-dry	1	4/26/2018 10:06:44 PM
Surr: Dibromofluoromethane	88.5	56.5 - 129		%Rec	1	4/26/2018 10:06:44 PM
Surr: Toluene-d8	126	64.5 - 151		%Rec	1	4/26/2018 10:06:44 PM
Surr: 1-Bromo-4-fluorobenzene	97.2	43.2 - 143		%Rec	1	4/26/2018 10:06:44 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040

Analyst: NG

Percent Moisture	14.8	0.500		wt%	1	4/23/2018 10:57:52 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804329-002

Matrix: Soil

Client Sample ID: SB-17-30

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Chloromethane	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Vinyl chloride	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Bromomethane	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Trichlorofluoromethane (CFC-11)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Chloroethane	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,1-Dichloroethene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Methylene chloride	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
trans-1,2-Dichloroethene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Methyl tert-butyl ether (MTBE)	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,1-Dichloroethane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
2,2-Dichloropropane	ND	0.113		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
cis-1,2-Dichloroethene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Chloroform	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,1,1-Trichloroethane (TCA)	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,1-Dichloropropene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Carbon tetrachloride	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,2-Dichloroethane (EDC)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Benzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Trichloroethene (TCE)	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,2-Dichloropropane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Bromodichloromethane	ND	UJ	0.0225	Q-	mg/Kg-dry	1	4/26/2018 10:36:41 PM
Dibromomethane	ND	UJ	0.0225	Q-	mg/Kg-dry	1	4/26/2018 10:36:41 PM
cis-1,3-Dichloropropene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Toluene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
trans-1,3-Dichloropropylene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,1,2-Trichloroethane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,3-Dichloropropane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Tetrachloroethene (PCE)	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Dibromochloromethane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,2-Dibromoethane (EDB)	ND	0.00563		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Chlorobenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
1,1,1,2-Tetrachloroethane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Ethylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
m,p-Xylene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
o-Xylene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Styrene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Isopropylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM	
Bromoform	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM	



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:30:00 PM

Project: MVSC

Lab ID: 1804329-002

Matrix: Soil

Client Sample ID: SB-17-30

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

Batch ID: 20504

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
n-Propylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Bromobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,3,5-Trimethylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
2-Chlorotoluene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
4-Chlorotoluene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
tert-Butylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,3-Trichloropropane	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,4-Trichlorobenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
sec-Butylbenzene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
4-Isopropyltoluene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,3-Dichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,4-Dichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
n-Butylbenzene	ND	0.0281		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2-Dichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2-Dibromo-3-chloropropane	ND	0.563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,4-Trimethylbenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Hexachlorobutadiene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Naphthalene	ND	0.0563		mg/Kg-dry	1	4/26/2018 10:36:41 PM
1,2,3-Trichlorobenzene	ND	0.0225		mg/Kg-dry	1	4/26/2018 10:36:41 PM
Surr: Dibromofluoromethane	97.5	56.5 - 129		%Rec	1	4/26/2018 10:36:41 PM
Surr: Toluene-d8	68.5	64.5 - 151		%Rec	1	4/26/2018 10:36:41 PM
Surr: 1-Bromo-4-fluorobenzene	96.7	43.2 - 143		%Rec	1	4/26/2018 10:36:41 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040

Analyst: NG

Percent Moisture	4.95	0.500		wt%	1	4/23/2018 10:57:52 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 12:50:00 PM

Project: MVSC

Lab ID: 1804329-003

Matrix: Soil

Client Sample ID: SB-17-40

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Chloromethane	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Vinyl chloride	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Bromomethane	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Trichlorofluoromethane (CFC-11)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Chloroethane	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,1-Dichloroethene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Methylene chloride	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
trans-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Methyl tert-butyl ether (MTBE)	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,1-Dichloroethane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
2,2-Dichloropropane	ND	0.0924		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
cis-1,2-Dichloroethene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Chloroform	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,1,1-Trichloroethane (TCA)	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,1-Dichloropropene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Carbon tetrachloride	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,2-Dichloroethane (EDC)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Benzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Trichloroethene (TCE)	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,2-Dichloropropane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Bromodichloromethane	ND	UJ	0.0185	Q-	mg/Kg-dry	1	4/26/2018 11:36:24 PM
Dibromomethane	ND	UJ	0.0185	Q-	mg/Kg-dry	1	4/26/2018 11:36:24 PM
cis-1,3-Dichloropropene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Toluene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
trans-1,3-Dichloropropylene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,1,2-Trichloroethane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,3-Dichloropropane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Tetrachloroethene (PCE)	0.0286	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Dibromochloromethane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,2-Dibromoethane (EDB)	ND	0.00462		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Chlorobenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
1,1,1,2-Tetrachloroethane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Ethylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
m,p-Xylene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
o-Xylene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Styrene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Isopropylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM	
Bromoform	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM	



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804329-003
Client Sample ID: SB-17-40

Collection Date: 4/18/2018 12:50:00 PM
Matrix: Soil

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

Batch ID: 20504 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
n-Propylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Bromobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,3,5-Trimethylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
2-Chlorotoluene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
4-Chlorotoluene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
tert-Butylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,3-Trichloropropane	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,4-Trichlorobenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
sec-Butylbenzene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
4-Isopropyltoluene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,3-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,4-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
n-Butylbenzene	ND	0.0231		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2-Dichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2-Dibromo-3-chloropropane	ND	0.462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,4-Trimethylbenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Hexachlorobutadiene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Naphthalene	ND	0.0462		mg/Kg-dry	1	4/26/2018 11:36:24 PM
1,2,3-Trichlorobenzene	ND	0.0185		mg/Kg-dry	1	4/26/2018 11:36:24 PM
Surr: Dibromofluoromethane	91.3	56.5 - 129		%Rec	1	4/26/2018 11:36:24 PM
Surr: Toluene-d8	83.6	64.5 - 151		%Rec	1	4/26/2018 11:36:24 PM
Surr: 1-Bromo-4-fluorobenzene	93.5	43.2 - 143		%Rec	1	4/26/2018 11:36:24 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040 Analyst: NG

Percent Moisture	9.45	0.500		wt%	1	4/23/2018 10:57:52 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 3:10:00 PM

Project: MVSC

Lab ID: 1804329-004

Matrix: Soil

Client Sample ID: SB-18-40

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Chloromethane	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Vinyl chloride	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Bromomethane	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Trichlorofluoromethane (CFC-11)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Chloroethane	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,1-Dichloroethene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Methylene chloride	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
trans-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Methyl tert-butyl ether (MTBE)	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,1-Dichloroethane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
2,2-Dichloropropane	ND	0.108		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
cis-1,2-Dichloroethene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Chloroform	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,1,1-Trichloroethane (TCA)	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,1-Dichloropropene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Carbon tetrachloride	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,2-Dichloroethane (EDC)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Benzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Trichloroethene (TCE)	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,2-Dichloropropane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Bromodichloromethane	ND	UJ	0.0215	Q-	mg/Kg-dry	1	4/27/2018 3:05:00 AM
Dibromomethane	ND	UJ	0.0215	Q-	mg/Kg-dry	1	4/27/2018 3:05:00 AM
cis-1,3-Dichloropropene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Toluene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
trans-1,3-Dichloropropylene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,1,2-Trichloroethane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,3-Dichloropropane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Tetrachloroethene (PCE)	0.0284	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Dibromochloromethane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,2-Dibromoethane (EDB)	ND	0.00538		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Chlorobenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
1,1,1,2-Tetrachloroethane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Ethylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
m,p-Xylene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
o-Xylene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Styrene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Isopropylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM	
Bromoform	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM	



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804329-004
Client Sample ID: SB-18-40

Collection Date: 4/18/2018 3:10:00 PM
Matrix: Soil

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

Batch ID: 20504 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
n-Propylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Bromobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,3,5-Trimethylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
2-Chlorotoluene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
4-Chlorotoluene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
tert-Butylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,3-Trichloropropane	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,4-Trichlorobenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
sec-Butylbenzene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
4-Isopropyltoluene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,3-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,4-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
n-Butylbenzene	ND	0.0269		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2-Dichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2-Dibromo-3-chloropropane	ND	0.538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,4-Trimethylbenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Hexachlorobutadiene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Naphthalene	ND	0.0538		mg/Kg-dry	1	4/27/2018 3:05:00 AM
1,2,3-Trichlorobenzene	ND	0.0215		mg/Kg-dry	1	4/27/2018 3:05:00 AM
Surr: Dibromofluoromethane	103	56.5 - 129		%Rec	1	4/27/2018 3:05:00 AM
Surr: Toluene-d8	105	64.5 - 151		%Rec	1	4/27/2018 3:05:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.0	43.2 - 143		%Rec	1	4/27/2018 3:05:00 AM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040 Analyst: NG

Percent Moisture	9.96	0.500		wt%	1	4/23/2018 10:57:52 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 2:35:00 PM

Project: MVSC

Lab ID: 1804329-005

Matrix: Soil

Client Sample ID: SB-18-30

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

Batch ID: 20504

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Chloromethane	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Vinyl chloride	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Bromomethane	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Trichlorofluoromethane (CFC-11)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Chloroethane	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,1-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Methylene chloride	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
trans-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Methyl tert-butyl ether (MTBE)	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,1-Dichloroethane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
2,2-Dichloropropane	ND	0.112		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
cis-1,2-Dichloroethene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Chloroform	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,1,1-Trichloroethane (TCA)	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,1-Dichloropropene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Carbon tetrachloride	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,2-Dichloroethane (EDC)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Benzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Trichloroethene (TCE)	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,2-Dichloropropane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Bromodichloromethane	ND	UJ	0.0224	Q-	mg/Kg-dry	1	4/27/2018 3:34:00 AM
Dibromomethane	ND	UJ	0.0224	Q-	mg/Kg-dry	1	4/27/2018 3:34:00 AM
cis-1,3-Dichloropropene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Toluene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
trans-1,3-Dichloropropylene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,1,2-Trichloroethane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,3-Dichloropropane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Tetrachloroethene (PCE)	0.0429	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Dibromochloromethane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,2-Dibromoethane (EDB)	ND	0.00560		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Chlorobenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
1,1,1,2-Tetrachloroethane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Ethylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
m,p-Xylene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
o-Xylene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Styrene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Isopropylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM	
Bromoform	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM	



Client: PES Environmental, Inc.

Collection Date: 4/18/2018 2:35:00 PM

Project: MVSC

Lab ID: 1804329-005

Matrix: Soil

Client Sample ID: SB-18-30

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

Batch ID: 20504

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
n-Propylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Bromobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,3,5-Trimethylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
2-Chlorotoluene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
4-Chlorotoluene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
tert-Butylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,3-Trichloropropane	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,4-Trichlorobenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
sec-Butylbenzene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
4-Isopropyltoluene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,3-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,4-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
n-Butylbenzene	ND	0.0280		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2-Dichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2-Dibromo-3-chloropropane	ND	0.560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,4-Trimethylbenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Hexachlorobutadiene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Naphthalene	ND	0.0560		mg/Kg-dry	1	4/27/2018 3:34:00 AM
1,2,3-Trichlorobenzene	ND	0.0224		mg/Kg-dry	1	4/27/2018 3:34:00 AM
Surr: Dibromofluoromethane	94.1	56.5 - 129		%Rec	1	4/27/2018 3:34:00 AM
Surr: Toluene-d8	103	64.5 - 151		%Rec	1	4/27/2018 3:34:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.8	43.2 - 143		%Rec	1	4/27/2018 3:34:00 AM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43040

Analyst: NG

Percent Moisture	2.81	0.500		wt%	1	4/23/2018 10:57:52 AM
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JC 6/5/18



PES Environmental, Inc.

Matt Dahl
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC

Work Order Number: 1804368

May 01, 2018

Attention Matt Dahl:

Fremont Analytical, Inc. received 4 sample(s) on 4/24/2018 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: 05/01/2018

CLIENT: PES Environmental, Inc.
Project: MVSC
Work Order: 1804368

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1804368-001	SB-22-GW	04/20/2018 9:55 AM	04/24/2018 8:12 AM
1804368-002	SB-23-GW	04/20/2018 11:50 AM	04/24/2018 8:12 AM
1804368-003	SB-24-GW	04/23/2018 10:15 AM	04/24/2018 8:12 AM
1804368-004	SB-25-GW	04/23/2018 2:00 PM	04/24/2018 8:12 AM

CLIENT: PES Environmental, Inc.

Project: MVSC

I. SAMPLE RECEIPT:

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

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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

Qualifiers:

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

Acronyms:

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



Client: PES Environmental, Inc.

Collection Date: 4/20/2018 9:55:00 AM

Project: MVSC

Lab ID: 1804368-001

Matrix: Groundwater

Client Sample ID: SB-22-GW

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

Batch ID: 20523

Analyst: TN

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Chloromethane	ND	2.00		µg/L	1	4/27/2018 7:35:39 PM
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 7:35:39 PM
Bromomethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Chloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 7:35:39 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Chloroform	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Benzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 7:35:39 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Toluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Tetrachloroethene (PCE)	8.91	1.00		µg/L	1	4/27/2018 7:35:39 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 7:35:39 PM
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
m,p-Xylene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
o-Xylene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Styrene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Bromoform	ND	2.00	Q-	µg/L	1	4/27/2018 7:35:39 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804368-001
Client Sample ID: SB-22-GW

Collection Date: 4/20/2018 9:55:00 AM
Matrix: Groundwater

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

Batch ID: 20523 Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 7:35:39 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 7:35:39 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 7:35:39 PM
Surr: Dibromofluoromethane	104	45.4 - 152		%Rec	1	4/27/2018 7:35:39 PM
Surr: Toluene-d8	100	40.1 - 139		%Rec	1	4/27/2018 7:35:39 PM
Surr: 1-Bromo-4-fluorobenzene	101	64.2 - 128		%Rec	1	4/27/2018 7:35:39 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias



Client: PES Environmental, Inc.

Collection Date: 4/20/2018 11:50:00 AM

Project: MVSC

Lab ID: 1804368-002

Matrix: Groundwater

Client Sample ID: SB-23-GW

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

Batch ID: 20523

Analyst: TN

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Chloromethane	ND	2.00		µg/L	1	4/27/2018 8:06:10 PM
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 8:06:10 PM
Bromomethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Chloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 8:06:10 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Chloroform	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Benzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 8:06:10 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Toluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Tetrachloroethene (PCE)	6.78	1.00		µg/L	1	4/27/2018 8:06:10 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 8:06:10 PM
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
m,p-Xylene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
o-Xylene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Styrene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Bromoform	ND	2.00	Q-	µg/L	1	4/27/2018 8:06:10 PM



Client: PES Environmental, Inc.

Collection Date: 4/20/2018 11:50:00 AM

Project: MVSC

Lab ID: 1804368-002

Matrix: Groundwater

Client Sample ID: SB-23-GW

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

Batch ID: 20523

Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 8:06:10 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 8:06:10 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 8:06:10 PM
Surr: Dibromofluoromethane	103	45.4 - 152		%Rec	1	4/27/2018 8:06:10 PM
Surr: Toluene-d8	100	40.1 - 139		%Rec	1	4/27/2018 8:06:10 PM
Surr: 1-Bromo-4-fluorobenzene	99.7	64.2 - 128		%Rec	1	4/27/2018 8:06:10 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias



Client: PES Environmental, Inc.

Collection Date: 4/23/2018 10:15:00 AM

Project: MVSC

Lab ID: 1804368-003

Matrix: Groundwater

Client Sample ID: SB-24-GW

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Volatile Organic Compounds by EPA Method 8260C</u>						
					Batch ID: 20523	Analyst: TN
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Chloromethane	ND	2.00		µg/L	1	4/27/2018 8:36:35 PM
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 8:36:35 PM
Bromomethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Chloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 8:36:35 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Chloroform	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Benzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 8:36:35 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Toluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Tetrachloroethene (PCE)	10.8	1.00		µg/L	1	4/27/2018 8:36:35 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 8:36:35 PM
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
m,p-Xylene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
o-Xylene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Styrene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Bromoform	ND	2.00	Q-	µg/L	1	4/27/2018 8:36:35 PM



Client: PES Environmental, Inc.

Collection Date: 4/23/2018 10:15:00 AM

Project: MVSC

Lab ID: 1804368-003

Matrix: Groundwater

Client Sample ID: SB-24-GW

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

Batch ID: 20523

Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 8:36:35 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 8:36:35 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 8:36:35 PM
Surr: Dibromofluoromethane	98.8	45.4 - 152		%Rec	1	4/27/2018 8:36:35 PM
Surr: Toluene-d8	100	40.1 - 139		%Rec	1	4/27/2018 8:36:35 PM
Surr: 1-Bromo-4-fluorobenzene	98.9	64.2 - 128		%Rec	1	4/27/2018 8:36:35 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias



Client: PES Environmental, Inc.

Collection Date: 4/23/2018 2:00:00 PM

Project: MVSC

Lab ID: 1804368-004

Matrix: Groundwater

Client Sample ID: SB-25-GW

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

Batch ID: 20523

Analyst: TN

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Chloromethane	ND	2.00		µg/L	1	4/27/2018 9:07:02 PM
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 9:07:02 PM
Bromomethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Chloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 9:07:02 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Chloroform	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Benzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Toluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Tetrachloroethene (PCE)	1.65	1.00		µg/L	1	4/27/2018 9:07:02 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 9:07:02 PM
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
m,p-Xylene	1.64	1.00		µg/L	1	4/27/2018 9:07:02 PM
o-Xylene	1.24	1.00		µg/L	1	4/27/2018 9:07:02 PM
Styrene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Bromoform	ND	2.00	Q-	µg/L	1	4/27/2018 9:07:02 PM



Client: PES Environmental, Inc.

Collection Date: 4/23/2018 2:00:00 PM

Project: MVSC

Lab ID: 1804368-004

Matrix: Groundwater

Client Sample ID: SB-25-GW

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

Batch ID: 20523

Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 9:07:02 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 9:07:02 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 9:07:02 PM
Surr: Dibromofluoromethane	105	45.4 - 152		%Rec	1	4/27/2018 9:07:02 PM
Surr: Toluene-d8	101	40.1 - 139		%Rec	1	4/27/2018 9:07:02 PM
Surr: 1-Bromo-4-fluorobenzene	103	64.2 - 128		%Rec	1	4/27/2018 9:07:02 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Work Order: 1804368
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20523	SampType:	LCS	Units:	µg/L	Prep Date:	4/26/2018	RunNo:	43142		
Client ID:	LCSW	Batch ID:	20523	Analysis Date:	4/26/2018	SeqNo:	833961				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	23.2	1.00	20.00	0	116	18.7	171				
Chloromethane	22.6	2.00	20.00	0	113	38.5	171				
Vinyl chloride	20.7	0.200	20.00	0	104	48	145				
Bromomethane	19.4	1.00	20.00	0	97.2	32.5	184				
Trichlorofluoromethane (CFC-11)	20.0	1.00	20.00	0	100	43.5	149				
Chloroethane	21.4	1.00	20.00	0	107	43.8	168				
1,1-Dichloroethene	20.5	1.00	20.00	0	102	57.5	150				
Methylene chloride	20.7	1.00	20.00	0	103	67.1	131				
trans-1,2-Dichloroethene	20.9	1.00	20.00	0	104	71.7	129				
Methyl tert-butyl ether (MTBE)	20.6	1.00	20.00	0	103	58	138				
1,1-Dichloroethane	21.5	1.00	20.00	0	108	67.9	134				
2,2-Dichloropropane	18.9	2.00	20.00	0	94.7	26.5	185				
cis-1,2-Dichloroethene	20.8	1.00	20.00	0	104	70.2	139				
Chloroform	20.9	1.00	20.00	0	105	66.3	131				
1,1,1-Trichloroethane (TCA)	20.1	1.00	20.00	0	101	63	140				
1,1-Dichloropropene	20.4	1.00	20.00	0	102	69.9	124				
Carbon tetrachloride	19.4	1.00	20.00	0	96.8	66.2	134				
1,2-Dichloroethane (EDC)	21.1	1.00	20.00	0	105	67	126				
Benzene	21.1	1.00	20.00	0	106	69.3	132				
Trichloroethene (TCE)	20.7	0.500	20.00	0	103	65.2	136				
1,2-Dichloropropane	21.2	1.00	20.00	0	106	70.5	130				
Bromodichloromethane	20.6	1.00	20.00	0	103	67.2	137				
Dibromomethane	21.2	1.00	20.00	0	106	69.3	143				
cis-1,3-Dichloropropene	20.2	1.00	20.00	0	101	62.6	137				
Toluene	21.0	1.00	20.00	0	105	61.3	145				
trans-1,3-Dichloropropylene	20.2	1.00	20.00	0	101	56.5	163				
1,1,2-Trichloroethane	21.0	1.00	20.00	0	105	71.7	131				
1,3-Dichloropropane	20.2	1.00	20.00	0	101	73.5	127				
Tetrachloroethene (PCE)	20.8	1.00	20.00	0	104	47.5	147				
Dibromochloromethane	20.3	1.00	20.00	0	101	67.2	134				
1,2-Dibromoethane (EDB)	21.0	0.250	20.00	0	105	73.6	125				

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20523	SampType:	LCS	Units:	µg/L	Prep Date:	4/26/2018	RunNo:	43142		
Client ID:	LCSW	Batch ID:	20523	Analysis Date:	4/26/2018	SeqNo:	833961				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.7	1.00	20.00	0	103	73.9	126				
1,1,1,2-Tetrachloroethane	20.7	1.00	20.00	0	103	76.8	124				
Ethylbenzene	20.9	1.00	20.00	0	104	72	130				
m,p-Xylene	42.3	1.00	40.00	0	106	70.3	134				
o-Xylene	21.2	1.00	20.00	0	106	72.1	131				
Styrene	20.7	1.00	20.00	0	103	64.3	140				
Isopropylbenzene	20.7	1.00	20.00	0	103	73.9	128				
Bromoform	19.2	2.00	20.00	0	96.2	55.3	141				
1,1,2,2-Tetrachloroethane	21.0	1.00	20.00	0	105	62.9	132				
n-Propylbenzene	20.8	1.00	20.00	0	104	74.5	127				
Bromobenzene	21.0	1.00	20.00	0	105	71	131				
1,3,5-Trimethylbenzene	20.8	1.00	20.00	0	104	73.1	128				
2-Chlorotoluene	21.5	1.00	20.00	0	107	70.8	130				
4-Chlorotoluene	19.7	1.00	20.00	0	98.7	70.1	131				
tert-Butylbenzene	20.3	1.00	20.00	0	102	68.2	131				
1,2,3-Trichloropropane	19.6	1.00	20.00	0	97.9	67.7	131				
1,2,4-Trichlorobenzene	21.6	2.00	20.00	0	108	41	139				
sec-Butylbenzene	20.4	1.00	20.00	0	102	72	129				
4-Isopropyltoluene	20.6	1.00	20.00	0	103	69.2	130				
1,3-Dichlorobenzene	21.6	1.00	20.00	0	108	80.4	124				
1,4-Dichlorobenzene	21.2	1.00	20.00	0	106	66.8	119				
n-Butylbenzene	21.8	1.00	20.00	0	109	73.8	127				
1,2-Dichlorobenzene	21.9	1.00	20.00	0	109	69.7	119				
1,2-Dibromo-3-chloropropane	20.7	1.00	20.00	0	104	63.1	136				
1,2,4-Trimethylbenzene	20.8	1.00	20.00	0	104	73.4	127				
Hexachloro-1,3-butadiene	21.5	4.00	20.00	0	107	58.6	138				
Naphthalene	20.2	1.00	20.00	0	101	41.8	165				B
1,2,3-Trichlorobenzene	21.4	4.00	20.00	0	107	35.8	155				
Surr: Dibromofluoromethane	26.8		25.00		107	45.4	152				
Surr: Toluene-d8	25.1		25.00		101	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.4		25.00		106	64.2	128				

Work Order: 1804368
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID LCS-20523	SampType: LCS	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: LCSW	Batch ID: 20523		Analysis Date: 4/26/2018	SeqNo: 833961							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID MB-20523	SampType: MBLK	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: MBLKW	Batch ID: 20523		Analysis Date: 4/26/2018	SeqNo: 833962							
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	2.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									

Work Order: 1804368
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20523	SampType: MBLK	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142
Client ID: MBLKW	Batch ID: 20523		Analysis Date: 4/26/2018	SeqNo: 833962

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.250									
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	2.00									Q
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20523	SampType: MBLK	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: MBLKW	Batch ID: 20523		Analysis Date: 4/26/2018	SeqNo: 833962							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	1.00	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	25.1		25.00		100	45.4	152				
Surr: Toluene-d8	25.0		25.00		99.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.5		25.00		98.1	64.2	128				

NOTES:

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

Sample ID 1804346-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: BATCH	Batch ID: 20523		Analysis Date: 4/27/2018	SeqNo: 833954							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804346-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: BATCH	Batch ID: 20523		Analysis Date: 4/27/2018	SeqNo: 833954							
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
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	2.00						0		30	Q
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804346-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: BATCH	Batch ID: 20523		Analysis Date: 4/27/2018	SeqNo: 833954							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	23.9		25.00		95.6	45.4	152		0		
Surr: Toluene-d8	24.8		25.00		99.2	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.2		25.00		96.7	64.2	128		0		

NOTES:

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

Sample ID 1804360-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: BATCH	Batch ID: 20523		Analysis Date: 4/27/2018	SeqNo: 834353							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804360-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/26/2018	RunNo:	43142		
Client ID:	BATCH	Batch ID:	20523	Analysis Date:	4/27/2018	SeqNo:	834353				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	2.00						0		30	Q
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804360-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/26/2018	RunNo:	43142		
Client ID:	BATCH	Batch ID:	20523	Analysis Date:	4/27/2018	SeqNo:	834353				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	26.3		25.00		105	45.4	152		0		
Surr: Toluene-d8	25.0		25.00		100	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	64.2	128		0		

NOTES:

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

Sample ID	1804405-002AMS	SampType:	MS	Units:	µg/L	Prep Date:	4/26/2018	RunNo:	43142		
Client ID:	BATCH	Batch ID:	20523	Analysis Date:	4/28/2018	SeqNo:	834364				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	25.7	1.00	20.00	0	128	33.3	122				S
Chloromethane	23.0	2.00	20.00	0	115	39.7	143				
Vinyl chloride	25.4	0.200	20.00	0	127	41	165				
Bromomethane	22.6	1.00	20.00	0	113	31.5	135				



Work Order: 1804368
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804405-002AMS	SampType: MS	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: BATCH	Batch ID: 20523		Analysis Date: 4/28/2018	SeqNo: 834364							
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
Trichlorofluoromethane (CFC-11)	24.7	1.00	20.00	0	124	54.7	138				
Chloroethane	26.8	1.00	20.00	0	134	49.9	143				
1,1-Dichloroethene	24.5	1.00	20.00	0	123	51.6	164				
Methylene chloride	23.0	1.00	20.00	0	115	61.6	135				
trans-1,2-Dichloroethene	23.9	1.00	20.00	0	120	63.5	138				
Methyl tert-butyl ether (MTBE)	23.2	1.00	20.00	0	116	60.9	132				
1,1-Dichloroethane	25.5	1.00	20.00	0	128	55.7	151				
2,2-Dichloropropane	18.5	2.00	20.00	0	92.4	37.7	150				
cis-1,2-Dichloroethene	23.3	1.00	20.00	0	117	60	154				
Chloroform	26.2	1.00	20.00	2.502	118	48.1	140				
1,1,1-Trichloroethane (TCA)	24.1	1.00	20.00	0	121	64.2	146				
1,1-Dichloropropene	24.4	1.00	20.00	0	122	73.8	136				
Carbon tetrachloride	23.4	1.00	20.00	0	117	62.7	146				
1,2-Dichloroethane (EDC)	22.6	1.00	20.00	0	113	63.4	137				
Benzene	24.2	1.00	20.00	0	121	65.4	138				
Trichloroethene (TCE)	23.4	0.500	20.00	0	117	60.4	134				
1,2-Dichloropropane	22.8	1.00	20.00	0	114	62.6	138				
Bromodichloromethane	21.7	1.00	20.00	0	109	59.4	139				
Dibromomethane	22.9	1.00	20.00	0	114	58.7	148				
cis-1,3-Dichloropropene	20.4	1.00	20.00	0	102	63.8	132				
Toluene	23.5	1.00	20.00	0	117	52	147				
trans-1,3-Dichloropropylene	20.5	1.00	20.00	0	102	57.7	125				
1,1,2-Trichloroethane	22.7	1.00	20.00	0	114	57.5	153				
1,3-Dichloropropane	21.0	1.00	20.00	0	105	54.1	157				
Tetrachloroethene (PCE)	23.7	1.00	20.00	0	119	50.3	133				
Dibromochloromethane	21.6	1.00	20.00	0	108	61.6	139				
1,2-Dibromoethane (EDB)	22.9	0.250	20.00	0	114	63.2	134				
Chlorobenzene	22.5	1.00	20.00	0	112	65.8	134				
1,1,1,2-Tetrachloroethane	22.5	1.00	20.00	0	112	65.4	135				
Ethylbenzene	23.1	1.00	20.00	0	115	64.5	136				
m,p-Xylene	45.8	1.00	40.00	0	115	63.3	135				

Work Order: 1804368
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804405-002AMS	SampType: MS	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142
Client ID: BATCH	Batch ID: 20523		Analysis Date: 4/28/2018	SeqNo: 834364

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	22.9	1.00	20.00	0	114	64.8	150				
Styrene	22.2	1.00	20.00	0	111	52.9	163				
Isopropylbenzene	23.5	1.00	20.00	0	117	56	147				
Bromoform	18.4	2.00	20.00	0	92.2	57.7	139				
1,1,2,2-Tetrachloroethane	21.8	1.00	20.00	0	109	59.8	146				
n-Propylbenzene	23.0	1.00	20.00	0	115	57.6	142				
Bromobenzene	22.3	1.00	20.00	0	111	69.3	157				
1,3,5-Trimethylbenzene	22.1	1.00	20.00	0	111	59.9	136				
2-Chlorotoluene	23.3	1.00	20.00	0	116	61.7	134				
4-Chlorotoluene	20.1	1.00	20.00	0	100	58.4	134				
tert-Butylbenzene	22.2	1.00	20.00	0	111	66.8	141				
1,2,3-Trichloropropane	20.4	1.00	20.00	0	102	62.4	129				
1,2,4-Trichlorobenzene	21.5	2.00	20.00	0	108	50.9	133				
sec-Butylbenzene	22.6	1.00	20.00	0	113	56	146				
4-Isopropyltoluene	21.7	1.00	20.00	0	109	56.4	136				
1,3-Dichlorobenzene	21.9	1.00	20.00	0	110	58.2	128				
1,4-Dichlorobenzene	22.0	1.00	20.00	0	110	60.1	123				
n-Butylbenzene	22.3	1.00	20.00	0	111	54.6	135				
1,2-Dichlorobenzene	22.3	1.00	20.00	0	112	65.4	133				
1,2-Dibromo-3-chloropropane	22.8	1.00	20.00	0	114	51.8	142				
1,2,4-Trimethylbenzene	21.7	1.00	20.00	0	109	63.7	132				
Hexachloro-1,3-butadiene	22.3	4.00	20.00	0	112	58.1	130				
Naphthalene	22.7	1.00	20.00	0	114	50.7	154				B
1,2,3-Trichlorobenzene	22.6	4.00	20.00	0	113	57	131				
Surr: Dibromofluoromethane	27.6		25.00		110	45.4	152				
Surr: Toluene-d8	25.3		25.00		101	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.6		25.00		102	64.2	128				

NOTES:

S - Outlying spike recovery(ies) observed.

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804405-002AMSD	SampType: MSD	Units: µg/L	Prep Date: 4/26/2018	RunNo: 43142							
Client ID: BATCH	Batch ID: 20523		Analysis Date: 4/28/2018	SeqNo: 834365							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	24.2	1.00	20.00	0	121	33.3	122	25.68	5.97	30	
Chloromethane	23.1	2.00	20.00	0	115	39.7	143	22.96	0.441	30	
Vinyl chloride	22.6	0.200	20.00	0	113	41	165	25.36	11.4	30	
Bromomethane	22.1	1.00	20.00	0	110	31.5	135	22.63	2.46	30	
Trichlorofluoromethane (CFC-11)	22.6	1.00	20.00	0	113	54.7	138	24.75	9.14	30	
Chloroethane	23.8	1.00	20.00	0	119	49.9	143	26.85	11.8	30	
1,1-Dichloroethene	22.1	1.00	20.00	0	110	51.6	164	24.54	10.6	30	
Methylene chloride	20.3	1.00	20.00	0	101	61.6	135	22.97	12.4	30	
trans-1,2-Dichloroethene	21.2	1.00	20.00	0	106	63.5	138	23.92	11.9	30	
Methyl tert-butyl ether (MTBE)	20.7	1.00	20.00	0	104	60.9	132	23.21	11.2	30	
1,1-Dichloroethane	22.5	1.00	20.00	0	112	55.7	151	25.51	12.7	30	
2,2-Dichloropropane	17.1	2.00	20.00	0	85.3	37.7	150	18.47	7.98	30	
cis-1,2-Dichloroethene	21.0	1.00	20.00	0	105	60	154	23.32	10.5	30	
Chloroform	23.6	1.00	20.00	2.502	106	48.1	140	26.17	10.2	30	
1,1,1-Trichloroethane (TCA)	21.8	1.00	20.00	0	109	64.2	146	24.13	10.2	30	
1,1-Dichloropropene	22.0	1.00	20.00	0	110	73.8	136	24.42	10.3	30	
Carbon tetrachloride	21.4	1.00	20.00	0	107	62.7	146	23.42	9.10	30	
1,2-Dichloroethane (EDC)	20.6	1.00	20.00	0	103	63.4	137	22.57	9.00	30	
Benzene	21.6	1.00	20.00	0	108	65.4	138	24.16	11.4	30	
Trichloroethene (TCE)	20.8	0.500	20.00	0	104	60.4	134	23.38	11.5	30	
1,2-Dichloropropane	20.8	1.00	20.00	0	104	62.6	138	22.85	9.21	30	
Bromodichloromethane	19.6	1.00	20.00	0	97.9	59.4	139	21.72	10.4	30	
Dibromomethane	20.1	1.00	20.00	0	100	58.7	148	22.87	13.0	30	
cis-1,3-Dichloropropene	18.2	1.00	20.00	0	91.2	63.8	132	20.43	11.3	30	
Toluene	20.7	1.00	20.00	0	104	52	147	23.46	12.4	30	
trans-1,3-Dichloropropylene	18.2	1.00	20.00	0	91.2	57.7	125	20.46	11.5	30	
1,1,2-Trichloroethane	20.2	1.00	20.00	0	101	57.5	153	22.74	11.9	30	
1,3-Dichloropropane	18.6	1.00	20.00	0	92.9	54.1	157	20.98	12.1	30	
Tetrachloroethene (PCE)	21.0	1.00	20.00	0	105	50.3	133	23.70	11.9	30	
Dibromochloromethane	19.2	1.00	20.00	0	96.2	61.6	139	21.60	11.5	30	
1,2-Dibromoethane (EDB)	20.2	0.250	20.00	0	101	63.2	134	22.86	12.5	30	

Work Order: 1804368
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804405-002AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	4/26/2018	RunNo:	43142		
Client ID:	BATCH	Batch ID:	20523	Analysis Date:	4/28/2018	SeqNo:	834365				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.8	1.00	20.00	0	104	65.8	134	22.49	8.00	30	
1,1,1,2-Tetrachloroethane	20.6	1.00	20.00	0	103	65.4	135	22.48	8.59	30	
Ethylbenzene	21.1	1.00	20.00	0	106	64.5	136	23.08	8.89	30	
m,p-Xylene	42.5	1.00	40.00	0	106	63.3	135	45.84	7.47	30	
o-Xylene	20.8	1.00	20.00	0	104	64.8	150	22.85	9.62	30	
Styrene	20.7	1.00	20.00	0	103	52.9	163	22.18	7.12	30	
Isopropylbenzene	21.5	1.00	20.00	0	108	56	147	23.45	8.55	30	
Bromoform	17.3	2.00	20.00	0	86.5	57.7	139	18.43	6.40	30	
1,1,2,2-Tetrachloroethane	20.2	1.00	20.00	0	101	59.8	146	21.82	7.68	30	
n-Propylbenzene	20.9	1.00	20.00	0	105	57.6	142	22.99	9.49	30	
Bromobenzene	20.3	1.00	20.00	0	101	69.3	157	22.26	9.40	30	
1,3,5-Trimethylbenzene	20.0	1.00	20.00	0	100	59.9	136	22.12	10.1	30	
2-Chlorotoluene	20.7	1.00	20.00	0	104	61.7	134	23.28	11.7	30	
4-Chlorotoluene	18.7	1.00	20.00	0	93.4	58.4	134	20.07	7.17	30	
tert-Butylbenzene	20.6	1.00	20.00	0	103	66.8	141	22.18	7.24	30	
1,2,3-Trichloropropane	16.8	1.00	20.00	0	83.9	62.4	129	20.36	19.3	30	
1,2,4-Trichlorobenzene	20.4	2.00	20.00	0	102	50.9	133	21.51	5.12	30	
sec-Butylbenzene	21.0	1.00	20.00	0	105	56	146	22.63	7.59	30	
4-Isopropyltoluene	20.5	1.00	20.00	0	102	56.4	136	21.72	5.92	30	
1,3-Dichlorobenzene	19.9	1.00	20.00	0	99.3	58.2	128	21.92	9.93	30	
1,4-Dichlorobenzene	20.1	1.00	20.00	0	101	60.1	123	22.00	8.92	30	
n-Butylbenzene	20.9	1.00	20.00	0	104	54.6	135	22.28	6.52	30	
1,2-Dichlorobenzene	20.5	1.00	20.00	0	102	65.4	133	22.34	8.81	30	
1,2-Dibromo-3-chloropropane	20.6	1.00	20.00	0	103	51.8	142	22.75	9.92	30	
1,2,4-Trimethylbenzene	19.8	1.00	20.00	0	98.9	63.7	132	21.71	9.29	30	
Hexachloro-1,3-butadiene	21.8	4.00	20.00	0	109	58.1	130	22.32	2.12	30	
Naphthalene	22.3	1.00	20.00	0	111	50.7	154	22.72	1.91	30	B
1,2,3-Trichlorobenzene	21.4	4.00	20.00	0	107	57	131	22.63	5.52	30	
Surr: Dibromofluoromethane	27.5		25.00		110	45.4	152		0		
Surr: Toluene-d8	25.2		25.00		101	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.9		25.00		104	64.2	128		0		



Work Order: 1804368
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804405-002AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	4/26/2018	RunNo:	43142				
Client ID:	BATCH	Batch ID:	20523			Analysis Date:	4/28/2018	SeqNo:	834365				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Client Name: **PES**

Work Order Number: **1804368**

Logged by: **Brianna Barnes**

Date Received: **4/24/2018 8:12:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

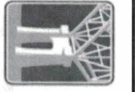
Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	4.6
Sample	3.1
Temp Blank	5.1

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



Fremont
Analytical

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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/20/18 Page: 1 of: 1

Project Name: MV52

Project No: 1358.001.01.009

Collected by: C. De Boer

Location: Normandy Park

Report to (PM): Math Dahl

PM Email: mdahl@pse.com

Laboratory Project No (Internal): 19043108

Special Remarks:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Client: RES Environmental Inc
Address: 1215 4th Ave Suite 1350
City, State, zip: Seattle, WA 98161
Telephone: (206) 529-3480
Fax: (206) 529-3485

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes															Comments								
				VOCs (EPA 8260 / 624)	GYBTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (8011)											
1 SB-20-GW	4/20/18	955	GW	X																							
2 SB-23-GW	4/20/18	1150	GW	X																							
3 SB-24-GW	4/23/18	1015	GW	X																							
4 SB-25-GW	4/23/18	1400	GW	X																							
5																											
6																											
7																											
8																											
9																											
10																											

*Matrix: 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
 **Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn
 ***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide Iodide Nitrate-Nitrite O-Phosphate Fluoride

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

Relinquished 4/24/18 7:10 Date/Time
 Received 4/24/18 0852 Date/Time
 Turn-around Time: Standard 3 Day 2 Day Next Day Same Day (specify) _____

MEMORANDUM

TO: Project File **DATE:** June 12, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center
PROJECT #: 1358.001.01.003
TASK: April 20 and 23, 2018 Groundwater Samples
LAB: Fremont Work Order Number 1804368

Four (4) groundwater samples were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Centre site in Normandy Park, Washington on April 20 and 23, 2018. Samples associated with Work Order Number 1804368 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Fremont Analytical (Fremont) of Seattle, Washington.

The monitoring event occurred between April 16 and 25, 2018. Sample results associated with this monitoring event include four work orders (1804291, 1804329, 1804368, and 1804398). The quality assurance review of the laboratory data for Work Order Number 1804368 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies are identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler and sample temperatures at the time of receipt were measured at 4.6 degrees Centigrade

(°C) and 3.1°C, respectively. The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

Holding Times

USEPA Method 8260C:

All samples were analyzed for VOCs within the EPA recommended holding time of 14 days (preserved waters). All holding time criteria were met.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Fremont's notes indicate the following:

- Continuing calibration verification (CCV) issues were noted by Fremont for bromoform associated with analytical batch 20523 (analyzed on April 27, 2018). These results are qualified by the laboratory "Q-" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **All associated bromoform results with laboratory qualified (Q-) results are estimated and qualified (J/UJ).**

Method Blank Results

Laboratory method blank was included with the analytical batch per method requirement. The target analytes (VOCs) were not detected in the method blanks at concentrations at or above the reporting limits (RLs) with one exception:

- Naphthalene was detected at the reporting limit in the method blank. No action was required as naphthalene was not detected in the associated samples.

Trip Blank Results

A trip blank was not collected.

Equipment Blank Results

Equipment blanks were not collected.

Field Duplicate Analyses

Field duplicate samples were not collected.

Laboratory Duplicate Analyses

USEPA Method 8260C:

Laboratory duplicate analysis was performed on non-client samples. Results are comparable and within 30% relative percent difference (RPD).

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blank, laboratory duplicates, matrix spike samples, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's are within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on non-client sample. MS/MSD % Rs and RPDs are within the laboratory control limits with the following exception:

- Analytical Batch 20523: MS % recovery for dichlorodifluoromethane (CFC-12) is above laboratory acceptance criteria and laboratory qualified (S). No action was taken since the spike was performed on a non-client sample and LCS result is acceptable.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260C VOC analyses were reported based on laboratory RLs. The RLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. Assigned qualifiers were added to the electronic data deliverables under the appropriate field. All data, including qualified data, are judged to be acceptable for their intended use.



Client: PES Environmental, Inc.

Collection Date: 4/20/2018 9:55:00 AM

Project: MVSC

Lab ID: 1804368-001

Matrix: Groundwater

Client Sample ID: SB-22-GW

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

Batch ID: 20523

Analyst: TN

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Chloromethane	ND	2.00		µg/L	1	4/27/2018 7:35:39 PM	
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 7:35:39 PM	
Bromomethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Chloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 7:35:39 PM	
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Chloroform	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Benzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 7:35:39 PM	
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Toluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Tetrachloroethene (PCE)	8.91	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 7:35:39 PM	
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
m,p-Xylene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
o-Xylene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Styrene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM	
Bromoform	ND	UJ	2.00	Q-	µg/L	1	4/27/2018 7:35:39 PM



Client: PES Environmental, Inc.

Collection Date: 4/20/2018 9:55:00 AM

Project: MVSC

Lab ID: 1804368-001

Matrix: Groundwater

Client Sample ID: SB-22-GW

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

Batch ID: 20523

Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 7:35:39 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 7:35:39 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 7:35:39 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 7:35:39 PM
Surr: Dibromofluoromethane	104	45.4 - 152		%Rec	1	4/27/2018 7:35:39 PM
Surr: Toluene-d8	100	40.1 - 139		%Rec	1	4/27/2018 7:35:39 PM
Surr: 1-Bromo-4-fluorobenzene	101	64.2 - 128		%Rec	1	4/27/2018 7:35:39 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/20/2018 11:50:00 AM

Project: MVSC

Lab ID: 1804368-002

Matrix: Groundwater

Client Sample ID: SB-23-GW

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

Batch ID: 20523

Analyst: TN

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Chloromethane	ND	2.00		µg/L	1	4/27/2018 8:06:10 PM	
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 8:06:10 PM	
Bromomethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Chloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 8:06:10 PM	
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Chloroform	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Benzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 8:06:10 PM	
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Toluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Tetrachloroethene (PCE)	6.78	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 8:06:10 PM	
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
m,p-Xylene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
o-Xylene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Styrene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM	
Bromoform	ND	UJ	2.00	Q-	µg/L	1	4/27/2018 8:06:10 PM



Client: PES Environmental, Inc.

Collection Date: 4/20/2018 11:50:00 AM

Project: MVSC

Lab ID: 1804368-002

Matrix: Groundwater

Client Sample ID: SB-23-GW

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

Batch ID: 20523

Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 8:06:10 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 8:06:10 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 8:06:10 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 8:06:10 PM
Surr: Dibromofluoromethane	103	45.4 - 152		%Rec	1	4/27/2018 8:06:10 PM
Surr: Toluene-d8	100	40.1 - 139		%Rec	1	4/27/2018 8:06:10 PM
Surr: 1-Bromo-4-fluorobenzene	99.7	64.2 - 128		%Rec	1	4/27/2018 8:06:10 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/23/2018 10:15:00 AM

Project: MVSC

Lab ID: 1804368-003

Matrix: Groundwater

Client Sample ID: SB-24-GW

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

Batch ID: 20523

Analyst: TN

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Chloromethane	ND	2.00		µg/L	1	4/27/2018 8:36:35 PM	
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 8:36:35 PM	
Bromomethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Chloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 8:36:35 PM	
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Chloroform	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Benzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 8:36:35 PM	
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Toluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Tetrachloroethene (PCE)	10.8	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 8:36:35 PM	
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
m,p-Xylene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
o-Xylene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Styrene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM	
Bromoform	ND	UJ	2.00	Q-	µg/L	1	4/27/2018 8:36:35 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804368-003
Client Sample ID: SB-24-GW

Collection Date: 4/23/2018 10:15:00 AM
Matrix: Groundwater

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

Batch ID: 20523

Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 8:36:35 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 8:36:35 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 8:36:35 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 8:36:35 PM
Surr: Dibromofluoromethane	98.8	45.4 - 152		%Rec	1	4/27/2018 8:36:35 PM
Surr: Toluene-d8	100	40.1 - 139		%Rec	1	4/27/2018 8:36:35 PM
Surr: 1-Bromo-4-fluorobenzene	98.9	64.2 - 128		%Rec	1	4/27/2018 8:36:35 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/23/2018 2:00:00 PM

Project: MVSC

Lab ID: 1804368-004

Matrix: Groundwater

Client Sample ID: SB-25-GW

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

Batch ID: 20523

Analyst: TN

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Chloromethane	ND	2.00		µg/L	1	4/27/2018 9:07:02 PM
Vinyl chloride	ND	0.200		µg/L	1	4/27/2018 9:07:02 PM
Bromomethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Chloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Methylene chloride	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/27/2018 9:07:02 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Chloroform	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Benzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Dibromomethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Toluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Tetrachloroethene (PCE)	1.65	1.00		µg/L	1	4/27/2018 9:07:02 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	4/27/2018 9:07:02 PM
Chlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Ethylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
m,p-Xylene	1.64	1.00		µg/L	1	4/27/2018 9:07:02 PM
o-Xylene	1.24	1.00		µg/L	1	4/27/2018 9:07:02 PM
Styrene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Isopropylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Bromoform	ND	2.00	UJ	µg/L	1	4/27/2018 9:07:02 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804368-004
Client Sample ID: SB-25-GW

Collection Date: 4/23/2018 2:00:00 PM
Matrix: Groundwater

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

Batch ID: 20523 Analyst: TN

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Bromobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/27/2018 9:07:02 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/27/2018 9:07:02 PM
Naphthalene	ND	1.00		µg/L	1	4/27/2018 9:07:02 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/27/2018 9:07:02 PM
Surr: Dibromofluoromethane	105	45.4 - 152		%Rec	1	4/27/2018 9:07:02 PM
Surr: Toluene-d8	101	40.1 - 139		%Rec	1	4/27/2018 9:07:02 PM
Surr: 1-Bromo-4-fluorobenzene	103	64.2 - 128		%Rec	1	4/27/2018 9:07:02 PM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

JC 6/5/18



PES Environmental, Inc.

Matt Dahl
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC

Work Order Number: 1804398

May 11, 2018

Attention Matt Dahl:

Fremont Analytical, Inc. received 23 sample(s) on 4/26/2018 for the analyses presented in the following report.

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

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager



CLIENT: PES Environmental, Inc.
Project: MVSC
Work Order: 1804398

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1804398-001	SB-26-2	04/24/2018 8:20 AM	04/26/2018 8:50 AM
1804398-002	SB-26-4	04/24/2018 8:25 AM	04/26/2018 8:50 AM
1804398-003	SB-26-10	04/24/2018 8:30 AM	04/26/2018 8:50 AM
1804398-004	SB-26-20	04/24/2018 8:40 AM	04/26/2018 8:50 AM
1804398-005	SB-26-30	04/24/2018 8:50 AM	04/26/2018 8:50 AM
1804398-006	SB-26-40	04/24/2018 9:00 AM	04/26/2018 8:50 AM
1804398-007	SB-27-2	04/24/2018 9:30 AM	04/26/2018 8:50 AM
1804398-008	SB-27-4	04/24/2018 9:35 AM	04/26/2018 8:50 AM
1804398-009	SB-27-10	04/24/2018 9:55 AM	04/26/2018 8:50 AM
1804398-010	SB-27-20	04/24/2018 10:05 AM	04/26/2018 8:50 AM
1804398-011	SB-27-30	04/24/2018 10:15 AM	04/26/2018 8:50 AM
1804398-012	SB-27-40	04/24/2018 10:30 AM	04/26/2018 8:50 AM
1804398-013	SB-28-30	04/24/2018 11:25 AM	04/26/2018 8:50 AM
1804398-014	SB-28-20	04/24/2018 11:15 AM	04/26/2018 8:50 AM
1804398-015	SB-28-40	04/24/2018 11:40 AM	04/26/2018 8:50 AM
1804398-016	SB-29-GW	04/24/2018 2:40 PM	04/26/2018 8:50 AM
1804398-017	SB-30-30	04/25/2018 11:30 AM	04/26/2018 8:50 AM
1804398-018	SB-30-35	04/25/2018 11:40 AM	04/26/2018 8:50 AM
1804398-019	SB-30-40	04/25/2018 11:50 AM	04/26/2018 8:50 AM
1804398-020	SB-14a-40	04/25/2018 10:05 AM	04/26/2018 8:50 AM
1804398-021	SB-13b-36	04/25/2018 2:05 PM	04/26/2018 8:50 AM
1804398-022	SB-13b-40	04/25/2018 2:20 PM	04/26/2018 8:50 AM
1804398-023	SB-27-8	04/24/2018 9:50 AM	04/26/2018 8:50 AM

CLIENT: PES Environmental, Inc.

Project: MVSC

I. SAMPLE RECEIPT:

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

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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

Qualifiers:

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

Acronyms:

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



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 8:20:00 AM

Project: MVSC

Lab ID: 1804398-001

Matrix: Soil

Client Sample ID: SB-26-2

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Chloromethane	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Vinyl chloride	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Bromomethane	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Trichlorofluoromethane (CFC-11)	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Chloroethane	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,1-Dichloroethene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Methylene chloride	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
trans-1,2-Dichloroethene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Methyl tert-butyl ether (MTBE)	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,1-Dichloroethane	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
2,2-Dichloropropane	ND	0.134		mg/Kg-dry	1	5/2/2018 8:42:34 PM
cis-1,2-Dichloroethene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Chloroform	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,1,1-Trichloroethane (TCA)	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,1-Dichloropropene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Carbon tetrachloride	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2-Dichloroethane (EDC)	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Benzene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Trichloroethene (TCE)	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2-Dichloropropane	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Bromodichloromethane	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Dibromomethane	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
cis-1,3-Dichloropropene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Toluene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
trans-1,3-Dichloropropylene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,1,2-Trichloroethane	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,3-Dichloropropane	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Tetrachloroethene (PCE)	0.0960	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Dibromochloromethane	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2-Dibromoethane (EDB)	ND	0.00671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Chlorobenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,1,1,2-Tetrachloroethane	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Ethylbenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
m,p-Xylene	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
o-Xylene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Styrene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Isopropylbenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Bromoform	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-001
Client Sample ID: SB-26-2

Collection Date: 4/24/2018 8:20:00 AM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
n-Propylbenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Bromobenzene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,3,5-Trimethylbenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
2-Chlorotoluene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
4-Chlorotoluene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
tert-Butylbenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2,3-Trichloropropane	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2,4-Trichlorobenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
sec-Butylbenzene	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
4-Isopropyltoluene	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,3-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,4-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
n-Butylbenzene	ND	0.0335		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2-Dichlorobenzene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2-Dibromo-3-chloropropane	ND	0.671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2,4-Trimethylbenzene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Hexachlorobutadiene	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Naphthalene	ND	0.0671		mg/Kg-dry	1	5/2/2018 8:42:34 PM
1,2,3-Trichlorobenzene	ND	0.0268		mg/Kg-dry	1	5/2/2018 8:42:34 PM
Surr: Dibromofluoromethane	95.7	56.5 - 129		%Rec	1	5/2/2018 8:42:34 PM
Surr: Toluene-d8	97.8	64.5 - 151		%Rec	1	5/2/2018 8:42:34 PM
Surr: 1-Bromo-4-fluorobenzene	98.8	43.2 - 143		%Rec	1	5/2/2018 8:42:34 PM

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	19.2	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 8:25:00 AM

Project: MVSC

Lab ID: 1804398-002

Matrix: Soil

Client Sample ID: SB-26-4

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Chloromethane	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Vinyl chloride	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Bromomethane	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Chloroethane	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,1-Dichloroethene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Methylene chloride	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
trans-1,2-Dichloroethene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,1-Dichloroethane	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
2,2-Dichloropropane	ND	0.117		mg/Kg-dry	1	5/2/2018 9:13:00 PM
cis-1,2-Dichloroethene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Chloroform	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,1-Dichloropropene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Carbon tetrachloride	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2-Dichloroethane (EDC)	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Benzene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Trichloroethene (TCE)	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2-Dichloropropane	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Bromodichloromethane	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Dibromomethane	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
cis-1,3-Dichloropropene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Toluene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
trans-1,3-Dichloropropylene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,1,2-Trichloroethane	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,3-Dichloropropane	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Tetrachloroethene (PCE)	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Dibromochloromethane	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2-Dibromoethane (EDB)	ND	0.00584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Chlorobenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Ethylbenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
m,p-Xylene	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
o-Xylene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Styrene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Isopropylbenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Bromoform	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-002
Client Sample ID: SB-26-4

Collection Date: 4/24/2018 8:25:00 AM
Matrix: Soil

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
n-Propylbenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Bromobenzene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,3,5-Trimethylbenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
2-Chlorotoluene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
4-Chlorotoluene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
tert-Butylbenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2,3-Trichloropropane	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2,4-Trichlorobenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
sec-Butylbenzene	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
4-Isopropyltoluene	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,3-Dichlorobenzene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,4-Dichlorobenzene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
n-Butylbenzene	ND	0.0292		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2-Dichlorobenzene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2-Dibromo-3-chloropropane	ND	0.584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2,4-Trimethylbenzene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Hexachlorobutadiene	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Naphthalene	ND	0.0584		mg/Kg-dry	1	5/2/2018 9:13:00 PM
1,2,3-Trichlorobenzene	ND	0.0234		mg/Kg-dry	1	5/2/2018 9:13:00 PM
Surr: Dibromofluoromethane	95.6	56.5 - 129		%Rec	1	5/2/2018 9:13:00 PM
Surr: Toluene-d8	98.5	64.5 - 151		%Rec	1	5/2/2018 9:13:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.4	43.2 - 143		%Rec	1	5/2/2018 9:13:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	16.2	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 8:30:00 AM

Project: MVSC

Lab ID: 1804398-003

Matrix: Soil

Client Sample ID: SB-26-10

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Chloromethane	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Vinyl chloride	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Bromomethane	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Trichlorofluoromethane (CFC-11)	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Chloroethane	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,1-Dichloroethene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Methylene chloride	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
trans-1,2-Dichloroethene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Methyl tert-butyl ether (MTBE)	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,1-Dichloroethane	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
2,2-Dichloropropane	ND	0.173		mg/Kg-dry	1	5/2/2018 10:13:51 PM
cis-1,2-Dichloroethene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Chloroform	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,1,1-Trichloroethane (TCA)	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,1-Dichloropropene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Carbon tetrachloride	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2-Dichloroethane (EDC)	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Benzene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Trichloroethene (TCE)	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2-Dichloropropane	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Bromodichloromethane	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Dibromomethane	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
cis-1,3-Dichloropropene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Toluene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
trans-1,3-Dichloropropylene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,1,2-Trichloroethane	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,3-Dichloropropane	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Tetrachloroethene (PCE)	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Dibromochloromethane	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2-Dibromoethane (EDB)	ND	0.00866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Chlorobenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,1,1,2-Tetrachloroethane	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Ethylbenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
m,p-Xylene	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
o-Xylene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Styrene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Isopropylbenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Bromoform	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 8:30:00 AM

Project: MVSC

Lab ID: 1804398-003

Matrix: Soil

Client Sample ID: SB-26-10

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
n-Propylbenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Bromobenzene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,3,5-Trimethylbenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
2-Chlorotoluene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
4-Chlorotoluene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
tert-Butylbenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2,3-Trichloropropane	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2,4-Trichlorobenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
sec-Butylbenzene	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
4-Isopropyltoluene	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,3-Dichlorobenzene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,4-Dichlorobenzene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
n-Butylbenzene	ND	0.0433		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2-Dichlorobenzene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2-Dibromo-3-chloropropane	ND	0.866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2,4-Trimethylbenzene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Hexachlorobutadiene	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Naphthalene	ND	0.0866		mg/Kg-dry	1	5/2/2018 10:13:51 PM
1,2,3-Trichlorobenzene	ND	0.0347		mg/Kg-dry	1	5/2/2018 10:13:51 PM
Surr: Dibromofluoromethane	101	56.5 - 129		%Rec	1	5/2/2018 10:13:51 PM
Surr: Toluene-d8	100	64.5 - 151		%Rec	1	5/2/2018 10:13:51 PM
Surr: 1-Bromo-4-fluorobenzene	99.9	43.2 - 143		%Rec	1	5/2/2018 10:13:51 PM

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	15.9	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 8:40:00 AM

Project: MVSC

Lab ID: 1804398-004

Matrix: Soil

Client Sample ID: SB-26-20

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

Batch ID: 20625

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Chloromethane	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Vinyl chloride	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Bromomethane	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Trichlorofluoromethane (CFC-11)	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Chloroethane	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,1-Dichloroethene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Methylene chloride	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
trans-1,2-Dichloroethene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Methyl tert-butyl ether (MTBE)	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,1-Dichloroethane	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
2,2-Dichloropropane	ND	0.125		mg/Kg-dry	1	5/8/2018 4:46:59 PM
cis-1,2-Dichloroethene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Chloroform	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,1,1-Trichloroethane (TCA)	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,1-Dichloropropene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Carbon tetrachloride	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2-Dichloroethane (EDC)	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Benzene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Trichloroethene (TCE)	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2-Dichloropropane	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Bromodichloromethane	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Dibromomethane	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
cis-1,3-Dichloropropene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Toluene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
trans-1,3-Dichloropropylene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,1,2-Trichloroethane	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,3-Dichloropropane	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Tetrachloroethene (PCE)	0.0763	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Dibromochloromethane	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2-Dibromoethane (EDB)	ND	0.00627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Chlorobenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,1,1,2-Tetrachloroethane	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Ethylbenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
m,p-Xylene	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
o-Xylene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Styrene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Isopropylbenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Bromoform	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 8:40:00 AM

Project: MVSC

Lab ID: 1804398-004

Matrix: Soil

Client Sample ID: SB-26-20

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

Batch ID: 20625

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
n-Propylbenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Bromobenzene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,3,5-Trimethylbenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
2-Chlorotoluene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
4-Chlorotoluene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
tert-Butylbenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2,3-Trichloropropane	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2,4-Trichlorobenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
sec-Butylbenzene	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
4-Isopropyltoluene	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,3-Dichlorobenzene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,4-Dichlorobenzene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
n-Butylbenzene	ND	0.0313		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2-Dichlorobenzene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2-Dibromo-3-chloropropane	ND	0.627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2,4-Trimethylbenzene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Hexachlorobutadiene	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Naphthalene	ND	0.0627		mg/Kg-dry	1	5/8/2018 4:46:59 PM
1,2,3-Trichlorobenzene	ND	0.0251		mg/Kg-dry	1	5/8/2018 4:46:59 PM
Surr: Dibromofluoromethane	94.8	56.5 - 129		%Rec	1	5/8/2018 4:46:59 PM
Surr: Toluene-d8	100	64.5 - 151		%Rec	1	5/8/2018 4:46:59 PM
Surr: 1-Bromo-4-fluorobenzene	91.2	43.2 - 143		%Rec	1	5/8/2018 4:46:59 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369

Analyst: CG

Percent Moisture	6.58	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-005
Client Sample ID: SB-26-30

Collection Date: 4/24/2018 8:50:00 AM
Matrix: Soil

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

Batch ID: 20625

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Chloromethane	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Vinyl chloride	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Bromomethane	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Trichlorofluoromethane (CFC-11)	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Chloroethane	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,1-Dichloroethene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Methylene chloride	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
trans-1,2-Dichloroethene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Methyl tert-butyl ether (MTBE)	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,1-Dichloroethane	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
2,2-Dichloropropane	ND	0.123		mg/Kg-dry	1	5/8/2018 5:17:27 PM
cis-1,2-Dichloroethene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Chloroform	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,1,1-Trichloroethane (TCA)	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,1-Dichloropropene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Carbon tetrachloride	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2-Dichloroethane (EDC)	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Benzene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Trichloroethene (TCE)	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2-Dichloropropane	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Bromodichloromethane	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Dibromomethane	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
cis-1,3-Dichloropropene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Toluene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
trans-1,3-Dichloropropylene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,1,2-Trichloroethane	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,3-Dichloropropane	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Tetrachloroethene (PCE)	0.0647	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Dibromochloromethane	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2-Dibromoethane (EDB)	ND	0.00617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Chlorobenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,1,1,2-Tetrachloroethane	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Ethylbenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
m,p-Xylene	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
o-Xylene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Styrene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Isopropylbenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Bromoform	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-005
Client Sample ID: SB-26-30

Collection Date: 4/24/2018 8:50:00 AM
Matrix: Soil

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

Batch ID: 20625 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
n-Propylbenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Bromobenzene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,3,5-Trimethylbenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
2-Chlorotoluene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
4-Chlorotoluene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
tert-Butylbenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2,3-Trichloropropane	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2,4-Trichlorobenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
sec-Butylbenzene	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
4-Isopropyltoluene	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,3-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,4-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
n-Butylbenzene	ND	0.0309		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2-Dibromo-3-chloropropane	ND	0.617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2,4-Trimethylbenzene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Hexachlorobutadiene	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Naphthalene	ND	0.0617		mg/Kg-dry	1	5/8/2018 5:17:27 PM
1,2,3-Trichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/8/2018 5:17:27 PM
Surr: Dibromofluoromethane	94.5	56.5 - 129		%Rec	1	5/8/2018 5:17:27 PM
Surr: Toluene-d8	99.8	64.5 - 151		%Rec	1	5/8/2018 5:17:27 PM
Surr: 1-Bromo-4-fluorobenzene	91.3	43.2 - 143		%Rec	1	5/8/2018 5:17:27 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369 Analyst: CG

Percent Moisture	13.4	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 9:00:00 AM

Project: MVSC

Lab ID: 1804398-006

Matrix: Soil

Client Sample ID: SB-26-40

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

Batch ID: 20625

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Chloromethane	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Vinyl chloride	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Bromomethane	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Trichlorofluoromethane (CFC-11)	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Chloroethane	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,1-Dichloroethene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Methylene chloride	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
trans-1,2-Dichloroethene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Methyl tert-butyl ether (MTBE)	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,1-Dichloroethane	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
2,2-Dichloropropane	ND	0.136		mg/Kg-dry	1	5/8/2018 6:18:04 PM
cis-1,2-Dichloroethene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Chloroform	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,1,1-Trichloroethane (TCA)	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,1-Dichloropropene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Carbon tetrachloride	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2-Dichloroethane (EDC)	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Benzene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Trichloroethene (TCE)	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2-Dichloropropane	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Bromodichloromethane	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Dibromomethane	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
cis-1,3-Dichloropropene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Toluene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
trans-1,3-Dichloropropylene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,1,2-Trichloroethane	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,3-Dichloropropane	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Tetrachloroethene (PCE)	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Dibromochloromethane	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2-Dibromoethane (EDB)	ND	0.00681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Chlorobenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,1,1,2-Tetrachloroethane	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Ethylbenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
m,p-Xylene	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
o-Xylene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Styrene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Isopropylbenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Bromoform	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 9:00:00 AM

Project: MVSC

Lab ID: 1804398-006

Matrix: Soil

Client Sample ID: SB-26-40

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

Batch ID: 20625

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
n-Propylbenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Bromobenzene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,3,5-Trimethylbenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
2-Chlorotoluene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
4-Chlorotoluene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
tert-Butylbenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2,3-Trichloropropane	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2,4-Trichlorobenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
sec-Butylbenzene	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
4-Isopropyltoluene	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,3-Dichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,4-Dichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
n-Butylbenzene	ND	0.0340		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2-Dichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2-Dibromo-3-chloropropane	ND	0.681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2,4-Trimethylbenzene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Hexachlorobutadiene	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Naphthalene	ND	0.0681		mg/Kg-dry	1	5/8/2018 6:18:04 PM
1,2,3-Trichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/8/2018 6:18:04 PM
Surr: Dibromofluoromethane	92.3	56.5 - 129		%Rec	1	5/8/2018 6:18:04 PM
Surr: Toluene-d8	98.3	64.5 - 151		%Rec	1	5/8/2018 6:18:04 PM
Surr: 1-Bromo-4-fluorobenzene	95.1	43.2 - 143		%Rec	1	5/8/2018 6:18:04 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369

Analyst: CG

Percent Moisture	14.7	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 9:30:00 AM

Project: MVSC

Lab ID: 1804398-007

Matrix: Soil

Client Sample ID: SB-27-2

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Chloromethane	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Vinyl chloride	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Bromomethane	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Trichlorofluoromethane (CFC-11)	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Chloroethane	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,1-Dichloroethene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Methylene chloride	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
trans-1,2-Dichloroethene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Methyl tert-butyl ether (MTBE)	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,1-Dichloroethane	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
2,2-Dichloropropane	ND	0.236		mg/Kg-dry	1	5/2/2018 10:44:18 PM
cis-1,2-Dichloroethene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Chloroform	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,1,1-Trichloroethane (TCA)	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,1-Dichloropropene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Carbon tetrachloride	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2-Dichloroethane (EDC)	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Benzene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Trichloroethene (TCE)	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2-Dichloropropane	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Bromodichloromethane	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Dibromomethane	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
cis-1,3-Dichloropropene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Toluene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
trans-1,3-Dichloropropylene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,1,2-Trichloroethane	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,3-Dichloropropane	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Tetrachloroethene (PCE)	0.0800	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Dibromochloromethane	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2-Dibromoethane (EDB)	ND	0.0118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Chlorobenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,1,1,2-Tetrachloroethane	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Ethylbenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
m,p-Xylene	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
o-Xylene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Styrene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Isopropylbenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Bromoform	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 9:30:00 AM

Project: MVSC

Lab ID: 1804398-007

Matrix: Soil

Client Sample ID: SB-27-2

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
n-Propylbenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Bromobenzene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,3,5-Trimethylbenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
2-Chlorotoluene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
4-Chlorotoluene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
tert-Butylbenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2,3-Trichloropropane	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2,4-Trichlorobenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
sec-Butylbenzene	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
4-Isopropyltoluene	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,3-Dichlorobenzene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,4-Dichlorobenzene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
n-Butylbenzene	ND	0.0591		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2-Dichlorobenzene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2-Dibromo-3-chloropropane	ND	1.18		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2,4-Trimethylbenzene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Hexachlorobutadiene	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Naphthalene	ND	0.118		mg/Kg-dry	1	5/2/2018 10:44:18 PM
1,2,3-Trichlorobenzene	ND	0.0473		mg/Kg-dry	1	5/2/2018 10:44:18 PM
Surr: Dibromofluoromethane	95.7	56.5 - 129		%Rec	1	5/2/2018 10:44:18 PM
Surr: Toluene-d8	99.3	64.5 - 151		%Rec	1	5/2/2018 10:44:18 PM
Surr: 1-Bromo-4-fluorobenzene	97.1	43.2 - 143		%Rec	1	5/2/2018 10:44:18 PM

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	22.0	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 9:35:00 AM

Project: MVSC

Lab ID: 1804398-008

Matrix: Soil

Client Sample ID: SB-27-4

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chloromethane	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Vinyl chloride	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromomethane	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Trichlorofluoromethane (CFC-11)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chloroethane	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1-Dichloroethene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Methylene chloride	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
trans-1,2-Dichloroethene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Methyl tert-butyl ether (MTBE)	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1-Dichloroethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
2,2-Dichloropropane	ND	0.170		mg/Kg-dry	1	5/2/2018 11:14:44 PM
cis-1,2-Dichloroethene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chloroform	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1,1-Trichloroethane (TCA)	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1-Dichloropropene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Carbon tetrachloride	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dichloroethane (EDC)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Benzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Trichloroethene (TCE)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dichloropropane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromodichloromethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Dibromomethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
cis-1,3-Dichloropropene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Toluene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
trans-1,3-Dichloropropylene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1,2-Trichloroethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,3-Dichloropropane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Tetrachloroethene (PCE)	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Dibromochloromethane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dibromoethane (EDB)	ND	0.00852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chlorobenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1,1,2-Tetrachloroethane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Ethylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
m,p-Xylene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
o-Xylene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Styrene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Isopropylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromoform	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-008
Client Sample ID: SB-27-4

Collection Date: 4/24/2018 9:35:00 AM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
n-Propylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,3,5-Trimethylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
2-Chlorotoluene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
4-Chlorotoluene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
tert-Butylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,3-Trichloropropane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,4-Trichlorobenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
sec-Butylbenzene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
4-Isopropyltoluene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,3-Dichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,4-Dichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
n-Butylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dibromo-3-chloropropane	ND	0.852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,4-Trimethylbenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Hexachlorobutadiene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Naphthalene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,3-Trichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Surr: Dibromofluoromethane	93.8	56.5 - 129		%Rec	1	5/2/2018 11:14:44 PM
Surr: Toluene-d8	97.8	64.5 - 151		%Rec	1	5/2/2018 11:14:44 PM
Surr: 1-Bromo-4-fluorobenzene	93.3	43.2 - 143		%Rec	1	5/2/2018 11:14:44 PM

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	7.97	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-009
Client Sample ID: SB-27-10

Collection Date: 4/24/2018 9:55:00 AM
Matrix: Soil

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Chloromethane	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Vinyl chloride	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Bromomethane	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Trichlorofluoromethane (CFC-11)	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Chloroethane	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,1-Dichloroethene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Methylene chloride	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
trans-1,2-Dichloroethene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Methyl tert-butyl ether (MTBE)	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,1-Dichloroethane	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
2,2-Dichloropropane	ND	0.136		mg/Kg-dry	1	5/2/2018 11:44:56 PM
cis-1,2-Dichloroethene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Chloroform	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,1,1-Trichloroethane (TCA)	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,1-Dichloropropene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Carbon tetrachloride	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2-Dichloroethane (EDC)	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Benzene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Trichloroethene (TCE)	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2-Dichloropropane	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Bromodichloromethane	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Dibromomethane	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
cis-1,3-Dichloropropene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Toluene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
trans-1,3-Dichloropropylene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,1,2-Trichloroethane	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,3-Dichloropropane	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Tetrachloroethene (PCE)	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Dibromochloromethane	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2-Dibromoethane (EDB)	ND	0.00679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Chlorobenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,1,1,2-Tetrachloroethane	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Ethylbenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
m,p-Xylene	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
o-Xylene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Styrene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Isopropylbenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Bromoform	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 9:55:00 AM

Project: MVSC

Lab ID: 1804398-009

Matrix: Soil

Client Sample ID: SB-27-10

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
n-Propylbenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Bromobenzene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,3,5-Trimethylbenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
2-Chlorotoluene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
4-Chlorotoluene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
tert-Butylbenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2,3-Trichloropropane	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2,4-Trichlorobenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
sec-Butylbenzene	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
4-Isopropyltoluene	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,3-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,4-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
n-Butylbenzene	ND	0.0339		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2-Dibromo-3-chloropropane	ND	0.679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2,4-Trimethylbenzene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Hexachlorobutadiene	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Naphthalene	ND	0.0679		mg/Kg-dry	1	5/2/2018 11:44:56 PM
1,2,3-Trichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/2/2018 11:44:56 PM
Surr: Dibromofluoromethane	93.4	56.5 - 129		%Rec	1	5/2/2018 11:44:56 PM
Surr: Toluene-d8	97.3	64.5 - 151		%Rec	1	5/2/2018 11:44:56 PM
Surr: 1-Bromo-4-fluorobenzene	97.9	43.2 - 143		%Rec	1	5/2/2018 11:44:56 PM

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	16.8	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 10:05:00 AM

Project: MVSC

Lab ID: 1804398-010

Matrix: Soil

Client Sample ID: SB-27-20

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

Batch ID: 20625

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Chloromethane	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Vinyl chloride	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Bromomethane	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Trichlorofluoromethane (CFC-11)	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Chloroethane	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,1-Dichloroethene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Methylene chloride	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
trans-1,2-Dichloroethene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Methyl tert-butyl ether (MTBE)	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,1-Dichloroethane	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
2,2-Dichloropropane	ND	0.176		mg/Kg-dry	1	5/8/2018 6:48:16 PM
cis-1,2-Dichloroethene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Chloroform	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,1,1-Trichloroethane (TCA)	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,1-Dichloropropene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Carbon tetrachloride	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2-Dichloroethane (EDC)	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Benzene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Trichloroethene (TCE)	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2-Dichloropropane	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Bromodichloromethane	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Dibromomethane	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
cis-1,3-Dichloropropene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Toluene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
trans-1,3-Dichloropropylene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,1,2-Trichloroethane	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,3-Dichloropropane	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Tetrachloroethene (PCE)	0.0942	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Dibromochloromethane	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2-Dibromoethane (EDB)	ND	0.00880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Chlorobenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,1,1,2-Tetrachloroethane	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Ethylbenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
m,p-Xylene	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
o-Xylene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Styrene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Isopropylbenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Bromoform	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 10:05:00 AM

Project: MVSC

Lab ID: 1804398-010

Matrix: Soil

Client Sample ID: SB-27-20

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

Batch ID: 20625

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
n-Propylbenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Bromobenzene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,3,5-Trimethylbenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
2-Chlorotoluene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
4-Chlorotoluene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
tert-Butylbenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2,3-Trichloropropane	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2,4-Trichlorobenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
sec-Butylbenzene	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
4-Isopropyltoluene	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,3-Dichlorobenzene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,4-Dichlorobenzene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
n-Butylbenzene	ND	0.0440		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2-Dichlorobenzene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2-Dibromo-3-chloropropane	ND	0.880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2,4-Trimethylbenzene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Hexachlorobutadiene	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Naphthalene	ND	0.0880		mg/Kg-dry	1	5/8/2018 6:48:16 PM
1,2,3-Trichlorobenzene	ND	0.0352		mg/Kg-dry	1	5/8/2018 6:48:16 PM
Surr: Dibromofluoromethane	90.9	56.5 - 129		%Rec	1	5/8/2018 6:48:16 PM
Surr: Toluene-d8	97.6	64.5 - 151		%Rec	1	5/8/2018 6:48:16 PM
Surr: 1-Bromo-4-fluorobenzene	94.3	43.2 - 143		%Rec	1	5/8/2018 6:48:16 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369

Analyst: CG

Percent Moisture	18.9	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 10:15:00 AM

Project: MVSC

Lab ID: 1804398-011

Matrix: Soil

Client Sample ID: SB-27-30

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

Batch ID: 20625

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Chloromethane	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Vinyl chloride	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Bromomethane	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Trichlorofluoromethane (CFC-11)	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Chloroethane	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,1-Dichloroethene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Methylene chloride	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
trans-1,2-Dichloroethene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Methyl tert-butyl ether (MTBE)	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,1-Dichloroethane	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
2,2-Dichloropropane	ND	0.115		mg/Kg-dry	1	5/8/2018 7:18:33 PM
cis-1,2-Dichloroethene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Chloroform	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,1,1-Trichloroethane (TCA)	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,1-Dichloropropene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Carbon tetrachloride	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2-Dichloroethane (EDC)	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Benzene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Trichloroethene (TCE)	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2-Dichloropropane	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Bromodichloromethane	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Dibromomethane	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
cis-1,3-Dichloropropene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Toluene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
trans-1,3-Dichloropropylene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,1,2-Trichloroethane	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,3-Dichloropropane	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Tetrachloroethene (PCE)	0.118	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Dibromochloromethane	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2-Dibromoethane (EDB)	ND	0.00577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Chlorobenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,1,1,2-Tetrachloroethane	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Ethylbenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
m,p-Xylene	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
o-Xylene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Styrene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Isopropylbenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Bromoform	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-011
Client Sample ID: SB-27-30

Collection Date: 4/24/2018 10:15:00 AM
Matrix: Soil

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

Batch ID: 20625

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
n-Propylbenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Bromobenzene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,3,5-Trimethylbenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
2-Chlorotoluene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
4-Chlorotoluene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
tert-Butylbenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2,3-Trichloropropane	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2,4-Trichlorobenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
sec-Butylbenzene	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
4-Isopropyltoluene	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,3-Dichlorobenzene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,4-Dichlorobenzene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
n-Butylbenzene	ND	0.0288		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2-Dichlorobenzene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2-Dibromo-3-chloropropane	ND	0.577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2,4-Trimethylbenzene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Hexachlorobutadiene	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Naphthalene	ND	0.0577		mg/Kg-dry	1	5/8/2018 7:18:33 PM
1,2,3-Trichlorobenzene	ND	0.0231		mg/Kg-dry	1	5/8/2018 7:18:33 PM
Surr: Dibromofluoromethane	93.6	56.5 - 129		%Rec	1	5/8/2018 7:18:33 PM
Surr: Toluene-d8	100	64.5 - 151		%Rec	1	5/8/2018 7:18:33 PM
Surr: 1-Bromo-4-fluorobenzene	93.8	43.2 - 143		%Rec	1	5/8/2018 7:18:33 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369

Analyst: CG

Percent Moisture	7.12	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-012
Client Sample ID: SB-27-40

Collection Date: 4/24/2018 10:30:00 AM
Matrix: Soil

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

Batch ID: 20625

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Chloromethane	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Vinyl chloride	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Bromomethane	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Trichlorofluoromethane (CFC-11)	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Chloroethane	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,1-Dichloroethene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Methylene chloride	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
trans-1,2-Dichloroethene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Methyl tert-butyl ether (MTBE)	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,1-Dichloroethane	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
2,2-Dichloropropane	ND	0.211		mg/Kg-dry	1	5/8/2018 8:19:06 PM
cis-1,2-Dichloroethene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Chloroform	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,1,1-Trichloroethane (TCA)	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,1-Dichloropropene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Carbon tetrachloride	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2-Dichloroethane (EDC)	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Benzene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Trichloroethene (TCE)	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2-Dichloropropane	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Bromodichloromethane	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Dibromomethane	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
cis-1,3-Dichloropropene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Toluene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
trans-1,3-Dichloropropylene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,1,2-Trichloroethane	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,3-Dichloropropane	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Tetrachloroethene (PCE)	0.169	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Dibromochloromethane	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2-Dibromoethane (EDB)	ND	0.0106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Chlorobenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,1,1,2-Tetrachloroethane	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Ethylbenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
m,p-Xylene	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
o-Xylene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Styrene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Isopropylbenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Bromoform	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-012
Client Sample ID: SB-27-40

Collection Date: 4/24/2018 10:30:00 AM
Matrix: Soil

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

Batch ID: 20625 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
n-Propylbenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Bromobenzene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,3,5-Trimethylbenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
2-Chlorotoluene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
4-Chlorotoluene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
tert-Butylbenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2,3-Trichloropropane	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2,4-Trichlorobenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
sec-Butylbenzene	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
4-Isopropyltoluene	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,3-Dichlorobenzene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,4-Dichlorobenzene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
n-Butylbenzene	ND	0.0529		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2-Dichlorobenzene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2-Dibromo-3-chloropropane	ND	1.06		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2,4-Trimethylbenzene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Hexachlorobutadiene	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Naphthalene	ND	0.106		mg/Kg-dry	1	5/8/2018 8:19:06 PM
1,2,3-Trichlorobenzene	ND	0.0423		mg/Kg-dry	1	5/8/2018 8:19:06 PM
Surr: Dibromofluoromethane	91.6	56.5 - 129		%Rec	1	5/8/2018 8:19:06 PM
Surr: Toluene-d8	98.4	64.5 - 151		%Rec	1	5/8/2018 8:19:06 PM
Surr: 1-Bromo-4-fluorobenzene	92.4	43.2 - 143		%Rec	1	5/8/2018 8:19:06 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369 Analyst: CG

Percent Moisture	10.7	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 11:25:00 AM

Project: MVSC

Lab ID: 1804398-013

Matrix: Soil

Client Sample ID: SB-28-30

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Chloromethane	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Vinyl chloride	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Bromomethane	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Trichlorofluoromethane (CFC-11)	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Chloroethane	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,1-Dichloroethene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Methylene chloride	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
trans-1,2-Dichloroethene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Methyl tert-butyl ether (MTBE)	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,1-Dichloroethane	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
2,2-Dichloropropane	ND	0.136		mg/Kg-dry	1	5/3/2018 12:15:25 AM
cis-1,2-Dichloroethene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Chloroform	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,1,1-Trichloroethane (TCA)	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,1-Dichloropropene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Carbon tetrachloride	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2-Dichloroethane (EDC)	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Benzene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Trichloroethene (TCE)	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2-Dichloropropane	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Bromodichloromethane	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Dibromomethane	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
cis-1,3-Dichloropropene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Toluene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
trans-1,3-Dichloropropylene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,1,2-Trichloroethane	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,3-Dichloropropane	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Tetrachloroethene (PCE)	0.0784	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Dibromochloromethane	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2-Dibromoethane (EDB)	ND	0.00681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Chlorobenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,1,1,2-Tetrachloroethane	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Ethylbenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
m,p-Xylene	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
o-Xylene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Styrene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Isopropylbenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Bromoform	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 11:25:00 AM

Project: MVSC

Lab ID: 1804398-013

Matrix: Soil

Client Sample ID: SB-28-30

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
n-Propylbenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Bromobenzene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,3,5-Trimethylbenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
2-Chlorotoluene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
4-Chlorotoluene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
tert-Butylbenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2,3-Trichloropropane	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2,4-Trichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
sec-Butylbenzene	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
4-Isopropyltoluene	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,3-Dichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,4-Dichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
n-Butylbenzene	ND	0.0341		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2-Dichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2-Dibromo-3-chloropropane	ND	0.681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2,4-Trimethylbenzene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Hexachlorobutadiene	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Naphthalene	ND	0.0681		mg/Kg-dry	1	5/3/2018 12:15:25 AM
1,2,3-Trichlorobenzene	ND	0.0272		mg/Kg-dry	1	5/3/2018 12:15:25 AM
Surr: Dibromofluoromethane	94.5	56.5 - 129		%Rec	1	5/3/2018 12:15:25 AM
Surr: Toluene-d8	97.5	64.5 - 151		%Rec	1	5/3/2018 12:15:25 AM
Surr: 1-Bromo-4-fluorobenzene	98.1	43.2 - 143		%Rec	1	5/3/2018 12:15:25 AM

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	8.39	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 11:15:00 AM

Project: MVSC

Lab ID: 1804398-014

Matrix: Soil

Client Sample ID: SB-28-20

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Chloromethane	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Vinyl chloride	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Bromomethane	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Trichlorofluoromethane (CFC-11)	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Chloroethane	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,1-Dichloroethene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Methylene chloride	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
trans-1,2-Dichloroethene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Methyl tert-butyl ether (MTBE)	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,1-Dichloroethane	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
2,2-Dichloropropane	ND	0.129		mg/Kg-dry	1	5/3/2018 12:45:52 AM
cis-1,2-Dichloroethene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Chloroform	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,1,1-Trichloroethane (TCA)	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,1-Dichloropropene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Carbon tetrachloride	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2-Dichloroethane (EDC)	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Benzene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Trichloroethene (TCE)	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2-Dichloropropane	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Bromodichloromethane	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Dibromomethane	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
cis-1,3-Dichloropropene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Toluene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
trans-1,3-Dichloropropylene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,1,2-Trichloroethane	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,3-Dichloropropane	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Tetrachloroethene (PCE)	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Dibromochloromethane	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2-Dibromoethane (EDB)	ND	0.00647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Chlorobenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,1,1,2-Tetrachloroethane	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Ethylbenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
m,p-Xylene	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
o-Xylene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Styrene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Isopropylbenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Bromoform	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-014
Client Sample ID: SB-28-20

Collection Date: 4/24/2018 11:15:00 AM
Matrix: Soil

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
n-Propylbenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Bromobenzene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,3,5-Trimethylbenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
2-Chlorotoluene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
4-Chlorotoluene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
tert-Butylbenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2,3-Trichloropropane	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2,4-Trichlorobenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
sec-Butylbenzene	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
4-Isopropyltoluene	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,3-Dichlorobenzene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,4-Dichlorobenzene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
n-Butylbenzene	ND	0.0323		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2-Dichlorobenzene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2-Dibromo-3-chloropropane	ND	0.647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2,4-Trimethylbenzene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Hexachlorobutadiene	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Naphthalene	ND	0.0647		mg/Kg-dry	1	5/3/2018 12:45:52 AM
1,2,3-Trichlorobenzene	ND	0.0259		mg/Kg-dry	1	5/3/2018 12:45:52 AM
Surr: Dibromofluoromethane	92.8	56.5 - 129		%Rec	1	5/3/2018 12:45:52 AM
Surr: Toluene-d8	96.0	64.5 - 151		%Rec	1	5/3/2018 12:45:52 AM
Surr: 1-Bromo-4-fluorobenzene	96.5	43.2 - 143		%Rec	1	5/3/2018 12:45:52 AM

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	17.5	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 11:40:00 AM

Project: MVSC

Lab ID: 1804398-015

Matrix: Soil

Client Sample ID: SB-28-40

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

Batch ID: 20625

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Chloromethane	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Vinyl chloride	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Bromomethane	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Trichlorofluoromethane (CFC-11)	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Chloroethane	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,1-Dichloroethene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Methylene chloride	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
trans-1,2-Dichloroethene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Methyl tert-butyl ether (MTBE)	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,1-Dichloroethane	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
2,2-Dichloropropane	ND	0.130		mg/Kg-dry	1	5/8/2018 8:49:22 PM
cis-1,2-Dichloroethene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Chloroform	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,1,1-Trichloroethane (TCA)	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,1-Dichloropropene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Carbon tetrachloride	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2-Dichloroethane (EDC)	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Benzene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Trichloroethene (TCE)	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2-Dichloropropane	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Bromodichloromethane	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Dibromomethane	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
cis-1,3-Dichloropropene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Toluene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
trans-1,3-Dichloropropylene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,1,2-Trichloroethane	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,3-Dichloropropane	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Tetrachloroethene (PCE)	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Dibromochloromethane	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2-Dibromoethane (EDB)	ND	0.00650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Chlorobenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,1,1,2-Tetrachloroethane	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Ethylbenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
m,p-Xylene	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
o-Xylene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Styrene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Isopropylbenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Bromoform	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 11:40:00 AM

Project: MVSC

Lab ID: 1804398-015

Matrix: Soil

Client Sample ID: SB-28-40

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

Batch ID: 20625

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
n-Propylbenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Bromobenzene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,3,5-Trimethylbenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
2-Chlorotoluene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
4-Chlorotoluene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
tert-Butylbenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2,3-Trichloropropane	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2,4-Trichlorobenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
sec-Butylbenzene	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
4-Isopropyltoluene	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,3-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,4-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
n-Butylbenzene	ND	0.0325		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2-Dichlorobenzene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2-Dibromo-3-chloropropane	ND	0.650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2,4-Trimethylbenzene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Hexachlorobutadiene	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Naphthalene	ND	0.0650		mg/Kg-dry	1	5/8/2018 8:49:22 PM
1,2,3-Trichlorobenzene	ND	0.0260		mg/Kg-dry	1	5/8/2018 8:49:22 PM
Surr: Dibromofluoromethane	92.5	56.5 - 129		%Rec	1	5/8/2018 8:49:22 PM
Surr: Toluene-d8	97.9	64.5 - 151		%Rec	1	5/8/2018 8:49:22 PM
Surr: 1-Bromo-4-fluorobenzene	93.9	43.2 - 143		%Rec	1	5/8/2018 8:49:22 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369

Analyst: CG

Percent Moisture	9.64	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.

Collection Date: 4/24/2018 2:40:00 PM

Project: MVSC

Lab ID: 1804398-016

Matrix: Groundwater

Client Sample ID: SB-29-GW

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

Batch ID: 20551

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Chloromethane	ND	2.00		µg/L	1	5/1/2018 6:57:19 AM
Vinyl chloride	ND	0.200		µg/L	1	5/1/2018 6:57:19 AM
Bromomethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Chloroethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Methylene chloride	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/1/2018 6:57:19 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Chloroform	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Carbon tetrachloride	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Benzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/1/2018 6:57:19 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Bromodichloromethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Dibromomethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Toluene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Tetrachloroethene (PCE)	13.7	1.00		µg/L	1	5/1/2018 6:57:19 AM
Dibromochloromethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	5/1/2018 6:57:19 AM
Chlorobenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Ethylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
m,p-Xylene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
o-Xylene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Styrene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Isopropylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Bromoform	ND	2.00		µg/L	1	5/1/2018 6:57:19 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-016
Client Sample ID: SB-29-GW

Collection Date: 4/24/2018 2:40:00 PM
Matrix: Groundwater

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

Batch ID: 20551

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
n-Propylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Bromobenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
2-Chlorotoluene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
4-Chlorotoluene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
tert-Butylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/1/2018 6:57:19 AM
sec-Butylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
n-Butylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/1/2018 6:57:19 AM
Naphthalene	ND	1.00		µg/L	1	5/1/2018 6:57:19 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/1/2018 6:57:19 AM
Surr: Dibromofluoromethane	106	45.4 - 152		%Rec	1	5/1/2018 6:57:19 AM
Surr: Toluene-d8	100	40.1 - 139		%Rec	1	5/1/2018 6:57:19 AM
Surr: 1-Bromo-4-fluorobenzene	100	64.2 - 128		%Rec	1	5/1/2018 6:57:19 AM



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 11:30:00 AM

Project: MVSC

Lab ID: 1804398-017

Matrix: Soil

Client Sample ID: SB-30-30

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Chloromethane	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Vinyl chloride	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Bromomethane	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Trichlorofluoromethane (CFC-11)	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Chloroethane	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,1-Dichloroethene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Methylene chloride	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
trans-1,2-Dichloroethene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Methyl tert-butyl ether (MTBE)	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,1-Dichloroethane	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
2,2-Dichloropropane	ND	0.158		mg/Kg-dry	1	5/3/2018 1:16:24 AM
cis-1,2-Dichloroethene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Chloroform	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,1,1-Trichloroethane (TCA)	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,1-Dichloropropene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Carbon tetrachloride	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2-Dichloroethane (EDC)	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Benzene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Trichloroethene (TCE)	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2-Dichloropropane	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Bromodichloromethane	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Dibromomethane	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
cis-1,3-Dichloropropene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Toluene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
trans-1,3-Dichloropropylene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,1,2-Trichloroethane	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,3-Dichloropropane	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Tetrachloroethene (PCE)	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Dibromochloromethane	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2-Dibromoethane (EDB)	ND	0.00791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Chlorobenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,1,1,2-Tetrachloroethane	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Ethylbenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
m,p-Xylene	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
o-Xylene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Styrene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Isopropylbenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Bromoform	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 11:30:00 AM

Project: MVSC

Lab ID: 1804398-017

Matrix: Soil

Client Sample ID: SB-30-30

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
n-Propylbenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Bromobenzene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,3,5-Trimethylbenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
2-Chlorotoluene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
4-Chlorotoluene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
tert-Butylbenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2,3-Trichloropropane	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2,4-Trichlorobenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
sec-Butylbenzene	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
4-Isopropyltoluene	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,3-Dichlorobenzene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,4-Dichlorobenzene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
n-Butylbenzene	ND	0.0395		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2-Dichlorobenzene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2-Dibromo-3-chloropropane	ND	0.791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2,4-Trimethylbenzene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Hexachlorobutadiene	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Naphthalene	ND	0.0791		mg/Kg-dry	1	5/3/2018 1:16:24 AM
1,2,3-Trichlorobenzene	ND	0.0316		mg/Kg-dry	1	5/3/2018 1:16:24 AM
Surr: Dibromofluoromethane	94.0	56.5 - 129		%Rec	1	5/3/2018 1:16:24 AM
Surr: Toluene-d8	98.1	64.5 - 151		%Rec	1	5/3/2018 1:16:24 AM
Surr: 1-Bromo-4-fluorobenzene	96.6	43.2 - 143		%Rec	1	5/3/2018 1:16:24 AM

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	20.3	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-018
Client Sample ID: SB-30-35

Collection Date: 4/25/2018 11:40:00 AM
Matrix: Soil

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Chloromethane	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Vinyl chloride	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Bromomethane	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Trichlorofluoromethane (CFC-11)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Chloroethane	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,1-Dichloroethene	ND	0.0271	Q-	mg/Kg-dry	1	5/3/2018 5:19:46 AM
Methylene chloride	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
trans-1,2-Dichloroethene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Methyl tert-butyl ether (MTBE)	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,1-Dichloroethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
2,2-Dichloropropane	ND	0.136		mg/Kg-dry	1	5/3/2018 5:19:46 AM
cis-1,2-Dichloroethene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Chloroform	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,1,1-Trichloroethane (TCA)	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,1-Dichloropropene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Carbon tetrachloride	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2-Dichloroethane (EDC)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Benzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Trichloroethene (TCE)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2-Dichloropropane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Bromodichloromethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Dibromomethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
cis-1,3-Dichloropropene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Toluene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
trans-1,3-Dichloropropylene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,1,2-Trichloroethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,3-Dichloropropane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Tetrachloroethene (PCE)	0.142	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Dibromochloromethane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2-Dibromoethane (EDB)	ND	0.00678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Chlorobenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,1,1,2-Tetrachloroethane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Ethylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
m,p-Xylene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
o-Xylene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Styrene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Isopropylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Bromoform	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-018
Client Sample ID: SB-30-35

Collection Date: 4/25/2018 11:40:00 AM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
n-Propylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Bromobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,3,5-Trimethylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
2-Chlorotoluene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
4-Chlorotoluene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
tert-Butylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,3-Trichloropropane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,4-Trichlorobenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
sec-Butylbenzene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
4-Isopropyltoluene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,3-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,4-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
n-Butylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2-Dibromo-3-chloropropane	ND	0.678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,4-Trimethylbenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Hexachlorobutadiene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Naphthalene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,3-Trichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Surr: Dibromofluoromethane	95.0	56.5 - 129		%Rec	1	5/3/2018 5:19:46 AM
Surr: Toluene-d8	99.0	64.5 - 151		%Rec	1	5/3/2018 5:19:46 AM
Surr: 1-Bromo-4-fluorobenzene	95.8	43.2 - 143		%Rec	1	5/3/2018 5:19:46 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	14.4	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/25/2018 11:50:00 AM

Project: MVSC

Lab ID: 1804398-019

Matrix: Soil

Client Sample ID: SB-30-40

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chloromethane	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Vinyl chloride	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromomethane	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Trichlorofluoromethane (CFC-11)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chloroethane	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1-Dichloroethene	ND	0.0263	Q-	mg/Kg-dry	1	5/3/2018 5:50:13 AM
Methylene chloride	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
trans-1,2-Dichloroethene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Methyl tert-butyl ether (MTBE)	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1-Dichloroethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
2,2-Dichloropropane	ND	0.131		mg/Kg-dry	1	5/3/2018 5:50:13 AM
cis-1,2-Dichloroethene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chloroform	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1,1-Trichloroethane (TCA)	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1-Dichloropropene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Carbon tetrachloride	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dichloroethane (EDC)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Benzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Trichloroethene (TCE)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dichloropropane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromodichloromethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Dibromomethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
cis-1,3-Dichloropropene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Toluene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
trans-1,3-Dichloropropylene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1,2-Trichloroethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,3-Dichloropropane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Tetrachloroethene (PCE)	0.0665	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Dibromochloromethane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dibromoethane (EDB)	ND	0.00656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chlorobenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1,1,2-Tetrachloroethane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Ethylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
m,p-Xylene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
o-Xylene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Styrene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Isopropylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromoform	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-019
Client Sample ID: SB-30-40

Collection Date: 4/25/2018 11:50:00 AM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
n-Propylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,3,5-Trimethylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
2-Chlorotoluene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
4-Chlorotoluene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
tert-Butylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,3-Trichloropropane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,4-Trichlorobenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
sec-Butylbenzene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
4-Isopropyltoluene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,3-Dichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,4-Dichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
n-Butylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dibromo-3-chloropropane	ND	0.656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,4-Trimethylbenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Hexachlorobutadiene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Naphthalene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,3-Trichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Surr: Dibromofluoromethane	95.2	56.5 - 129		%Rec	1	5/3/2018 5:50:13 AM
Surr: Toluene-d8	99.3	64.5 - 151		%Rec	1	5/3/2018 5:50:13 AM
Surr: 1-Bromo-4-fluorobenzene	94.2	43.2 - 143		%Rec	1	5/3/2018 5:50:13 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	18.0	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/25/2018 10:05:00 AM

Project: MVSC

Lab ID: 1804398-020

Matrix: Soil

Client Sample ID: SB-14a-40

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

Batch ID: 20637

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Chloromethane	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Vinyl chloride	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Bromomethane	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Trichlorofluoromethane (CFC-11)	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Chloroethane	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,1-Dichloroethene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Methylene chloride	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
trans-1,2-Dichloroethene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Methyl tert-butyl ether (MTBE)	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,1-Dichloroethane	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
2,2-Dichloropropane	ND	0.120		mg/Kg-dry	1	5/9/2018 3:28:14 PM
cis-1,2-Dichloroethene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Chloroform	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,1,1-Trichloroethane (TCA)	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,1-Dichloropropene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Carbon tetrachloride	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2-Dichloroethane (EDC)	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Benzene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Trichloroethene (TCE)	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2-Dichloropropane	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Bromodichloromethane	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Dibromomethane	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
cis-1,3-Dichloropropene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Toluene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
trans-1,3-Dichloropropylene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,1,2-Trichloroethane	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,3-Dichloropropane	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Tetrachloroethene (PCE)	0.105	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Dibromochloromethane	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2-Dibromoethane (EDB)	ND	0.00600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Chlorobenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,1,1,2-Tetrachloroethane	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Ethylbenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
m,p-Xylene	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
o-Xylene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Styrene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Isopropylbenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Bromoform	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 10:05:00 AM

Project: MVSC

Lab ID: 1804398-020

Matrix: Soil

Client Sample ID: SB-14a-40

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

Batch ID: 20637

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
n-Propylbenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Bromobenzene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,3,5-Trimethylbenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
2-Chlorotoluene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
4-Chlorotoluene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
tert-Butylbenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2,3-Trichloropropane	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2,4-Trichlorobenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
sec-Butylbenzene	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
4-Isopropyltoluene	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,3-Dichlorobenzene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,4-Dichlorobenzene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
n-Butylbenzene	ND	0.0300		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2-Dichlorobenzene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2-Dibromo-3-chloropropane	ND	0.600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2,4-Trimethylbenzene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Hexachlorobutadiene	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Naphthalene	ND	0.0600		mg/Kg-dry	1	5/9/2018 3:28:14 PM
1,2,3-Trichlorobenzene	ND	0.0240		mg/Kg-dry	1	5/9/2018 3:28:14 PM
Surr: Dibromofluoromethane	93.0	56.5 - 129		%Rec	1	5/9/2018 3:28:14 PM
Surr: Toluene-d8	99.6	64.5 - 151		%Rec	1	5/9/2018 3:28:14 PM
Surr: 1-Bromo-4-fluorobenzene	95.2	43.2 - 143		%Rec	1	5/9/2018 3:28:14 PM

Sample Moisture (Percent Moisture)

Batch ID: R43369

Analyst: CG

Percent Moisture	13.9	0.500		wt%	1	5/9/2018 11:01:58 AM
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Client: PES Environmental, Inc.

Collection Date: 4/25/2018 2:05:00 PM

Project: MVSC

Lab ID: 1804398-021

Matrix: Soil

Client Sample ID: SB-13b-36

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chloromethane	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Vinyl chloride	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromomethane	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Trichlorofluoromethane (CFC-11)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chloroethane	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1-Dichloroethene	ND	0.0247	Q-	mg/Kg-dry	1	5/3/2018 6:20:34 AM
Methylene chloride	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
trans-1,2-Dichloroethene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Methyl tert-butyl ether (MTBE)	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1-Dichloroethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
2,2-Dichloropropane	ND	0.124		mg/Kg-dry	1	5/3/2018 6:20:34 AM
cis-1,2-Dichloroethene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chloroform	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1,1-Trichloroethane (TCA)	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1-Dichloropropene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Carbon tetrachloride	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dichloroethane (EDC)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Benzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Trichloroethene (TCE)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dichloropropane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromodichloromethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Dibromomethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
cis-1,3-Dichloropropene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Toluene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
trans-1,3-Dichloropropylene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1,2-Trichloroethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,3-Dichloropropane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Tetrachloroethene (PCE)	0.0829	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Dibromochloromethane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dibromoethane (EDB)	ND	0.00619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chlorobenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1,1,2-Tetrachloroethane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Ethylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
m,p-Xylene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
o-Xylene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Styrene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Isopropylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromoform	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 2:05:00 PM

Project: MVSC

Lab ID: 1804398-021

Matrix: Soil

Client Sample ID: SB-13b-36

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
n-Propylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,3,5-Trimethylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
2-Chlorotoluene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
4-Chlorotoluene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
tert-Butylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,3-Trichloropropane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,4-Trichlorobenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
sec-Butylbenzene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
4-Isopropyltoluene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,3-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,4-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
n-Butylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dibromo-3-chloropropane	ND	0.619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,4-Trimethylbenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Hexachlorobutadiene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Naphthalene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,3-Trichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Surr: Dibromofluoromethane	94.4	56.5 - 129		%Rec	1	5/3/2018 6:20:34 AM
Surr: Toluene-d8	99.4	64.5 - 151		%Rec	1	5/3/2018 6:20:34 AM
Surr: 1-Bromo-4-fluorobenzene	91.5	43.2 - 143		%Rec	1	5/3/2018 6:20:34 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	9.17	0.500		wt%	1	4/27/2018 9:29:37 AM
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Client: PES Environmental, Inc.

Collection Date: 4/25/2018 2:20:00 PM

Project: MVSC

Lab ID: 1804398-022

Matrix: Soil

Client Sample ID: SB-13b-40

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chloromethane	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Vinyl chloride	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromomethane	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Trichlorofluoromethane (CFC-11)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chloroethane	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1-Dichloroethene	ND	0.0188	Q-	mg/Kg-dry	1	5/3/2018 6:51:01 AM
Methylene chloride	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
trans-1,2-Dichloroethene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Methyl tert-butyl ether (MTBE)	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1-Dichloroethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
2,2-Dichloropropane	ND	0.0940		mg/Kg-dry	1	5/3/2018 6:51:01 AM
cis-1,2-Dichloroethene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chloroform	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1,1-Trichloroethane (TCA)	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1-Dichloropropene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Carbon tetrachloride	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dichloroethane (EDC)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Benzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Trichloroethene (TCE)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dichloropropane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromodichloromethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Dibromomethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
cis-1,3-Dichloropropene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Toluene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
trans-1,3-Dichloropropylene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1,2-Trichloroethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,3-Dichloropropane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Tetrachloroethene (PCE)	0.128	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Dibromochloromethane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dibromoethane (EDB)	ND	0.00470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chlorobenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1,1,2-Tetrachloroethane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Ethylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
m,p-Xylene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
o-Xylene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Styrene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Isopropylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromoform	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-022
Client Sample ID: SB-13b-40

Collection Date: 4/25/2018 2:20:00 PM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
n-Propylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,3,5-Trimethylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
2-Chlorotoluene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
4-Chlorotoluene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
tert-Butylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,3-Trichloropropane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,4-Trichlorobenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
sec-Butylbenzene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
4-Isopropyltoluene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,3-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,4-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
n-Butylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dibromo-3-chloropropane	ND	0.470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,4-Trimethylbenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Hexachlorobutadiene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Naphthalene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,3-Trichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Surr: Dibromofluoromethane	92.8	56.5 - 129		%Rec	1	5/3/2018 6:51:01 AM
Surr: Toluene-d8	96.2	64.5 - 151		%Rec	1	5/3/2018 6:51:01 AM
Surr: 1-Bromo-4-fluorobenzene	95.6	43.2 - 143		%Rec	1	5/3/2018 6:51:01 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	6.93	0.500		wt%	1	4/27/2018 9:29:37 AM
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Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Sample Moisture (Percent Moisture)

Sample ID 1804398-004ADUP	SampType: DUP	Units: wt%			Prep Date: 5/9/2018	RunNo: 43369					
Client ID: SB-26-20	Batch ID: R43369				Analysis Date: 5/9/2018	SeqNo: 838291					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	6.95	0.500						6.580	5.51	20	

Sample ID 1805080-001ADUP	SampType: DUP	Units: wt%			Prep Date: 5/9/2018	RunNo: 43369					
Client ID: BATCH	Batch ID: R43369				Analysis Date: 5/9/2018	SeqNo: 838301					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	10.8	0.500						9.378	13.9	20	



Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Sample Moisture (Percent Moisture)

Sample ID 1804413-001ADUP	SampType: DUP	Units: wt%	Prep Date: 4/27/2018	RunNo: 43138							
Client ID: BATCH	Batch ID: R43138	Analysis Date: 4/27/2018	SeqNo: 833861								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	15.1	0.500						14.34	5.25	20	

Sample ID 1804398-022ADUP	SampType: DUP	Units: wt%	Prep Date: 4/27/2018	RunNo: 43138							
Client ID: SB-13b-40	Batch ID: R43138	Analysis Date: 4/27/2018	SeqNo: 833879								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	7.04	0.500						6.933	1.61	20	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20637	SampType:	LCS	Units:	mg/Kg	Prep Date:	5/9/2018	RunNo:	43392		
Client ID:	LCSS	Batch ID:	20637	Analysis Date:	5/9/2018	SeqNo:	838897				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.905	0.0200	1.000	0	90.5	14.3	167				
Chloromethane	0.908	0.0500	1.000	0	90.8	32	156				
Vinyl chloride	0.976	0.0250	1.000	0	97.6	43.4	151				
Bromomethane	0.932	0.0500	1.000	0	93.2	35	155				
Trichlorofluoromethane (CFC-11)	1.09	0.0200	1.000	0	109	33.8	156				
Chloroethane	1.06	0.0500	1.000	0	106	33.1	147				
1,1-Dichloroethene	1.03	0.0200	1.000	0	103	39	144				
Methylene chloride	0.983	0.0200	1.000	0	98.3	46.3	140				
trans-1,2-Dichloroethene	0.990	0.0200	1.000	0	99.0	68	130				
Methyl tert-butyl ether (MTBE)	1.03	0.0500	1.000	0	103	44.1	152				
1,1-Dichloroethane	0.988	0.0200	1.000	0	98.8	61.9	137				
2,2-Dichloropropane	1.20	0.100	1.000	0	120	35.5	186				
cis-1,2-Dichloroethene	0.983	0.0200	1.000	0	98.3	71.3	135				
Chloroform	0.989	0.0200	1.000	0	98.9	69	145				
1,1,1-Trichloroethane (TCA)	0.981	0.0250	1.000	0	98.1	69	132				
1,1-Dichloropropene	0.999	0.0200	1.000	0	99.9	72.7	131				
Carbon tetrachloride	0.977	0.0250	1.000	0	97.7	63.4	137				
1,2-Dichloroethane (EDC)	0.996	0.0200	1.000	0	99.6	50.9	162				
Benzene	0.993	0.0200	1.000	0	99.3	64.3	133				
Trichloroethene (TCE)	1.01	0.0200	1.000	0	101	65.5	137				
1,2-Dichloropropane	0.980	0.0200	1.000	0	98.0	63.2	142				
Bromodichloromethane	1.00	0.0200	1.000	0	100	53.4	131				
Dibromomethane	0.989	0.0200	1.000	0	98.9	60.1	146				
cis-1,3-Dichloropropene	1.01	0.0200	1.000	0	101	59.1	143				
Toluene	1.00	0.0200	1.000	0	100	67.3	138				
trans-1,3-Dichloropropylene	0.963	0.0200	1.000	0	96.3	49.2	149				
1,1,2-Trichloroethane	1.01	0.0200	1.000	0	101	56.9	147				
1,3-Dichloropropane	0.999	0.0250	1.000	0	99.9	56.1	153				
Tetrachloroethene (PCE)	1.02	0.0250	1.000	0	102	52.7	150				
Dibromochloromethane	1.03	0.0250	1.000	0	103	70.6	144				
1,2-Dibromoethane (EDB)	1.03	0.00500	1.000	0	103	50.5	154				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20637	SampType:	LCS	Units:	mg/Kg	Prep Date:	5/9/2018	RunNo:	43392
Client ID:	LCSS	Batch ID:	20637			Analysis Date:	5/9/2018	SeqNo:	838897

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	0.996	0.0250	1.000	0	99.6	84.9	125				
1,1,1,2-Tetrachloroethane	0.953	0.0250	1.000	0	95.3	65.9	141				
Ethylbenzene	1.05	0.0250	1.000	0	105	74	129				
m,p-Xylene	2.05	0.0500	2.000	0	103	70	124				
o-Xylene	1.01	0.0250	1.000	0	101	68.1	139				
Styrene	1.01	0.0250	1.000	0	101	73.3	146				
Isopropylbenzene	1.02	0.0250	1.000	0	102	70	130				
Bromoform	1.01	0.0500	1.000	0	101	44.3	130				
1,1,2,2-Tetrachloroethane	0.957	0.0200	1.000	0	95.7	44.8	165				
n-Propylbenzene	1.01	0.0250	1.000	0	101	75.8	139				
Bromobenzene	0.967	0.0200	1.000	0	96.7	49.2	144				
1,3,5-Trimethylbenzene	0.979	0.0250	1.000	0	97.9	76.5	135				
2-Chlorotoluene	0.971	0.0250	1.000	0	97.1	76.7	129				
4-Chlorotoluene	0.963	0.0250	1.000	0	96.3	77.5	125				
tert-Butylbenzene	0.985	0.0250	1.000	0	98.5	66.2	130				
1,2,3-Trichloropropane	0.971	0.0250	1.000	0	97.1	67.9	136				
1,2,4-Trichlorobenzene	1.07	0.0250	1.000	0	107	65.5	150				
sec-Butylbenzene	1.01	0.0500	1.000	0	101	75.6	133				
4-Isopropyltoluene	1.01	0.0500	1.000	0	101	76.8	131				
1,3-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.8	128				
1,4-Dichlorobenzene	1.03	0.0200	1.000	0	103	72.6	126				
n-Butylbenzene	1.09	0.0250	1.000	0	109	78.4	140				
1,2-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.8	126				
1,2-Dibromo-3-chloropropane	1.04	0.500	1.000	0	104	40.2	155				
1,2,4-Trimethylbenzene	0.977	0.0200	1.000	0	97.7	77.5	129				
Hexachlorobutadiene	1.08	0.0500	1.000	0	108	42	151				
Naphthalene	1.05	0.0500	1.000	0	105	46.5	167				
1,2,3-Trichlorobenzene	1.07	0.0200	1.000	0	107	64.5	149				
Surr: Dibromofluoromethane	1.29		1.250		103	56.5	129				
Surr: Toluene-d8	1.25		1.250		99.7	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.21		1.250		96.8	43.2	143				

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20637	SampType:	LCS	Units:	mg/Kg	Prep Date:	5/9/2018	RunNo:	43392		
Client ID:	LCSS	Batch ID:	20637			Analysis Date:	5/9/2018	SeqNo:	838897		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	MB-20637	SampType:	MBLK	Units:	mg/Kg	Prep Date:	5/9/2018	RunNo:	43392		
Client ID:	MBLKS	Batch ID:	20637			Analysis Date:	5/9/2018	SeqNo:	838898		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0200
Chloromethane	ND	0.0500
Vinyl chloride	ND	0.0250
Bromomethane	ND	0.0500
Trichlorofluoromethane (CFC-11)	ND	0.0200
Chloroethane	ND	0.0500
1,1-Dichloroethene	ND	0.0200
Methylene chloride	ND	0.0200
trans-1,2-Dichloroethene	ND	0.0200
Methyl tert-butyl ether (MTBE)	ND	0.0500
1,1-Dichloroethane	ND	0.0200
2,2-Dichloropropane	ND	0.100
cis-1,2-Dichloroethene	ND	0.0200
Chloroform	ND	0.0200
1,1,1-Trichloroethane (TCA)	ND	0.0250
1,1-Dichloropropene	ND	0.0200
Carbon tetrachloride	ND	0.0250
1,2-Dichloroethane (EDC)	ND	0.0200
Benzene	ND	0.0200
Trichloroethene (TCE)	ND	0.0200
1,2-Dichloropropane	ND	0.0200
Bromodichloromethane	ND	0.0200
Dibromomethane	ND	0.0200
cis-1,3-Dichloropropene	ND	0.0200
Toluene	ND	0.0200

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20637	SampType: MBLK	Units: mg/Kg	Prep Date: 5/9/2018	RunNo: 43392
Client ID: MBLKS	Batch ID: 20637		Analysis Date: 5/9/2018	SeqNo: 838898

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	0.0200									
1,1,2-Trichloroethane	ND	0.0200									
1,3-Dichloropropane	ND	0.0250									
Tetrachloroethene (PCE)	ND	0.0250									
Dibromochloromethane	ND	0.0250									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0250									
1,1,1,2-Tetrachloroethane	ND	0.0250									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Styrene	ND	0.0250									
Isopropylbenzene	ND	0.0250									
Bromoform	ND	0.0500									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0250									
Bromobenzene	ND	0.0200									
1,3,5-Trimethylbenzene	ND	0.0250									
2-Chlorotoluene	ND	0.0250									
4-Chlorotoluene	ND	0.0250									
tert-Butylbenzene	ND	0.0250									
1,2,3-Trichloropropane	ND	0.0250									
1,2,4-Trichlorobenzene	ND	0.0250									
sec-Butylbenzene	ND	0.0500									
4-Isopropyltoluene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0250									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20637	SampType: MBLK	Units: mg/Kg	Prep Date: 5/9/2018	RunNo: 43392							
Client ID: MBLKS	Batch ID: 20637		Analysis Date: 5/9/2018	SeqNo: 838898							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.0500									
Naphthalene	ND	0.0500									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.14		1.250		91.1	56.5	129				
Surr: Toluene-d8	1.24		1.250		99.0	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.13		1.250		90.0	43.2	143				

Sample ID 1805039-014BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 5/9/2018	RunNo: 43392							
Client ID: BATCH	Batch ID: 20637		Analysis Date: 5/9/2018	SeqNo: 838882							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0204						0		30	
Chloromethane	ND	0.0510						0		30	
Vinyl chloride	ND	0.0255						0		30	
Bromomethane	ND	0.0510						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0204						0		30	
Chloroethane	ND	0.0510						0		30	
1,1-Dichloroethene	ND	0.0204						0		30	
Methylene chloride	ND	0.0204						0		30	
trans-1,2-Dichloroethene	ND	0.0204						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0510						0		30	
1,1-Dichloroethane	ND	0.0204						0		30	
2,2-Dichloropropane	ND	0.102						0		30	
cis-1,2-Dichloroethene	ND	0.0204						0		30	
Chloroform	ND	0.0204						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0255						0		30	
1,1-Dichloropropene	ND	0.0204						0		30	
Carbon tetrachloride	ND	0.0255						0		30	
1,2-Dichloroethane (EDC)	ND	0.0204						0		30	
Benzene	ND	0.0204						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1805039-014BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/9/2018	RunNo:	43392
Client ID:	BATCH	Batch ID:	20637			Analysis Date:	5/9/2018	SeqNo:	838882

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0204						0		30	
1,2-Dichloropropane	ND	0.0204						0		30	
Bromodichloromethane	ND	0.0204						0		30	
Dibromomethane	ND	0.0204						0		30	
cis-1,3-Dichloropropene	ND	0.0204						0		30	
Toluene	ND	0.0204						0		30	
trans-1,3-Dichloropropylene	ND	0.0204						0		30	
1,1,2-Trichloroethane	ND	0.0204						0		30	
1,3-Dichloropropane	ND	0.0255						0		30	
Tetrachloroethene (PCE)	ND	0.0255						0		30	
Dibromochloromethane	ND	0.0255						0		30	
1,2-Dibromoethane (EDB)	ND	0.00510						0		30	
Chlorobenzene	ND	0.0255						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0255						0		30	
Ethylbenzene	ND	0.0255						0		30	
m,p-Xylene	ND	0.0510						0		30	
o-Xylene	ND	0.0255						0		30	
Styrene	ND	0.0255						0		30	
Isopropylbenzene	ND	0.0255						0		30	
Bromoform	ND	0.0510						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0204						0		30	
n-Propylbenzene	ND	0.0255						0		30	
Bromobenzene	ND	0.0204						0		30	
1,3,5-Trimethylbenzene	ND	0.0255						0		30	
2-Chlorotoluene	ND	0.0255						0		30	
4-Chlorotoluene	ND	0.0255						0		30	
tert-Butylbenzene	ND	0.0255						0		30	
1,2,3-Trichloropropane	ND	0.0255						0		30	
1,2,4-Trichlorobenzene	ND	0.0255						0		30	
sec-Butylbenzene	ND	0.0510						0		30	
4-Isopropyltoluene	ND	0.0510						0		30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1805039-014BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/9/2018	RunNo:	43392		
Client ID:	BATCH	Batch ID:	20637			Analysis Date:	5/9/2018	SeqNo:	838882		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	0.0204						0		30	
1,4-Dichlorobenzene	ND	0.0204						0		30	
n-Butylbenzene	ND	0.0255						0		30	
1,2-Dichlorobenzene	ND	0.0204						0		30	
1,2-Dibromo-3-chloropropane	ND	0.510						0		30	
1,2,4-Trimethylbenzene	ND	0.0204						0		30	
Hexachlorobutadiene	ND	0.0510						0		30	
Naphthalene	ND	0.0510						0		30	
1,2,3-Trichlorobenzene	ND	0.0204						0		30	
Surr: Dibromofluoromethane	1.19		1.276		93.2	56.5	129		0		
Surr: Toluene-d8	1.30		1.276		102	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.21		1.276		95.1	43.2	143		0		

Sample ID	1805039-019BMS	SampType:	MS	Units:	mg/Kg-dry	Prep Date:	5/9/2018	RunNo:	43392		
Client ID:	BATCH	Batch ID:	20637			Analysis Date:	5/9/2018	SeqNo:	838886		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.806	0.0195	0.9740	0	82.8	43.5	121				
Chloromethane	0.807	0.0487	0.9740	0	82.9	45	130				
Vinyl chloride	0.932	0.0243	0.9740	0	95.7	43.6	150				
Bromomethane	1.18	0.0487	0.9740	0	121	21.3	120				S
Trichlorofluoromethane (CFC-11)	1.34	0.0195	0.9740	0	138	35	131				S
Chloroethane	1.23	0.0487	0.9740	0	127	31.9	123				S
1,1-Dichloroethene	0.987	0.0195	0.9740	0	101	47.3	147				
Methylene chloride	1.05	0.0195	0.9740	0	108	54.7	142				
trans-1,2-Dichloroethene	0.970	0.0195	0.9740	0	99.6	52	136				
Methyl tert-butyl ether (MTBE)	0.972	0.0487	0.9740	0	99.8	58.5	167				
1,1-Dichloroethane	0.975	0.0195	0.9740	0	100	51.8	141				
2,2-Dichloropropane	0.860	0.0974	0.9740	0	88.3	36	123				
cis-1,2-Dichloroethene	0.973	0.0195	0.9740	0	99.9	58.6	136				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1805039-019BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 5/9/2018	RunNo: 43392							
Client ID: BATCH	Batch ID: 20637		Analysis Date: 5/9/2018	SeqNo: 838886							
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
Chloroform	0.973	0.0195	0.9740	0	99.9	53.2	129				
1,1,1-Trichloroethane (TCA)	0.936	0.0243	0.9740	0	96.1	58.3	145				
1,1-Dichloropropene	0.982	0.0195	0.9740	0	101	55.1	138				
Carbon tetrachloride	0.923	0.0243	0.9740	0	94.7	53.3	144				
1,2-Dichloroethane (EDC)	0.971	0.0195	0.9740	0	99.7	51.3	139				
Benzene	0.985	0.0195	0.9740	0	101	63.5	133				
Trichloroethene (TCE)	0.979	0.0195	0.9740	0	101	61.6	147				
1,2-Dichloropropane	0.973	0.0195	0.9740	0	99.9	59	136				
Bromodichloromethane	0.960	0.0195	0.9740	0	98.5	50.7	141				
Dibromomethane	0.964	0.0195	0.9740	0	98.9	50.6	137				
cis-1,3-Dichloropropene	0.908	0.0195	0.9740	0	93.3	50.4	138				
Toluene	0.982	0.0195	0.9740	0	101	63.4	132				
trans-1,3-Dichloropropylene	0.852	0.0195	0.9740	0	87.5	44.1	147				
1,1,2-Trichloroethane	0.979	0.0195	0.9740	0	100	51.6	137				
1,3-Dichloropropane	0.981	0.0243	0.9740	0	101	53.1	134				
Tetrachloroethene (PCE)	0.993	0.0243	0.9740	0	102	35.6	158				
Dibromochloromethane	0.964	0.0243	0.9740	0	99.0	55.3	140				
1,2-Dibromoethane (EDB)	0.992	0.00487	0.9740	0	102	50.4	136				
Chlorobenzene	0.982	0.0243	0.9740	0	101	60	133				
1,1,1,2-Tetrachloroethane	0.912	0.0243	0.9740	0	93.6	53.1	142				
Ethylbenzene	1.02	0.0243	0.9740	0	105	54.5	134				
m,p-Xylene	1.99	0.0487	1.948	0	102	53.1	132				
o-Xylene	0.940	0.0243	0.9740	0	96.6	53.3	139				
Styrene	0.946	0.0243	0.9740	0	97.1	51.1	132				
Isopropylbenzene	0.966	0.0243	0.9740	0	99.2	58.9	138				
Bromoform	0.905	0.0487	0.9740	0	92.9	57.9	130				
1,1,2,2-Tetrachloroethane	0.914	0.0195	0.9740	0	93.9	51.9	131				
n-Propylbenzene	0.974	0.0243	0.9740	0	100	53.6	140				
Bromobenzene	0.930	0.0195	0.9740	0	95.5	54.2	140				
1,3,5-Trimethylbenzene	0.951	0.0243	0.9740	0	97.7	51.8	136				
2-Chlorotoluene	0.953	0.0243	0.9740	0	97.8	51.6	136				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1805039-019BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 5/9/2018	RunNo: 43392							
Client ID: BATCH	Batch ID: 20637		Analysis Date: 5/9/2018	SeqNo: 838886							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

4-Chlorotoluene	0.946	0.0243	0.9740	0	97.1	50.1	139				
tert-Butylbenzene	0.945	0.0243	0.9740	0	97.1	50.5	135				
1,2,3-Trichloropropane	0.900	0.0243	0.9740	0	92.4	50.5	131				
1,2,4-Trichlorobenzene	0.991	0.0243	0.9740	0	102	50.8	130				
sec-Butylbenzene	0.976	0.0487	0.9740	0	100	52.6	141				
4-Isopropyltoluene	0.974	0.0487	0.9740	0	100	52.9	134				
1,3-Dichlorobenzene	0.997	0.0195	0.9740	0	102	52.6	131				
1,4-Dichlorobenzene	0.989	0.0195	0.9740	0	102	52.9	129				
n-Butylbenzene	1.02	0.0243	0.9740	0	105	52.6	130				
1,2-Dichlorobenzene	0.999	0.0195	0.9740	0	103	55.8	129				
1,2-Dibromo-3-chloropropane	0.899	0.487	0.9740	0	92.3	40.5	131				
1,2,4-Trimethylbenzene	0.952	0.0195	0.9740	0	97.8	50.6	137				
Hexachlorobutadiene	1.02	0.0487	0.9740	0	105	40.6	158				
Naphthalene	0.966	0.0487	0.9740	0	99.2	52.3	124				
1,2,3-Trichlorobenzene	1.00	0.0195	0.9740	0	103	54.4	124				
Surr: Dibromofluoromethane	1.26		1.217		103	56.5	129				
Surr: Toluene-d8	1.23		1.217		101	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.18		1.217		96.9	43.2	143				

NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID 1805039-019BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 5/9/2018	RunNo: 43392							
Client ID: BATCH	Batch ID: 20637		Analysis Date: 5/9/2018	SeqNo: 838887							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	0.782	0.0195	0.9740	0	80.3	43.5	121	0.8063	3.08	30	
Chloromethane	0.911	0.0487	0.9740	0	93.6	45	130	0.8071	12.1	30	
Vinyl chloride	0.940	0.0243	0.9740	0	96.5	43.6	150	0.9318	0.849	30	
Bromomethane	1.19	0.0487	0.9740	0	122	21.3	120	1.182	0.462	30	S
Trichlorofluoromethane (CFC-11)	1.29	0.0195	0.9740	0	132	35	131	1.344	4.30	30	S
Chloroethane	1.29	0.0487	0.9740	0	132	31.9	123	1.233	4.14	30	S

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1805039-019BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 5/9/2018	RunNo: 43392
Client ID: BATCH	Batch ID: 20637		Analysis Date: 5/9/2018	SeqNo: 838887

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.943	0.0195	0.9740	0	96.8	47.3	147	0.9874	4.64	30	
Methylene chloride	1.03	0.0195	0.9740	0	106	54.7	142	1.050	2.04	30	
trans-1,2-Dichloroethene	0.929	0.0195	0.9740	0	95.4	52	136	0.9699	4.30	30	
Methyl tert-butyl ether (MTBE)	0.940	0.0487	0.9740	0	96.5	58.5	167	0.9719	3.31	30	
1,1-Dichloroethane	0.930	0.0195	0.9740	0	95.5	51.8	141	0.9745	4.64	30	
2,2-Dichloropropane	0.845	0.0974	0.9740	0	86.7	36	123	0.8596	1.73	30	
cis-1,2-Dichloroethene	0.929	0.0195	0.9740	0	95.3	58.6	136	0.9733	4.71	30	
Chloroform	0.935	0.0195	0.9740	0	96.0	53.2	129	0.9731	4.02	30	
1,1,1-Trichloroethane (TCA)	0.905	0.0243	0.9740	0	92.9	58.3	145	0.9358	3.37	30	
1,1-Dichloropropene	0.923	0.0195	0.9740	0	94.8	55.1	138	0.9818	6.17	30	
Carbon tetrachloride	0.898	0.0243	0.9740	0	92.2	53.3	144	0.9226	2.65	30	
1,2-Dichloroethane (EDC)	0.937	0.0195	0.9740	0	96.2	51.3	139	0.9707	3.56	30	
Benzene	0.928	0.0195	0.9740	0	95.3	63.5	133	0.9851	5.94	30	
Trichloroethene (TCE)	0.939	0.0195	0.9740	0	96.5	61.6	147	0.9794	4.16	30	
1,2-Dichloropropane	0.937	0.0195	0.9740	0	96.2	59	136	0.9727	3.77	30	
Bromodichloromethane	0.950	0.0195	0.9740	0	97.6	50.7	141	0.9597	0.982	30	
Dibromomethane	0.930	0.0195	0.9740	0	95.5	50.6	137	0.9636	3.51	30	
cis-1,3-Dichloropropene	0.903	0.0195	0.9740	0	92.7	50.4	138	0.9085	0.588	30	
Toluene	0.954	0.0195	0.9740	0	98.0	63.4	132	0.9823	2.88	30	
trans-1,3-Dichloropropylene	0.844	0.0195	0.9740	0	86.7	44.1	147	0.8520	0.927	30	
1,1,2-Trichloroethane	0.955	0.0195	0.9740	0	98.1	51.6	137	0.9788	2.44	30	
1,3-Dichloropropane	0.950	0.0243	0.9740	0	97.5	53.1	134	0.9815	3.27	30	
Tetrachloroethene (PCE)	0.967	0.0243	0.9740	0	99.2	35.6	158	0.9935	2.74	30	
Dibromochloromethane	0.955	0.0243	0.9740	0	98.0	55.3	140	0.9642	0.972	30	
1,2-Dibromoethane (EDB)	0.966	0.00487	0.9740	0	99.2	50.4	136	0.9920	2.65	30	
Chlorobenzene	0.933	0.0243	0.9740	0	95.8	60	133	0.9822	5.16	30	
1,1,1,2-Tetrachloroethane	0.886	0.0243	0.9740	0	91.0	53.1	142	0.9116	2.86	30	
Ethylbenzene	0.972	0.0243	0.9740	0	99.8	54.5	134	1.018	4.64	30	
m,p-Xylene	1.91	0.0487	1.948	0	97.8	53.1	132	1.993	4.48	30	
o-Xylene	0.950	0.0243	0.9740	0	97.6	53.3	139	0.9404	1.06	30	
Styrene	0.948	0.0243	0.9740	0	97.4	51.1	132	0.9459	0.262	30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1805039-019BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	5/9/2018	RunNo:	43392
Client ID:	BATCH	Batch ID:	20637			Analysis Date:	5/9/2018	SeqNo:	838887

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropylbenzene	0.932	0.0243	0.9740	0	95.7	58.9	138	0.9658	3.58	30	
Bromoform	0.899	0.0487	0.9740	0	92.3	57.9	130	0.9051	0.677	30	
1,1,2,2-Tetrachloroethane	0.862	0.0195	0.9740	0	88.5	51.9	131	0.9143	5.85	30	
n-Propylbenzene	0.938	0.0243	0.9740	0	96.3	53.6	140	0.9740	3.76	30	
Bromobenzene	0.897	0.0195	0.9740	0	92.1	54.2	140	0.9303	3.67	30	
1,3,5-Trimethylbenzene	0.916	0.0243	0.9740	0	94.0	51.8	136	0.9514	3.81	30	
2-Chlorotoluene	0.917	0.0243	0.9740	0	94.2	51.6	136	0.9529	3.84	30	
4-Chlorotoluene	0.911	0.0243	0.9740	0	93.5	50.1	139	0.9458	3.78	30	
tert-Butylbenzene	0.909	0.0243	0.9740	0	93.4	50.5	135	0.9454	3.90	30	
1,2,3-Trichloropropane	0.840	0.0243	0.9740	0	86.2	50.5	131	0.8999	6.93	30	
1,2,4-Trichlorobenzene	0.979	0.0243	0.9740	0	100	50.8	130	0.9907	1.21	30	
sec-Butylbenzene	0.935	0.0487	0.9740	0	96.0	52.6	141	0.9758	4.27	30	
4-Isopropyltoluene	0.939	0.0487	0.9740	0	96.4	52.9	134	0.9741	3.68	30	
1,3-Dichlorobenzene	0.969	0.0195	0.9740	0	99.5	52.6	131	0.9974	2.89	30	
1,4-Dichlorobenzene	0.966	0.0195	0.9740	0	99.2	52.9	129	0.9893	2.37	30	
n-Butylbenzene	1.00	0.0243	0.9740	0	103	52.6	130	1.020	1.68	30	
1,2-Dichlorobenzene	0.961	0.0195	0.9740	0	98.7	55.8	129	0.9995	3.93	30	
1,2-Dibromo-3-chloropropane	0.904	0.487	0.9740	0	92.8	40.5	131	0.8986	0.585	30	
1,2,4-Trimethylbenzene	0.915	0.0195	0.9740	0	94.0	50.6	137	0.9521	3.93	30	
Hexachlorobutadiene	1.04	0.0487	0.9740	0	107	40.6	158	1.021	1.92	30	
Naphthalene	0.947	0.0487	0.9740	0	97.2	52.3	124	0.9657	1.97	30	
1,2,3-Trichlorobenzene	0.982	0.0195	0.9740	0	101	54.4	124	1.003	2.05	30	
Surr: Dibromofluoromethane	1.28		1.217		105	56.5	129		0		
Surr: Toluene-d8	1.25		1.217		103	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.19		1.217		97.5	43.2	143		0		

NOTES:

S - Outlying spike recovery(ies) observed.

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1805080-002BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/9/2018	RunNo:	43392
Client ID:	BATCH	Batch ID:	20637			Analysis Date:	5/10/2018	SeqNo:	838891

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0204						0		30	
Chloromethane	ND	0.0510						0		30	
Vinyl chloride	ND	0.0255						0		30	
Bromomethane	ND	0.0510						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0204						0		30	
Chloroethane	ND	0.0510						0		30	
1,1-Dichloroethene	ND	0.0204						0		30	Q
Methylene chloride	ND	0.0204						0		30	
trans-1,2-Dichloroethene	ND	0.0204						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0510						0		30	
1,1-Dichloroethane	ND	0.0204						0		30	
2,2-Dichloropropane	ND	0.102						0		30	
cis-1,2-Dichloroethene	ND	0.0204						0		30	
Chloroform	ND	0.0204						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0255						0		30	
1,1-Dichloropropene	ND	0.0204						0		30	
Carbon tetrachloride	ND	0.0255						0		30	
1,2-Dichloroethane (EDC)	ND	0.0204						0		30	
Benzene	ND	0.0204						0		30	
Trichloroethene (TCE)	ND	0.0204						0		30	
1,2-Dichloropropane	ND	0.0204						0		30	
Bromodichloromethane	ND	0.0204						0		30	
Dibromomethane	ND	0.0204						0		30	
cis-1,3-Dichloropropene	ND	0.0204						0		30	
Toluene	ND	0.0204						0		30	
trans-1,3-Dichloropropylene	ND	0.0204						0		30	
1,1,2-Trichloroethane	ND	0.0204						0		30	
1,3-Dichloropropane	ND	0.0255						0		30	
Tetrachloroethene (PCE)	ND	0.0255						0		30	
Dibromochloromethane	ND	0.0255						0		30	
1,2-Dibromoethane (EDB)	ND	0.00510						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1805080-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 5/9/2018	RunNo: 43392
Client ID: BATCH	Batch ID: 20637		Analysis Date: 5/10/2018	SeqNo: 838891

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	ND	0.0255						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0255						0		30	
Ethylbenzene	ND	0.0255						0		30	
m,p-Xylene	ND	0.0510						0		30	
o-Xylene	ND	0.0255						0		30	
Styrene	ND	0.0255						0		30	
Isopropylbenzene	ND	0.0255						0		30	
Bromoform	ND	0.0510						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0204						0		30	
n-Propylbenzene	0.0470	0.0255						0.04402	6.56	30	
Bromobenzene	ND	0.0204						0		30	
1,3,5-Trimethylbenzene	0.0531	0.0255						0.04811	9.92	30	
2-Chlorotoluene	ND	0.0255						0		30	
4-Chlorotoluene	ND	0.0255						0		30	
tert-Butylbenzene	ND	0.0255						0		30	
1,2,3-Trichloropropane	ND	0.0255						0		30	
1,2,4-Trichlorobenzene	ND	0.0255						0		30	
sec-Butylbenzene	ND	0.0510						0		30	
4-Isopropyltoluene	ND	0.0510						0		30	
1,3-Dichlorobenzene	ND	0.0204						0		30	
1,4-Dichlorobenzene	ND	0.0204						0		30	
n-Butylbenzene	ND	0.0255						0		30	
1,2-Dichlorobenzene	ND	0.0204						0		30	
1,2-Dibromo-3-chloropropane	ND	0.510						0		30	
1,2,4-Trimethylbenzene	0.0289	0.0204						0	200	30	
Hexachlorobutadiene	ND	0.0510						0		30	
Naphthalene	ND	0.0510						0		30	
1,2,3-Trichlorobenzene	ND	0.0204						0		30	
Surr: Dibromofluoromethane	1.22		1.276		95.3	56.5	129		0		
Surr: Toluene-d8	1.29		1.276		101	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.19		1.276		93.5	43.2	143		0		

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1805080-002BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/9/2018	RunNo:	43392		
Client ID:	BATCH	Batch ID:	20637	Analysis Date:	5/10/2018	SeqNo:	838891				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

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

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20625	SampType:	LCS	Units:	mg/Kg	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	LCSS	Batch ID:	20625	Analysis Date:	5/8/2018	SeqNo:	838172				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.01	0.0200	1.000	0	101	14.3	167				
Chloromethane	0.896	0.0500	1.000	0	89.6	32	156				
Vinyl chloride	0.903	0.0250	1.000	0	90.3	43.4	151				
Bromomethane	0.871	0.0500	1.000	0	87.1	35	155				
Trichlorofluoromethane (CFC-11)	0.938	0.0200	1.000	0	93.8	33.8	156				
Chloroethane	0.879	0.0500	1.000	0	87.9	33.1	147				
1,1-Dichloroethene	0.881	0.0200	1.000	0	88.1	39	144				
Methylene chloride	1.01	0.0200	1.000	0	101	46.3	140				
trans-1,2-Dichloroethene	1.01	0.0200	1.000	0	101	68	130				
Methyl tert-butyl ether (MTBE)	1.03	0.0500	1.000	0	103	44.1	152				
1,1-Dichloroethane	1.01	0.0200	1.000	0	101	61.9	137				
2,2-Dichloropropane	1.11	0.100	1.000	0	111	35.5	186				
cis-1,2-Dichloroethene	1.02	0.0200	1.000	0	102	71.3	135				
Chloroform	1.02	0.0200	1.000	0	102	69	145				
1,1,1-Trichloroethane (TCA)	0.990	0.0250	1.000	0	99.0	69	132				
1,1-Dichloropropene	1.02	0.0200	1.000	0	102	72.7	131				
Carbon tetrachloride	0.986	0.0250	1.000	0	98.6	63.4	137				
1,2-Dichloroethane (EDC)	1.03	0.0200	1.000	0	103	50.9	162				
Benzene	1.03	0.0200	1.000	0	103	64.3	133				
Trichloroethene (TCE)	1.03	0.0200	1.000	0	103	65.5	137				
1,2-Dichloropropane	1.02	0.0200	1.000	0	102	63.2	142				
Bromodichloromethane	1.06	0.0200	1.000	0	106	53.4	131				
Dibromomethane	1.04	0.0200	1.000	0	104	60.1	146				
cis-1,3-Dichloropropene	1.03	0.0200	1.000	0	103	59.1	143				
Toluene	1.03	0.0200	1.000	0	103	67.3	138				
trans-1,3-Dichloropropylene	0.967	0.0200	1.000	0	96.7	49.2	149				
1,1,2-Trichloroethane	1.05	0.0200	1.000	0	105	56.9	147				
1,3-Dichloropropane	1.04	0.0250	1.000	0	104	56.1	153				
Tetrachloroethene (PCE)	1.03	0.0250	1.000	0	103	52.7	150				
Dibromochloromethane	1.07	0.0250	1.000	0	107	70.6	144				
1,2-Dibromoethane (EDB)	1.07	0.00500	1.000	0	107	50.5	154				

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20625	SampType:	LCS	Units:	mg/Kg	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	LCSS	Batch ID:	20625	Analysis Date:	5/8/2018	SeqNo:	838172				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.02	0.0250	1.000	0	102	84.9	125				
1,1,1,2-Tetrachloroethane	0.985	0.0250	1.000	0	98.5	65.9	141				
Ethylbenzene	1.07	0.0250	1.000	0	107	74	129				
m,p-Xylene	2.04	0.0500	2.000	0	102	70	124				
o-Xylene	0.978	0.0250	1.000	0	97.8	68.1	139				
Styrene	0.980	0.0250	1.000	0	98.0	73.3	146				
Isopropylbenzene	1.01	0.0250	1.000	0	101	70	130				
Bromoform	1.03	0.0500	1.000	0	103	44.3	130				
1,1,2,2-Tetrachloroethane	0.994	0.0200	1.000	0	99.4	44.8	165				
n-Propylbenzene	1.01	0.0250	1.000	0	101	75.8	139				
Bromobenzene	0.960	0.0200	1.000	0	96.0	49.2	144				
1,3,5-Trimethylbenzene	0.979	0.0250	1.000	0	97.9	76.5	135				
2-Chlorotoluene	0.973	0.0250	1.000	0	97.3	76.7	129				
4-Chlorotoluene	0.964	0.0250	1.000	0	96.4	77.5	125				
tert-Butylbenzene	0.972	0.0250	1.000	0	97.2	66.2	130				
1,2,3-Trichloropropane	0.985	0.0250	1.000	0	98.5	67.9	136				
1,2,4-Trichlorobenzene	1.09	0.0250	1.000	0	109	65.5	150				
sec-Butylbenzene	0.993	0.0500	1.000	0	99.3	75.6	133				
4-Isopropyltoluene	0.995	0.0500	1.000	0	99.5	76.8	131				
1,3-Dichlorobenzene	1.08	0.0200	1.000	0	108	72.8	128				
1,4-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.6	126				
n-Butylbenzene	1.10	0.0250	1.000	0	110	78.4	140				
1,2-Dichlorobenzene	1.07	0.0200	1.000	0	107	72.8	126				
1,2-Dibromo-3-chloropropane	1.12	0.500	1.000	0	112	40.2	155				
1,2,4-Trimethylbenzene	0.977	0.0200	1.000	0	97.7	77.5	129				
Hexachlorobutadiene	1.10	0.0500	1.000	0	110	42	151				
Naphthalene	1.12	0.0500	1.000	0	112	46.5	167				
1,2,3-Trichlorobenzene	1.11	0.0200	1.000	0	111	64.5	149				
Surr: Dibromofluoromethane	1.31		1.250		105	56.5	129				
Surr: Toluene-d8	1.26		1.250		101	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.20		1.250		95.9	43.2	143				

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID LCS-20625	SampType: LCS	Units: mg/Kg	Prep Date: 5/8/2018	RunNo: 43361							
Client ID: LCSS	Batch ID: 20625		Analysis Date: 5/8/2018	SeqNo: 838172							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID MB-20625	SampType: MBLK	Units: mg/Kg	Prep Date: 5/8/2018	RunNo: 43361							
Client ID: MBLKS	Batch ID: 20625		Analysis Date: 5/8/2018	SeqNo: 838173							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0200
Chloromethane	ND	0.0500
Vinyl chloride	ND	0.0250
Bromomethane	ND	0.0500
Trichlorofluoromethane (CFC-11)	ND	0.0200
Chloroethane	ND	0.0500
1,1-Dichloroethene	ND	0.0200
Methylene chloride	ND	0.0200
trans-1,2-Dichloroethene	ND	0.0200
Methyl tert-butyl ether (MTBE)	ND	0.0500
1,1-Dichloroethane	ND	0.0200
2,2-Dichloropropane	ND	0.100
cis-1,2-Dichloroethene	ND	0.0200
Chloroform	ND	0.0200
1,1,1-Trichloroethane (TCA)	ND	0.0250
1,1-Dichloropropene	ND	0.0200
Carbon tetrachloride	ND	0.0250
1,2-Dichloroethane (EDC)	ND	0.0200
Benzene	ND	0.0200
Trichloroethene (TCE)	ND	0.0200
1,2-Dichloropropane	ND	0.0200
Bromodichloromethane	ND	0.0200
Dibromomethane	ND	0.0200
cis-1,3-Dichloropropene	ND	0.0200
Toluene	ND	0.0200

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20625	SampType: MBLK	Units: mg/Kg	Prep Date: 5/8/2018	RunNo: 43361
Client ID: MBLKS	Batch ID: 20625		Analysis Date: 5/8/2018	SeqNo: 838173

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	0.0200									
1,1,2-Trichloroethane	ND	0.0200									
1,3-Dichloropropane	ND	0.0250									
Tetrachloroethene (PCE)	ND	0.0250									
Dibromochloromethane	ND	0.0250									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0250									
1,1,1,2-Tetrachloroethane	ND	0.0250									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Styrene	ND	0.0250									
Isopropylbenzene	ND	0.0250									
Bromoform	ND	0.0500									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0250									
Bromobenzene	ND	0.0200									
1,3,5-Trimethylbenzene	ND	0.0250									
2-Chlorotoluene	ND	0.0250									
4-Chlorotoluene	ND	0.0250									
tert-Butylbenzene	ND	0.0250									
1,2,3-Trichloropropane	ND	0.0250									
1,2,4-Trichlorobenzene	ND	0.0250									
sec-Butylbenzene	ND	0.0500									
4-Isopropyltoluene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0250									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	MB-20625	SampType:	MBLK	Units:	mg/Kg	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	MBLKS	Batch ID:	20625			Analysis Date:	5/8/2018	SeqNo:	838173		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.0500									
Naphthalene	ND	0.0500									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.16		1.250		93.1	56.5	129				
Surr: Toluene-d8	1.24		1.250		99.3	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.13		1.250		90.4	43.2	143				

Sample ID	1804398-005BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	SB-26-30	Batch ID:	20625			Analysis Date:	5/8/2018	SeqNo:	838146		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0247						0		30	
Chloromethane	ND	0.0617						0		30	
Vinyl chloride	ND	0.0309						0		30	
Bromomethane	ND	0.0617						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0247						0		30	
Chloroethane	ND	0.0617						0		30	
1,1-Dichloroethene	ND	0.0247						0		30	
Methylene chloride	ND	0.0247						0		30	
trans-1,2-Dichloroethene	ND	0.0247						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0617						0		30	
1,1-Dichloroethane	ND	0.0247						0		30	
2,2-Dichloropropane	ND	0.123						0		30	
cis-1,2-Dichloroethene	ND	0.0247						0		30	
Chloroform	ND	0.0247						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0309						0		30	
1,1-Dichloropropene	ND	0.0247						0		30	
Carbon tetrachloride	ND	0.0309						0		30	
1,2-Dichloroethane (EDC)	ND	0.0247						0		30	
Benzene	ND	0.0247						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-005BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361
Client ID:	SB-26-30	Batch ID:	20625			Analysis Date:	5/8/2018	SeqNo:	838146

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0247						0		30	
1,2-Dichloropropane	ND	0.0247						0		30	
Bromodichloromethane	ND	0.0247						0		30	
Dibromomethane	ND	0.0247						0		30	
cis-1,3-Dichloropropene	ND	0.0247						0		30	
Toluene	ND	0.0247						0		30	
trans-1,3-Dichloropropylene	ND	0.0247						0		30	
1,1,2-Trichloroethane	ND	0.0247						0		30	
1,3-Dichloropropane	ND	0.0309						0		30	
Tetrachloroethene (PCE)	0.0672	0.0309						0.06465	3.83	30	
Dibromochloromethane	ND	0.0309						0		30	
1,2-Dibromoethane (EDB)	ND	0.00617						0		30	
Chlorobenzene	ND	0.0309						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0309						0		30	
Ethylbenzene	ND	0.0309						0		30	
m,p-Xylene	ND	0.0617						0		30	
o-Xylene	ND	0.0309						0		30	
Styrene	ND	0.0309						0		30	
Isopropylbenzene	ND	0.0309						0		30	
Bromoform	ND	0.0617						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0247						0		30	
n-Propylbenzene	ND	0.0309						0		30	
Bromobenzene	ND	0.0247						0		30	
1,3,5-Trimethylbenzene	ND	0.0309						0		30	
2-Chlorotoluene	ND	0.0309						0		30	
4-Chlorotoluene	ND	0.0309						0		30	
tert-Butylbenzene	ND	0.0309						0		30	
1,2,3-Trichloropropane	ND	0.0309						0		30	
1,2,4-Trichlorobenzene	ND	0.0309						0		30	
sec-Butylbenzene	ND	0.0617						0		30	
4-Isopropyltoluene	ND	0.0617						0		30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-005BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	SB-26-30	Batch ID:	20625	Analysis Date:	5/8/2018	SeqNo:	838146				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	0.0247						0		30	
1,4-Dichlorobenzene	ND	0.0247						0		30	
n-Butylbenzene	ND	0.0309						0		30	
1,2-Dichlorobenzene	ND	0.0247						0		30	
1,2-Dibromo-3-chloropropane	ND	0.617						0		30	
1,2,4-Trimethylbenzene	ND	0.0247						0		30	
Hexachlorobutadiene	ND	0.0617						0		30	
Naphthalene	ND	0.0617						0		30	
1,2,3-Trichlorobenzene	ND	0.0247						0		30	
Surr: Dibromofluoromethane	1.44		1.543		93.3	56.5	129		0		
Surr: Toluene-d8	1.53		1.543		99.4	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.42		1.543		92.1	43.2	143		0		

Sample ID	1804398-011BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	SB-27-30	Batch ID:	20625	Analysis Date:	5/8/2018	SeqNo:	838150				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0231						0		30	
Chloromethane	ND	0.0577						0		30	
Vinyl chloride	ND	0.0288						0		30	
Bromomethane	ND	0.0577						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0231						0		30	
Chloroethane	ND	0.0577						0		30	
1,1-Dichloroethene	ND	0.0231						0		30	
Methylene chloride	ND	0.0231						0		30	
trans-1,2-Dichloroethene	ND	0.0231						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0577						0		30	
1,1-Dichloroethane	ND	0.0231						0		30	
2,2-Dichloropropane	ND	0.115						0		30	
cis-1,2-Dichloroethene	ND	0.0231						0		30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-011BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	SB-27-30	Batch ID:	20625			Analysis Date:	5/8/2018	SeqNo:	838150		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloroform	ND	0.0231						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0288						0		30	
1,1-Dichloropropene	ND	0.0231						0		30	
Carbon tetrachloride	ND	0.0288						0		30	
1,2-Dichloroethane (EDC)	ND	0.0231						0		30	
Benzene	ND	0.0231						0		30	
Trichloroethene (TCE)	ND	0.0231						0		30	
1,2-Dichloropropane	ND	0.0231						0		30	
Bromodichloromethane	ND	0.0231						0		30	
Dibromomethane	ND	0.0231						0		30	
cis-1,3-Dichloropropene	ND	0.0231						0		30	
Toluene	ND	0.0231						0		30	
trans-1,3-Dichloropropylene	ND	0.0231						0		30	
1,1,2-Trichloroethane	ND	0.0231						0		30	
1,3-Dichloropropane	ND	0.0288						0		30	
Tetrachloroethene (PCE)	0.126	0.0288						0.1177	6.68	30	
Dibromochloromethane	ND	0.0288						0		30	
1,2-Dibromoethane (EDB)	ND	0.00577						0		30	
Chlorobenzene	ND	0.0288						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0288						0		30	
Ethylbenzene	ND	0.0288						0		30	
m,p-Xylene	ND	0.0577						0		30	
o-Xylene	ND	0.0288						0		30	
Styrene	ND	0.0288						0		30	
Isopropylbenzene	ND	0.0288						0		30	
Bromoform	ND	0.0577						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0231						0		30	
n-Propylbenzene	ND	0.0288						0		30	
Bromobenzene	ND	0.0231						0		30	
1,3,5-Trimethylbenzene	ND	0.0288						0		30	
2-Chlorotoluene	ND	0.0288						0		30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-011BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	SB-27-30	Batch ID:	20625	Analysis Date:	5/8/2018	SeqNo:	838150				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.0288						0		30	
tert-Butylbenzene	ND	0.0288						0		30	
1,2,3-Trichloropropane	ND	0.0288						0		30	
1,2,4-Trichlorobenzene	ND	0.0288						0		30	
sec-Butylbenzene	ND	0.0577						0		30	
4-Isopropyltoluene	ND	0.0577						0		30	
1,3-Dichlorobenzene	ND	0.0231						0		30	
1,4-Dichlorobenzene	ND	0.0231						0		30	
n-Butylbenzene	ND	0.0288						0		30	
1,2-Dichlorobenzene	ND	0.0231						0		30	
1,2-Dibromo-3-chloropropane	ND	0.577						0		30	
1,2,4-Trimethylbenzene	ND	0.0231						0		30	
Hexachlorobutadiene	ND	0.0577						0		30	
Naphthalene	ND	0.0577						0		30	
1,2,3-Trichlorobenzene	ND	0.0231						0		30	
Surr: Dibromofluoromethane	1.34		1.442		93.1	56.5	129		0		
Surr: Toluene-d8	1.43		1.442		99.2	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.36		1.442		94.6	43.2	143		0		

Sample ID	1805090-009BMS	SampType:	MS	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	BATCH	Batch ID:	20625	Analysis Date:	5/8/2018	SeqNo:	838163				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.949	0.0195	0.9760	0	97.2	43.5	121				
Chloromethane	0.670	0.0488	0.9760	0	68.7	45	130				
Vinyl chloride	0.813	0.0244	0.9760	0	83.3	43.6	150				
Bromomethane	0.954	0.0488	0.9760	0	97.8	21.3	120				
Trichlorofluoromethane (CFC-11)	0.919	0.0195	0.9760	0	94.2	35	131				
Chloroethane	0.995	0.0488	0.9760	0	102	31.9	123				
1,1-Dichloroethene	0.849	0.0195	0.9760	0	87.0	47.3	147				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1805090-009BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 5/8/2018	RunNo: 43361							
Client ID: BATCH	Batch ID: 20625		Analysis Date: 5/8/2018	SeqNo: 838163							
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
Methylene chloride	0.972	0.0195	0.9760	0.05501	93.9	54.7	142				
trans-1,2-Dichloroethene	0.901	0.0195	0.9760	0	92.3	52	136				
Methyl tert-butyl ether (MTBE)	0.918	0.0488	0.9760	0	94.1	58.5	167				
1,1-Dichloroethane	0.911	0.0195	0.9760	0	93.4	51.8	141				
2,2-Dichloropropane	0.798	0.0976	0.9760	0	81.8	36	123				
cis-1,2-Dichloroethene	0.908	0.0195	0.9760	0	93.1	58.6	136				
Chloroform	0.925	0.0195	0.9760	0	94.8	53.2	129				
1,1,1-Trichloroethane (TCA)	0.876	0.0244	0.9760	0	89.7	58.3	145				
1,1-Dichloropropene	0.912	0.0195	0.9760	0	93.5	55.1	138				
Carbon tetrachloride	0.863	0.0244	0.9760	0	88.4	53.3	144				
1,2-Dichloroethane (EDC)	0.920	0.0195	0.9760	0	94.3	51.3	139				
Benzene	0.914	0.0195	0.9760	0	93.7	63.5	133				
Trichloroethene (TCE)	0.917	0.0195	0.9760	0	93.9	61.6	147				
1,2-Dichloropropane	0.906	0.0195	0.9760	0	92.8	59	136				
Bromodichloromethane	0.931	0.0195	0.9760	0	95.4	50.7	141				
Dibromomethane	0.920	0.0195	0.9760	0	94.2	50.6	137				
cis-1,3-Dichloropropene	0.874	0.0195	0.9760	0	89.5	50.4	138				
Toluene	0.924	0.0195	0.9760	0	94.7	63.4	132				
trans-1,3-Dichloropropylene	0.817	0.0195	0.9760	0	83.7	44.1	147				
1,1,2-Trichloroethane	0.943	0.0195	0.9760	0	96.6	51.6	137				
1,3-Dichloropropane	0.923	0.0244	0.9760	0	94.6	53.1	134				
Tetrachloroethene (PCE)	0.918	0.0244	0.9760	0	94.1	35.6	158				
Dibromochloromethane	0.951	0.0244	0.9760	0	97.4	55.3	140				
1,2-Dibromoethane (EDB)	0.954	0.00488	0.9760	0	97.8	50.4	136				
Chlorobenzene	0.930	0.0244	0.9760	0	95.2	60	133				
1,1,1,2-Tetrachloroethane	0.893	0.0244	0.9760	0	91.5	53.1	142				
Ethylbenzene	0.955	0.0244	0.9760	0	97.9	54.5	134				
m,p-Xylene	1.88	0.0488	1.952	0	96.4	53.1	132				
o-Xylene	0.933	0.0244	0.9760	0	95.6	53.3	139				
Styrene	0.945	0.0244	0.9760	0	96.8	51.1	132				
Isopropylbenzene	0.967	0.0244	0.9760	0	99.1	58.9	138				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1805090-009BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 5/8/2018	RunNo: 43361							
Client ID: BATCH	Batch ID: 20625		Analysis Date: 5/8/2018	SeqNo: 838163							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Bromoform	0.980	0.0488	0.9760	0	100	57.9	130				
1,1,2,2-Tetrachloroethane	0.929	0.0195	0.9760	0	95.2	51.9	131				
n-Propylbenzene	0.964	0.0244	0.9760	0.07108	91.5	53.6	140				
Bromobenzene	0.943	0.0195	0.9760	0	96.6	54.2	140				
1,3,5-Trimethylbenzene	0.953	0.0244	0.9760	0	97.6	51.8	136				
2-Chlorotoluene	0.958	0.0244	0.9760	0	98.2	51.6	136				
4-Chlorotoluene	0.955	0.0244	0.9760	0	97.8	50.1	139				
tert-Butylbenzene	0.928	0.0244	0.9760	0	95.1	50.5	135				
1,2,3-Trichloropropane	0.913	0.0244	0.9760	0	93.5	50.5	131				
1,2,4-Trichlorobenzene	0.950	0.0244	0.9760	0	97.4	50.8	130				
sec-Butylbenzene	0.958	0.0488	0.9760	0	98.2	52.6	141				
4-Isopropyltoluene	0.958	0.0488	0.9760	0	98.2	52.9	134				
1,3-Dichlorobenzene	0.942	0.0195	0.9760	0	96.5	52.6	131				
1,4-Dichlorobenzene	0.973	0.0195	0.9760	0	99.7	52.9	129				
n-Butylbenzene	0.965	0.0244	0.9760	0	98.8	52.6	130				
1,2-Dichlorobenzene	0.952	0.0195	0.9760	0	97.5	55.8	129				
1,2-Dibromo-3-chloropropane	0.922	0.488	0.9760	0	94.4	40.5	131				
1,2,4-Trimethylbenzene	0.949	0.0195	0.9760	0	97.2	50.6	137				
Hexachlorobutadiene	0.940	0.0488	0.9760	0	96.3	40.6	158				
Naphthalene	0.937	0.0488	0.9760	0.02352	93.6	52.3	124				
1,2,3-Trichlorobenzene	0.949	0.0195	0.9760	0	97.2	54.4	124				
Surr: Dibromofluoromethane	1.27		1.220		104	56.5	129				
Surr: Toluene-d8	1.22		1.220		99.9	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.26		1.220		103	43.2	143				

Sample ID 1805090-009BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 5/8/2018	RunNo: 43361							
Client ID: BATCH	Batch ID: 20625		Analysis Date: 5/8/2018	SeqNo: 838164							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	0.961	0.0195	0.9760	0	98.5	43.5	121	0.9491	1.28	30	
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Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1805090-009BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361		
Client ID:	BATCH	Batch ID:	20625	Analysis Date:	5/8/2018	SeqNo:	838164				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	0.744	0.0488	0.9760	0	76.2	45	130	0.6701	10.5	30	
Vinyl chloride	0.841	0.0244	0.9760	0	86.2	43.6	150	0.8129	3.45	30	
Bromomethane	0.999	0.0488	0.9760	0	102	21.3	120	0.9545	4.59	30	
Trichlorofluoromethane (CFC-11)	1.04	0.0195	0.9760	0	107	35	131	0.9193	12.8	30	
Chloroethane	1.08	0.0488	0.9760	0	110	31.9	123	0.9946	7.79	30	
1,1-Dichloroethene	0.895	0.0195	0.9760	0	91.7	47.3	147	0.8490	5.23	30	
Methylene chloride	1.01	0.0195	0.9760	0.05501	97.8	54.7	142	0.9717	3.80	30	
trans-1,2-Dichloroethene	0.936	0.0195	0.9760	0	95.9	52	136	0.9011	3.85	30	
Methyl tert-butyl ether (MTBE)	0.966	0.0488	0.9760	0	98.9	58.5	167	0.9185	5.02	30	
1,1-Dichloroethane	0.943	0.0195	0.9760	0	96.6	51.8	141	0.9112	3.42	30	
2,2-Dichloropropane	0.862	0.0976	0.9760	0	88.3	36	123	0.7981	7.71	30	
cis-1,2-Dichloroethene	0.951	0.0195	0.9760	0	97.4	58.6	136	0.9083	4.57	30	
Chloroform	0.964	0.0195	0.9760	0	98.8	53.2	129	0.9253	4.10	30	
1,1,1-Trichloroethane (TCA)	0.926	0.0244	0.9760	0	94.9	58.3	145	0.8759	5.54	30	
1,1-Dichloropropene	0.946	0.0195	0.9760	0	96.9	55.1	138	0.9123	3.61	30	
Carbon tetrachloride	0.914	0.0244	0.9760	0	93.6	53.3	144	0.8626	5.74	30	
1,2-Dichloroethane (EDC)	0.968	0.0195	0.9760	0	99.1	51.3	139	0.9205	4.99	30	
Benzene	0.957	0.0195	0.9760	0	98.0	63.5	133	0.9142	4.55	30	
Trichloroethene (TCE)	0.958	0.0195	0.9760	0	98.2	61.6	147	0.9170	4.37	30	
1,2-Dichloropropane	0.969	0.0195	0.9760	0	99.2	59	136	0.9057	6.72	30	
Bromodichloromethane	0.983	0.0195	0.9760	0	101	50.7	141	0.9310	5.48	30	
Dibromomethane	0.970	0.0195	0.9760	0	99.4	50.6	137	0.9196	5.31	30	
cis-1,3-Dichloropropene	0.927	0.0195	0.9760	0	95.0	50.4	138	0.8736	5.98	30	
Toluene	0.960	0.0195	0.9760	0	98.4	63.4	132	0.9244	3.77	30	
trans-1,3-Dichloropropylene	0.869	0.0195	0.9760	0	89.0	44.1	147	0.8169	6.14	30	
1,1,2-Trichloroethane	0.965	0.0195	0.9760	0	98.8	51.6	137	0.9432	2.24	30	
1,3-Dichloropropane	0.965	0.0244	0.9760	0	98.9	53.1	134	0.9229	4.50	30	
Tetrachloroethene (PCE)	0.959	0.0244	0.9760	0	98.3	35.6	158	0.9180	4.38	30	
Dibromochloromethane	0.971	0.0244	0.9760	0	99.5	55.3	140	0.9506	2.12	30	
1,2-Dibromoethane (EDB)	0.961	0.00488	0.9760	0	98.4	50.4	136	0.9541	0.669	30	
Chlorobenzene	0.971	0.0244	0.9760	0	99.5	60	133	0.9297	4.38	30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1805090-009BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 5/8/2018	RunNo: 43361
Client ID: BATCH	Batch ID: 20625		Analysis Date: 5/8/2018	SeqNo: 838164

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.950	0.0244	0.9760	0	97.4	53.1	142	0.8928	6.24	30	
Ethylbenzene	1.00	0.0244	0.9760	0	103	54.5	134	0.9553	4.69	30	
m,p-Xylene	1.97	0.0488	1.952	0	101	53.1	132	1.882	4.69	30	
o-Xylene	0.970	0.0244	0.9760	0	99.4	53.3	139	0.9330	3.90	30	
Styrene	0.976	0.0244	0.9760	0	100	51.1	132	0.9447	3.30	30	
Isopropylbenzene	1.01	0.0244	0.9760	0	103	58.9	138	0.9670	4.10	30	
Bromoform	0.589	0.0488	0.9760	0	60.3	57.9	130	0.9799	49.9	30	R
1,1,2,2-Tetrachloroethane	0.962	0.0195	0.9760	0	98.6	51.9	131	0.9293	3.45	30	
n-Propylbenzene	1.00	0.0244	0.9760	0.07108	95.3	53.6	140	0.9640	3.81	30	
Bromobenzene	0.970	0.0195	0.9760	0	99.3	54.2	140	0.9433	2.76	30	
1,3,5-Trimethylbenzene	0.977	0.0244	0.9760	0	100	51.8	136	0.9527	2.57	30	
2-Chlorotoluene	0.991	0.0244	0.9760	0	102	51.6	136	0.9584	3.36	30	
4-Chlorotoluene	0.988	0.0244	0.9760	0	101	50.1	139	0.9549	3.42	30	
tert-Butylbenzene	0.962	0.0244	0.9760	0	98.6	50.5	135	0.9279	3.63	30	
1,2,3-Trichloropropane	0.958	0.0244	0.9760	0	98.2	50.5	131	0.9129	4.86	30	
1,2,4-Trichlorobenzene	1.03	0.0244	0.9760	0	106	50.8	130	0.9504	8.29	30	
sec-Butylbenzene	1.00	0.0488	0.9760	0	103	52.6	141	0.9584	4.30	30	
4-Isopropyltoluene	0.969	0.0488	0.9760	0	99.2	52.9	134	0.9580	1.09	30	
1,3-Dichlorobenzene	0.984	0.0195	0.9760	0	101	52.6	131	0.9421	4.35	30	
1,4-Dichlorobenzene	1.01	0.0195	0.9760	0	104	52.9	129	0.9726	3.83	30	
n-Butylbenzene	1.01	0.0244	0.9760	0	104	52.6	130	0.9646	4.91	30	
1,2-Dichlorobenzene	1.00	0.0195	0.9760	0	103	55.8	129	0.9519	5.21	30	
1,2-Dibromo-3-chloropropane	1.02	0.488	0.9760	0	104	40.5	131	0.9218	9.68	30	
1,2,4-Trimethylbenzene	0.985	0.0195	0.9760	0	101	50.6	137	0.9490	3.72	30	
Hexachlorobutadiene	1.03	0.0488	0.9760	0	106	40.6	158	0.9403	9.53	30	
Naphthalene	1.03	0.0488	0.9760	0.02352	103	52.3	124	0.9374	9.35	30	
1,2,3-Trichlorobenzene	1.02	0.0195	0.9760	0	105	54.4	124	0.9491	7.26	30	
Surr: Dibromofluoromethane	1.28		1.220		105	56.5	129		0		
Surr: Toluene-d8	1.22		1.220		100	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.24		1.220		102	43.2	143		0		



Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1805090-009BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	5/8/2018	RunNo:	43361				
Client ID:	BATCH	Batch ID:	20625			Analysis Date:	5/8/2018	SeqNo:	838164				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

R - High RPD observed. The method is in control as indicated by the LCS.

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20566	SampType:	LCS	Units:	mg/Kg	Prep Date:	5/1/2018	RunNo:	43244		
Client ID:	LCSS	Batch ID:	20566	Analysis Date:	5/2/2018	SeqNo:	836001				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.668	0.0200	1.000	0	66.8	14.3	167				
Chloromethane	0.829	0.0500	1.000	0	82.9	32	156				
Vinyl chloride	0.811	0.0250	1.000	0	81.1	43.4	151				
Bromomethane	0.982	0.0500	1.000	0	98.2	35	155				
Trichlorofluoromethane (CFC-11)	0.835	0.0200	1.000	0	83.5	33.8	156				
Chloroethane	0.781	0.0500	1.000	0	78.1	33.1	147				
1,1-Dichloroethene	0.887	0.0200	1.000	0	88.7	39	144				
Methylene chloride	0.915	0.0200	1.000	0	91.5	46.3	140				
trans-1,2-Dichloroethene	0.921	0.0200	1.000	0	92.1	68	130				
Methyl tert-butyl ether (MTBE)	0.927	0.0500	1.000	0	92.7	44.1	152				
1,1-Dichloroethane	0.914	0.0200	1.000	0	91.4	61.9	137				
2,2-Dichloropropane	0.840	0.100	1.000	0	84.0	35.5	186				
cis-1,2-Dichloroethene	0.917	0.0200	1.000	0	91.7	71.3	135				
Chloroform	0.928	0.0200	1.000	0	92.8	69	145				
1,1,1-Trichloroethane (TCA)	0.903	0.0250	1.000	0	90.3	69	132				
1,1-Dichloropropene	0.898	0.0200	1.000	0	89.8	72.7	131				
Carbon tetrachloride	0.899	0.0250	1.000	0	89.9	63.4	137				
1,2-Dichloroethane (EDC)	0.918	0.0200	1.000	0	91.8	50.9	162				
Benzene	0.921	0.0200	1.000	0	92.1	64.3	133				
Trichloroethene (TCE)	0.906	0.0200	1.000	0	90.6	65.5	137				
1,2-Dichloropropane	0.906	0.0200	1.000	0	90.6	63.2	142				
Bromodichloromethane	0.970	0.0200	1.000	0	97.0	53.4	131				
Dibromomethane	0.914	0.0200	1.000	0	91.4	60.1	146				
cis-1,3-Dichloropropene	0.897	0.0200	1.000	0	89.7	59.1	143				
Toluene	0.915	0.0200	1.000	0	91.5	67.3	138				
trans-1,3-Dichloropropylene	0.872	0.0200	1.000	0	87.2	49.2	149				
1,1,2-Trichloroethane	0.935	0.0200	1.000	0	93.5	56.9	147				
1,3-Dichloropropane	0.888	0.0250	1.000	0	88.8	56.1	153				
Tetrachloroethene (PCE)	0.907	0.0250	1.000	0	90.7	52.7	150				
Dibromochloromethane	0.970	0.0250	1.000	0	97.0	70.6	144				
1,2-Dibromoethane (EDB)	0.907	0.00500	1.000	0	90.7	50.5	154				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20566	SampType:	LCS	Units:	mg/Kg	Prep Date:	5/1/2018	RunNo:	43244
Client ID:	LCSS	Batch ID:	20566			Analysis Date:	5/2/2018	SeqNo:	836001

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	0.936	0.0250	1.000	0	93.6	84.9	125				
1,1,1,2-Tetrachloroethane	0.935	0.0250	1.000	0	93.5	65.9	141				
Ethylbenzene	0.962	0.0250	1.000	0	96.2	74	129				
m,p-Xylene	1.88	0.0500	2.000	0	93.8	70	124				
o-Xylene	0.917	0.0250	1.000	0	91.7	68.1	139				
Styrene	0.936	0.0250	1.000	0	93.6	73.3	146				
Isopropylbenzene	0.973	0.0250	1.000	0	97.3	70	130				
Bromoform	0.644	0.0500	1.000	0	64.4	44.3	130				
1,1,2,2-Tetrachloroethane	0.916	0.0200	1.000	0	91.6	44.8	165				
n-Propylbenzene	0.972	0.0250	1.000	0	97.2	75.8	139				
Bromobenzene	0.948	0.0200	1.000	0	94.8	49.2	144				
1,3,5-Trimethylbenzene	0.961	0.0250	1.000	0	96.1	76.5	135				
2-Chlorotoluene	0.886	0.0250	1.000	0	88.6	76.7	129				
4-Chlorotoluene	0.962	0.0250	1.000	0	96.2	77.5	125				
tert-Butylbenzene	0.923	0.0250	1.000	0	92.3	66.2	130				
1,2,3-Trichloropropane	1.16	0.0250	1.000	0	116	67.9	136				
1,2,4-Trichlorobenzene	0.976	0.0250	1.000	0	97.6	65.5	150				
sec-Butylbenzene	0.983	0.0500	1.000	0	98.3	75.6	133				
4-Isopropyltoluene	0.990	0.0500	1.000	0	99.0	76.8	131				
1,3-Dichlorobenzene	0.946	0.0200	1.000	0	94.6	72.8	128				
1,4-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.6	126				
n-Butylbenzene	0.940	0.0250	1.000	0	94.0	78.4	140				
1,2-Dichlorobenzene	0.967	0.0200	1.000	0	96.7	72.8	126				
1,2-Dibromo-3-chloropropane	0.982	0.500	1.000	0	98.2	40.2	155				
1,2,4-Trimethylbenzene	0.978	0.0200	1.000	0	97.8	77.5	129				
Hexachlorobutadiene	0.974	0.0500	1.000	0	97.4	42	151				
Naphthalene	0.958	0.0500	1.000	0	95.8	46.5	167				
1,2,3-Trichlorobenzene	0.966	0.0200	1.000	0	96.6	64.5	149				
Surr: Dibromofluoromethane	1.29		1.250		103	56.5	129				
Surr: Toluene-d8	1.22		1.250		97.8	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.25		1.250		100	43.2	143				

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID LCS-20566	SampType: LCS	Units: mg/Kg	Prep Date: 5/1/2018	RunNo: 43244							
Client ID: LCSS	Batch ID: 20566		Analysis Date: 5/2/2018	SeqNo: 836001							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID MB-20566	SampType: MBLK	Units: mg/Kg	Prep Date: 5/1/2018	RunNo: 43244							
Client ID: MBLKS	Batch ID: 20566		Analysis Date: 5/2/2018	SeqNo: 836002							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	0.0200									
Chloromethane	ND	0.0500									
Vinyl chloride	ND	0.0250									
Bromomethane	ND	0.0500									
Trichlorofluoromethane (CFC-11)	ND	0.0200									
Chloroethane	ND	0.0500									
1,1-Dichloroethene	ND	0.0200									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.100									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0250									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0250									
1,2-Dichloroethane (EDC)	ND	0.0200									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0200									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20566	SampType: MBLK	Units: mg/Kg	Prep Date: 5/1/2018	RunNo: 43244
Client ID: MBLKS	Batch ID: 20566		Analysis Date: 5/2/2018	SeqNo: 836002

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	0.0200									
1,1,2-Trichloroethane	ND	0.0200									
1,3-Dichloropropane	ND	0.0250									
Tetrachloroethene (PCE)	ND	0.0250									
Dibromochloromethane	ND	0.0250									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0250									
1,1,1,2-Tetrachloroethane	ND	0.0250									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Styrene	ND	0.0250									
Isopropylbenzene	ND	0.0250									
Bromoform	ND	0.0500									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0250									
Bromobenzene	ND	0.0200									
1,3,5-Trimethylbenzene	ND	0.0250									
2-Chlorotoluene	ND	0.0250									
4-Chlorotoluene	ND	0.0250									
tert-Butylbenzene	ND	0.0250									
1,2,3-Trichloropropane	ND	0.0250									
1,2,4-Trichlorobenzene	ND	0.0250									
sec-Butylbenzene	ND	0.0500									
4-Isopropyltoluene	ND	0.0500									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0250									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20566	SampType: MBLK	Units: mg/Kg	Prep Date: 5/1/2018	RunNo: 43244							
Client ID: MBLKS	Batch ID: 20566		Analysis Date: 5/2/2018	SeqNo: 836002							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.0500									
Naphthalene	ND	0.0500									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.20		1.250		95.7	56.5	129				
Surr: Toluene-d8	1.22		1.250		97.5	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.22		1.250		97.5	43.2	143				

Sample ID 1804398-002BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 5/1/2018	RunNo: 43244							
Client ID: SB-26-4	Batch ID: 20566		Analysis Date: 5/2/2018	SeqNo: 835978							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0234						0		30	
Chloromethane	ND	0.0584						0		30	
Vinyl chloride	ND	0.0292						0		30	
Bromomethane	ND	0.0584						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0234						0		30	
Chloroethane	ND	0.0584						0		30	
1,1-Dichloroethene	ND	0.0234						0		30	
Methylene chloride	ND	0.0234						0		30	
trans-1,2-Dichloroethene	ND	0.0234						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0584						0		30	
1,1-Dichloroethane	ND	0.0234						0		30	
2,2-Dichloropropane	ND	0.117						0		30	
cis-1,2-Dichloroethene	ND	0.0234						0		30	
Chloroform	ND	0.0234						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0292						0		30	
1,1-Dichloropropene	ND	0.0234						0		30	
Carbon tetrachloride	ND	0.0292						0		30	
1,2-Dichloroethane (EDC)	ND	0.0234						0		30	
Benzene	ND	0.0234						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-002BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/1/2018	RunNo:	43244
Client ID:	SB-26-4	Batch ID:	20566			Analysis Date:	5/2/2018	SeqNo:	835978

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0234						0		30	
1,2-Dichloropropane	ND	0.0234						0		30	
Bromodichloromethane	ND	0.0234						0		30	
Dibromomethane	ND	0.0234						0		30	
cis-1,3-Dichloropropene	ND	0.0234						0		30	
Toluene	ND	0.0234						0		30	
trans-1,3-Dichloropropylene	ND	0.0234						0		30	
1,1,2-Trichloroethane	ND	0.0234						0		30	
1,3-Dichloropropane	ND	0.0292						0		30	
Tetrachloroethene (PCE)	ND	0.0292						0		30	
Dibromochloromethane	ND	0.0292						0		30	
1,2-Dibromoethane (EDB)	ND	0.00584						0		30	
Chlorobenzene	ND	0.0292						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0292						0		30	
Ethylbenzene	ND	0.0292						0		30	
m,p-Xylene	ND	0.0584						0		30	
o-Xylene	ND	0.0292						0		30	
Styrene	ND	0.0292						0		30	
Isopropylbenzene	ND	0.0292						0		30	
Bromoform	ND	0.0584						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0234						0		30	
n-Propylbenzene	ND	0.0292						0		30	
Bromobenzene	ND	0.0234						0		30	
1,3,5-Trimethylbenzene	ND	0.0292						0		30	
2-Chlorotoluene	ND	0.0292						0		30	
4-Chlorotoluene	ND	0.0292						0		30	
tert-Butylbenzene	ND	0.0292						0		30	
1,2,3-Trichloropropane	ND	0.0292						0		30	
1,2,4-Trichlorobenzene	ND	0.0292						0		30	
sec-Butylbenzene	ND	0.0584						0		30	
4-Isopropyltoluene	ND	0.0584						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804398-002BDUP		SampType: DUP		Units: mg/Kg-dry		Prep Date: 5/1/2018		RunNo: 43244			
Client ID: SB-26-4		Batch ID: 20566				Analysis Date: 5/2/2018		SeqNo: 835978			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	0.0234						0		30	
1,4-Dichlorobenzene	ND	0.0234						0		30	
n-Butylbenzene	ND	0.0292						0		30	
1,2-Dichlorobenzene	ND	0.0234						0		30	
1,2-Dibromo-3-chloropropane	ND	0.584						0		30	
1,2,4-Trimethylbenzene	ND	0.0234						0		30	
Hexachlorobutadiene	ND	0.0584						0		30	
Naphthalene	ND	0.0584						0		30	
1,2,3-Trichlorobenzene	ND	0.0234						0		30	
Surr: Dibromofluoromethane	1.40		1.460		96.0	56.5	129		0		
Surr: Toluene-d8	1.44		1.460		98.7	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.45		1.460		99.5	43.2	143		0		

Sample ID 1804398-017BDUP		SampType: DUP		Units: mg/Kg-dry		Prep Date: 5/1/2018		RunNo: 43244			
Client ID: SB-30-30		Batch ID: 20566				Analysis Date: 5/3/2018		SeqNo: 835987			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0316						0		30	
Chloromethane	ND	0.0791						0		30	
Vinyl chloride	ND	0.0395						0		30	
Bromomethane	ND	0.0791						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0316						0		30	
Chloroethane	ND	0.0791						0		30	
1,1-Dichloroethene	ND	0.0316						0		30	
Methylene chloride	ND	0.0316						0		30	
trans-1,2-Dichloroethene	ND	0.0316						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0791						0		30	
1,1-Dichloroethane	ND	0.0316						0		30	
2,2-Dichloropropane	ND	0.158						0		30	
cis-1,2-Dichloroethene	ND	0.0316						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-017BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	5/1/2018	RunNo:	43244
Client ID:	SB-30-30	Batch ID:	20566			Analysis Date:	5/3/2018	SeqNo:	835987

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	0.0316						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0395						0		30	
1,1-Dichloropropene	ND	0.0316						0		30	
Carbon tetrachloride	ND	0.0395						0		30	
1,2-Dichloroethane (EDC)	ND	0.0316						0		30	
Benzene	ND	0.0316						0		30	
Trichloroethene (TCE)	ND	0.0316						0		30	
1,2-Dichloropropane	ND	0.0316						0		30	
Bromodichloromethane	ND	0.0316						0		30	
Dibromomethane	ND	0.0316						0		30	
cis-1,3-Dichloropropene	ND	0.0316						0		30	
Toluene	ND	0.0316						0		30	
trans-1,3-Dichloropropylene	ND	0.0316						0		30	
1,1,2-Trichloroethane	ND	0.0316						0		30	
1,3-Dichloropropane	ND	0.0395						0		30	
Tetrachloroethene (PCE)	ND	0.0395						0		30	
Dibromochloromethane	ND	0.0395						0		30	
1,2-Dibromoethane (EDB)	ND	0.00791						0		30	
Chlorobenzene	ND	0.0395						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0395						0		30	
Ethylbenzene	ND	0.0395						0		30	
m,p-Xylene	ND	0.0791						0		30	
o-Xylene	ND	0.0395						0		30	
Styrene	ND	0.0395						0		30	
Isopropylbenzene	ND	0.0395						0		30	
Bromoform	ND	0.0791						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0316						0		30	
n-Propylbenzene	ND	0.0395						0		30	
Bromobenzene	ND	0.0316						0		30	
1,3,5-Trimethylbenzene	ND	0.0395						0		30	
2-Chlorotoluene	ND	0.0395						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804398-017BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 5/1/2018	RunNo: 43244							
Client ID: SB-30-30	Batch ID: 20566		Analysis Date: 5/3/2018	SeqNo: 835987							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

4-Chlorotoluene	ND	0.0395						0		30	
tert-Butylbenzene	ND	0.0395						0		30	
1,2,3-Trichloropropane	ND	0.0395						0		30	
1,2,4-Trichlorobenzene	ND	0.0395						0		30	
sec-Butylbenzene	ND	0.0791						0		30	
4-Isopropyltoluene	ND	0.0791						0		30	
1,3-Dichlorobenzene	ND	0.0316						0		30	
1,4-Dichlorobenzene	ND	0.0316						0		30	
n-Butylbenzene	ND	0.0395						0		30	
1,2-Dichlorobenzene	ND	0.0316						0		30	
1,2-Dibromo-3-chloropropane	ND	0.791						0		30	
1,2,4-Trimethylbenzene	ND	0.0316						0		30	
Hexachlorobutadiene	ND	0.0791						0		30	
Naphthalene	ND	0.0791						0		30	
1,2,3-Trichlorobenzene	ND	0.0316						0		30	
Surr: Dibromofluoromethane	1.82		1.977		92.0	56.5	129		0		
Surr: Toluene-d8	1.92		1.977		97.0	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.92		1.977		96.9	43.2	143		0		

Sample ID 1804398-008BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 5/1/2018	RunNo: 43244							
Client ID: SB-27-4	Batch ID: 20566		Analysis Date: 5/3/2018	SeqNo: 835982							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	2.23	0.0341	1.705	0	131	43.5	121				S
Chloromethane	1.55	0.0852	1.705	0	90.9	45	130				
Vinyl chloride	1.70	0.0426	1.705	0	99.6	43.6	150				
Bromomethane	1.80	0.0852	1.705	0	106	21.3	120				
Trichlorofluoromethane (CFC-11)	1.93	0.0341	1.705	0	113	35	131				
Chloroethane	1.76	0.0852	1.705	0	103	31.9	123				
1,1-Dichloroethene	1.55	0.0341	1.705	0	90.6	47.3	147				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804398-008BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 5/1/2018	RunNo: 43244							
Client ID: SB-27-4	Batch ID: 20566		Analysis Date: 5/3/2018	SeqNo: 835982							
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
Methylene chloride	1.57	0.0341	1.705	0	91.9	54.7	142				
trans-1,2-Dichloroethene	1.57	0.0341	1.705	0	91.9	52	136				
Methyl tert-butyl ether (MTBE)	1.56	0.0852	1.705	0	91.7	58.5	167				
1,1-Dichloroethane	1.55	0.0341	1.705	0	90.9	51.8	141				
2,2-Dichloropropane	0.487	0.170	1.705	0	28.6	36	123				S
cis-1,2-Dichloroethene	1.55	0.0341	1.705	0	90.8	58.6	136				
Chloroform	1.57	0.0341	1.705	0	92.1	53.2	129				
1,1,1-Trichloroethane (TCA)	1.54	0.0426	1.705	0	90.1	58.3	145				
1,1-Dichloropropene	1.54	0.0341	1.705	0	90.3	55.1	138				
Carbon tetrachloride	1.54	0.0426	1.705	0	90.2	53.3	144				
1,2-Dichloroethane (EDC)	1.57	0.0341	1.705	0	92.2	51.3	139				
Benzene	1.57	0.0341	1.705	0	92.2	63.5	133				
Trichloroethene (TCE)	1.55	0.0341	1.705	0	90.7	61.6	147				
1,2-Dichloropropane	1.53	0.0341	1.705	0	89.5	59	136				
Bromodichloromethane	1.60	0.0341	1.705	0	93.6	50.7	141				
Dibromomethane	1.60	0.0341	1.705	0	94.1	50.6	137				
cis-1,3-Dichloropropene	1.24	0.0341	1.705	0	72.7	50.4	138				
Toluene	1.56	0.0341	1.705	0	91.3	63.4	132				
trans-1,3-Dichloropropylene	1.19	0.0341	1.705	0	70.0	44.1	147				
1,1,2-Trichloroethane	1.67	0.0341	1.705	0	97.7	51.6	137				
1,3-Dichloropropane	1.62	0.0426	1.705	0	95.0	53.1	134				
Tetrachloroethene (PCE)	1.59	0.0426	1.705	0	93.5	35.6	158				
Dibromochloromethane	1.65	0.0426	1.705	0	96.9	55.3	140				
1,2-Dibromoethane (EDB)	1.64	0.00852	1.705	0	96.1	50.4	136				
Chlorobenzene	1.60	0.0426	1.705	0	93.8	60	133				
1,1,1,2-Tetrachloroethane	1.53	0.0426	1.705	0	89.8	53.1	142				
Ethylbenzene	1.64	0.0426	1.705	0	96.4	54.5	134				
m,p-Xylene	3.18	0.0852	3.410	0	93.2	53.1	132				
o-Xylene	1.52	0.0426	1.705	0	89.2	53.3	139				
Styrene	1.54	0.0426	1.705	0	90.6	51.1	132				
Isopropylbenzene	1.59	0.0426	1.705	0	93.1	58.9	138				

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804398-008BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 5/1/2018	RunNo: 43244
Client ID: SB-27-4	Batch ID: 20566		Analysis Date: 5/3/2018	SeqNo: 835982

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	1.60	0.0852	1.705	0	93.8	57.9	130				
1,1,2,2-Tetrachloroethane	1.55	0.0341	1.705	0	91.0	51.9	131				
n-Propylbenzene	1.59	0.0426	1.705	0	93.2	53.6	140				
Bromobenzene	1.54	0.0341	1.705	0	90.6	54.2	140				
1,3,5-Trimethylbenzene	1.59	0.0426	1.705	0	93.0	51.8	136				
2-Chlorotoluene	1.41	0.0426	1.705	0	82.6	51.6	136				
4-Chlorotoluene	1.52	0.0426	1.705	0	89.4	50.1	139				
tert-Butylbenzene	1.58	0.0426	1.705	0	92.4	50.5	135				
1,2,3-Trichloropropane	1.77	0.0426	1.705	0	104	50.5	131				
1,2,4-Trichlorobenzene	1.57	0.0426	1.705	0	91.9	50.8	130				
sec-Butylbenzene	1.60	0.0852	1.705	0	93.9	52.6	141				
4-Isopropyltoluene	1.60	0.0852	1.705	0	94.1	52.9	134				
1,3-Dichlorobenzene	1.65	0.0341	1.705	0	96.8	52.6	131				
1,4-Dichlorobenzene	1.60	0.0341	1.705	0	94.1	52.9	129				
n-Butylbenzene	1.50	0.0426	1.705	0	88.1	52.6	130				
1,2-Dichlorobenzene	1.63	0.0341	1.705	0	95.4	55.8	129				
1,2-Dibromo-3-chloropropane	1.60	0.852	1.705	0	93.9	40.5	131				
1,2,4-Trimethylbenzene	1.63	0.0341	1.705	0	95.4	50.6	137				
Hexachlorobutadiene	1.53	0.0852	1.705	0	89.7	40.6	158				
Naphthalene	1.65	0.0852	1.705	0	96.9	52.3	124				
1,2,3-Trichlorobenzene	1.63	0.0341	1.705	0	95.6	54.4	124				
Surr: Dibromofluoromethane	2.16		2.131		102	56.5	129				
Surr: Toluene-d8	2.10		2.131		98.7	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	2.07		2.131		97.0	43.2	143				

NOTES:
 S - Outlying spike recovery(ies) observed.

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1804398-008BMSD	SampType: MSD	Units: mg/Kg-dry	Prep Date: 5/1/2018	RunNo: 43244
Client ID: SB-27-4	Batch ID: 20566		Analysis Date: 5/3/2018	SeqNo: 835983

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	2.56	0.0341	1.705	0	150	43.5	121	2.233	13.6	30	S
Chloromethane	1.81	0.0852	1.705	0	106	45	130	1.550	15.4	30	
Vinyl chloride	1.93	0.0426	1.705	0	113	43.6	150	1.698	12.9	30	
Bromomethane	1.93	0.0852	1.705	0	113	21.3	120	1.804	6.84	30	
Trichlorofluoromethane (CFC-11)	2.15	0.0341	1.705	0	126	35	131	1.929	10.8	30	
Chloroethane	2.06	0.0852	1.705	0	121	31.9	123	1.761	15.9	30	
1,1-Dichloroethene	1.75	0.0341	1.705	0	103	47.3	147	1.545	12.4	30	
Methylene chloride	1.71	0.0341	1.705	0	101	54.7	142	1.567	8.98	30	
trans-1,2-Dichloroethene	1.75	0.0341	1.705	0	103	52	136	1.567	11.1	30	
Methyl tert-butyl ether (MTBE)	1.63	0.0852	1.705	0	95.9	58.5	167	1.563	4.51	30	
1,1-Dichloroethane	1.70	0.0341	1.705	0	99.5	51.8	141	1.549	9.07	30	
2,2-Dichloropropane	0.537	0.170	1.705	0	31.5	36	123	0.4874	9.69	30	S
cis-1,2-Dichloroethene	1.69	0.0341	1.705	0	99.3	58.6	136	1.548	8.97	30	
Chloroform	1.71	0.0341	1.705	0	100	53.2	129	1.570	8.40	30	
1,1,1-Trichloroethane (TCA)	1.75	0.0426	1.705	0	103	58.3	145	1.535	13.2	30	
1,1-Dichloropropene	1.78	0.0341	1.705	0	104	55.1	138	1.540	14.3	30	
Carbon tetrachloride	1.81	0.0426	1.705	0	106	53.3	144	1.538	16.4	30	
1,2-Dichloroethane (EDC)	1.64	0.0341	1.705	0	96.5	51.3	139	1.572	4.52	30	
Benzene	1.72	0.0341	1.705	0	101	63.5	133	1.572	9.11	30	
Trichloroethene (TCE)	1.74	0.0341	1.705	0	102	61.6	147	1.547	11.7	30	
1,2-Dichloropropane	1.65	0.0341	1.705	0	96.8	59	136	1.525	7.89	30	
Bromodichloromethane	1.71	0.0341	1.705	0	101	50.7	141	1.596	7.16	30	
Dibromomethane	1.65	0.0341	1.705	0	96.9	50.6	137	1.604	2.98	30	
cis-1,3-Dichloropropene	1.33	0.0341	1.705	0	77.8	50.4	138	1.239	6.83	30	
Toluene	1.70	0.0341	1.705	0	99.5	63.4	132	1.556	8.58	30	
trans-1,3-Dichloropropylene	1.26	0.0341	1.705	0	73.9	44.1	147	1.194	5.32	30	
1,1,2-Trichloroethane	1.70	0.0341	1.705	0	99.7	51.6	137	1.665	2.08	30	
1,3-Dichloropropane	1.69	0.0426	1.705	0	99.4	53.1	134	1.620	4.43	30	
Tetrachloroethene (PCE)	1.77	0.0426	1.705	0	104	35.6	158	1.593	10.8	30	
Dibromochloromethane	1.75	0.0426	1.705	0	103	55.3	140	1.652	5.65	30	
1,2-Dibromoethane (EDB)	1.70	0.00852	1.705	0	99.9	50.4	136	1.639	3.90	30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-008BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	5/1/2018	RunNo:	43244
Client ID:	SB-27-4	Batch ID:	20566			Analysis Date:	5/3/2018	SeqNo:	835983

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.73	0.0426	1.705	0	102	60	133	1.599	8.04	30	
1,1,1,2-Tetrachloroethane	1.67	0.0426	1.705	0	98.0	53.1	142	1.531	8.74	30	
Ethylbenzene	1.81	0.0426	1.705	0	106	54.5	134	1.644	9.41	30	
m,p-Xylene	3.50	0.0852	3.410	0	103	53.1	132	3.179	9.68	30	
o-Xylene	1.72	0.0426	1.705	0	101	53.3	139	1.521	12.2	30	
Styrene	1.74	0.0426	1.705	0	102	51.1	132	1.544	11.7	30	
Isopropylbenzene	1.86	0.0426	1.705	0	109	58.9	138	1.587	15.7	30	
Bromoform	1.74	0.0852	1.705	0	102	57.9	130	1.600	8.61	30	
1,1,2,2-Tetrachloroethane	1.65	0.0341	1.705	0	97.1	51.9	131	1.551	6.45	30	
n-Propylbenzene	1.84	0.0426	1.705	0	108	53.6	140	1.588	14.8	30	
Bromobenzene	1.74	0.0341	1.705	0	102	54.2	140	1.544	11.9	30	
1,3,5-Trimethylbenzene	1.81	0.0426	1.705	0	106	51.8	136	1.585	13.1	30	
2-Chlorotoluene	1.62	0.0426	1.705	0	95.3	51.6	136	1.409	14.3	30	
4-Chlorotoluene	1.76	0.0426	1.705	0	103	50.1	139	1.525	14.6	30	
tert-Butylbenzene	1.78	0.0426	1.705	0	104	50.5	135	1.575	12.0	30	
1,2,3-Trichloropropane	1.90	0.0426	1.705	0	112	50.5	131	1.769	7.23	30	
1,2,4-Trichlorobenzene	1.69	0.0426	1.705	0	99.4	50.8	130	1.567	7.81	30	
sec-Butylbenzene	1.92	0.0852	1.705	0	112	52.6	141	1.601	17.9	30	
4-Isopropyltoluene	1.86	0.0852	1.705	0	109	52.9	134	1.604	14.8	30	
1,3-Dichlorobenzene	1.71	0.0341	1.705	0	100	52.6	131	1.650	3.65	30	
1,4-Dichlorobenzene	1.80	0.0341	1.705	0	105	52.9	129	1.604	11.4	30	
n-Butylbenzene	1.65	0.0426	1.705	0	96.9	52.6	130	1.503	9.44	30	
1,2-Dichlorobenzene	1.76	0.0341	1.705	0	104	55.8	129	1.627	8.13	30	
1,2-Dibromo-3-chloropropane	1.64	0.852	1.705	0	95.9	40.5	131	1.601	2.17	30	
1,2,4-Trimethylbenzene	1.83	0.0341	1.705	0	107	50.6	137	1.626	11.8	30	
Hexachlorobutadiene	1.76	0.0852	1.705	0	103	40.6	158	1.529	14.2	30	
Naphthalene	1.71	0.0852	1.705	0	100	52.3	124	1.652	3.58	30	
1,2,3-Trichlorobenzene	1.71	0.0341	1.705	0	100	54.4	124	1.629	4.82	30	
Surr: Dibromofluoromethane	2.17		2.131		102	56.5	129		0		
Surr: Toluene-d8	2.07		2.131		97.1	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	2.15		2.131		101	43.2	143		0		

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804398-008BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	5/1/2018	RunNo:	43244			
Client ID:	SB-27-4	Batch ID:	20566	Analysis Date:	5/3/2018	SeqNo:	835983					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

NOTES:

S - Outlying spike recovery(ies) observed.

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20551	SampType:	LCS	Units:	µg/L	Prep Date:	4/30/2018	RunNo:	43179		
Client ID:	LCSW	Batch ID:	20551	Analysis Date:	4/30/2018	SeqNo:	834590				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	22.1	1.00	20.00	0	111	18.7	171				
Chloromethane	22.5	2.00	20.00	0	112	38.5	171				
Vinyl chloride	20.2	0.200	20.00	0	101	48	145				
Bromomethane	22.6	1.00	20.00	0	113	32.5	184				
Trichlorofluoromethane (CFC-11)	17.7	1.00	20.00	0	88.6	43.5	149				
Chloroethane	21.8	1.00	20.00	0	109	43.8	168				
1,1-Dichloroethene	19.1	1.00	20.00	0	95.3	57.5	150				
Methylene chloride	19.5	1.00	20.00	0	97.7	67.1	131				
trans-1,2-Dichloroethene	20.0	1.00	20.00	0	100	71.7	129				
Methyl tert-butyl ether (MTBE)	20.4	1.00	20.00	0	102	58	138				
1,1-Dichloroethane	21.3	1.00	20.00	0	106	67.9	134				
2,2-Dichloropropane	21.8	2.00	20.00	0	109	26.5	185				
cis-1,2-Dichloroethene	19.9	1.00	20.00	0	99.3	70.2	139				
Chloroform	19.8	1.00	20.00	0	99.0	66.3	131				
1,1,1-Trichloroethane (TCA)	19.3	1.00	20.00	0	96.6	63	140				
1,1-Dichloropropene	19.5	1.00	20.00	0	97.4	69.9	124				
Carbon tetrachloride	18.7	1.00	20.00	0	93.4	66.2	134				
1,2-Dichloroethane (EDC)	19.8	1.00	20.00	0	98.8	67	126				
Benzene	20.3	1.00	20.00	0	101	69.3	132				
Trichloroethene (TCE)	19.5	0.500	20.00	0	97.5	65.2	136				
1,2-Dichloropropane	19.9	1.00	20.00	0	99.6	70.5	130				
Bromodichloromethane	19.1	1.00	20.00	0	95.4	67.2	137				
Dibromomethane	19.8	1.00	20.00	0	99.1	69.3	143				
cis-1,3-Dichloropropene	19.0	1.00	20.00	0	95.2	62.6	137				
Toluene	19.9	1.00	20.00	0	99.7	61.3	145				
trans-1,3-Dichloropropylene	19.0	1.00	20.00	0	95.2	56.5	163				
1,1,2-Trichloroethane	19.6	1.00	20.00	0	98.0	71.7	131				
1,3-Dichloropropane	19.4	1.00	20.00	0	96.9	73.5	127				
Tetrachloroethene (PCE)	19.4	1.00	20.00	0	97.2	47.5	147				
Dibromochloromethane	19.4	1.00	20.00	0	97.1	67.2	134				
1,2-Dibromoethane (EDB)	19.6	0.250	20.00	0	98.2	73.6	125				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-20551	SampType:	LCS	Units:	µg/L	Prep Date:	4/30/2018	RunNo:	43179		
Client ID:	LCSW	Batch ID:	20551	Analysis Date:	4/30/2018	SeqNo:	834590				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	19.7	1.00	20.00	0	98.3	73.9	126				
1,1,1,2-Tetrachloroethane	19.7	1.00	20.00	0	98.7	76.8	124				
Ethylbenzene	19.9	1.00	20.00	0	99.3	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	99.9	72.1	131				
Styrene	19.9	1.00	20.00	0	99.3	64.3	140				
Isopropylbenzene	19.7	1.00	20.00	0	98.6	73.9	128				
Bromoform	17.9	2.00	20.00	0	89.7	55.3	141				
1,1,2,2-Tetrachloroethane	19.1	1.00	20.00	0	95.6	62.9	132				
n-Propylbenzene	19.6	1.00	20.00	0	98.0	74.5	127				
Bromobenzene	19.6	1.00	20.00	0	98.0	71	131				
1,3,5-Trimethylbenzene	19.7	1.00	20.00	0	98.4	73.1	128				
2-Chlorotoluene	21.0	1.00	20.00	0	105	70.8	130				
4-Chlorotoluene	17.8	1.00	20.00	0	89.1	70.1	131				
tert-Butylbenzene	18.8	1.00	20.00	0	94.1	68.2	131				
1,2,3-Trichloropropane	17.7	1.00	20.00	0	88.3	67.7	131				
1,2,4-Trichlorobenzene	21.7	2.00	20.00	0	108	41	139				
sec-Butylbenzene	19.4	1.00	20.00	0	96.8	72	129				
4-Isopropyltoluene	19.4	1.00	20.00	0	97.1	69.2	130				
1,3-Dichlorobenzene	20.2	1.00	20.00	0	101	80.4	124				
1,4-Dichlorobenzene	20.2	1.00	20.00	0	101	66.8	119				
n-Butylbenzene	20.5	1.00	20.00	0	102	73.8	127				
1,2-Dichlorobenzene	20.7	1.00	20.00	0	104	69.7	119				
1,2-Dibromo-3-chloropropane	20.3	1.00	20.00	0	101	63.1	136				
1,2,4-Trimethylbenzene	19.5	1.00	20.00	0	97.3	73.4	127				
Hexachloro-1,3-butadiene	21.8	4.00	20.00	0	109	58.6	138				
Naphthalene	21.5	1.00	20.00	0	107	41.8	165				
1,2,3-Trichlorobenzene	22.1	4.00	20.00	0	111	35.8	155				
Surr: Dibromofluoromethane	27.1		25.00		109	45.4	152				
Surr: Toluene-d8	24.7		25.00		98.8	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128				

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID LCS-20551	SampType: LCS	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: LCSW	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 834590							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID MB-20551	SampType: MBLK	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: MBLKW	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 834591							
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	2.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20551	SampType: MBLK	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179
Client ID: MBLKW	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 834591

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.250									
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	2.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-20551	SampType: MBLK	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: MBLKW	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 834591							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	24.7		25.00		99.0	45.4	152				
Surr: Toluene-d8	24.7		25.00		98.7	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.8		25.00		99.1	64.2	128				

Sample ID 1804408-005ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: BATCH	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 834588							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804408-005ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/30/2018	RunNo:	43179
Client ID:	BATCH	Batch ID:	20551			Analysis Date:	4/30/2018	SeqNo:	834588

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804408-005ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/30/2018	RunNo:	43179		
Client ID:	BATCH	Batch ID:	20551	Analysis Date:	4/30/2018	SeqNo:	834588				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	26.0		25.00		104	45.4	152		0		
Surr: Toluene-d8	24.7		25.00		98.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.9		25.00		99.7	64.2	128		0		

Sample ID	1804389-008AMS	SampType:	MS	Units:	µg/L	Prep Date:	4/30/2018	RunNo:	43179		
Client ID:	BATCH	Batch ID:	20551	Analysis Date:	4/30/2018	SeqNo:	835090				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	26.1	1.00	20.00	0	131	33.3	122				S
Chloromethane	21.4	2.00	20.00	0	107	39.7	143				
Vinyl chloride	23.3	0.200	20.00	0	117	41	165				
Bromomethane	20.8	1.00	20.00	0	104	31.5	135				
Trichlorofluoromethane (CFC-11)	22.0	1.00	20.00	0	110	54.7	138				
Chloroethane	24.4	1.00	20.00	0	122	49.9	143				
1,1-Dichloroethene	22.4	1.00	20.00	0	112	51.6	164				
Methylene chloride	20.5	1.00	20.00	0	103	61.6	135				
trans-1,2-Dichloroethene	21.8	1.00	20.00	0	109	63.5	138				
Methyl tert-butyl ether (MTBE)	20.8	1.00	20.00	0	104	60.9	132				
1,1-Dichloroethane	23.1	1.00	20.00	0	116	55.7	151				
2,2-Dichloropropane	21.3	2.00	20.00	0	106	37.7	150				
cis-1,2-Dichloroethene	23.5	1.00	20.00	2.412	106	60	154				

Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804389-008AMS	SampType: MS	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: BATCH	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 835090							
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
Chloroform	21.3	1.00	20.00	0	107	48.1	140				
1,1,1-Trichloroethane (TCA)	21.8	1.00	20.00	0	109	64.2	146				
1,1-Dichloropropene	21.9	1.00	20.00	0	110	73.8	136				
Carbon tetrachloride	21.0	1.00	20.00	0	105	62.7	146				
1,2-Dichloroethane (EDC)	19.8	1.00	20.00	0	98.8	63.4	137				
Benzene	21.3	1.00	20.00	0	106	65.4	138				
Trichloroethene (TCE)	21.3	0.500	20.00	0	107	60.4	134				
1,2-Dichloropropane	20.9	1.00	20.00	0	105	62.6	138				
Bromodichloromethane	19.2	1.00	20.00	0	96.2	59.4	139				
Dibromomethane	19.8	1.00	20.00	0	98.8	58.7	148				
cis-1,3-Dichloropropene	19.0	1.00	20.00	0	94.9	63.8	132				
Toluene	20.9	1.00	20.00	0	105	52	147				
trans-1,3-Dichloropropylene	19.0	1.00	20.00	0	95.0	57.7	125				
1,1,2-Trichloroethane	19.9	1.00	20.00	0	99.3	57.5	153				
1,3-Dichloropropane	19.5	1.00	20.00	0	97.6	54.1	157				
Tetrachloroethene (PCE)	26.0	1.00	20.00	4.256	109	50.3	133				
Dibromochloromethane	19.0	1.00	20.00	0	95.1	61.6	139				
1,2-Dibromoethane (EDB)	19.7	0.250	20.00	0	98.7	63.2	134				
Chlorobenzene	20.5	1.00	20.00	0	103	65.8	134				
1,1,1,2-Tetrachloroethane	20.2	1.00	20.00	0	101	65.4	135				
Ethylbenzene	21.3	1.00	20.00	0	106	64.5	136				
m,p-Xylene	41.8	1.00	40.00	0	105	63.3	135				
o-Xylene	21.0	1.00	20.00	0	105	64.8	150				
Styrene	20.3	1.00	20.00	0	102	52.9	163				
Isopropylbenzene	21.5	1.00	20.00	0	107	56	147				
Bromoform	16.5	2.00	20.00	0	82.6	57.7	139				
1,1,1,2,2-Tetrachloroethane	19.0	1.00	20.00	0	95.2	59.8	146				
n-Propylbenzene	20.5	1.00	20.00	0	103	57.6	142				
Bromobenzene	20.0	1.00	20.00	0	100	69.3	157				
1,3,5-Trimethylbenzene	20.8	1.00	20.00	0	104	59.9	136				
2-Chlorotoluene	20.9	1.00	20.00	0	105	61.7	134				

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804389-008AMS	SampType: MS	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: BATCH	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 835090							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

4-Chlorotoluene	19.0	1.00	20.00	0	94.8	58.4	134				
tert-Butylbenzene	20.6	1.00	20.00	0	103	66.8	141				
1,2,3-Trichloropropane	17.7	1.00	20.00	0	88.3	62.4	129				
1,2,4-Trichlorobenzene	21.9	2.00	20.00	0	109	50.9	133				
sec-Butylbenzene	21.4	1.00	20.00	0	107	56	146				
4-Isopropyltoluene	20.9	1.00	20.00	0	104	56.4	136				
1,3-Dichlorobenzene	20.2	1.00	20.00	0	101	58.2	128				
1,4-Dichlorobenzene	20.6	1.00	20.00	0	103	60.1	123				
n-Butylbenzene	22.7	1.00	20.00	0	114	54.6	135				
1,2-Dichlorobenzene	20.6	1.00	20.00	0	103	65.4	133				
1,2-Dibromo-3-chloropropane	18.9	1.00	20.00	0	94.7	51.8	142				
1,2,4-Trimethylbenzene	20.4	1.00	20.00	0	102	63.7	132				
Hexachloro-1,3-butadiene	23.3	4.00	20.00	0	117	58.1	130				
Naphthalene	20.8	1.00	20.00	0	104	50.7	154				
1,2,3-Trichlorobenzene	21.4	4.00	20.00	0	107	57	131				
Surr: Dibromofluoromethane	27.1		25.00		108	45.4	152				
Surr: Toluene-d8	25.0		25.00		100	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.2		25.00		101	64.2	128				

NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID 1804389-008AMSD	SampType: MSD	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: BATCH	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 835091							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	25.9	1.00	20.00	0	129	33.3	122	26.11	0.904	30	S
Chloromethane	23.3	2.00	20.00	0	117	39.7	143	21.40	8.66	30	
Vinyl chloride	23.6	0.200	20.00	0	118	41	165	23.32	1.39	30	
Bromomethane	21.7	1.00	20.00	0	109	31.5	135	20.82	4.23	30	
Trichlorofluoromethane (CFC-11)	22.3	1.00	20.00	0	111	54.7	138	22.01	1.18	30	
Chloroethane	23.6	1.00	20.00	0	118	49.9	143	24.41	3.52	30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804389-008AMSD	SampType: MSD	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179
Client ID: BATCH	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 835091

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22.2	1.00	20.00	0	111	51.6	164	22.37	0.531	30	
Methylene chloride	20.4	1.00	20.00	0	102	61.6	135	20.52	0.552	30	
trans-1,2-Dichloroethene	21.5	1.00	20.00	0	107	63.5	138	21.78	1.53	30	
Methyl tert-butyl ether (MTBE)	20.6	1.00	20.00	0	103	60.9	132	20.82	1.17	30	
1,1-Dichloroethane	22.3	1.00	20.00	0	111	55.7	151	23.13	3.73	30	
2,2-Dichloropropane	21.1	2.00	20.00	0	106	37.7	150	21.26	0.744	30	
cis-1,2-Dichloroethene	23.7	1.00	20.00	2.412	107	60	154	23.53	0.817	30	
Chloroform	20.9	1.00	20.00	0	105	48.1	140	21.34	1.90	30	
1,1,1-Trichloroethane (TCA)	21.8	1.00	20.00	0	109	64.2	146	21.80	0.0286	30	
1,1-Dichloropropene	22.6	1.00	20.00	0	113	73.8	136	21.94	3.11	30	
Carbon tetrachloride	21.7	1.00	20.00	0	108	62.7	146	20.97	3.34	30	
1,2-Dichloroethane (EDC)	19.5	1.00	20.00	0	97.6	63.4	137	19.76	1.17	30	
Benzene	21.0	1.00	20.00	0	105	65.4	138	21.26	1.08	30	
Trichloroethene (TCE)	20.9	0.500	20.00	0	105	60.4	134	21.31	1.68	30	
1,2-Dichloropropane	20.6	1.00	20.00	0	103	62.6	138	20.91	1.30	30	
Bromodichloromethane	19.5	1.00	20.00	0	97.6	59.4	139	19.23	1.47	30	
Dibromomethane	19.3	1.00	20.00	0	96.6	58.7	148	19.77	2.33	30	
cis-1,3-Dichloropropene	19.0	1.00	20.00	0	95.1	63.8	132	18.99	0.213	30	
Toluene	20.8	1.00	20.00	0	104	52	147	20.93	0.549	30	
trans-1,3-Dichloropropylene	19.0	1.00	20.00	0	95.2	57.7	125	18.99	0.224	30	
1,1,2-Trichloroethane	19.8	1.00	20.00	0	98.8	57.5	153	19.86	0.561	30	
1,3-Dichloropropane	19.4	1.00	20.00	0	97.1	54.1	157	19.52	0.502	30	
Tetrachloroethene (PCE)	25.9	1.00	20.00	4.256	108	50.3	133	26.01	0.280	30	
Dibromochloromethane	18.8	1.00	20.00	0	94.1	61.6	139	19.02	1.09	30	
1,2-Dibromoethane (EDB)	19.5	0.250	20.00	0	97.3	63.2	134	19.75	1.47	30	
Chlorobenzene	20.5	1.00	20.00	0	102	65.8	134	20.55	0.267	30	
1,1,1,2-Tetrachloroethane	20.4	1.00	20.00	0	102	65.4	135	20.17	1.01	30	
Ethylbenzene	21.3	1.00	20.00	0	106	64.5	136	21.29	0.0396	30	
m,p-Xylene	42.2	1.00	40.00	0	105	63.3	135	41.82	0.842	30	
o-Xylene	20.8	1.00	20.00	0	104	64.8	150	21.01	0.786	30	
Styrene	19.9	1.00	20.00	0	99.4	52.9	163	20.33	2.28	30	

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804389-008AMSD	SampType: MSD	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179
Client ID: BATCH	Batch ID: 20551		Analysis Date: 4/30/2018	SeqNo: 835091

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropylbenzene	21.2	1.00	20.00	0	106	56	147	21.48	1.27	30	
Bromoform	16.8	2.00	20.00	0	83.9	57.7	139	16.52	1.59	30	
1,1,2,2-Tetrachloroethane	19.3	1.00	20.00	0	96.6	59.8	146	19.04	1.42	30	
n-Propylbenzene	21.6	1.00	20.00	0	108	57.6	142	20.55	5.04	30	
Bromobenzene	20.5	1.00	20.00	0	102	69.3	157	20.01	2.20	30	
1,3,5-Trimethylbenzene	21.3	1.00	20.00	0	107	59.9	136	20.80	2.50	30	
2-Chlorotoluene	21.8	1.00	20.00	0	109	61.7	134	20.91	4.06	30	
4-Chlorotoluene	21.9	1.00	20.00	0	109	58.4	134	18.95	14.3	30	
tert-Butylbenzene	21.1	1.00	20.00	0	105	66.8	141	20.57	2.34	30	
1,2,3-Trichloropropane	17.8	1.00	20.00	0	89.2	62.4	129	17.66	0.953	30	
1,2,4-Trichlorobenzene	22.7	2.00	20.00	0	113	50.9	133	21.86	3.58	30	
sec-Butylbenzene	22.0	1.00	20.00	0	110	56	146	21.39	2.76	30	
4-Isopropyltoluene	21.2	1.00	20.00	0	106	56.4	136	20.85	1.66	30	
1,3-Dichlorobenzene	21.2	1.00	20.00	0	106	58.2	128	20.20	4.87	30	
1,4-Dichlorobenzene	21.2	1.00	20.00	0	106	60.1	123	20.63	2.94	30	
n-Butylbenzene	23.1	1.00	20.00	0	115	54.6	135	22.73	1.53	30	
1,2-Dichlorobenzene	21.1	1.00	20.00	0	106	65.4	133	20.60	2.60	30	
1,2-Dibromo-3-chloropropane	19.9	1.00	20.00	0	99.7	51.8	142	18.94	5.18	30	
1,2,4-Trimethylbenzene	20.6	1.00	20.00	0	103	63.7	132	20.42	0.968	30	
Hexachloro-1,3-butadiene	24.1	4.00	20.00	0	120	58.1	130	23.31	3.21	30	
Naphthalene	22.9	1.00	20.00	0	115	50.7	154	20.80	9.81	30	
1,2,3-Trichlorobenzene	22.9	4.00	20.00	0	115	57	131	21.44	6.72	30	
Surr: Dibromofluoromethane	26.8		25.00		107	45.4	152		0		
Surr: Toluene-d8	24.6		25.00		98.4	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	64.2	128		0		

NOTES:
 S - Outlying spike recovery(ies) observed.



Date: 5/11/2018

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804411-013ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: BATCH	Batch ID: 20551		Analysis Date: 5/1/2018	SeqNo: 835097							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						0		30	



Date: 5/11/2018

Work Order: 1804398
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID 1804411-013ADUP	SampType: DUP	Units: µg/L	Prep Date: 4/30/2018	RunNo: 43179							
Client ID: BATCH	Batch ID: 20551		Analysis Date: 5/1/2018	SeqNo: 835097							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
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	26.5		25.00		106	45.4	152		0		
Surr: Toluene-d8	24.8		25.00		99.2	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	64.2	128		0		



Work Order: 1804398
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1804411-013ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/30/2018	RunNo:	43179		
Client ID:	BATCH	Batch ID:	20551			Analysis Date:	5/1/2018	SeqNo:	835097		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Client Name: PES	Work Order Number: 1804398
Logged by: Brianna Barnes	Date Received: 4/26/2018 8:50:00 AM

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

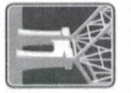
Person Notified:	Chris DeBoer	Date	4/26/2018
By Whom:	Brianna Barnes	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	Extra sample received. not on COC.		
Client Instructions:	Add to COC. keep on hold.		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	3.1
Sample	3.2
Temp Blank	4.1

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



Fremont
ANALYTICAL

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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/24/18 Page: 1 of 3

Laboratory Project No (Internal): 19043918
Special Remarks:

Client: PESC Curran water/fac

Address: 1215 4th Ave Suite 1350

City, State, Zip: Seattle WA 98161

Telephone: (206) 529-2550

Fax: (206) 529-3585

Project No: 12578.001.011.009

Collected by: C. A. Bon

Location: Kennedy Park WA

Report To (PM): Matt Dill

PM Email: mdatko@pesc.com

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCS (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCD)	SVOCS (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (801)	Comments	
1 SB-26-2	4/24/18	830	Soil	X													
2 SB-26-4		895		X													
3 SB-26-10		830		X													
4 SB-26-10		840		X													
5 SB-26-30		850															
6 SB-26-40		900															
7 SB-27-2		930		X													
8 SB-27-4		935		X													
9 SB-27-10		955		X													
10 SB-27-20		1005		X													

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

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

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide Iodide Nitrate-Nitrite

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

Relinquished Date/Time

Received Date/Time

Relinquished Date/Time

Received Date/Time

Turn-around Time:

- Standard
- 3 Day
- 2 Day
- Next Day
- Same Day

(specify)



Fremont Analytical

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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/26/18 Page: 2 of 8

Laboratory Project No (Internal): 18043990

Project Name: QES Environ (weekly) for

Project No:

Collected by: see page 5

Location:

Report To (PM):

PM Email:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Client: QES Environ (weekly) for
Address: see page 5
City, State, Zip:
Telephone:
Fax:

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analysis Parameters														Comments		
				VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/heavy Oil Range Organics (DH)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8270 - SIM)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (8011)				
1 SB-27-30	4/24/18	1015	SW:1																	
2 SB-27-40		1030																		
3 SB-28-30		1125																		
4 SB-28-20		1115																		
5 SB-28-40		1140																		
6 SB-29-GW		1140	GW																	
7 SB-30-30	4/25/18	1130	SW:1																	
8 SB-30-35		1140																		
9 SB-30-40		1150																		
10 SB-14a-40		1005																		

*Matrix: 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

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

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

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

Relinquished 4/26/18 7:30 Received 4/26/18

Relinquished 4/26/18 7:30 Received 4/26/18

Turn-around Time: Standard 3 Day 2 Day Next Day Same Day (Specify)



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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/25/18 Page: 3 of 3
Project Name: MUSE

Laboratory Project No (Internal): 1004398
Special Remarks:

Client: PES Environmental Inc

Project No:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Address: 1221 1st Ave S

Collected by: 1221 1st Ave S

City, State, Zip: Seattle, WA 98104

Telephone: 206-352-3790

Location: 1221 1st Ave S

Report To (PM):

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCD)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 - SIM)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)**	EDB (8011)	Comments
1 SB-13b-36	4/25/18	1405	Soil	X													
2 SB-13b-40	4/25/18	1408	Soil	X													
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

*Matrix: 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

**Metals (Circle): MICA-5 RICA-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

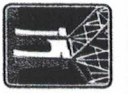
***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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

Relinquished: [Signature] Date/Time: 4/26/18 7:20
Received: [Signature] Date/Time: 4/26/18 08:50

Relinquished: [Signature] Date/Time: [Blank]
Received: [Signature] Date/Time: [Blank]

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (specify) _____



Fremont
ANALYTICAL

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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/24/18 Page: 1 of 3

Project Name: MISC

Project No: 13558-001-011-009

Collected by: C. De Ben

Location: Newmark Park WA

Report To (PM): Matt Dil

PM Email: mada.hopkins@fremont.com

Laboratory Project No (Internal): 18043918
Special Remarks: Edits (page 3) per C.D. 4/26/18
1809

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes												Comments				
				VOCs (EPA 8-60 / 624)	GY/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8-270 / 635)	PAHs (EPA 8-270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***		EDB (8011)			
1 SB-26-2	4/24/18	830	Soil	X																
2 SB-26-4		835		X																
3 SB-26-10		830		X																
4 SB-26-20		870		X																
5 SB-26-30		850		X																
6 SB-26-40		900		X																
7 SB-27-2		930		X																
8 SB-27-4		935		X																
9 SB-27-10		955		X																
10 SB-27-20		1005		X																

Turn-around Time:

- Standard
- 3 Day
- 2 Day
- Next Day
- Same Day

*Matrix: 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
 **Metals (Circle): MTA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl Tl U V Zn
 ***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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

Relinquished: Chris Deben Date/Time: 4/26/18 7:20 Received: [Signature] Date/Time: 4/26/18 0850



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

Chain of Custody Record & Laboratory Services Agreement

Date: 7/21/18 Page: 2 of 2

Project Name: MUSC
Laboratory Project No (Internal): 1904398

Client: QES Environ (w/contract)

Address: see page 1

City, State, Zip: see page 1

Telephone: see page 1

Fax: see page 1

Project No: see page 1

Collected by: see page 1

Location: see page 1

Report To (PM): see page 1

PM Email: _____
Sample Disposal: Return to client Disposal by lab (after 30 days)

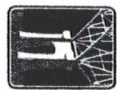
Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDS (8011)	Comments
1 SB-27-30	7/21/18	1015	SW, I														
2 SB-27-40		1030															
3 SB-28-30		1125															
4 SB-28-20		1115															
5 SB-28-40		1140															
6 SB-29-GW		1140	GW														
7 SB-30-30	7/25/18	1130	SW, I														
8 SB-30-35		1140															
9 SB-30-40		1150															
10 SB-14a-40		1005															

*Matrix: 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
 **Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn
 ***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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

Relinquished [Signature] Date/Time 7/26/18 7:22
 Relinquished [Signature] Date/Time 7/26/18 7:22
 Received [Signature] Date/Time 0650
 Received [Signature] Date/Time 4:26/14

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (specify) _____



Fremont
ANALYTICAL

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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/25/18 Page: 3 of 3
Project Name: MUSE

Laboratory Project No (Internal): 18043918

Client: PES Environmental Inc

Address: [Blank]

City, State, Zip: [Blank]

Telephone: see page 2

Fax: [Blank]

Project No: [Blank]

Collected by: see page 2

Report To (pm): [Blank]

PM Email: [Blank]

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DH)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (C)***	EDB (011)	Comments
1 SB-13b-36	4/25/18	1405	[Blank]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2 SB-13b-40	4	1430	[Blank]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3 SB-27-90	4/24/18	0950	S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

*Matrix: 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

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

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

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

Relinquished Date/Time: 4/25/18 720
Received Date/Time: 4/25/18 0850

Relinquished Date/Time: [Blank]
Received Date/Time: [Blank]

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (specify) _____



Fremont
Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-5790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 4/24/18 Page: 1 of 3

Project Name: MWSL

Project No: 1358-001-011-008

Collected by: C. De Bon

Location: Memorial Park WA

Report To (PM): Matt Dale

PM Email: mdales@fremontanalytical.com

Laboratory Project No (Internal): 190219080

Special Remarks:

Edits (page 8) per C.D. 4/24/18 MWS

Edits page 1 is 2 - MWS 5/7/2018

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCS (EPA 8260 / 624)	GX/BTX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DRO)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Ametics (IC)**	EDS (8011)	Comments
1 SB-26-2	4/24/18	830	Soil	X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
2 SB-26-4		805		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
3 SB-26-10		830		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
4 SB-26-20		820		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
5 SB-26-30		850		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
6 SB-26-40		900		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
7 SB-27-2		930		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
8 SB-27-4		935		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
9 SB-27-10		955		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08
10 SB-27-20		1005		X	X	X	X	X	X	X	X	X	X	X	X	X	Average - MWS 5/3/08

Matrix: 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

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

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

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

Relinquish: *Chin Chen* Date/Time: 4/26/18 7:30
 Received: *ML* Date/Time: 4/26/18 08:50



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

Chain of Custody Record & Laboratory Services Agreement

Date: 4/24/18 Page: 2 of 2

Laboratory Project No (internal): 1804398
Special Remarks:

Client: 985 Environmental Services

Project No:

Musc

Address:

Collected by:

see page 1

City, State, Zip:

see page 1

Location:

Telephone:

Report To (PM):

Fax:

PM Email:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCS (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GM)	Hydrocarbon Identification (HCID)	Distill/Heavy Oil Range Organics (DR)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 / 625)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)**	EDB (801)	Comments
1 SB-27-30	4/24/18	1015	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/2/08
2 SB-27-40		1030		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
3 SB-28-30		1125		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
4 SB-28-20		1145		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
5 SB-28-40		1140		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
6 SB-29-6W		1440	SW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
7 SB-30-30	4/25/18	1130	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
8 SB-30-35		1140		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
9 SB-30-40		1150		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08
10 SB-14a-40		1005	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Average - MW 5/3/08

*Matrix: 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

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

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

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

Relinquished [Signature] Date/Time 4/26/18 7:20

Received [Signature] Date/Time 0650 4/26/18

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (specify)



Chain of Custody Record & Laboratory Services Agreement

Date: 4/25/18 Page: 3 of 3
 Project Name: MUSE

Laboratory Project No (Internal): 1904298
 Special Remarks:

Client: PEB Environmental, Inc

Project No:

Address:

Collected by:

City, State, Zip:

Location:

Telephone:

Report To (PM):

Fax:

PM Email:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOCs (EPA 8260 / 624)	GY/BTEX	BTEX	Gasoline Range Organics (GRO)	Hydrocarbon Identification (HID)	Diesel/Heavy Oil Range Organics (DHRO)	SVOCs (EPA 8270 / 825)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8092 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)**	EDR (801)	Comments
1 SB-13b-36	4/25/18	1405	1														
2 SB-13b-40	4/25/18	1400	1														
3 SB-27-8	4/24/18	0950	S														
4																	
5																	
6																	
7																	
8																	
9																	
10																	

*Matrix: 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
 **Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be 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 Iodide Fluoride Nitrate-Nitrite

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

Relinquished Date/Time: 4/26/18 720 Received Date/Time: 4/26/18 0850
 Relinquished By: [Signature] Received By: [Signature]

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (specify)

MEMORANDUM

TO: Project File **DATE:** June 12, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center
PROJECT #: 1358.001.01.009
TASK: April 24 and 25, 2018 Soil and Groundwater Samples
LAB: Fremont Work Order Number 1804398

Twenty-two (22) soils and one (1) groundwater sample were collected to evaluate performance of the air sparging and soil vapor extraction remediation system at the Manhattan Village Shopping Centre site in Normandy Park, Washington on April 24 and 25, 2018. Samples associated with Work Order Number 1804398 were analyzed for VOCs by USEPA Method 8260C. Laboratory analytical services were provided by Fremont Analytical (Fremont) of Seattle, Washington.

The monitoring event occurred between April 16 and 25, 2018. Sample results associated with this monitoring event include four work orders (1804291, 1804329, 1804368, and 1804398). The quality assurance review of the laboratory data for Work Order Number 1804398 is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies are identified in the laboratory report.

Sample Collection and Preservation

The samples were stored on ice in the cooler and delivered in good condition to the laboratory. Cooler and sample temperatures at the time of receipt were measured at 3.1 degrees Centigrade (°C) and 3.2°C, respectively. The cooler temperatures were within EPA's recommended temperature preservation range of less than 6.0 °C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

- Fremont's notes on the Sample Log-In Check List Form show that an extra sample was received but was not recorded on the chain of custody (COC). PES confirmed on April 26, 2018 that sample SB-27-8 should be included on the COC and placed the sample on hold.
- Eight samples (SB-26-20, SB-26-30, SB-26-40, SB-27-20, SB-27-30, SB-27-40, SB-28-40, and SB-14a-40) were initially placed on hold and were submitted for VOC analysis per PES's May 7, 2018 request.

Holding Times

USEPA Method 8260C:

All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days (soils and preserved waters). All holding time criteria were met.

Total Solids by USEPA Method 8000D:

Soil samples were analyzed within the USEPA recommended holding time of seven days for total solids with the following exceptions:

- Eight samples (SB-26-20, SB-26-30, SB-26-40, SB-27-20, SB-27-30, SB-27-40, SB-28-40, and SB-14a-40) were analyzed for moisture seven and eight days past recommended holding time. No action was taken since the change in percent moisture is not enough to significantly impact the final results.

Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Fremont's notes indicate the following:

- Continuing calibration verification (CCV) issues were noted by Fremont for 1,1-dichloroethene associated with analytical batch 20566 (analyzed on May 3, 2018). These results are qualified by the laboratory "Q-" to indicate that percent difference CCVs are outside of laboratory acceptance criteria. **All associated 1,1-dichloroethene results with laboratory qualified (Q-) results are estimated and qualified (J/UJ).**

Method Blank Results

Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (VOCs) were not detected in the method blanks at concentrations at or above the reporting limits (RLs).

Trip Blank Results

A trip blank was collected but not submitted for analysis.

Equipment Blank Results

Equipment blanks were not collected.

Field Duplicate Analyses

Field duplicate samples were not collected.

Laboratory Duplicate Analyses

USEPA Method 8260C:

Laboratory duplicate analysis was performed on client samples (SB-26-30, SB-27-30, SB-26-4, and SB-30-30) and on non-client samples. Results are comparable and within 30% relative percent difference (RPD).

Total Solids by USEPA Method 8000D:

Laboratory duplicate sample analyses were performed on client and non-client samples within the analytical batches. The primary/duplicate RPDs for total solids analyses are within the laboratory control limit of 20%.

Surrogate Recoveries

The surrogate percent recovery (%R) results for the samples, method blanks, laboratory duplicates, matrix spike samples, and laboratory control samples are within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

The laboratory control sample (LCS) %R's are within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on client samples SB-17-40 and on non-client samples. MS/MSD % Rs and RPDs are within the laboratory control limits with the following exceptions:

- Analytical Batch 20637 (soil): Batch MS/MSD % recoveries for bromomethane, trichlorofluoromethane (CFC-11), and chloroethane are above laboratory acceptance

criteria and laboratory qualified (S). No action was taken since the spike was performed on a non-client sample, the compounds are within LCS control limit criteria, and batch duplicate results are acceptable.

- Analytical Batch 20625 (soil): Batch sample RPD result for bromoform is above laboratory acceptance criteria and laboratory qualified (R). No action was taken since these compounds were recovered wide but are within recovery criteria.
- Analytical Batch 20566 (soil): Sample SB-27-4 MS/MSD % recoveries for dichlorodifluoromethane (CFC-12) and 2,2-dichloropropane are outside of laboratory acceptance criteria and laboratory qualified (S). Dichlorodifluoromethane (CFC-12) was recovered above criteria and was not detected in sample SB-27-4. No action is required for CFC-12. MS/MSD recoveries for 2,2-dichloropropane are low and below criteria but greater than 10% R. **Sample SB-27-4 result for 2,2-dichloropropane is estimated and qualified (UJ).**
- Analytical Batch 20551 (water): Batch MS/MSD % recoveries for dichlorodifluoromethane (CFC-12) are above laboratory acceptance criteria and laboratory qualified (S). No action was taken since the spike was performed on a non-client sample and LCS result is within laboratory criteria.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the USEPA 8260C VOC analyses were reported based on laboratory RLs. The RLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. Assigned qualifiers were added to the electronic data deliverables under the appropriate field. All data, including qualified data, are judged to be acceptable for their intended use.



Client: PES Environmental, Inc.

Collection Date: 4/24/2018 9:35:00 AM

Project: MVSC

Lab ID: 1804398-008

Matrix: Soil

Client Sample ID: SB-27-4

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chloromethane	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Vinyl chloride	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromomethane	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Trichlorofluoromethane (CFC-11)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chloroethane	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1-Dichloroethene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Methylene chloride	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
trans-1,2-Dichloroethene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Methyl tert-butyl ether (MTBE)	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1-Dichloroethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
2,2-Dichloropropane	ND	UJ	0.170	mg/Kg-dry	1	5/2/2018 11:14:44 PM
cis-1,2-Dichloroethene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chloroform	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1,1-Trichloroethane (TCA)	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1-Dichloropropene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Carbon tetrachloride	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dichloroethane (EDC)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Benzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Trichloroethene (TCE)	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dichloropropane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromodichloromethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Dibromomethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
cis-1,3-Dichloropropene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Toluene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
trans-1,3-Dichloropropylene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1,2-Trichloroethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,3-Dichloropropane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Tetrachloroethene (PCE)	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Dibromochloromethane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dibromoethane (EDB)	ND	0.00852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Chlorobenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,1,1,2-Tetrachloroethane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Ethylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
m,p-Xylene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
o-Xylene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Styrene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Isopropylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromoform	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-008
Client Sample ID: SB-27-4

Collection Date: 4/24/2018 9:35:00 AM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
n-Propylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Bromobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,3,5-Trimethylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
2-Chlorotoluene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
4-Chlorotoluene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
tert-Butylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,3-Trichloropropane	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,4-Trichlorobenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
sec-Butylbenzene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
4-Isopropyltoluene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,3-Dichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,4-Dichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
n-Butylbenzene	ND	0.0426		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2-Dibromo-3-chloropropane	ND	0.852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,4-Trimethylbenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Hexachlorobutadiene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Naphthalene	ND	0.0852		mg/Kg-dry	1	5/2/2018 11:14:44 PM
1,2,3-Trichlorobenzene	ND	0.0341		mg/Kg-dry	1	5/2/2018 11:14:44 PM
Surr: Dibromofluoromethane	93.8	56.5 - 129		%Rec	1	5/2/2018 11:14:44 PM
Surr: Toluene-d8	97.8	64.5 - 151		%Rec	1	5/2/2018 11:14:44 PM
Surr: 1-Bromo-4-fluorobenzene	93.3	43.2 - 143		%Rec	1	5/2/2018 11:14:44 PM

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	7.97	0.500		wt%	1	4/27/2018 9:29:37 AM
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JC 6/6/18



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 11:40:00 AM

Project: MVSC

Lab ID: 1804398-018

Matrix: Soil

Client Sample ID: SB-30-35

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Chloromethane	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Vinyl chloride	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Bromomethane	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Trichlorofluoromethane (CFC-11)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Chloroethane	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,1-Dichloroethene	ND	UJ	0.0271	Q-	mg/Kg-dry	1	5/3/2018 5:19:46 AM
Methylene chloride	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
trans-1,2-Dichloroethene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Methyl tert-butyl ether (MTBE)	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,1-Dichloroethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
2,2-Dichloropropane	ND	0.136		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
cis-1,2-Dichloroethene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Chloroform	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,1,1-Trichloroethane (TCA)	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,1-Dichloropropene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Carbon tetrachloride	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,2-Dichloroethane (EDC)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Benzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Trichloroethene (TCE)	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,2-Dichloropropane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Bromodichloromethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Dibromomethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
cis-1,3-Dichloropropene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Toluene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
trans-1,3-Dichloropropylene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,1,2-Trichloroethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,3-Dichloropropane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Tetrachloroethene (PCE)	0.142	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Dibromochloromethane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,2-Dibromoethane (EDB)	ND	0.00678		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Chlorobenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
1,1,1,2-Tetrachloroethane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Ethylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
m,p-Xylene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
o-Xylene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Styrene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Isopropylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM	
Bromoform	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM	



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 11:40:00 AM

Project: MVSC

Lab ID: 1804398-018

Matrix: Soil

Client Sample ID: SB-30-35

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
n-Propylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Bromobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,3,5-Trimethylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
2-Chlorotoluene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
4-Chlorotoluene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
tert-Butylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,3-Trichloropropane	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,4-Trichlorobenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
sec-Butylbenzene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
4-Isopropyltoluene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,3-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,4-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
n-Butylbenzene	ND	0.0339		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2-Dichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2-Dibromo-3-chloropropane	ND	0.678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,4-Trimethylbenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Hexachlorobutadiene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Naphthalene	ND	0.0678		mg/Kg-dry	1	5/3/2018 5:19:46 AM
1,2,3-Trichlorobenzene	ND	0.0271		mg/Kg-dry	1	5/3/2018 5:19:46 AM
Surr: Dibromofluoromethane	95.0	56.5 - 129		%Rec	1	5/3/2018 5:19:46 AM
Surr: Toluene-d8	99.0	64.5 - 151		%Rec	1	5/3/2018 5:19:46 AM
Surr: 1-Bromo-4-fluorobenzene	95.8	43.2 - 143		%Rec	1	5/3/2018 5:19:46 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	14.4	0.500		wt%	1	4/27/2018 9:29:37 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 11:50:00 AM

Project: MVSC

Lab ID: 1804398-019

Matrix: Soil

Client Sample ID: SB-30-40

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chloromethane	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Vinyl chloride	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromomethane	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Trichlorofluoromethane (CFC-11)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chloroethane	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1-Dichloroethene	ND	0.0263	UJ	mg/Kg-dry	1	5/3/2018 5:50:13 AM
Methylene chloride	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
trans-1,2-Dichloroethene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Methyl tert-butyl ether (MTBE)	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1-Dichloroethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
2,2-Dichloropropane	ND	0.131		mg/Kg-dry	1	5/3/2018 5:50:13 AM
cis-1,2-Dichloroethene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chloroform	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1,1-Trichloroethane (TCA)	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1-Dichloropropene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Carbon tetrachloride	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dichloroethane (EDC)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Benzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Trichloroethene (TCE)	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dichloropropane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromodichloromethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Dibromomethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
cis-1,3-Dichloropropene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Toluene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
trans-1,3-Dichloropropylene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1,2-Trichloroethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,3-Dichloropropane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Tetrachloroethene (PCE)	0.0665	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Dibromochloromethane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dibromoethane (EDB)	ND	0.00656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Chlorobenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,1,1,2-Tetrachloroethane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Ethylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
m,p-Xylene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
o-Xylene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Styrene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Isopropylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromoform	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-019
Client Sample ID: SB-30-40

Collection Date: 4/25/2018 11:50:00 AM
Matrix: Soil

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

Batch ID: 20566

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
n-Propylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Bromobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,3,5-Trimethylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
2-Chlorotoluene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
4-Chlorotoluene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
tert-Butylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,3-Trichloropropane	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,4-Trichlorobenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
sec-Butylbenzene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
4-Isopropyltoluene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,3-Dichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,4-Dichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
n-Butylbenzene	ND	0.0328		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2-Dibromo-3-chloropropane	ND	0.656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,4-Trimethylbenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Hexachlorobutadiene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Naphthalene	ND	0.0656		mg/Kg-dry	1	5/3/2018 5:50:13 AM
1,2,3-Trichlorobenzene	ND	0.0263		mg/Kg-dry	1	5/3/2018 5:50:13 AM
Surr: Dibromofluoromethane	95.2	56.5 - 129		%Rec	1	5/3/2018 5:50:13 AM
Surr: Toluene-d8	99.3	64.5 - 151		%Rec	1	5/3/2018 5:50:13 AM
Surr: 1-Bromo-4-fluorobenzene	94.2	43.2 - 143		%Rec	1	5/3/2018 5:50:13 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138

Analyst: EAS

Percent Moisture	18.0	0.500		wt%	1	4/27/2018 9:29:37 AM
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JC 6/5/18



Client: PES Environmental, Inc.

Collection Date: 4/25/2018 2:05:00 PM

Project: MVSC

Lab ID: 1804398-021

Matrix: Soil

Client Sample ID: SB-13b-36

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chloromethane	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Vinyl chloride	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromomethane	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Trichlorofluoromethane (CFC-11)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chloroethane	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1-Dichloroethene	ND	UJ 0.0247	Q-	mg/Kg-dry	1	5/3/2018 6:20:34 AM
Methylene chloride	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
trans-1,2-Dichloroethene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Methyl tert-butyl ether (MTBE)	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1-Dichloroethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
2,2-Dichloropropane	ND	0.124		mg/Kg-dry	1	5/3/2018 6:20:34 AM
cis-1,2-Dichloroethene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chloroform	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1,1-Trichloroethane (TCA)	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1-Dichloropropene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Carbon tetrachloride	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dichloroethane (EDC)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Benzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Trichloroethene (TCE)	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dichloropropane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromodichloromethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Dibromomethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
cis-1,3-Dichloropropene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Toluene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
trans-1,3-Dichloropropylene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1,2-Trichloroethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,3-Dichloropropane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Tetrachloroethene (PCE)	0.0829	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Dibromochloromethane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dibromoethane (EDB)	ND	0.00619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Chlorobenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,1,1,2-Tetrachloroethane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Ethylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
m,p-Xylene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
o-Xylene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Styrene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Isopropylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromoform	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-021
Client Sample ID: SB-13b-36

Collection Date: 4/25/2018 2:05:00 PM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
n-Propylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Bromobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,3,5-Trimethylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
2-Chlorotoluene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
4-Chlorotoluene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
tert-Butylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,3-Trichloropropane	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,4-Trichlorobenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
sec-Butylbenzene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
4-Isopropyltoluene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,3-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,4-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
n-Butylbenzene	ND	0.0309		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2-Dibromo-3-chloropropane	ND	0.619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,4-Trimethylbenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Hexachlorobutadiene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Naphthalene	ND	0.0619		mg/Kg-dry	1	5/3/2018 6:20:34 AM
1,2,3-Trichlorobenzene	ND	0.0247		mg/Kg-dry	1	5/3/2018 6:20:34 AM
Surr: Dibromofluoromethane	94.4	56.5 - 129		%Rec	1	5/3/2018 6:20:34 AM
Surr: Toluene-d8	99.4	64.5 - 151		%Rec	1	5/3/2018 6:20:34 AM
Surr: 1-Bromo-4-fluorobenzene	91.5	43.2 - 143		%Rec	1	5/3/2018 6:20:34 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	9.17	0.500		wt%	1	4/27/2018 9:29:37 AM
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JC 6/5/18



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-022
Client Sample ID: SB-13b-40

Collection Date: 4/25/2018 2:20:00 PM
Matrix: Soil

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

Batch ID: 20566

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chloromethane	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Vinyl chloride	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromomethane	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Trichlorofluoromethane (CFC-11)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chloroethane	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1-Dichloroethene	ND	0.0188	UJ	mg/Kg-dry	1	5/3/2018 6:51:01 AM
Methylene chloride	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
trans-1,2-Dichloroethene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Methyl tert-butyl ether (MTBE)	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1-Dichloroethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
2,2-Dichloropropane	ND	0.0940		mg/Kg-dry	1	5/3/2018 6:51:01 AM
cis-1,2-Dichloroethene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chloroform	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1,1-Trichloroethane (TCA)	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1-Dichloropropene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Carbon tetrachloride	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dichloroethane (EDC)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Benzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Trichloroethene (TCE)	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dichloropropane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromodichloromethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Dibromomethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
cis-1,3-Dichloropropene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Toluene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
trans-1,3-Dichloropropylene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1,2-Trichloroethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,3-Dichloropropane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Tetrachloroethene (PCE)	0.128	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Dibromochloromethane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dibromoethane (EDB)	ND	0.00470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Chlorobenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,1,1,2-Tetrachloroethane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Ethylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
m,p-Xylene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
o-Xylene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Styrene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Isopropylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromoform	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM



Client: PES Environmental, Inc.
Project: MVSC
Lab ID: 1804398-022
Client Sample ID: SB-13b-40

Collection Date: 4/25/2018 2:20:00 PM
Matrix: Soil

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

Batch ID: 20566 Analyst: MW

1,1,2,2-Tetrachloroethane	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
n-Propylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Bromobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,3,5-Trimethylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
2-Chlorotoluene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
4-Chlorotoluene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
tert-Butylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,3-Trichloropropane	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,4-Trichlorobenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
sec-Butylbenzene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
4-Isopropyltoluene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,3-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,4-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
n-Butylbenzene	ND	0.0235		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2-Dibromo-3-chloropropane	ND	0.470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,4-Trimethylbenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Hexachlorobutadiene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Naphthalene	ND	0.0470		mg/Kg-dry	1	5/3/2018 6:51:01 AM
1,2,3-Trichlorobenzene	ND	0.0188		mg/Kg-dry	1	5/3/2018 6:51:01 AM
Surr: Dibromofluoromethane	92.8	56.5 - 129		%Rec	1	5/3/2018 6:51:01 AM
Surr: Toluene-d8	96.2	64.5 - 151		%Rec	1	5/3/2018 6:51:01 AM
Surr: 1-Bromo-4-fluorobenzene	95.6	43.2 - 143		%Rec	1	5/3/2018 6:51:01 AM

NOTES:

Q- - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria - low bias

Sample Moisture (Percent Moisture)

Batch ID: R43138 Analyst: EAS

Percent Moisture	6.93	0.500		wt%	1	4/27/2018 9:29:37 AM
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JC 6/5/18



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F: +1 805 526 7270
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LABORATORY REPORT

December 6, 2017

Karsten Springstead
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Karsten:

Enclosed are the results of the sample submitted to our laboratory on November 20, 2017. For your reference, this analysis has been assigned our service request number P1705855.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 12:27 pm, 12/06/17

Kate Kaneko
Project Manager



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1705855

CASE NARRATIVE

The sample was received intact under chain of custody on November 20, 2017 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1177034
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-004
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-17-8
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 7-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1705855

Date Received: 11/20/2017
Time Received: 09:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-1117	P1705855-001	Air	11/16/2017	11:00	SC00270	-0.74	3.75	X

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental

Work order: P1705855

Project: MVSC / 1358.001.01.007

Sample(s) received on: 11/20/17

Date opened: 11/20/17

by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? <u>Box sealing.</u> Sealing Lid? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were signature and date included? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were seals intact? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1705855-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-1117
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P1705855-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00270

Date Collected: 11/16/17
 Date Received: 11/20/17
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.74 Final Pressure (psig): 3.75

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.66	ND	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.6	0.66	0.94	0.13	
74-87-3	Chloromethane	1.2	0.66	0.57	0.32	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.66	ND	0.094	
75-01-4	Vinyl Chloride	ND	0.66	ND	0.26	
106-99-0	1,3-Butadiene	ND	0.66	ND	0.30	
74-83-9	Bromomethane	ND	0.66	ND	0.17	
75-00-3	Chloroethane	ND	0.66	ND	0.25	
64-17-5	Ethanol	6.8	6.6	3.6	3.5	
75-05-8	Acetonitrile	ND	0.66	ND	0.39	
107-02-8	Acrolein	ND	2.6	ND	1.2	
67-64-1	Acetone	6.8	6.6	2.9	2.8	
75-69-4	Trichlorofluoromethane (CFC 11)	3.7	0.66	0.66	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.6	ND	2.7	
107-13-1	Acrylonitrile	ND	0.66	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.66	ND	0.17	
75-09-2	Methylene Chloride	ND	0.66	ND	0.19	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.66	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.66	ND	0.086	
75-15-0	Carbon Disulfide	ND	6.6	ND	2.1	
156-60-5	trans-1,2-Dichloroethene	ND	0.66	ND	0.17	
75-34-3	1,1-Dichloroethane	ND	0.66	ND	0.16	
1634-04-4	Methyl tert-Butyl Ether	ND	0.66	ND	0.18	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	6.6	ND	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-1117
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P1705855-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00270

Date Collected: 11/16/17
 Date Received: 11/20/17
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.74 Final Pressure (psig): 3.75

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.66	ND	0.17	
141-78-6	Ethyl Acetate	ND	1.3	ND	0.37	
110-54-3	n-Hexane	ND	0.66	ND	0.19	
67-66-3	Chloroform	4.4	0.66	0.89	0.14	
109-99-9	Tetrahydrofuran (THF)	1.9	0.66	0.66	0.22	
107-06-2	1,2-Dichloroethane	ND	0.66	ND	0.16	
71-55-6	1,1,1-Trichloroethane	ND	0.66	ND	0.12	
71-43-2	Benzene	ND	0.66	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.66	ND	0.10	
110-82-7	Cyclohexane	ND	1.3	ND	0.38	
78-87-5	1,2-Dichloropropane	ND	0.66	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.66	ND	0.099	
79-01-6	Trichloroethene	ND	0.66	ND	0.12	
123-91-1	1,4-Dioxane	ND	0.66	ND	0.18	
80-62-6	Methyl Methacrylate	ND	1.3	ND	0.32	
142-82-5	n-Heptane	ND	0.66	ND	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	0.66	ND	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.66	ND	0.12	
108-88-3	Toluene	2.2	0.66	0.59	0.18	
591-78-6	2-Hexanone	ND	0.66	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.66	ND	0.078	
106-93-4	1,2-Dibromoethane	ND	0.66	ND	0.086	
123-86-4	n-Butyl Acetate	ND	0.66	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SYS-1117
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P1705855-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00270

Date Collected: 11/16/17
 Date Received: 11/20/17
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.74 Final Pressure (psig): 3.75

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.66	ND	0.14	
127-18-4	Tetrachloroethene	230	6.6	34	0.97	D
108-90-7	Chlorobenzene	ND	0.66	ND	0.14	
100-41-4	Ethylbenzene	1.1	0.66	0.25	0.15	
179601-23-1	m,p-Xylenes	4.1	1.3	0.95	0.30	
75-25-2	Bromoform	ND	0.66	ND	0.064	
100-42-5	Styrene	ND	0.66	ND	0.16	
95-47-6	o-Xylene	1.2	0.66	0.29	0.15	
111-84-2	n-Nonane	ND	0.66	ND	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.66	ND	0.096	
98-82-8	Cumene	ND	0.66	ND	0.13	
80-56-8	alpha-Pinene	ND	0.66	ND	0.12	
103-65-1	n-Propylbenzene	ND	0.66	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.66	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	0.95	0.66	0.19	0.13	
100-44-7	Benzyl Chloride	ND	1.3	ND	0.26	
541-73-1	1,3-Dichlorobenzene	ND	0.66	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.66	ND	0.11	
95-50-1	1,2-Dichlorobenzene	ND	0.66	ND	0.11	
5989-27-5	d-Limonene	ND	0.66	ND	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.66	ND	0.068	
120-82-1	1,2,4-Trichlorobenzene	ND	0.66	ND	0.089	
91-20-3	Naphthalene	ND	0.66	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.66	ND	0.062	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P171129-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P171129-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P171129-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	1.0	ND	0.19	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 11/16/17
 Date(s) Received: 11/20/17
 Date(s) Analyzed: 11/29/17

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P171129-MB	110	98	90	70-130	
Lab Control Sample	P171129-LCS	101	96	102	70-130	
Duplicate Lab Control Sample	P171129-DLCS	101	95	100	70-130	
SYS-1117	P1705855-001	113	94	94	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P171129-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	210	182	183	87	87	54-133	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	182	184	85	86	64-115	1	25	
74-87-3	Chloromethane	210	188	194	90	92	47-140	2	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	172	170	82	81	60-112	1	25	
75-01-4	Vinyl Chloride	211	193	192	91	91	63-127	0	25	
106-99-0	1,3-Butadiene	210	228	232	109	110	57-149	0.9	25	
74-83-9	Bromomethane	210	173	178	82	85	63-132	4	25	
75-00-3	Chloroethane	210	188	191	90	91	68-129	1	25	
64-17-5	Ethanol	1,040	1080	1090	104	105	62-131	1	25	
75-05-8	Acetonitrile	210	192	194	91	92	56-136	1	25	
107-02-8	Acrolein	209	206	206	99	99	60-132	0	25	
67-64-1	Acetone	1,050	968	968	92	92	63-124	0	25	
75-69-4	Trichlorofluoromethane (CFC 11)	208	189	188	91	90	65-113	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	453	456	107	108	62-135	0.9	25	
107-13-1	Acrylonitrile	212	209	209	99	99	68-138	0	25	
75-35-4	1,1-Dichloroethene	213	200	199	94	93	72-118	1	25	
75-09-2	Methylene Chloride	213	189	187	89	88	67-116	1	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	235	235	111	111	61-143	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	189	189	88	88	68-113	0	25	
75-15-0	Carbon Disulfide	214	192	190	90	89	68-120	1	25	
156-60-5	trans-1,2-Dichloroethene	214	233	234	109	109	71-125	0	25	
75-34-3	1,1-Dichloroethane	212	199	198	94	93	68-118	1	25	
1634-04-4	Methyl tert-Butyl Ether	213	236	234	111	110	60-123	0.9	25	
108-05-4	Vinyl Acetate	1,060	986	984	93	93	73-135	0	25	
78-93-3	2-Butanone (MEK)	212	201	200	95	94	70-129	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P171129-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	212	208	208	98	98	69-121	0	25	
141-78-6	Ethyl Acetate	426	432	431	101	101	66-140	0	25	
110-54-3	n-Hexane	213	210	210	99	99	61-124	0	25	
67-66-3	Chloroform	212	190	187	90	88	69-113	2	25	
109-99-9	Tetrahydrofuran (THF)	212	207	203	98	96	66-121	2	25	
107-06-2	1,2-Dichloroethane	212	194	192	92	91	62-120	1	25	
71-55-6	1,1,1-Trichloroethane	212	202	201	95	95	65-116	0	25	
71-43-2	Benzene	213	167	166	78	78	66-111	0	25	
56-23-5	Carbon Tetrachloride	214	209	207	98	97	64-122	1	25	
110-82-7	Cyclohexane	425	409	404	96	95	69-115	1	25	
78-87-5	1,2-Dichloropropane	212	204	202	96	95	69-121	1	25	
75-27-4	Bromodichloromethane	214	220	218	103	102	69-123	1	25	
79-01-6	Trichloroethene	212	201	198	95	93	69-112	2	25	
123-91-1	1,4-Dioxane	213	210	206	99	97	74-123	2	25	
80-62-6	Methyl Methacrylate	424	401	396	95	93	75-125	2	25	
142-82-5	n-Heptane	213	205	205	96	96	68-118	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	237	234	114	113	74-129	0.9	25	
108-10-1	4-Methyl-2-pentanone	213	232	232	109	109	66-138	0	25	
10061-02-6	trans-1,3-Dichloropropene	213	219	219	103	103	75-130	0	25	
79-00-5	1,1,2-Trichloroethane	212	208	206	98	97	73-117	1	25	
108-88-3	Toluene	211	178	175	84	83	66-114	1	25	
591-78-6	2-Hexanone	211	225	225	107	107	58-146	0	25	
124-48-1	Dibromochloromethane	212	217	213	102	100	67-130	2	25	
106-93-4	1,2-Dibromoethane	211	205	201	97	95	70-127	2	25	
123-86-4	n-Butyl Acetate	215	236	235	110	109	62-140	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1705855
 ALS Sample ID: P171129-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/29/17
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
111-65-9	n-Octane	212	205	202	97	95	65-121	2	25	
127-18-4	Tetrachloroethene	212	192	189	91	89	62-119	2	25	
108-90-7	Chlorobenzene	212	178	176	84	83	66-115	1	25	
100-41-4	Ethylbenzene	212	192	190	91	90	69-117	1	25	
179601-23-1	m,p-Xylenes	424	400	393	94	93	67-117	1	25	
75-25-2	Bromoform	212	199	195	94	92	67-135	2	25	
100-42-5	Styrene	211	207	204	98	97	70-128	1	25	
95-47-6	o-Xylene	211	197	193	93	91	67-118	2	25	
111-84-2	n-Nonane	212	211	209	100	99	61-127	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	201	197	95	93	70-125	2	25	
98-82-8	Cumene	212	190	187	90	88	68-116	2	25	
80-56-8	alpha-Pinene	213	206	204	97	96	69-122	1	25	
103-65-1	n-Propylbenzene	214	203	199	95	93	70-118	2	25	
622-96-8	4-Ethyltoluene	211	204	201	97	95	69-124	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	196	193	92	91	65-117	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	216	212	102	100	67-124	2	25	
100-44-7	Benzyl Chloride	212	230	228	108	108	75-142	0	25	
541-73-1	1,3-Dichlorobenzene	212	207	202	98	95	70-124	3	25	
106-46-7	1,4-Dichlorobenzene	214	205	201	96	94	63-124	2	25	
95-50-1	1,2-Dichlorobenzene	214	207	202	97	94	66-125	3	25	
5989-27-5	d-Limonene	213	223	220	105	103	64-135	2	25	
96-12-8	1,2-Dibromo-3-chloropropane	210	196	193	93	92	73-136	1	25	
120-82-1	1,2,4-Trichlorobenzene	218	209	206	96	94	70-141	2	25	
91-20-3	Naphthalene	209	202	200	97	96	71-146	1	25	
87-68-3	Hexachlorobutadiene	212	194	190	92	90	63-126	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** December 12, 2017
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center and Harris Family properties- Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: November 16, 2017 SVE Stack Air Sample
LAB: ALS Environmental Service Request No. P1705855

One SVE system stack discharge air sample was collected as part of SVE system O&M at the Manhattan Village Shopping Center and Harris Family properties in Normandy Park, Washington, on November 16, 2017. The air sample was analyzed for VOCs by USEPA Method TO-15. Laboratory analytical services were provided by ALS Environmental (ALS) of Simi Valley, California. Analytical data are reported under ALS project number P1705855.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review (USEPA, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies are identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa canister (6 Liter) for the air sample. The sample was shipped by courier and received in good condition by the laboratory. Summa canisters do not require preservation or cooling. The sample was collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by TO-15 was performed thirteen days after sample collection. This is within the 30-day recommended holding time limit for air samples collected in a Summa canister. No data was qualified based upon holding times.

Initial and Continuing Calibration

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

Method Blank Results

A laboratory method blank was included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the MRLs.

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to laboratory control sample results for precision data.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

A laboratory control sample and laboratory control sample duplicate (LCS/LCSD) were analyzed for VOCs by TO-15. The LCS/LCSD spike % Rs and relative percent differences (RPDs) for all control compounds met laboratory acceptance criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis were reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$. The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. Sample SYS-1117 was diluted for one analyte (tetrachloroethene) due to an elevated concentration. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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

PES Environmental, Inc.
Matt Dahl
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC
Work Order Number: 1711285

November 27, 2017

Attention Matt Dahl:

Fremont Analytical, Inc. received 2 sample(s) on 11/16/2017 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,

A handwritten signature in black ink, appearing to read "Chelsea Ward", written in a cursive style.

Chelsea Ward
Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)



Date: 11/27/2017

CLIENT: PES Environmental, Inc.
Project: MVSC
Work Order: 1711285

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1711285-001	W-COND-111617	11/16/2017 12:15 PM	11/16/2017 1:36 PM
1711285-002	W-DRUM-111617	11/16/2017 12:00 PM	11/16/2017 1:36 PM

CLIENT: PES Environmental, Inc.

Project: MVSC

I. SAMPLE RECEIPT:

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

II. GENERAL REPORTING COMMENTS:

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

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

III. ANALYSES AND EXCEPTIONS:

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

Qualifiers:

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

Acronyms:

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



Client: PES Environmental, Inc.

Collection Date: 11/16/2017 12:15:00 PM

Project: MVSC

Lab ID: 1711285-001

Matrix: Wastewater

Client Sample ID: W-COND-111617

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

Batch ID: 18955

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Chloromethane	ND	2.00		µg/L	1	11/21/2017 3:13:43 AM
Vinyl chloride	ND	0.200		µg/L	1	11/21/2017 3:13:43 AM
Bromomethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Chloroethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Methylene chloride	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	11/21/2017 3:13:43 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Chloroform	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Carbon tetrachloride	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Benzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	11/21/2017 3:13:43 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Bromodichloromethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Dibromomethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Toluene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Dibromochloromethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	11/21/2017 3:13:43 AM
Chlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Ethylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
m,p-Xylene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
o-Xylene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Styrene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Isopropylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Bromoform	ND	2.00		µg/L	1	11/21/2017 3:13:43 AM



Client: PES Environmental, Inc.

Collection Date: 11/16/2017 12:15:00 PM

Project: MVSC

Lab ID: 1711285-001

Matrix: Wastewater

Client Sample ID: W-COND-111617

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

Batch ID: 18955

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
n-Propylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Bromobenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
2-Chlorotoluene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
4-Chlorotoluene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
tert-Butylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	11/21/2017 3:13:43 AM
sec-Butylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
n-Butylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	11/21/2017 3:13:43 AM
Naphthalene	ND	1.00		µg/L	1	11/21/2017 3:13:43 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	11/21/2017 3:13:43 AM
Surr: Dibromofluoromethane	101	45.4 - 152		%Rec	1	11/21/2017 3:13:43 AM
Surr: Toluene-d8	95.6	40.1 - 139		%Rec	1	11/21/2017 3:13:43 AM
Surr: 1-Bromo-4-fluorobenzene	92.3	64.2 - 128		%Rec	1	11/21/2017 3:13:43 AM



Client: PES Environmental, Inc.

Collection Date: 11/16/2017 12:00:00 PM

Project: MVSC

Lab ID: 1711285-002

Matrix: Wastewater

Client Sample ID: W-DRUM-111617

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

Batch ID: 18955

Analyst: MW

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Chloromethane	ND	2.00		µg/L	1	11/21/2017 3:44:15 AM
Vinyl chloride	ND	0.200		µg/L	1	11/21/2017 3:44:15 AM
Bromomethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Chloroethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Methylene chloride	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	11/21/2017 3:44:15 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Chloroform	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Carbon tetrachloride	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Benzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	11/21/2017 3:44:15 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Bromodichloromethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Dibromomethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Toluene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Dibromochloromethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	11/21/2017 3:44:15 AM
Chlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Ethylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
m,p-Xylene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
o-Xylene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Styrene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Isopropylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Bromoform	ND	2.00		µg/L	1	11/21/2017 3:44:15 AM



Client: PES Environmental, Inc.

Collection Date: 11/16/2017 12:00:00 PM

Project: MVSC

Lab ID: 1711285-002

Matrix: Wastewater

Client Sample ID: W-DRUM-111617

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

Batch ID: 18955

Analyst: MW

1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
n-Propylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Bromobenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
2-Chlorotoluene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
4-Chlorotoluene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
tert-Butylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	11/21/2017 3:44:15 AM
sec-Butylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
n-Butylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	11/21/2017 3:44:15 AM
Naphthalene	ND	1.00		µg/L	1	11/21/2017 3:44:15 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	11/21/2017 3:44:15 AM
Surr: Dibromofluoromethane	101	45.4 - 152		%Rec	1	11/21/2017 3:44:15 AM
Surr: Toluene-d8	105	40.1 - 139		%Rec	1	11/21/2017 3:44:15 AM
Surr: 1-Bromo-4-fluorobenzene	99.7	64.2 - 128		%Rec	1	11/21/2017 3:44:15 AM

Work Order: 1711285
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	MB-18955	SampType:	MBLK	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	MBLKW	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771314				
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	2.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.250									

Work Order: 1711285
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: MB-18955	SampType: MBLK	Units: µg/L	Prep Date: 11/20/2017	RunNo: 40041
Client ID: MBLKW	Batch ID: 18955		Analysis Date: 11/20/2017	SeqNo: 771314

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	2.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	24.8		25.00		99.0	45.4	152				
Surr: Toluene-d8	24.5		25.00		98.0	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	23.3		25.00		93.0	64.2	128				

Work Order: 1711285
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID MB-18955	SampType: MBLK	Units: µg/L	Prep Date: 11/20/2017	RunNo: 40041							
Client ID: MBLKW	Batch ID: 18955		Analysis Date: 11/20/2017	SeqNo: 771314							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID LCS-18955	SampType: LCS	Units: µg/L	Prep Date: 11/20/2017	RunNo: 40041							
Client ID: LCSW	Batch ID: 18955		Analysis Date: 11/20/2017	SeqNo: 771313							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	18.4	1.00	20.00	0	92.0	18.7	171				
Chloromethane	18.6	2.00	20.00	0	93.0	38.5	171				
Vinyl chloride	18.9	0.200	20.00	0	94.5	48	145				
Bromomethane	21.4	1.00	20.00	0	107	32.5	184				
Trichlorofluoromethane (CFC-11)	19.9	1.00	20.00	0	99.3	43.5	149				
Chloroethane	19.3	1.00	20.00	0	96.6	43.8	168				
1,1-Dichloroethene	20.0	1.00	20.00	0	100	57.5	150				
Methylene chloride	20.0	1.00	20.00	0	99.8	67.1	131				
trans-1,2-Dichloroethene	19.6	1.00	20.00	0	98.0	71.7	129				
Methyl tert-butyl ether (MTBE)	20.3	1.00	20.00	0	102	58	138				
1,1-Dichloroethane	19.7	1.00	20.00	0	98.4	67.9	134				
2,2-Dichloropropane	19.7	2.00	20.00	0	98.7	26.5	185				
cis-1,2-Dichloroethene	19.9	1.00	20.00	0	99.4	70.2	139				
Chloroform	19.9	1.00	20.00	0	99.5	66.3	131				
1,1,1-Trichloroethane (TCA)	18.8	1.00	20.00	0	94.2	71	131				
1,1-Dichloropropene	19.6	1.00	20.00	0	98.2	69.9	124				
Carbon tetrachloride	18.0	1.00	20.00	0	90.0	66.2	134				
1,2-Dichloroethane (EDC)	20.0	1.00	20.00	0	99.9	67	126				
Benzene	20.2	1.00	20.00	0	101	69.3	132				
Trichloroethene (TCE)	20.2	0.500	20.00	0	101	65.2	136				
1,2-Dichloropropane	19.9	1.00	20.00	0	99.7	70.5	130				
Bromodichloromethane	20.1	1.00	20.00	0	101	67.2	137				
Dibromomethane	20.4	1.00	20.00	0	102	69.3	143				
cis-1,3-Dichloropropene	18.6	1.00	20.00	0	93.2	62.6	137				
Toluene	20.4	1.00	20.00	0	102	61.3	145				



Work Order: 1711285
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-18955	SampType:	LCS	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041
Client ID:	LCSW	Batch ID:	18955			Analysis Date:	11/20/2017	SeqNo:	771313

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	19.0	1.00	20.00	0	95.1	56.5	163				
1,1,2-Trichloroethane	21.1	1.00	20.00	0	106	71.7	131				
1,3-Dichloropropane	20.9	1.00	20.00	0	104	73.5	127				
Tetrachloroethene (PCE)	20.0	1.00	20.00	0	100	47.5	147				
Dibromochloromethane	19.6	1.00	20.00	0	97.9	67.2	134				
1,2-Dibromoethane (EDB)	20.5	0.250	20.00	0	102	73.6	125				
Chlorobenzene	20.2	1.00	20.00	0	101	73.9	126				
1,1,1,2-Tetrachloroethane	20.1	1.00	20.00	0	101	76.8	124				
Ethylbenzene	21.3	1.00	20.00	0	106	72	130				
m,p-Xylene	42.1	1.00	40.00	0	105	70.3	134				
o-Xylene	20.3	1.00	20.00	0	101	72.1	131				
Styrene	20.4	1.00	20.00	0	102	64.3	140				
Isopropylbenzene	22.1	1.00	20.00	0	110	73.9	128				
Bromoform	19.5	2.00	20.00	0	97.6	55.3	141				
1,1,1,2,2-Tetrachloroethane	21.0	1.00	20.00	0	105	62.9	132				
n-Propylbenzene	20.6	1.00	20.00	0	103	74.5	127				
Bromobenzene	20.1	1.00	20.00	0	100	71	131				
1,3,5-Trimethylbenzene	21.2	1.00	20.00	0	106	73.1	128				
2-Chlorotoluene	20.3	1.00	20.00	0	101	70.8	130				
4-Chlorotoluene	20.5	1.00	20.00	0	102	70.1	131				
tert-Butylbenzene	20.3	1.00	20.00	0	101	68.2	131				
1,2,3-Trichloropropane	20.2	1.00	20.00	0	101	67.7	131				
1,2,4-Trichlorobenzene	18.9	2.00	20.00	0	94.3	41	139				
sec-Butylbenzene	20.1	1.00	20.00	0	100	72	129				
4-Isopropyltoluene	20.9	1.00	20.00	0	105	69.2	130				
1,3-Dichlorobenzene	20.5	1.00	20.00	0	102	80.4	124				
1,4-Dichlorobenzene	20.4	1.00	20.00	0	102	66.8	119				
n-Butylbenzene	20.4	1.00	20.00	0	102	73.8	127				
1,2-Dichlorobenzene	20.8	1.00	20.00	0	104	69.7	119				
1,2-Dibromo-3-chloropropane	20.6	1.00	20.00	0	103	63.1	136				
1,2,4-Trimethylbenzene	21.3	1.00	20.00	0	107	73.4	127				

Work Order: 1711285
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: LCS-18955	SampType: LCS	Units: µg/L	Prep Date: 11/20/2017	RunNo: 40041							
Client ID: LCSW	Batch ID: 18955		Analysis Date: 11/20/2017	SeqNo: 771313							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	20.3	4.00	20.00	0	101	58.6	138				
Naphthalene	19.9	1.00	20.00	0	99.6	41.8	165				
1,2,3-Trichlorobenzene	19.1	4.00	20.00	0	95.7	48.7	156				
Surr: Dibromofluoromethane	26.0		25.00		104	45.4	152				
Surr: Toluene-d8	25.6		25.00		102	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.6		25.00		107	64.2	128				

Sample ID: 1711284-003ADUP	SampType: DUP	Units: µg/L	Prep Date: 11/20/2017	RunNo: 40041							
Client ID: BATCH	Batch ID: 18955		Analysis Date: 11/20/2017	SeqNo: 771299							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	

Work Order: 1711285
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711284-003ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041
Client ID:	BATCH	Batch ID:	18955			Analysis Date:	11/20/2017	SeqNo:	771299

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						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	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	

Work Order: 1711285
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711284-003ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771299				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	24.9		25.00		99.6	45.4	152		0		
Surr: Toluene-d8	24.2		25.00		96.9	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	22.6		25.00		90.2	64.2	128		0		

Sample ID	1711284-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771295				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	19.0	1.00	20.00	0	95.2	33.3	122				
Chloromethane	19.4	2.00	20.00	0	97.1	39.7	143				
Vinyl chloride	20.2	0.200	20.00	0	101	41	165				
Bromomethane	33.1	1.00	20.00	0	166	31.5	135				S
Trichlorofluoromethane (CFC-11)	23.1	1.00	20.00	0	116	54.7	138				
Chloroethane	21.4	1.00	20.00	0	107	49.9	143				
1,1-Dichloroethene	21.7	1.00	20.00	0	109	51.6	164				
Methylene chloride	19.9	1.00	20.00	0	99.7	61.6	135				
trans-1,2-Dichloroethene	20.8	1.00	20.00	0	104	63.5	138				
Methyl tert-butyl ether (MTBE)	18.9	1.00	20.00	0	94.4	60.9	132				
1,1-Dichloroethane	20.2	1.00	20.00	0	101	55.7	151				
2,2-Dichloropropane	20.2	2.00	20.00	0	101	37.7	150				
cis-1,2-Dichloroethene	20.1	1.00	20.00	0	101	60	154				

Work Order: 1711285
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711284-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771295				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	20.4	1.00	20.00	0	102	48.1	140				
1,1,1-Trichloroethane (TCA)	20.8	1.00	20.00	0	104	64.2	146				
1,1-Dichloropropene	21.7	1.00	20.00	0	108	73.8	136				
Carbon tetrachloride	21.6	1.00	20.00	0	108	62.7	146				
1,2-Dichloroethane (EDC)	19.9	1.00	20.00	0	99.7	63.4	137				
Benzene	22.1	1.00	20.00	1.908	101	65.4	138				
Trichloroethene (TCE)	20.0	0.500	20.00	0	99.9	60.4	134				
1,2-Dichloropropane	19.7	1.00	20.00	0	98.7	62.6	138				
Bromodichloromethane	20.2	1.00	20.00	0	101	59.4	139				
Dibromomethane	19.8	1.00	20.00	0	99.0	58.7	148				
cis-1,3-Dichloropropene	18.2	1.00	20.00	0	91.0	63.8	132				
Toluene	28.9	1.00	20.00	8.148	104	52	147				
trans-1,3-Dichloropropylene	17.6	1.00	20.00	0	88.2	57.7	125				
1,1,2-Trichloroethane	20.4	1.00	20.00	0	102	57.5	153				
1,3-Dichloropropane	20.1	1.00	20.00	0	101	54.1	157				
Tetrachloroethene (PCE)	21.8	1.00	20.00	0	109	50.3	133				
Dibromochloromethane	19.2	1.00	20.00	0	95.8	61.6	139				
1,2-Dibromoethane (EDB)	19.4	0.250	20.00	0	97.2	63.2	134				
Chlorobenzene	20.3	1.00	20.00	0	101	65.8	134				
1,1,1,2-Tetrachloroethane	20.1	1.00	20.00	0	100	65.4	135				
Ethylbenzene	22.5	1.00	20.00	0	112	64.5	136				
m,p-Xylene	64.3	1.00	40.00	22.56	104	63.3	135				
o-Xylene	46.0	1.00	20.00	26.23	99.1	64.8	150				
Styrene	21.1	1.00	20.00	0	106	52.9	163				
Isopropylbenzene	23.6	1.00	20.00	0	118	56	147				
Bromoform	18.9	2.00	20.00	0	94.4	57.7	139				
1,1,1,2-Tetrachloroethane	21.8	1.00	20.00	0	109	59.8	146				
n-Propylbenzene	22.6	1.00	20.00	0	113	57.6	142				
Bromobenzene	20.3	1.00	20.00	0	101	69.3	157				
1,3,5-Trimethylbenzene	41.9	1.00	20.00	27.33	72.7	59.9	136				
2-Chlorotoluene	23.9	1.00	20.00	0	119	61.7	134				

Work Order: 1711285
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711284-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771295				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	23.5	1.00	20.00	0	117	58.4	134				
tert-Butylbenzene	22.9	1.00	20.00	0	115	66.8	141				
1,2,3-Trichloropropane	18.8	1.00	20.00	0	94.1	62.4	129				
1,2,4-Trichlorobenzene	24.2	2.00	20.00	0	121	50.9	133				
sec-Butylbenzene	23.3	1.00	20.00	0	117	56	146				
4-Isopropyltoluene	24.2	1.00	20.00	0	121	56.4	136				
1,3-Dichlorobenzene	20.3	1.00	20.00	0	102	58.2	128				
1,4-Dichlorobenzene	20.3	1.00	20.00	0	101	60.1	123				
n-Butylbenzene	26.7	1.00	20.00	0	134	54.6	135				
1,2-Dichlorobenzene	20.6	1.00	20.00	0	103	65.4	133				
1,2-Dibromo-3-chloropropane	21.0	1.00	20.00	0	105	51.8	142				
1,2,4-Trimethylbenzene	26.3	1.00	20.00	3.666	113	63.7	132				
Hexachloro-1,3-butadiene	23.1	4.00	20.00	0	115	58.1	130				
Naphthalene	38.6	1.00	20.00	16.83	109	50.7	154				
1,2,3-Trichlorobenzene	25.8	4.00	20.00	0	129	57	131				
Surr: Dibromofluoromethane	26.2		25.00		105	45.4	152				
Surr: Toluene-d8	25.7		25.00		103	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	27.0		25.00		108	64.2	128				

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Sample ID	1711284-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771296				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	20.4	1.00	20.00	0	102	33.3	122	19.05	7.04	30	
Chloromethane	20.6	2.00	20.00	0	103	39.7	143	19.43	5.88	30	
Vinyl chloride	22.0	0.200	20.00	0	110	41	165	20.20	8.46	30	
Bromomethane	21.5	1.00	20.00	0	108	31.5	135	33.12	42.4	30	R
Trichlorofluoromethane (CFC-11)	24.8	1.00	20.00	0	124	54.7	138	23.13	7.12	30	
Chloroethane	22.6	1.00	20.00	0	113	49.9	143	21.37	5.39	30	

Work Order: 1711285
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711284-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771296				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23.6	1.00	20.00	0	118	51.6	164	21.73	8.02	30	
Methylene chloride	21.5	1.00	20.00	0	107	61.6	135	19.94	7.52	30	
trans-1,2-Dichloroethene	22.3	1.00	20.00	0	112	63.5	138	20.83	6.87	30	
Methyl tert-butyl ether (MTBE)	21.2	1.00	20.00	0	106	60.9	132	18.87	11.6	30	
1,1-Dichloroethane	21.7	1.00	20.00	0	109	55.7	151	20.17	7.41	30	
2,2-Dichloropropane	22.5	2.00	20.00	0	113	37.7	150	20.16	11.1	30	
cis-1,2-Dichloroethene	21.5	1.00	20.00	0	108	60	154	20.14	6.55	30	
Chloroform	21.7	1.00	20.00	0	108	48.1	140	20.43	5.90	30	
1,1,1-Trichloroethane (TCA)	22.5	1.00	20.00	0	112	64.2	146	20.77	7.83	30	
1,1-Dichloropropene	23.2	1.00	20.00	0	116	73.8	136	21.69	6.81	30	
Carbon tetrachloride	23.2	1.00	20.00	0	116	62.7	146	21.63	7.10	30	
1,2-Dichloroethane (EDC)	21.2	1.00	20.00	0	106	63.4	137	19.94	5.93	30	
Benzene	23.6	1.00	20.00	1.908	108	65.4	138	22.06	6.68	30	
Trichloroethene (TCE)	21.1	0.500	20.00	0	105	60.4	134	19.98	5.23	30	
1,2-Dichloropropane	21.2	1.00	20.00	0	106	62.6	138	19.74	7.05	30	
Bromodichloromethane	21.5	1.00	20.00	0	107	59.4	139	20.19	6.16	30	
Dibromomethane	20.9	1.00	20.00	0	105	58.7	148	19.81	5.51	30	
cis-1,3-Dichloropropene	19.7	1.00	20.00	0	98.7	63.8	132	18.21	8.06	30	
Toluene	30.0	1.00	20.00	8.148	109	52	147	28.93	3.77	30	
trans-1,3-Dichloropropylene	19.4	1.00	20.00	0	97.2	57.7	125	17.65	9.62	30	
1,1,2-Trichloroethane	21.5	1.00	20.00	0	108	57.5	153	20.37	5.52	30	
1,3-Dichloropropane	21.2	1.00	20.00	0	106	54.1	157	20.12	5.40	30	
Tetrachloroethene (PCE)	23.1	1.00	20.00	0	115	50.3	133	21.81	5.66	30	
Dibromochloromethane	20.4	1.00	20.00	0	102	61.6	139	19.17	6.22	30	
1,2-Dibromoethane (EDB)	20.7	0.250	20.00	0	104	63.2	134	19.44	6.36	30	
Chlorobenzene	21.7	1.00	20.00	0	109	65.8	134	20.28	6.93	30	
1,1,1,2-Tetrachloroethane	21.5	1.00	20.00	0	108	65.4	135	20.06	7.04	30	
Ethylbenzene	24.1	1.00	20.00	0	121	64.5	136	22.49	6.98	30	
m,p-Xylene	67.4	1.00	40.00	22.56	112	63.3	135	64.34	4.65	30	
o-Xylene	48.1	1.00	20.00	26.23	109	64.8	150	46.04	4.39	30	
Styrene	22.7	1.00	20.00	0	114	52.9	163	21.11	7.38	30	

Work Order: 1711285
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711284-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/20/2017	SeqNo:	771296		

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropylbenzene	25.4	1.00	20.00	0	127	56	147	23.55	7.43	30	
Bromoform	20.4	2.00	20.00	0	102	57.7	139	18.87	7.59	30	
1,1,2,2-Tetrachloroethane	23.6	1.00	20.00	0	118	59.8	146	21.79	7.98	30	
n-Propylbenzene	24.8	1.00	20.00	0	124	57.6	142	22.58	9.18	30	
Bromobenzene	21.7	1.00	20.00	0	108	69.3	157	20.29	6.51	30	
1,3,5-Trimethylbenzene	42.3	1.00	20.00	27.33	74.6	59.9	136	41.87	0.910	30	
2-Chlorotoluene	25.1	1.00	20.00	0	126	61.7	134	23.85	5.23	30	
4-Chlorotoluene	25.1	1.00	20.00	0	126	58.4	134	23.47	6.81	30	
tert-Butylbenzene	24.7	1.00	20.00	0	124	66.8	141	22.94	7.49	30	
1,2,3-Trichloropropane	21.0	1.00	20.00	0	105	62.4	129	18.83	10.8	30	
1,2,4-Trichlorobenzene	27.7	2.00	20.00	0	138	50.9	133	24.21	13.5	30	S
sec-Butylbenzene	25.4	1.00	20.00	0	127	56	146	23.34	8.64	30	
4-Isopropyltoluene	26.2	1.00	20.00	0	131	56.4	136	24.16	7.95	30	
1,3-Dichlorobenzene	21.9	1.00	20.00	0	110	58.2	128	20.31	7.68	30	
1,4-Dichlorobenzene	21.9	1.00	20.00	0	110	60.1	123	20.27	7.82	30	
n-Butylbenzene	29.3	1.00	20.00	0	147	54.6	135	26.74	9.16	30	S
1,2-Dichlorobenzene	22.2	1.00	20.00	0	111	65.4	133	20.62	7.47	30	
1,2-Dibromo-3-chloropropane	24.0	1.00	20.00	0	120	51.8	142	21.03	13.2	30	
1,2,4-Trimethylbenzene	28.3	1.00	20.00	3.666	123	63.7	132	26.29	7.24	30	
Hexachloro-1,3-butadiene	25.4	4.00	20.00	0	127	58.1	130	23.09	9.51	30	
Naphthalene	45.2	1.00	20.00	16.83	142	50.7	154	38.59	15.7	30	
1,2,3-Trichlorobenzene	29.5	4.00	20.00	0	147	57	131	25.78	13.3	30	S
Surr: Dibromofluoromethane	26.1		25.00		105	45.4	152		0		
Surr: Toluene-d8	25.3		25.00		101	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	27.0		25.00		108	64.2	128		0		

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

R - High RPD observed, spike recoveries are within range.

Work Order: 1711285
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711290-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041		
Client ID:	BATCH	Batch ID:	18955	Analysis Date:	11/21/2017	SeqNo:	771304				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.250						0		30	

Work Order: 1711285
 CLIENT: PES Environmental, Inc.
 Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711290-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041
Client ID:	BATCH	Batch ID:	18955			Analysis Date:	11/21/2017	SeqNo:	771304

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
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	23.9		25.00		95.6	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	22.9		25.00		91.8	64.2	128		0		



Work Order: 1711285
CLIENT: PES Environmental, Inc.
Project: MVSC

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID	1711290-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	11/20/2017	RunNo:	40041				
Client ID:	BATCH	Batch ID:	18955			Analysis Date:	11/21/2017	SeqNo:	771304				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Client Name: **PES**

 Work Order Number: **1711285**

 Logged by: **Brianna Barnes**

 Date Received: **11/16/2017 1:36:00 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
- Received straight from field**
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
Sample	15.7

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



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

Chain of Custody Record & Laboratory Services Agreement

Client: **PE'S ENVIRONMENTAL INC.**
Address: **1215 4th Ave STE 1350**
City, State, zip: **SEATTLE, WA 98161**
Telephone: **206-529-3990**
Fax: **206-529-3985**

Date: _____ Page: 1 of 1
Project Name: **MUSC**
Project No: **1358.001.01.007**
Collected by: **Karsten Springsstead**
Location: **Normandy Park, WA**
Report To (PM): **MAF Dahl**
PM Email: **MDahl@psenv.com**

Laboratory Project No (Internal): **1711285**
Special Remarks:
Sample Disposal: Return to client Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HClD)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 - SIM)	PAHs (EPA 8270 / 625)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (C)***	EDB (8011)	Comments
1 W-COND-111617	11-16-17	1215	WW	X													
2 W-Drum-111617	11-16-17	1200	WW	X													
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

*Matrix: 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
**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn
***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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

Relinquished Date/Time 11-16-17/1336
Received Date/Time 11-16-17/1336
Relinquished Date/Time _____
Received Date/Time _____

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
 Same Day (Specify) _____

www.fremontanalytical.com



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LABORATORY REPORT

January 11, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MUSC / 1358.001.01.007

Dear Matt:

Enclosed are the results of the samples submitted to our laboratory on January 2, 2018. For your reference, these analyses have been assigned our service request number P1800001.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 4:29 pm, 01/11/18

Kate Kaneko
Project Manager



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Client: PES Environmental
Project: MUSC / 1358.001.01.007

Service Request No: P1800001

CASE NARRATIVE

The samples were received intact under chain of custody on January 2, 2018 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The sample SYS-1217 (P1800001-001) was analyzed for volatile organic compounds and the remaining samples were analyzed for tetrachloroethene in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The spike recovery of vinyl acetate in the Duplicate Laboratory Control Sample (DLCS) of the first analytical batch analyzed on January 3, 2018 exceeded the upper acceptance limit. However, since the apparent problem equates to a potential high bias and the field sample associated with this DLCS did not contain the analyte in question, the data quality has not been significantly affected. The data has been flagged accordingly. No further corrective action was taken.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-004
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-17-8
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 7-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
 Project ID: MUSC / 1358.001.01.007

Service Request: P1800001

Date Received: 1/2/2018
 Time Received: 09:00

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-1217	P1800001-001	Air	12/28/2017	10:50	SC00652	-0.55	3.54	X
SVE-1-122817	P1800001-002	Air	12/28/2017	09:00	1SS00776	0.05	5.03	X
SVE-2-122817	P1800001-003	Air	12/28/2017	09:05	1SS00256	-0.01	5.61	X
SVE-3-122817	P1800001-004	Air	12/28/2017	09:10	1SC01059	-0.72	5.45	X
SVE-4-122817	P1800001-005	Air	12/28/2017	09:15	1SC00767	0.46	5.22	X
SVE-5-122817	P1800001-006	Air	12/28/2017	09:20	1SC01006	0.11	6.23	X
SVE-6-122817	P1800001-007	Air	12/28/2017	09:25	1SS00239	-0.06	5.66	X
SVE-7-122817	P1800001-008	Air	12/28/2017	09:30	1SC00026	-0.39	5.12	X
SVE-8-122817	P1800001-009	Air	12/28/2017	09:35	1SC00606	0.57	5.15	X
SVE-9-122817	P1800001-010	Air	12/28/2017	09:40	1SC00128	-0.26	5.47	X
SVE-10-122817	P1800001-011	Air	12/28/2017	09:45	1SC00632	-0.63	5.81	X
SVE-11A-122817	P1800001-012	Air	12/28/2017	09:50	1SC01028	-0.73	5.29	X
SVE-11B-122817	P1800001-013	Air	12/28/2017	09:55	1SC01228	-1.52	5.35	X
SVE-12A-122817	P1800001-014	Air	12/28/2017	10:00	1SC00615	0.05	5.24	X
SVE-12B-122817	P1800001-015	Air	12/28/2017	10:05	1SC00939	-1.32	5.35	X
SVE-13A-122817	P1800001-016	Air	12/28/2017	10:10	1SC01145	-0.12	5.14	X
SVE-13B-122817	P1800001-017	Air	12/28/2017	10:15	1SC00811	0.09	5.62	X
SVE-14-122817	P1800001-018	Air	12/28/2017	10:20	1SC00796	-1.18	5.86	X
SVE-15-122817	P1800001-019	Air	12/28/2017	10:25	1SC00160	0.06	5.42	X
SVE-16-122817	P1800001-020	Air	12/28/2017	10:30	1SC01168	0.42	5.56	X
SVE-17-122817	P1800001-021	Air	12/28/2017	10:35	1SC00946	-0.22	6.37	X
SVE-18-122817	P1800001-022	Air	12/28/2017	10:40	1SC00139	-0.02	5.32	X
SVE-19-122817	P1800001-023	Air	12/28/2017	10:45	1SC00439	-0.28	6.34	X



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Air - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No
P19000001A

Company Name & Address (Reporting Information)		Project Name		ALS Contact		Analysis Method	Comments e.g. Actual Preservative or specific instructions
P&S ENVIRONMENTAL, INC. 1213 4th AVE SEATTLE WA 98161 Project Manager Matt Dahl Phone 206-529-3980 Email Address for Report Reporting M.Dahl@p&senv.com		MUSE 1358.001.01.007 P.O. # / Billing Information 1358.001.01.007		T-15 X			
Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AG, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure ⁺ Hg	Canister End Pressure ⁺ Hg/psig	Sample Volume
SYS-1221	12-28-17	1050	5C0065Z		29	3	6L
SVE-1-122817		900	15500776		29	2	N
SVE-2-122817		905	15500756		28	4	
SVE-3-122817		910	15401059		30	0	
SVE-4-122817		915	15400767		30	2	
SVE-5-122817		920	15401006		26	7	
SVE-6-122817		925	15400551		28	3	
SVE-7-122817		930	1540026		28	0	
SVE-8-122817		935	15C00606		30	2	
SVE-9-122817		940	15C00178		25	3	
SVE-10-122817		945	15C0063Z		30	3	
SVE-11A-122817		950	15C01028		30	3	
SVE-11B-122817		955	1540128		28	4	
SVE-12A-122817		1000	15C00615		30	1	

Report Tier Levels - please select
 Tier I - Results (Default in not specified)
 Tier II (Results + QC Summaries) _____
 Tier III (Results + QC & Calibration Summaries) _____
 Tier IV (Date Validation Package) 10% Surcharge _____

EDD required No
 Type: FIA Units: _____

Chain of Custody Seal: (Circle)
 INTACT BROKEN ABSENT

Received by: (Signature) [Signature] Date: 12-28-17 Time: 11:30
 Received by: (Signature) [Signature] Date: 12-18 Time: 09:00

Project Requirements (MRLs, QAPP) _____
 Cooler / Blank Temperature _____ °C



Air - Chain of Custody Record & Analytical Service Request

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 Simi Valley, California 93065
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 Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No 1900001

Company Name & Address (Reporting Information)		Project Name		ALS Contact:		Analysis Method	Comments e.g. Actual Preservative or specific instructions
Project Manager		Project Number		ALS Contact:			
Project Manager: <u>M. Dahn</u> Phone: <u>288-524-3981</u> Email Address for Result Reporting: <u>M.Dahn@resenv.com</u>		Project Name: <u>MNSX</u> Project Number: <u>1358.001.01.007</u> P.O. # / Billing Information: <u>1358.001.01.007</u>		ALS Contact: <u>TO-15</u>		<u>PCA</u>	
Sampler (Print & Sign): <u>Kirsten Sprigstad</u>		Canister ID (Bar code # - AC, SC, etc.): <u>1500839</u>		Canister Start Pressure ^{+Hg} : <u>29</u>			
Client Sample ID: <u>SVE-12B-122817</u>		Laboratory ID Number: <u>15</u>		Time Collected: <u>1005</u>		Sample Volume: <u>16</u>	
<u>SVE-13A-122817</u>		<u>16</u>		<u>1010</u>			
<u>SVE-13B-122817</u>		<u>17</u>		<u>1015</u>			
<u>SVE-14-122817</u>		<u>18</u>		<u>1020</u>			
<u>SVE-15-122817</u>		<u>19</u>		<u>1025</u>			
<u>SVE-16-122817</u>		<u>20</u>		<u>1030</u>			
<u>SVE-17-122817</u>		<u>21</u>		<u>1035</u>			
<u>SVE-18-122817</u>		<u>22</u>		<u>1040</u>			
<u>SVE-19-122817</u>		<u>23</u>		<u>1045</u>			

Report Tier Levels - please select
 Tier I - Results (Default in not specified)
 Tier II (Results + QC Summaries)
 Tier III (Results + QC & Calibration Summaries)
 Tier IV (Date Validation Package) 10% Surcharge

EDD required Yes / No No
 Type: EM Units: _____

Chain of Custody Seal: (Circle)
 INTACT BROKEN ABSENT

Relinquished by: (Signature) [Signature] Date: 12-28 Time: 1130
 Relinquished by: (Signature) [Signature] Date: 1-2-18 Time: 0900

Project Requirements (MRLs, QAPP) _____
 Cooler / Blank Temperature _____ °C

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental

Work order: P1800001

Project: MUSC / 1358.001.01.007

Sample(s) received on: 1/2/18

Date opened: 1/2/18

by: E.PEREZ

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1800001-001.01	6.0 L Source Can					
P1800001-002.01	1.0 L Source Silonite Canister					
P1800001-003.01	1.0 L Source Silonite Canister					
P1800001-004.01	1.0 L Source Can					
P1800001-005.01	1.0 L Source Can					
P1800001-006.01	1.0 L Source Can					
P1800001-007.01	1.0 L Source Silonite Canister					
P1800001-008.01	1.0 L Source Can					
P1800001-009.01	1.0 L Source Can					
P1800001-010.01	1.0 L Source Can					
P1800001-011.01	1.0 L Source Can					
P1800001-012.01	1.0 L Source Can					
P1800001-013.01	1.0 L Source Can					
P1800001-014.01	1.0 L Source Can					
P1800001-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental Work order: P1800001
Project: MUSC / 1358.001.01.007
Sample(s) received on: 1/2/18 Date opened: 1/2/18 by: E.PEREZ

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1800001-016.01	1.0 L Source Can					
P1800001-017.01	1.0 L Source Can					
P1800001-018.01	1.0 L Source Can					
P1800001-019.01	1.0 L Source Can					
P1800001-020.01	1.0 L Source Can					
P1800001-021.01	1.0 L Source Can					
P1800001-022.01	1.0 L Source Can					
P1800001-023.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-1217
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00652

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.70 Liter(s)

Initial Pressure (psig): -0.55 Final Pressure (psig): 3.54

Container Dilution Factor: 1.29

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.92	ND	0.54	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.1	0.92	1.0	0.19	
74-87-3	Chloromethane	ND	0.92	ND	0.45	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.92	ND	0.13	
75-01-4	Vinyl Chloride	ND	0.92	ND	0.36	
106-99-0	1,3-Butadiene	ND	0.92	ND	0.42	
74-83-9	Bromomethane	ND	0.92	ND	0.24	
75-00-3	Chloroethane	ND	0.92	ND	0.35	
64-17-5	Ethanol	25	9.2	13	4.9	
75-05-8	Acetonitrile	ND	0.92	ND	0.55	
107-02-8	Acrolein	ND	3.7	ND	1.6	
67-64-1	Acetone	ND	9.2	ND	3.9	
75-69-4	Trichlorofluoromethane (CFC 11)	3.5	0.92	0.63	0.16	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	9.2	ND	3.8	
107-13-1	Acrylonitrile	ND	0.92	ND	0.42	
75-35-4	1,1-Dichloroethene	ND	0.92	ND	0.23	
75-09-2	Methylene Chloride	ND	0.92	ND	0.27	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.92	ND	0.29	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.92	ND	0.12	
75-15-0	Carbon Disulfide	ND	9.2	ND	3.0	
156-60-5	trans-1,2-Dichloroethene	ND	0.92	ND	0.23	
75-34-3	1,1-Dichloroethane	ND	0.92	ND	0.23	
1634-04-4	Methyl tert-Butyl Ether	ND	0.92	ND	0.26	
108-05-4	Vinyl Acetate	ND	9.2	ND	2.6	L
78-93-3	2-Butanone (MEK)	ND	9.2	ND	3.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-1217
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00652

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.70 Liter(s)

Initial Pressure (psig): -0.55 Final Pressure (psig): 3.54

Container Dilution Factor: 1.29

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.92	ND	0.23	
141-78-6	Ethyl Acetate	13	1.8	3.5	0.51	
110-54-3	n-Hexane	50	0.92	14	0.26	
67-66-3	Chloroform	3.4	0.92	0.69	0.19	
109-99-9	Tetrahydrofuran (THF)	ND	0.92	ND	0.31	
107-06-2	1,2-Dichloroethane	ND	0.92	ND	0.23	
71-55-6	1,1,1-Trichloroethane	ND	0.92	ND	0.17	
71-43-2	Benzene	ND	0.92	ND	0.29	
56-23-5	Carbon Tetrachloride	ND	0.92	ND	0.15	
110-82-7	Cyclohexane	30	1.8	8.6	0.54	
78-87-5	1,2-Dichloropropane	ND	0.92	ND	0.20	
75-27-4	Bromodichloromethane	ND	0.92	ND	0.14	
79-01-6	Trichloroethene	ND	0.92	ND	0.17	
123-91-1	1,4-Dioxane	ND	0.92	ND	0.26	
80-62-6	Methyl Methacrylate	ND	1.8	ND	0.45	
142-82-5	n-Heptane	6.0	0.92	1.5	0.22	
10061-01-5	cis-1,3-Dichloropropene	ND	0.92	ND	0.20	
108-10-1	4-Methyl-2-pentanone	ND	0.92	ND	0.22	
10061-02-6	trans-1,3-Dichloropropene	ND	0.92	ND	0.20	
79-00-5	1,1,2-Trichloroethane	ND	0.92	ND	0.17	
108-88-3	Toluene	4.5	0.92	1.2	0.24	
591-78-6	2-Hexanone	ND	0.92	ND	0.23	
124-48-1	Dibromochloromethane	ND	0.92	ND	0.11	
106-93-4	1,2-Dibromoethane	ND	0.92	ND	0.12	
123-86-4	n-Butyl Acetate	ND	0.92	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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Client: PES Environmental
Client Sample ID: SYS-1217
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00652

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.70 Liter(s)

Initial Pressure (psig): -0.55 Final Pressure (psig): 3.54

Container Dilution Factor: 1.29

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.92	ND	0.20	
127-18-4	Tetrachloroethene	160	0.92	23	0.14	
108-90-7	Chlorobenzene	ND	0.92	ND	0.20	
100-41-4	Ethylbenzene	ND	0.92	ND	0.21	
179601-23-1	m,p-Xylenes	2.3	1.8	0.53	0.42	
75-25-2	Bromoform	ND	0.92	ND	0.089	
100-42-5	Styrene	ND	0.92	ND	0.22	
95-47-6	o-Xylene	ND	0.92	ND	0.21	
111-84-2	n-Nonane	ND	0.92	ND	0.18	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.92	ND	0.13	
98-82-8	Cumene	ND	0.92	ND	0.19	
80-56-8	alpha-Pinene	1.2	0.92	0.21	0.17	
103-65-1	n-Propylbenzene	ND	0.92	ND	0.19	
622-96-8	4-Ethyltoluene	ND	0.92	ND	0.19	
108-67-8	1,3,5-Trimethylbenzene	ND	0.92	ND	0.19	
95-63-6	1,2,4-Trimethylbenzene	0.96	0.92	0.20	0.19	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.36	
541-73-1	1,3-Dichlorobenzene	ND	0.92	ND	0.15	
106-46-7	1,4-Dichlorobenzene	ND	0.92	ND	0.15	
95-50-1	1,2-Dichlorobenzene	ND	0.92	ND	0.15	
5989-27-5	d-Limonene	1.1	0.92	0.21	0.17	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.92	ND	0.095	
120-82-1	1,2,4-Trichlorobenzene	ND	0.92	ND	0.12	
91-20-3	Naphthalene	ND	0.92	ND	0.18	
87-68-3	Hexachlorobutadiene	ND	0.92	ND	0.086	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

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Client: PES Environmental
Client Sample ID: SVE-1-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
ALS Sample ID: P1800001-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00776

Date Collected: 12/28/17
Date Received: 1/2/18
Date Analyzed: 1/3/18
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.05 Final Pressure (psig): 5.03

Container Dilution Factor: 1.34

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	120	1.7	18	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

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Client: PES Environmental
Client Sample ID: SVE-2-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
ALS Sample ID: P1800001-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00256

Date Collected: 12/28/17
Date Received: 1/2/18
Date Analyzed: 1/3/18
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.01 Final Pressure (psig): 5.61

Container Dilution Factor: 1.38

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	210	1.7	30	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

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Client: PES Environmental
Client Sample ID: SVE-3-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-004

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01059

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.72 Final Pressure (psig): 5.45

Container Dilution Factor: 1.44

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	50	1.8	7.4	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-4-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-005

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00767

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.46 Final Pressure (psig): 5.22

Container Dilution Factor: 1.31

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	59	1.6	8.7	0.24	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

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Client: PES Environmental
Client Sample ID: SVE-5-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-006

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01006

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.11 Final Pressure (psig): 6.23

Container Dilution Factor: 1.41

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	170	1.8	25	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

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Client: PES Environmental
Client Sample ID: SVE-6-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
ALS Sample ID: P1800001-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00239

Date Collected: 12/28/17
Date Received: 1/2/18
Date Analyzed: 1/3/18
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 5.66

Container Dilution Factor: 1.39

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	150	1.7	22	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-7-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
ALS Sample ID: P1800001-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00026

Date Collected: 12/28/17
Date Received: 1/2/18
Date Analyzed: 1/3/18
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.39 Final Pressure (psig): 5.12

Container Dilution Factor: 1.39

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	350	1.7	52	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-8-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-009

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00606

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.050 Liter(s)

Initial Pressure (psig): 0.57 Final Pressure (psig): 5.15

Container Dilution Factor: 1.30

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	320	13	47	1.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-9-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-010

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00128

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.26 Final Pressure (psig): 5.47

Container Dilution Factor: 1.40

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	170	1.8	25	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-10-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-011

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00632

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.63 Final Pressure (psig): 5.81

Container Dilution Factor: 1.46

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	290	1.8	42	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-11A-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-012

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01028

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.73 Final Pressure (psig): 5.29

Container Dilution Factor: 1.43

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	68	1.8	10	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

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Client: PES Environmental
Client Sample ID: SVE-11B-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-013

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01228

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.52 Final Pressure (psig): 5.35

Container Dilution Factor: 1.52

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	24	1.9	3.6	0.28	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-12A-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-014

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00615

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.05 Final Pressure (psig): 5.24

Container Dilution Factor: 1.35

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	310	1.7	46	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

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Client: PES Environmental
Client Sample ID: SVE-12B-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-015

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00939

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/4/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.32 Final Pressure (psig): 5.35

Container Dilution Factor: 1.50

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	54	1.9	7.9	0.28	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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Client: PES Environmental
Client Sample ID: SVE-13A-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
ALS Sample ID: P1800001-016

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01145

Date Collected: 12/28/17
Date Received: 1/2/18
Date Analyzed: 1/4/18
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.12 Final Pressure (psig): 5.14

Container Dilution Factor: 1.36

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	36	1.7	5.3	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-13B-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-017

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00811

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/4/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.09 Final Pressure (psig): 5.62

Container Dilution Factor: 1.37

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	180	1.7	26	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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Client: PES Environmental
Client Sample ID: SVE-14-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-018

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00796

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/4/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.18 Final Pressure (psig): 5.86

Container Dilution Factor: 1.52

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	120	1.9	18	0.28	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-15-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
ALS Sample ID: P1800001-019

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00160

Date Collected: 12/28/17
Date Received: 1/2/18
Date Analyzed: 1/4/18
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.06 Final Pressure (psig): 5.42

Container Dilution Factor: 1.36

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	190	1.7	28	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-16-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-020

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01168

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/4/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.42 Final Pressure (psig): 5.56

Container Dilution Factor: 1.34

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	310	1.7	46	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-17-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-021

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00946

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/4/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.22 Final Pressure (psig): 6.37

Container Dilution Factor: 1.46

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	5.9	1.8	0.86	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-18-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
ALS Sample ID: P1800001-022

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00139

Date Collected: 12/28/17
Date Received: 1/2/18
Date Analyzed: 1/4/18
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.02 Final Pressure (psig): 5.32

Container Dilution Factor: 1.36

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	59	1.7	8.7	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-19-122817
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P1800001-023

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00439

Date Collected: 12/28/17
 Date Received: 1/2/18
 Date Analyzed: 1/4/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.28 Final Pressure (psig): 6.34

Container Dilution Factor: 1.46

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	39	1.8	5.8	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	L
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	1.0	ND	0.19	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 12/28/17
 Date(s) Received: 1/2/18
 Date(s) Analyzed: 1/3 - 1/4/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180103-MB	111	96	100	70-130	
Method Blank	P180103-MB	111	96	103	70-130	
Lab Control Sample	P180103-LCS	109	92	99	70-130	
Lab Control Sample	P180103-LCS	108	102	97	70-130	
Duplicate Lab Control Sample	P180103-DLCS	109	95	108	70-130	
Duplicate Lab Control Sample	P180103-DLCS	112	108	95	70-130	
SYS-1217	P1800001-001	110	95	107	70-130	
SVE-1-122817	P1800001-002	111	98	102	70-130	
SVE-2-122817	P1800001-003	111	97	103	70-130	
SVE-3-122817	P1800001-004	113	96	104	70-130	
SVE-4-122817	P1800001-005	112	93	101	70-130	
SVE-5-122817	P1800001-006	112	101	103	70-130	
SVE-6-122817	P1800001-007	112	94	102	70-130	
SVE-7-122817	P1800001-008	110	95	105	70-130	
SVE-8-122817	P1800001-009	110	93	105	70-130	
SVE-9-122817	P1800001-010	111	96	104	70-130	
SVE-10-122817	P1800001-011	113	96	104	70-130	
SVE-11A-122817	P1800001-012	111	96	102	70-130	
SVE-11B-122817	P1800001-013	111	95	102	70-130	
SVE-12A-122817	P1800001-014	116	95	101	70-130	
SVE-12B-122817	P1800001-015	110	96	105	70-130	
SVE-13A-122817	P1800001-016	110	95	103	70-130	
SVE-13B-122817	P1800001-017	112	96	103	70-130	
SVE-14-122817	P1800001-018	112	96	104	70-130	
SVE-15-122817	P1800001-019	112	95	104	70-130	
SVE-16-122817	P1800001-020	110	103	92	70-130	
SVE-17-122817	P1800001-021	109	99	92	70-130	
SVE-18-122817	P1800001-022	109	100	91	70-130	
SVE-19-122817	P1800001-023	109	101	93	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	210	235	252	112	120	54-133	7	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	227	239	107	112	64-115	5	25	
74-87-3	Chloromethane	210	237	252	113	120	47-140	6	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	211	226	100	107	60-112	7	25	
75-01-4	Vinyl Chloride	211	243	261	115	124	63-127	8	25	
106-99-0	1,3-Butadiene	210	253	273	120	130	57-149	8	25	
74-83-9	Bromomethane	210	219	227	104	108	63-132	4	25	
75-00-3	Chloroethane	210	230	241	110	115	68-129	4	25	
64-17-5	Ethanol	1,040	1260	1310	121	126	62-131	4	25	
75-05-8	Acetonitrile	210	242	252	115	120	56-136	4	25	
107-02-8	Acrolein	209	247	255	118	122	60-132	3	25	
67-64-1	Acetone	1,050	1220	1260	116	120	63-124	3	25	
75-69-4	Trichlorofluoromethane (CFC 11)	208	214	221	103	106	65-113	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	489	500	116	118	62-135	2	25	
107-13-1	Acrylonitrile	212	256	261	121	123	68-138	2	25	
75-35-4	1,1-Dichloroethene	213	222	226	104	106	72-118	2	25	
75-09-2	Methylene Chloride	213	233	233	109	109	67-116	0	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	251	250	118	118	61-143	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	211	213	99	100	68-113	1	25	
75-15-0	Carbon Disulfide	214	250	251	117	117	68-120	0	25	
156-60-5	trans-1,2-Dichloroethene	214	248	252	116	118	71-125	2	25	
75-34-3	1,1-Dichloroethane	212	227	233	107	110	68-118	3	25	
1634-04-4	Methyl tert-Butyl Ether	213	229	232	108	109	60-123	0.9	25	
108-05-4	Vinyl Acetate	1,060	1430	1450	135	137	73-135	1	25	L
78-93-3	2-Butanone (MEK)	212	248	245	117	116	70-129	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly. L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD Limit		
156-59-2	cis-1,2-Dichloroethene	212	236	240	111	113	69-121	2	25	
141-78-6	Ethyl Acetate	426	522	495	123	116	66-140	6	25	
110-54-3	n-Hexane	213	239	227	112	107	61-124	5	25	
67-66-3	Chloroform	212	232	224	109	106	69-113	3	25	
109-99-9	Tetrahydrofuran (THF)	212	241	242	114	114	66-121	0	25	
107-06-2	1,2-Dichloroethane	212	228	235	108	111	62-120	3	25	
71-55-6	1,1,1-Trichloroethane	212	219	226	103	107	65-116	4	25	
71-43-2	Benzene	213	201	205	94	96	66-111	2	25	
56-23-5	Carbon Tetrachloride	214	236	240	110	112	64-122	2	25	
110-82-7	Cyclohexane	425	428	435	101	102	69-115	1	25	
78-87-5	1,2-Dichloropropane	212	229	228	108	108	69-121	0	25	
75-27-4	Bromodichloromethane	214	234	238	109	111	69-123	2	25	
79-01-6	Trichloroethene	212	196	199	92	94	69-112	2	25	
123-91-1	1,4-Dioxane	213	224	228	105	107	74-123	2	25	
80-62-6	Methyl Methacrylate	424	450	456	106	108	75-125	2	25	
142-82-5	n-Heptane	213	225	226	106	106	68-118	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	251	250	121	120	74-129	0.8	25	
108-10-1	4-Methyl-2-pentanone	213	244	243	115	114	66-138	0.9	25	
10061-02-6	trans-1,3-Dichloropropene	213	274	272	129	128	75-130	0.8	25	
79-00-5	1,1,2-Trichloroethane	212	221	222	104	105	73-117	1	25	
108-88-3	Toluene	211	181	189	86	90	66-114	5	25	
591-78-6	2-Hexanone	211	226	224	107	106	58-146	0.9	25	
124-48-1	Dibromochloromethane	212	208	221	98	104	67-130	6	25	
106-93-4	1,2-Dibromoethane	211	196	210	93	100	70-127	7	25	
123-86-4	n-Butyl Acetate	215	220	242	102	113	62-140	10	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/3/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD Limit		
111-65-9	n-Octane	212	198	211	93	100	65-121	7	25	
127-18-4	Tetrachloroethene	212	169	179	80	84	62-119	5	25	
108-90-7	Chlorobenzene	212	186	190	88	90	66-115	2	25	
100-41-4	Ethylbenzene	212	189	197	89	93	69-117	4	25	
179601-23-1	m,p-Xylenes	424	372	393	88	93	67-117	6	25	
75-25-2	Bromoform	212	213	227	100	107	67-135	7	25	
100-42-5	Styrene	211	188	205	89	97	70-128	9	25	
95-47-6	o-Xylene	211	187	201	89	95	67-118	7	25	
111-84-2	n-Nonane	212	206	236	97	111	61-127	13	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	218	230	103	108	70-125	5	25	
98-82-8	Cumene	212	185	205	87	97	68-116	11	25	
80-56-8	alpha-Pinene	213	188	210	88	99	69-122	12	25	
103-65-1	n-Propylbenzene	214	191	211	89	99	70-118	11	25	
622-96-8	4-Ethyltoluene	211	207	222	98	105	69-124	7	25	
108-67-8	1,3,5-Trimethylbenzene	212	189	203	89	96	65-117	8	25	
95-63-6	1,2,4-Trimethylbenzene	212	187	200	88	94	67-124	7	25	
100-44-7	Benzyl Chloride	212	244	260	115	123	75-142	7	25	
541-73-1	1,3-Dichlorobenzene	212	188	201	89	95	70-124	7	25	
106-46-7	1,4-Dichlorobenzene	214	179	191	84	89	63-124	6	25	
95-50-1	1,2-Dichlorobenzene	214	185	200	86	93	66-125	8	25	
5989-27-5	d-Limonene	213	195	211	92	99	64-135	7	25	
96-12-8	1,2-Dibromo-3-chloropropane	210	252	278	120	132	73-136	10	25	
120-82-1	1,2,4-Trichlorobenzene	218	198	214	91	98	70-141	7	25	
91-20-3	Naphthalene	209	184	200	88	96	71-146	9	25	
87-68-3	Hexachlorobutadiene	212	188	202	89	95	63-126	7	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MUSC / 1358.001.01.007

ALS Project ID: P1800001
 ALS Sample ID: P180103-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/4/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		ALS		RPD	RPD	Data
		LCS / DLCS	LCS	DLCS	% Recovery	Acceptance	RPD			
		$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	LCS	DLCS	Limits	Limit	Qualifier	
127-18-4	Tetrachloroethene	212	205	202	97	95	62-119	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** January 19, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: December 28, 2017 Air Samples
LAB: ALS Environmental P1800001

Twenty-three (23) vapor samples were collected as part of SVE system O&M at the at the Manhattan Village Shopping Center and Harris Family properties in Normandy Park, Washington, on December 28, 2017. One air vapor sample (SYS-1217) collected from the SVE system stack was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). The remaining air vapor samples were analyzed for one VOC analyte (tetrachloroethene) via USEPA Method TO-15. Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1800001.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied Summa™ canisters (6 and 1 Liter) for the air samples. The samples were shipped, delivered by FedEx, and received in good condition by the laboratory. Summa canisters do not require preservation or cooling. The sample was collected, handled, and delivered in an appropriate manner with the following discussion:

- ALS's Sample Acceptance Check Form indicates that chain of custody seals were not placed on the outside of the shipping container. Chain of custody seals are recommended since the sample was shipped using a courier. No action is taken in this case since the Sample Acceptance Check Form indicates that the container was received in good condition.

No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by TO-15 was performed within six days of sample collection. This is within the 30-day recommended holding time limit for air samples collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batches per method requirement. The method blank results did not report any compounds at concentrations at or above the MRLs.

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicate (LCS/LCSDs) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery results for all control compounds met the % R and relative percent difference (RPD) laboratory acceptance criteria with one exception:

- LCSD recovery for vinyl acetate is slightly above the laboratory control limit criteria. No action was taken since the target compound was not detected in the associated sample.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis were reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers were assigned. All data are judged to be acceptable for their intended use.



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LABORATORY REPORT

February 1, 2018

Karsten Springstead
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Karsten:

Enclosed are the results of the sample submitted to our laboratory on January 24, 2018. For your reference, this analysis has been assigned our service request number P1800331.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 4:24 pm, 02/01/18

Kate Kaneko
Project Manager



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www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1800331

CASE NARRATIVE

The sample was received intact under chain of custody on January 24, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-004
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-17-8
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 7-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1800331

Date Received: 1/24/2018
Time Received: 10:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-0118	P1800331-001	Air	1/23/2018	14:00	SC02207	-0.88	3.55	X



2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Company Name & Address (Reporting Information) PES ENVIRONMENTAL, INC 1315 4TH AVE STE 1350 SEATTLE, WA 98161		Project Name MVSC		Project Number 1358.00101.007		Project Requirements (MRLs, QAPP)	
Project Manager Matt Pahl		P.O. # / Billing Information 1358.001.007		ALS Contact:		ALS Project No P1800331	
Phone 206-529-3980		Fax 206-529-3985		Analysis Method 5-10		Comments e.g. Actual Preservative or specific instructions	
Email Address for Result Reporting MPahl@pesenv.com		Sampler (Print & Sign) Karsten Springstead		Flow Controller ID (Bar code # - FC #)		Canister Start Pressure "Hg	
Client Sample ID SXS-0118		Laboratory ID Number 1		Canister ID (Bar code # - AC, SC, etc.) SC0207		Canister End Pressure "Hg/psig 4	
Date Collected 1-23-18		Time Collected 1400		Sample Volume 6L		Chain of Custody Seal: (Circle) INTACT <input checked="" type="checkbox"/> BROKEN <input type="checkbox"/> ABSENT	
Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) <input checked="" type="checkbox"/> _____ Tier IV (Date Validation Package) 10% Surcharge _____		EDD required <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		Units: _____		Date: 1-24-18 Time: 1030	
Relinquished by: (Signature) 		Received by: (Signature) Fernando Perez		Date: _____ Time: _____		Cooler / Blank Temperature _____ °C	

ALS Environmental Sample Acceptance Check Form

Client: PES Environmental Work order: P1800331
 Project: MVSC / 1358.001.01.007
 Sample(s) received on: 1/24/18 Date opened: 1/24/18 by: E.PEREZ

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? <u>Sealing Box</u> Sealing Lid? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were signature and date included? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were seals intact? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1800331-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-0118
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P1800331-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02207

Date Collected: 1/23/18
 Date Received: 1/24/18
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.88 Final Pressure (psig): 3.55

Container Dilution Factor: 1.32

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.66	ND	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.1	0.66	0.84	0.13	
74-87-3	Chloromethane	ND	0.66	ND	0.32	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.66	ND	0.094	
75-01-4	Vinyl Chloride	ND	0.66	ND	0.26	
106-99-0	1,3-Butadiene	ND	0.66	ND	0.30	
74-83-9	Bromomethane	ND	0.66	ND	0.17	
75-00-3	Chloroethane	ND	0.66	ND	0.25	
64-17-5	Ethanol	ND	6.6	ND	3.5	
75-05-8	Acetonitrile	ND	0.66	ND	0.39	
107-02-8	Acrolein	ND	2.6	ND	1.2	
67-64-1	Acetone	ND	6.6	ND	2.8	
75-69-4	Trichlorofluoromethane (CFC 11)	3.1	0.66	0.55	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.6	ND	2.7	
107-13-1	Acrylonitrile	ND	0.66	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.66	ND	0.17	
75-09-2	Methylene Chloride	ND	0.66	ND	0.19	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.66	ND	0.21	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.66	ND	0.086	
75-15-0	Carbon Disulfide	ND	6.6	ND	2.1	
156-60-5	trans-1,2-Dichloroethene	ND	0.66	ND	0.17	
75-34-3	1,1-Dichloroethane	ND	0.66	ND	0.16	
1634-04-4	Methyl tert-Butyl Ether	ND	0.66	ND	0.18	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	ND	6.6	ND	2.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-0118
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P1800331-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02207

Date Collected: 1/23/18
 Date Received: 1/24/18
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.88 Final Pressure (psig): 3.55

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.66	ND	0.17	
141-78-6	Ethyl Acetate	ND	1.3	ND	0.37	
110-54-3	n-Hexane	0.73	0.66	0.21	0.19	
67-66-3	Chloroform	4.3	0.66	0.88	0.14	
109-99-9	Tetrahydrofuran (THF)	ND	0.66	ND	0.22	
107-06-2	1,2-Dichloroethane	ND	0.66	ND	0.16	
71-55-6	1,1,1-Trichloroethane	ND	0.66	ND	0.12	
71-43-2	Benzene	ND	0.66	ND	0.21	
56-23-5	Carbon Tetrachloride	ND	0.66	ND	0.10	
110-82-7	Cyclohexane	ND	1.3	ND	0.38	
78-87-5	1,2-Dichloropropane	ND	0.66	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.66	ND	0.099	
79-01-6	Trichloroethene	ND	0.66	ND	0.12	
123-91-1	1,4-Dioxane	ND	0.66	ND	0.18	
80-62-6	Methyl Methacrylate	ND	1.3	ND	0.32	
142-82-5	n-Heptane	ND	0.66	ND	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	0.66	ND	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.66	ND	0.12	
108-88-3	Toluene	ND	0.66	ND	0.18	
591-78-6	2-Hexanone	ND	0.66	ND	0.16	
124-48-1	Dibromochloromethane	ND	0.66	ND	0.078	
106-93-4	1,2-Dibromoethane	ND	0.66	ND	0.086	
123-86-4	n-Butyl Acetate	ND	0.66	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SYS-0118
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P1800331-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02207

Date Collected: 1/23/18
 Date Received: 1/24/18
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.88 Final Pressure (psig): 3.55

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.66	ND	0.14	
127-18-4	Tetrachloroethene	200	6.6	29	0.97	D
108-90-7	Chlorobenzene	ND	0.66	ND	0.14	
100-41-4	Ethylbenzene	ND	0.66	ND	0.15	
179601-23-1	m,p-Xylenes	ND	1.3	ND	0.30	
75-25-2	Bromoform	ND	0.66	ND	0.064	
100-42-5	Styrene	ND	0.66	ND	0.16	
95-47-6	o-Xylene	ND	0.66	ND	0.15	
111-84-2	n-Nonane	ND	0.66	ND	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.66	ND	0.096	
98-82-8	Cumene	ND	0.66	ND	0.13	
80-56-8	alpha-Pinene	ND	0.66	ND	0.12	
103-65-1	n-Propylbenzene	ND	0.66	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.66	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	ND	0.66	ND	0.13	
100-44-7	Benzyl Chloride	ND	1.3	ND	0.26	
541-73-1	1,3-Dichlorobenzene	ND	0.66	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.66	ND	0.11	
95-50-1	1,2-Dichlorobenzene	ND	0.66	ND	0.11	
5989-27-5	d-Limonene	ND	0.66	ND	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.66	ND	0.068	
120-82-1	1,2,4-Trichlorobenzene	ND	0.66	ND	0.089	
91-20-3	Naphthalene	ND	0.66	ND	0.13	
87-68-3	Hexachlorobutadiene	ND	0.66	ND	0.062	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P180130-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P180130-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P180130-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	1.0	ND	0.19	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 1/23/18
 Date(s) Received: 1/24/18
 Date(s) Analyzed: 1/30/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180130-MB	95	99	106	70-130	
Lab Control Sample	P180130-LCS	92	98	110	70-130	
Duplicate Lab Control Sample	P180130-DLCS	94	98	108	70-130	
SYS-0118	P1800331-001	97	97	100	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P180130-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	210	181	192	86	91	54-133	6	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	182	187	85	88	64-115	3	25	
74-87-3	Chloromethane	210	195	206	93	98	47-140	5	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	177	182	84	86	60-112	2	25	
75-01-4	Vinyl Chloride	211	191	200	91	95	63-127	4	25	
106-99-0	1,3-Butadiene	210	198	207	94	99	57-149	5	25	
74-83-9	Bromomethane	210	184	190	88	90	63-132	2	25	
75-00-3	Chloroethane	210	199	206	95	98	68-129	3	25	
64-17-5	Ethanol	1,040	1080	1130	104	109	62-131	5	25	
75-05-8	Acetonitrile	210	228	239	109	114	56-136	4	25	
107-02-8	Acrolein	209	239	250	114	120	60-132	5	25	
67-64-1	Acetone	1,050	1050	1100	100	105	63-124	5	25	
75-69-4	Trichlorofluoromethane (CFC 11)	208	180	185	87	89	65-113	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	421	438	100	104	62-135	4	25	
107-13-1	Acrylonitrile	212	227	237	107	112	68-138	5	25	
75-35-4	1,1-Dichloroethene	213	202	208	95	98	72-118	3	25	
75-09-2	Methylene Chloride	213	192	197	90	92	67-116	2	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	209	218	99	103	61-143	4	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	198	201	93	94	68-113	1	25	
75-15-0	Carbon Disulfide	214	197	204	92	95	68-120	3	25	
156-60-5	trans-1,2-Dichloroethene	214	211	220	99	103	71-125	4	25	
75-34-3	1,1-Dichloroethane	212	193	200	91	94	68-118	3	25	
1634-04-4	Methyl tert-Butyl Ether	213	201	207	94	97	60-123	3	25	
108-05-4	Vinyl Acetate	1,060	1150	1180	108	111	73-135	3	25	
78-93-3	2-Butanone (MEK)	212	226	231	107	109	70-129	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P180130-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	212	204	210	96	99	69-121	3	25	
141-78-6	Ethyl Acetate	426	473	487	111	114	66-140	3	25	
110-54-3	n-Hexane	213	191	195	90	92	61-124	2	25	
67-66-3	Chloroform	212	195	200	92	94	69-113	2	25	
109-99-9	Tetrahydrofuran (THF)	212	181	185	85	87	66-121	2	25	
107-06-2	1,2-Dichloroethane	212	190	196	90	92	62-120	2	25	
71-55-6	1,1,1-Trichloroethane	212	194	198	92	93	65-116	1	25	
71-43-2	Benzene	213	197	199	92	93	66-111	1	25	
56-23-5	Carbon Tetrachloride	214	211	214	99	100	64-122	1	25	
110-82-7	Cyclohexane	425	417	423	98	100	69-115	2	25	
78-87-5	1,2-Dichloropropane	212	207	211	98	100	69-121	2	25	
75-27-4	Bromodichloromethane	214	215	217	100	101	69-123	1	25	
79-01-6	Trichloroethene	212	204	205	96	97	69-112	1	25	
123-91-1	1,4-Dioxane	213	217	219	102	103	74-123	1	25	
80-62-6	Methyl Methacrylate	424	460	466	108	110	75-125	2	25	
142-82-5	n-Heptane	213	205	206	96	97	68-118	1	25	
10061-01-5	cis-1,3-Dichloropropene	208	234	238	113	114	74-129	0.9	25	
108-10-1	4-Methyl-2-pentanone	213	221	225	104	106	66-138	2	25	
10061-02-6	trans-1,3-Dichloropropene	213	243	247	114	116	75-130	2	25	
79-00-5	1,1,2-Trichloroethane	212	210	212	99	100	73-117	1	25	
108-88-3	Toluene	211	196	198	93	94	66-114	1	25	
591-78-6	2-Hexanone	211	217	221	103	105	58-146	2	25	
124-48-1	Dibromochloromethane	212	225	226	106	107	67-130	0.9	25	
106-93-4	1,2-Dibromoethane	211	221	222	105	105	70-127	0	25	
123-86-4	n-Butyl Acetate	215	218	222	101	103	62-140	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800331
 ALS Sample ID: P180130-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/30/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
111-65-9	n-Octane	212	209	212	99	100	65-121	1	25	
127-18-4	Tetrachloroethene	212	200	201	94	95	62-119	1	25	
108-90-7	Chlorobenzene	212	203	205	96	97	66-115	1	25	
100-41-4	Ethylbenzene	212	204	207	96	98	69-117	2	25	
179601-23-1	m,p-Xylenes	424	425	431	100	102	67-117	2	25	
75-25-2	Bromoform	212	245	248	116	117	67-135	0.9	25	
100-42-5	Styrene	211	226	229	107	109	70-128	2	25	
95-47-6	o-Xylene	211	211	213	100	101	67-118	1	25	
111-84-2	n-Nonane	212	214	219	101	103	61-127	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	221	225	104	106	70-125	2	25	
98-82-8	Cumene	212	210	212	99	100	68-116	1	25	
80-56-8	alpha-Pinene	213	221	226	104	106	69-122	2	25	
103-65-1	n-Propylbenzene	214	204	207	95	97	70-118	2	25	
622-96-8	4-Ethyltoluene	211	224	228	106	108	69-124	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	214	217	101	102	65-117	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	230	234	108	110	67-124	2	25	
100-44-7	Benzyl Chloride	212	259	265	122	125	75-142	2	25	
541-73-1	1,3-Dichlorobenzene	212	228	230	108	108	70-124	0	25	
106-46-7	1,4-Dichlorobenzene	214	224	226	105	106	63-124	0.9	25	
95-50-1	1,2-Dichlorobenzene	214	235	238	110	111	66-125	0.9	25	
5989-27-5	d-Limonene	213	252	258	118	121	64-135	3	25	
96-12-8	1,2-Dibromo-3-chloropropane	210	226	229	108	109	73-136	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	218	235	238	108	109	70-141	0.9	25	
91-20-3	Naphthalene	209	233	236	111	113	71-146	2	25	
87-68-3	Hexachlorobutadiene	212	229	230	108	108	63-126	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** February 13, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: January 23, 2018 Air Sample
LAB: ALS Environmental P1800331

One (1) soil vapor extraction sample was collected on January 23, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1800331.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa™ canister (6 Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample was

collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by TO-15 was performed within seven days of sample collection. This is within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicate (LCS/LCSDs) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery results for all control compounds met the % R and relative percent difference (RPD) laboratory acceptance criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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LABORATORY REPORT

March 9, 2018

Karsten Springstead
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Karsten:

Enclosed are the results of the sample submitted to our laboratory on February 23, 2018. For your reference, this analysis has been assigned our service request number P1800825.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 1:05 pm, 03/09/18

Kate Kaneko
Project Manager



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Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1800825

CASE NARRATIVE

The sample was received intact under chain of custody on February 23, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-17-8
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 7-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1800825

Date Received: 2/23/2018
Time Received: 09:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-0218	P1800825-001	Air	2/21/2018	11:00	1SC00894	-0.26	5.24	X



2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No.
2180095

Company Name & Address (Reporting Information) PES ENVIRONMENTAL INC. 1215 4th AVE STE 1350 SEATTLE, WA 98161 Project Manager: Matt Dahl Phone: 206-529-3980 Fax: 206-529-3985 Email Address for Result Reporting: MDahl@pesenv.com	Project Name MVSC	ALS Contact: Kate Kaneiko Analysis Method	Project Number: 1358.00101.007	P.O. # / Billing Information 1358.001.01.007	Sampler (Print & Sign) Karsten Springstead	Comments e.g. Actual Preservative or specific instructions <div style="text-align: right; font-size: 2em;">TO-15</div>		
Client Sample ID SYS-0218	Laboratory ID Number 1	Date Collected 2-24-18	Time Collected 1100	Canister Flow Controller ID (Bar code # - FC #) SC00894	Canister Start Pressure ⁴ Hg 28	Canister End Pressure ⁴ Hg/psig 2	Sample Volume 1L	X

Report Tier Levels - please select
 Tier I - Results (Default in not specified) _____
 Tier II (Results + QC Summaries) _____
 Tier III (Results + QC & Calibration Summaries) **X**
 Tier IV (Date Validation Package) 10% Surcharge _____
 EDD required YES / No _____
 Type: _____ Units: _____

Relinquished by: (Signature)	Received by: (Signature) Henry Perez
Date: 2-21-18	Date: 2/21/18
Time: 1200	Time: 1:20

Chain of Custody Seal: (Circle)
 INTACT BROKEN ABSENT
 Project Requirements (MRLs, QAPP)
 Cooler / Blank Temperature _____ °C

ALS Environmental Sample Acceptance Check Form

Client: PES EnvironmentalWork order: P1800825Project: MVSC / 1358.001.01.007Sample(s) received on: 2/23/18Date opened: 2/23/18by: E.PEREZ

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1800825-001.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-0218
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P1800825-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00894

Date Collected: 2/21/18
 Date Received: 2/23/18
 Date Analyzed: 3/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.26 Final Pressure (psig): 5.24

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	1.7	ND	1.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.2	1.7	0.85	0.35	
74-87-3	Chloromethane	ND	1.7	ND	0.84	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.7	ND	0.25	
75-01-4	Vinyl Chloride	ND	1.7	ND	0.68	
106-99-0	1,3-Butadiene	ND	1.7	ND	0.78	
74-83-9	Bromomethane	ND	1.7	ND	0.44	
75-00-3	Chloroethane	ND	1.7	ND	0.65	
64-17-5	Ethanol	ND	17	ND	9.2	
75-05-8	Acetonitrile	ND	1.7	ND	1.0	
107-02-8	Acrolein	ND	6.9	ND	3.0	
67-64-1	Acetone	ND	17	ND	7.3	
75-69-4	Trichlorofluoromethane (CFC 11)	2.9	1.7	0.52	0.31	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	17	ND	7.0	
107-13-1	Acrylonitrile	ND	1.7	ND	0.80	
75-35-4	1,1-Dichloroethene	ND	1.7	ND	0.44	
75-09-2	Methylene Chloride	ND	1.7	ND	0.50	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.7	ND	0.55	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	1.7	ND	0.23	
75-15-0	Carbon Disulfide	ND	17	ND	5.5	
156-60-5	trans-1,2-Dichloroethene	ND	1.7	ND	0.44	
75-34-3	1,1-Dichloroethane	ND	1.7	ND	0.43	
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	ND	0.48	
108-05-4	Vinyl Acetate	ND	17	ND	4.9	
78-93-3	2-Butanone (MEK)	ND	17	ND	5.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-0218
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P1800825-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00894

Date Collected: 2/21/18
 Date Received: 2/23/18
 Date Analyzed: 3/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.26 Final Pressure (psig): 5.24

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.7	ND	0.44	
141-78-6	Ethyl Acetate	ND	3.5	ND	0.96	
110-54-3	n-Hexane	ND	1.7	ND	0.49	
67-66-3	Chloroform	5.6	1.7	1.1	0.35	
109-99-9	Tetrahydrofuran (THF)	ND	1.7	ND	0.59	
107-06-2	1,2-Dichloroethane	ND	1.7	ND	0.43	
71-55-6	1,1,1-Trichloroethane	ND	1.7	ND	0.32	
71-43-2	Benzene	ND	1.7	ND	0.54	
56-23-5	Carbon Tetrachloride	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	ND	1.7	ND	0.37	
75-27-4	Bromodichloromethane	ND	1.7	ND	0.26	
79-01-6	Trichloroethene	ND	1.7	ND	0.32	
123-91-1	1,4-Dioxane	ND	1.7	ND	0.48	
80-62-6	Methyl Methacrylate	ND	3.5	ND	0.84	
142-82-5	n-Heptane	ND	1.7	ND	0.42	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	ND	0.38	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	ND	0.38	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ND	0.32	
108-88-3	Toluene	3.8	1.7	1.0	0.46	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	1.7	ND	0.20	
106-93-4	1,2-Dibromoethane	ND	1.7	ND	0.22	
123-86-4	n-Butyl Acetate	ND	1.7	ND	0.36	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SYS-0218
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P1800825-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00894

Date Collected: 2/21/18
 Date Received: 2/23/18
 Date Analyzed: 3/3/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.26 Final Pressure (psig): 5.24

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	1.7	ND	0.37	
127-18-4	Tetrachloroethene	200	1.7	29	0.25	
108-90-7	Chlorobenzene	ND	1.7	ND	0.37	
100-41-4	Ethylbenzene	ND	1.7	ND	0.40	
179601-23-1	m,p-Xylenes	3.7	3.5	0.86	0.79	
75-25-2	Bromoform	ND	1.7	ND	0.17	
100-42-5	Styrene	ND	1.7	ND	0.41	
95-47-6	o-Xylene	ND	1.7	ND	0.40	
111-84-2	n-Nonane	ND	1.7	ND	0.33	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	ND	0.25	
98-82-8	Cumene	ND	1.7	ND	0.35	
80-56-8	alpha-Pinene	ND	1.7	ND	0.31	
103-65-1	n-Propylbenzene	ND	1.7	ND	0.35	
622-96-8	4-Ethyltoluene	ND	1.7	ND	0.35	
108-67-8	1,3,5-Trimethylbenzene	ND	1.7	ND	0.35	
95-63-6	1,2,4-Trimethylbenzene	ND	1.7	ND	0.35	
100-44-7	Benzyl Chloride	ND	3.5	ND	0.67	
541-73-1	1,3-Dichlorobenzene	ND	1.7	ND	0.29	
106-46-7	1,4-Dichlorobenzene	ND	1.7	ND	0.29	
95-50-1	1,2-Dichlorobenzene	ND	1.7	ND	0.29	
5989-27-5	d-Limonene	ND	1.7	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	ND	0.18	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	1.7	ND	0.33	
87-68-3	Hexachlorobutadiene	ND	1.7	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P180302-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 3/2/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P180302-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 3/2/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P180302-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 3/2/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	1.0	ND	0.19	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 2/21/18
 Date(s) Received: 2/23/18
 Date(s) Analyzed: 3/2 - 3/3/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180302-MB	107	102	97	70-130	
Lab Control Sample	P180302-LCS	100	101	95	70-130	
Duplicate Lab Control Sample	P180302-DLCS	99	101	94	70-130	
SYS-0218	P1800825-001	104	103	94	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P180302-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 3/3/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS	RPD	RPD	Data
		LCS / DLCS	LCS	DLCS	LCS	DLCS	Acceptance	RPD			
		µg/m ³	µg/m ³	µg/m ³	LCS	DLCS	Limits	Limit	Qualifier		
115-07-1	Propene	210	180	195	86	93	54-133	8	25		
75-71-8	Dichlorodifluoromethane (CFC 12)	213	197	204	92	96	64-115	4	25		
74-87-3	Chloromethane	210	192	204	91	97	47-140	6	25		
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	182	189	86	90	60-112	5	25		
75-01-4	Vinyl Chloride	211	198	207	94	98	63-127	4	25		
106-99-0	1,3-Butadiene	210	200	210	95	100	57-149	5	25		
74-83-9	Bromomethane	210	192	205	91	98	63-132	7	25		
75-00-3	Chloroethane	210	186	201	89	96	68-129	8	25		
64-17-5	Ethanol	1,040	955	1010	92	97	62-131	5	25		
75-05-8	Acetonitrile	210	194	209	92	100	56-136	8	25		
107-02-8	Acrolein	209	199	211	95	101	60-132	6	25		
67-64-1	Acetone	1,050	940	974	90	93	63-124	3	25		
75-69-4	Trichlorofluoromethane (CFC 11)	208	183	188	88	90	65-113	2	25		
67-63-0	2-Propanol (Isopropyl Alcohol)	422	393	409	93	97	62-135	4	25		
107-13-1	Acrylonitrile	212	209	220	99	104	68-138	5	25		
75-35-4	1,1-Dichloroethene	213	197	204	92	96	72-118	4	25		
75-09-2	Methylene Chloride	213	189	197	89	92	67-116	3	25		
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	205	214	97	101	61-143	4	25		
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	191	196	89	92	68-113	3	25		
75-15-0	Carbon Disulfide	214	207	215	97	100	68-120	3	25		
156-60-5	trans-1,2-Dichloroethene	214	215	223	100	104	71-125	4	25		
75-34-3	1,1-Dichloroethane	212	191	199	90	94	68-118	4	25		
1634-04-4	Methyl tert-Butyl Ether	213	198	206	93	97	60-123	4	25		
108-05-4	Vinyl Acetate	1,060	1110	1150	105	108	73-135	3	25		
78-93-3	2-Butanone (MEK)	212	202	208	95	98	70-129	3	25		

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P180302-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 3/3/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	212	200	209	94	99	69-121	5	25	
141-78-6	Ethyl Acetate	426	416	431	98	101	66-140	3	25	
110-54-3	n-Hexane	213	206	212	97	100	61-124	3	25	
67-66-3	Chloroform	212	196	202	92	95	69-113	3	25	
109-99-9	Tetrahydrofuran (THF)	212	183	191	86	90	66-121	5	25	
107-06-2	1,2-Dichloroethane	212	196	202	92	95	62-120	3	25	
71-55-6	1,1,1-Trichloroethane	212	202	209	95	99	65-116	4	25	
71-43-2	Benzene	213	196	204	92	96	66-111	4	25	
56-23-5	Carbon Tetrachloride	214	206	215	96	100	64-122	4	25	
110-82-7	Cyclohexane	425	394	409	93	96	69-115	3	25	
78-87-5	1,2-Dichloropropane	212	196	205	92	97	69-121	5	25	
75-27-4	Bromodichloromethane	214	215	223	100	104	69-123	4	25	
79-01-6	Trichloroethene	212	193	201	91	95	69-112	4	25	
123-91-1	1,4-Dioxane	213	200	209	94	98	74-123	4	25	
80-62-6	Methyl Methacrylate	424	417	434	98	102	75-125	4	25	
142-82-5	n-Heptane	213	195	202	92	95	68-118	3	25	
10061-01-5	cis-1,3-Dichloropropene	208	219	227	105	109	74-129	4	25	
108-10-1	4-Methyl-2-pentanone	213	206	214	97	100	66-138	3	25	
10061-02-6	trans-1,3-Dichloropropene	213	232	241	109	113	75-130	4	25	
79-00-5	1,1,2-Trichloroethane	212	205	213	97	100	73-117	3	25	
108-88-3	Toluene	211	194	201	92	95	66-114	3	25	
591-78-6	2-Hexanone	211	193	202	91	96	58-146	5	25	
124-48-1	Dibromochloromethane	212	219	227	103	107	67-130	4	25	
106-93-4	1,2-Dibromoethane	211	213	222	101	105	70-127	4	25	
123-86-4	n-Butyl Acetate	215	207	215	96	100	62-140	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1800825
 ALS Sample ID: P180302-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 3/3/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
111-65-9	n-Octane	212	196	204	92	96	65-121	4	25	
127-18-4	Tetrachloroethene	212	196	202	92	95	62-119	3	25	
108-90-7	Chlorobenzene	212	200	207	94	98	66-115	4	25	
100-41-4	Ethylbenzene	212	200	208	94	98	69-117	4	25	
179601-23-1	m,p-Xylenes	424	407	421	96	99	67-117	3	25	
75-25-2	Bromoform	212	228	237	108	112	67-135	4	25	
100-42-5	Styrene	211	215	224	102	106	70-128	4	25	
95-47-6	o-Xylene	211	204	211	97	100	67-118	3	25	
111-84-2	n-Nonane	212	215	220	101	104	61-127	3	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	214	221	101	104	70-125	3	25	
98-82-8	Cumene	212	202	209	95	99	68-116	4	25	
80-56-8	alpha-Pinene	213	214	221	100	104	69-122	4	25	
103-65-1	n-Propylbenzene	214	204	212	95	99	70-118	4	25	
622-96-8	4-Ethyltoluene	211	215	223	102	106	69-124	4	25	
108-67-8	1,3,5-Trimethylbenzene	212	201	208	95	98	65-117	3	25	
95-63-6	1,2,4-Trimethylbenzene	212	201	208	95	98	67-124	3	25	
100-44-7	Benzyl Chloride	212	266	277	125	131	75-142	5	25	
541-73-1	1,3-Dichlorobenzene	212	208	215	98	101	70-124	3	25	
106-46-7	1,4-Dichlorobenzene	214	204	211	95	99	63-124	4	25	
95-50-1	1,2-Dichlorobenzene	214	211	219	99	102	66-125	3	25	
5989-27-5	d-Limonene	213	220	227	103	107	64-135	4	25	
96-12-8	1,2-Dibromo-3-chloropropane	210	231	240	110	114	73-136	4	25	
120-82-1	1,2,4-Trichlorobenzene	218	237	246	109	113	70-141	4	25	
91-20-3	Naphthalene	209	267	276	128	132	71-146	3	25	
87-68-3	Hexachlorobutadiene	212	196	203	92	96	63-126	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** March 14, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: February 21, 2018 Air Sample
LAB: ALS Environmental P1800825

One (1) soil vapor extraction sample was collected on February 21, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1800825.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa™ canister (1 Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample was

collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicate (LCS/LCSDs) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery results for all control compounds met the % R and relative percent difference (RPD) laboratory acceptance criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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LABORATORY REPORT

April 12, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

DearMatt:

Enclosed are the results of the sample submitted to our laboratory on March 29, 2018. For your reference, this analysis has been assigned our service request number P1801580.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 4:20 pm, 04/12/18

Kate Kaneko
Project Manager



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Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1801580

CASE NARRATIVE

The sample was received intact under chain of custody on March 29, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)		05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-17-8
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 7-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1801580

Date Received: 3/29/2018
Time Received: 09:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-0318	P1801580-001	Air	3/27/2018	13:15	1SC01043	-0.06	5.21	X



Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard		ALS Project No.
Project Name MUSC		ALS Project No. 1801580
Project Number 1358.001.01.007		ALS Contact: Analysis Method TO-15
P.O. # / Billing Information 1358.001.01.007		
Sampler (Print & Sign) Karsten Springstead		
Canister ID (Bar code # - AC, SC, etc.) ISC01043	Flow Controller ID (Bar code # - FC #) —	Canister Start Pressure "Hg 28
Canister End Pressure "Hg/psig 0	Sample Volume	Comments e.g. Actual Preservative or specific instructions
Time Collected 1315	Date Collected 3-27-18	
Laboratory ID Number (1)		
Client Sample ID SYS-0318		
Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) X Tier IV (Date Validation Package) 10% Surcharge _____		
Relinquished by: (Signature) <i>[Signature]</i>	Date: 3-27-18	Time: 1330
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:
EDD required <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Type: EAM Units: _____ Chain of Custody Seal: (Circle) INTACT <input checked="" type="radio"/> BROKEN <input type="radio"/> ABSENT		
Received by: (Signature) <i>[Signature]</i>	Date: 3-28-18	Time: 0930
Received by: (Signature) <i>[Signature]</i>	Date:	Time:
Project Requirements (MRLs, QAPP)		Cooler / Blank Temperature _____ °C

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental Work order: P1801580
 Project: MVSC / 1358.001.01.007
 Sample(s) received on: 3/29/18 Date opened: 3/29/18 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? <u>Top and bottom of box sealing.</u> Sealing Lid? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were signature and date included? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were seals intact? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1801580-001.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-0318
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P1801580-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01043

Date Collected: 3/27/18
 Date Received: 3/29/18
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 5.21

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	1.7	ND	0.99	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.3	1.7	0.66	0.34	
74-87-3	Chloromethane	ND	1.7	ND	0.82	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	ND	1.7	ND	0.67	
106-99-0	1,3-Butadiene	ND	1.7	ND	0.77	
74-83-9	Bromomethane	ND	1.7	ND	0.44	
75-00-3	Chloroethane	ND	1.7	ND	0.64	
64-17-5	Ethanol	ND	17	ND	9.0	
75-05-8	Acetonitrile	9.6	1.7	5.7	1.0	
107-02-8	Acrolein	ND	6.8	ND	3.0	
67-64-1	Acetone	ND	17	ND	7.2	
75-69-4	Trichlorofluoromethane (CFC 11)	2.2	1.7	0.39	0.30	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	17	ND	6.9	
107-13-1	Acrylonitrile	ND	1.7	ND	0.78	
75-35-4	1,1-Dichloroethene	ND	1.7	ND	0.43	
75-09-2	Methylene Chloride	ND	1.7	ND	0.49	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.7	ND	0.54	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	1.7	ND	0.22	
75-15-0	Carbon Disulfide	ND	17	ND	5.5	
156-60-5	trans-1,2-Dichloroethene	ND	1.7	ND	0.43	
75-34-3	1,1-Dichloroethane	ND	1.7	ND	0.42	
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	ND	0.47	
108-05-4	Vinyl Acetate	ND	17	ND	4.8	
78-93-3	2-Butanone (MEK)	ND	17	ND	5.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-0318
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P1801580-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01043

Date Collected: 3/27/18
 Date Received: 3/29/18
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 5.21

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.7	ND	0.43	
141-78-6	Ethyl Acetate	17	3.4	4.7	0.94	
110-54-3	n-Hexane	ND	1.7	ND	0.48	
67-66-3	Chloroform	4.4	1.7	0.89	0.35	
109-99-9	Tetrahydrofuran (THF)	4.2	1.7	1.4	0.58	
107-06-2	1,2-Dichloroethane	ND	1.7	ND	0.42	
71-55-6	1,1,1-Trichloroethane	ND	1.7	ND	0.31	
71-43-2	Benzene	ND	1.7	ND	0.53	
56-23-5	Carbon Tetrachloride	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	ND	3.4	ND	0.99	
78-87-5	1,2-Dichloropropane	ND	1.7	ND	0.37	
75-27-4	Bromodichloromethane	ND	1.7	ND	0.25	
79-01-6	Trichloroethene	ND	1.7	ND	0.32	
123-91-1	1,4-Dioxane	ND	1.7	ND	0.47	
80-62-6	Methyl Methacrylate	ND	3.4	ND	0.83	
142-82-5	n-Heptane	ND	1.7	ND	0.41	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	ND	0.37	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	ND	0.37	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ND	0.31	
108-88-3	Toluene	4.1	1.7	1.1	0.45	
591-78-6	2-Hexanone	ND	1.7	ND	0.42	
124-48-1	Dibromochloromethane	ND	1.7	ND	0.20	
106-93-4	1,2-Dibromoethane	ND	1.7	ND	0.22	
123-86-4	n-Butyl Acetate	ND	1.7	ND	0.36	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SYS-0318
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P1801580-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01043

Date Collected: 3/27/18
 Date Received: 3/29/18
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 5.21

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	1.7	ND	0.36	
127-18-4	Tetrachloroethene	130	1.7	20	0.25	
108-90-7	Chlorobenzene	ND	1.7	ND	0.37	
100-41-4	Ethylbenzene	ND	1.7	ND	0.39	
179601-23-1	m,p-Xylenes	4.1	3.4	0.95	0.78	
75-25-2	Bromoform	ND	1.7	ND	0.16	
100-42-5	Styrene	ND	1.7	ND	0.40	
95-47-6	o-Xylene	ND	1.7	ND	0.39	
111-84-2	n-Nonane	ND	1.7	ND	0.32	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	ND	0.25	
98-82-8	Cumene	ND	1.7	ND	0.35	
80-56-8	alpha-Pinene	ND	1.7	ND	0.31	
103-65-1	n-Propylbenzene	ND	1.7	ND	0.35	
622-96-8	4-Ethyltoluene	ND	1.7	ND	0.35	
108-67-8	1,3,5-Trimethylbenzene	ND	1.7	ND	0.35	
95-63-6	1,2,4-Trimethylbenzene	ND	1.7	ND	0.35	
100-44-7	Benzyl Chloride	ND	3.4	ND	0.66	
541-73-1	1,3-Dichlorobenzene	ND	1.7	ND	0.28	
106-46-7	1,4-Dichlorobenzene	ND	1.7	ND	0.28	
95-50-1	1,2-Dichlorobenzene	ND	1.7	ND	0.28	
5989-27-5	d-Limonene	ND	1.7	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	ND	0.18	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.23	
91-20-3	Naphthalene	ND	1.7	ND	0.32	
87-68-3	Hexachlorobutadiene	ND	1.7	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P180409-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P180409-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P180409-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	1.0	ND	0.19	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 3/27/18
 Date(s) Received: 3/29/18
 Date(s) Analyzed: 4/9/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180409-MB	92	102	92	70-130	
Lab Control Sample	P180409-LCS	91	103	92	70-130	
Duplicate Lab Control Sample	P180409-DLCS	92	104	93	70-130	
SYS-0318	P1801580-001	94	100	93	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P180409-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	210	183	171	87	81	54-133	7	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	170	162	80	76	64-115	5	25	
74-87-3	Chloromethane	210	173	163	82	78	47-140	5	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	149	144	71	68	60-112	4	25	
75-01-4	Vinyl Chloride	211	161	155	76	73	63-127	4	25	
106-99-0	1,3-Butadiene	210	157	150	75	71	57-149	5	25	
74-83-9	Bromomethane	210	194	185	92	88	63-132	4	25	
75-00-3	Chloroethane	210	197	188	94	90	68-129	4	25	
64-17-5	Ethanol	1,040	835	801	80	77	62-131	4	25	
75-05-8	Acetonitrile	210	189	181	90	86	56-136	5	25	
107-02-8	Acrolein	209	194	185	93	89	60-132	4	25	
67-64-1	Acetone	1,050	815	778	78	74	63-124	5	25	
75-69-4	Trichlorofluoromethane (CFC 11)	208	155	151	75	73	65-113	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	338	326	80	77	62-135	4	25	
107-13-1	Acrylonitrile	212	199	191	94	90	68-138	4	25	
75-35-4	1,1-Dichloroethene	213	183	178	86	84	72-118	2	25	
75-09-2	Methylene Chloride	213	180	174	85	82	67-116	4	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	186	180	88	85	61-143	3	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	163	159	76	74	68-113	3	25	
75-15-0	Carbon Disulfide	214	193	188	90	88	68-120	2	25	
156-60-5	trans-1,2-Dichloroethene	214	200	195	93	91	71-125	2	25	
75-34-3	1,1-Dichloroethane	212	185	181	87	85	68-118	2	25	
1634-04-4	Methyl tert-Butyl Ether	213	185	180	87	85	60-123	2	25	
108-05-4	Vinyl Acetate	1,060	975	952	92	90	73-135	2	25	
78-93-3	2-Butanone (MEK)	212	188	185	89	87	70-129	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P180409-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	212	185	180	87	85	69-121	2	25	
141-78-6	Ethyl Acetate	426	371	363	87	85	66-140	2	25	
110-54-3	n-Hexane	213	198	194	93	91	61-124	2	25	
67-66-3	Chloroform	212	174	171	82	81	69-113	1	25	
109-99-9	Tetrahydrofuran (THF)	212	178	175	84	83	66-121	1	25	
107-06-2	1,2-Dichloroethane	212	163	159	77	75	62-120	3	25	
71-55-6	1,1,1-Trichloroethane	212	161	156	76	74	65-116	3	25	
71-43-2	Benzene	213	179	174	84	82	66-111	2	25	
56-23-5	Carbon Tetrachloride	214	159	155	74	72	64-122	3	25	
110-82-7	Cyclohexane	425	344	333	81	78	69-115	4	25	
78-87-5	1,2-Dichloropropane	212	185	180	87	85	69-121	2	25	
75-27-4	Bromodichloromethane	214	175	171	82	80	69-123	2	25	
79-01-6	Trichloroethene	212	171	167	81	79	69-112	3	25	
123-91-1	1,4-Dioxane	213	177	173	83	81	74-123	2	25	
80-62-6	Methyl Methacrylate	424	366	358	86	84	75-125	2	25	
142-82-5	n-Heptane	213	183	179	86	84	68-118	2	25	
10061-01-5	cis-1,3-Dichloropropene	208	189	185	91	89	74-129	2	25	
108-10-1	4-Methyl-2-pentanone	213	179	174	84	82	66-138	2	25	
10061-02-6	trans-1,3-Dichloropropene	213	197	193	92	91	75-130	1	25	
79-00-5	1,1,2-Trichloroethane	212	183	178	86	84	73-117	2	25	
108-88-3	Toluene	211	176	171	83	81	66-114	2	25	
591-78-6	2-Hexanone	211	158	154	75	73	58-146	3	25	
124-48-1	Dibromochloromethane	212	184	179	87	84	67-130	4	25	
106-93-4	1,2-Dibromoethane	211	189	184	90	87	70-127	3	25	
123-86-4	n-Butyl Acetate	215	173	170	80	79	62-140	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1801580
 ALS Sample ID: P180409-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Simon Cao
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/9/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
111-65-9	n-Octane	212	181	177	85	83	65-121	2	25	
127-18-4	Tetrachloroethene	212	170	166	80	78	62-119	3	25	
108-90-7	Chlorobenzene	212	176	172	83	81	66-115	2	25	
100-41-4	Ethylbenzene	212	173	169	82	80	69-117	2	25	
179601-23-1	m,p-Xylenes	424	339	332	80	78	67-117	3	25	
75-25-2	Bromoform	212	186	183	88	86	67-135	2	25	
100-42-5	Styrene	211	183	180	87	85	70-128	2	25	
95-47-6	o-Xylene	211	171	167	81	79	67-118	3	25	
111-84-2	n-Nonane	212	181	177	85	83	61-127	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	181	176	85	83	70-125	2	25	
98-82-8	Cumene	212	170	166	80	78	68-116	3	25	
80-56-8	alpha-Pinene	213	181	177	85	83	69-122	2	25	
103-65-1	n-Propylbenzene	214	171	167	80	78	70-118	3	25	
622-96-8	4-Ethyltoluene	211	172	168	82	80	69-124	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	166	162	78	76	65-117	3	25	
95-63-6	1,2,4-Trimethylbenzene	212	158	154	75	73	67-124	3	25	
100-44-7	Benzyl Chloride	212	213	209	100	99	75-142	1	25	
541-73-1	1,3-Dichlorobenzene	212	167	164	79	77	70-124	3	25	
106-46-7	1,4-Dichlorobenzene	214	167	164	78	77	63-124	1	25	
95-50-1	1,2-Dichlorobenzene	214	167	164	78	77	66-125	1	25	
5989-27-5	d-Limonene	213	170	167	80	78	64-135	3	25	
96-12-8	1,2-Dibromo-3-chloropropane	210	191	188	91	90	73-136	1	25	
120-82-1	1,2,4-Trichlorobenzene	218	195	193	89	89	70-141	0	25	
91-20-3	Naphthalene	209	209	206	100	99	71-146	1	25	
87-68-3	Hexachlorobutadiene	212	162	161	76	76	63-126	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** May 3, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: March 27, 2018 Air Sample
LAB: ALS Environmental P1801580

One (1) soil vapor extraction sample was collected on March 27, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1801580.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa™ canister (1 Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample was

collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicate (LCS/LCSDs) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery results for all control compounds met the % R and relative percent difference (RPD) laboratory acceptance criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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www.alsglobal.com

LABORATORY REPORT

June 11, 2018

Karsten Springstead
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Karsten:

Enclosed are the results of the sample submitted to our laboratory on May 25, 2018. For your reference, this analysis has been assigned our service request number P1802682.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 5:01 pm, 06/11/18

Kate Kaneko
Project Manager



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www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1802682

CASE NARRATIVE

The sample was received intact under chain of custody on May 25, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-17-8
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 7-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1802682

Date Received: 5/25/2018
Time Received: 09:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-0518	P1802682-001	Air	5/21/2018	12:00	SC01973	-0.87	3.53	X



Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Company Name & Address (Reporting Information) PES ENVIRONMENTAL, INC. 1215 4th Ave STE 1350 SEATTLE WA 98101 Project Manager Matt Dahl Phone 206-529-3980 Fax 206-529-3985 Email Address for Result Reporting MDahl@peseauv.com		Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard		ALS Project No. P1802682
Project Name MVSC Project Number 1358.001.01.007 P.O. # / Billing Information 1358.001.01.007		ALS Contact:		
Sampler (Print & Sign) Kersten Spivystek		Analysis Method TD-15		
Canister ID (Bar code # - AC, SC, etc.) SC01973	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg 29	Canister End Pressure "Hg/psig 1	Sample Volume 6L
Client Sample ID 545-0518	Laboratory ID Number 5-21-18 1200	Date Collected	Time Collected	Comments e.g. Actual Preservative or specific instructions
Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) <input checked="" type="checkbox"/> _____ Tier IV (Date Validation Package) 10% Surcharge _____		Chain of Custody Seal: (Circle) INTACT <input checked="" type="radio"/> BROKEN <input type="radio"/> ABSENT <input type="radio"/>		
Relinquished by: (Signature) [Signature]	Date: 5-21-18 Time: 1230	Received by: (Signature) [Signature]		Date: 5-25-18 Time: 10:30
Relinquished by: (Signature) [Signature]	Date: _____ Time: _____	Received by: (Signature) _____		Date: _____ Time: _____
Project Requirements (MRLs, QAPP)		Cooler / Blank Temperature _____ °C		

ALS Environmental Sample Acceptance Check Form

Client: PES Environmental

Work order: P1802682

Project: MVSC / 1358.001.01.007

Sample(s) received on: 5/25/18

Date opened: 5/25/18

by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? <u>Top and bottom box sealing.</u> Sealing Lid? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were signature and date included? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were seals intact? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1802682-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-0518
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P1802682-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01973

Date Collected: 5/21/18
 Date Received: 5/25/18
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.87 Final Pressure (psig): 3.53

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.69	ND	0.40	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.2	0.69	0.65	0.14	
74-87-3	Chloromethane	ND	0.66	ND	0.32	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.67	ND	0.096	
75-01-4	Vinyl Chloride	ND	0.69	ND	0.27	
106-99-0	1,3-Butadiene	ND	0.70	ND	0.32	
74-83-9	Bromomethane	ND	0.66	ND	0.17	
75-00-3	Chloroethane	ND	0.67	ND	0.26	
64-17-5	Ethanol	ND	7.0	ND	3.7	
75-05-8	Acetonitrile	1.5	0.70	0.92	0.42	
107-02-8	Acrolein	ND	2.8	ND	1.2	
67-64-1	Acetone	ND	7.0	ND	2.9	
75-69-4	Trichlorofluoromethane (CFC 11)	2.3	0.70	0.41	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.0	ND	2.8	
107-13-1	Acrylonitrile	ND	0.70	ND	0.32	
75-35-4	1,1-Dichloroethene	ND	0.70	ND	0.18	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.70	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.70	ND	0.091	
75-15-0	Carbon Disulfide	ND	7.0	ND	2.2	
156-60-5	trans-1,2-Dichloroethene	ND	0.71	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.67	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.71	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.0	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	7.0	ND	2.4	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-0518
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P1802682-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01973

Date Collected: 5/21/18
 Date Received: 5/25/18
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.87 Final Pressure (psig): 3.53

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	2.8	0.70	0.70	0.18	
141-78-6	Ethyl Acetate	ND	1.5	ND	0.40	
110-54-3	n-Hexane	1.6	0.70	0.45	0.20	
67-66-3	Chloroform	5.4	0.70	1.1	0.14	
109-99-9	Tetrahydrofuran (THF)	0.97	0.70	0.33	0.24	
107-06-2	1,2-Dichloroethane	ND	0.70	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.71	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.70	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.70	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.70	ND	0.10	
79-01-6	Trichloroethene	1.6	0.70	0.31	0.13	
123-91-1	1,4-Dioxane	ND	0.70	ND	0.19	
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.35	
142-82-5	n-Heptane	1.5	0.70	0.36	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	0.70	ND	0.17	
10061-02-6	trans-1,3-Dichloropropene	ND	0.70	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.70	ND	0.13	
108-88-3	Toluene	3.1	0.70	0.82	0.19	
591-78-6	2-Hexanone	ND	0.70	ND	0.17	
124-48-1	Dibromochloromethane	ND	0.70	ND	0.082	
106-93-4	1,2-Dibromoethane	ND	0.70	ND	0.091	
123-86-4	n-Butyl Acetate	ND	0.70	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SYS-0518
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P1802682-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01973

Date Collected: 5/21/18
 Date Received: 5/25/18
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -0.87 Final Pressure (psig): 3.53

Container Dilution Factor: 1.32

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.70	ND	0.15	
127-18-4	Tetrachloroethene	220	7.0	32	1.0	D
108-90-7	Chlorobenzene	ND	0.70	ND	0.15	
100-41-4	Ethylbenzene	61	0.70	14	0.16	
179601-23-1	m,p-Xylenes	160	1.5	37	0.33	
75-25-2	Bromoform	ND	0.70	ND	0.068	
100-42-5	Styrene	ND	0.70	ND	0.16	
95-47-6	o-Xylene	33	0.70	7.6	0.16	
111-84-2	n-Nonane	ND	0.70	ND	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.70	ND	0.10	
98-82-8	Cumene	ND	0.70	ND	0.14	
80-56-8	alpha-Pinene	ND	0.69	ND	0.12	
103-65-1	n-Propylbenzene	ND	0.70	ND	0.14	
622-96-8	4-Ethyltoluene	1.1	0.69	0.22	0.14	
108-67-8	1,3,5-Trimethylbenzene	0.76	0.69	0.15	0.14	
95-63-6	1,2,4-Trimethylbenzene	2.5	0.70	0.51	0.14	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.28	
541-73-1	1,3-Dichlorobenzene	ND	0.71	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.70	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.71	ND	0.12	
5989-27-5	d-Limonene	0.74	0.66	0.13	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.70	ND	0.072	
120-82-1	1,2,4-Trichlorobenzene	ND	0.73	ND	0.098	
91-20-3	Naphthalene	1.1	0.70	0.21	0.13	
87-68-3	Hexachlorobutadiene	ND	0.70	ND	0.066	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P180531-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.53	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.3	ND	2.8	
75-05-8	Acetonitrile	ND	0.53	ND	0.32	
107-02-8	Acrolein	ND	2.1	ND	0.92	
67-64-1	Acetone	ND	5.3	ND	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.3	ND	2.2	
107-13-1	Acrylonitrile	ND	0.53	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.53	ND	0.13	
75-09-2	Methylene Chloride	ND	0.53	ND	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	5.3	ND	1.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.54	ND	0.14	
75-34-3	1,1-Dichloroethane	ND	0.51	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	5.3	ND	1.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P180531-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.53	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.53	ND	0.17	
56-23-5	Carbon Tetrachloride	ND	0.53	ND	0.084	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.53	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.53	ND	0.097	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.53	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.53	ND	0.069	
123-86-4	n-Butyl Acetate	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P180531-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.53	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.53	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.52	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.53	ND	0.088	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.53	ND	0.055	
120-82-1	1,2,4-Trichlorobenzene	ND	0.55	ND	0.074	
91-20-3	Naphthalene	ND	0.53	ND	0.10	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 5/21/18
 Date(s) Received: 5/25/18
 Date(s) Analyzed: 5/31/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180531-MB	102	100	101	70-130	
Lab Control Sample	P180531-LCS	98	100	104	70-130	
Duplicate Lab Control Sample	P180531-DLCS	97	100	104	70-130	
SYS-0518	P1802682-001	98	108	88	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P180531-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	210	202	195	96	93	54-133	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	206	201	97	94	64-115	3	25	
74-87-3	Chloromethane	210	199	198	95	94	47-140	1	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	204	198	97	94	60-112	3	25	
75-01-4	Vinyl Chloride	211	211	205	100	97	63-127	3	25	
106-99-0	1,3-Butadiene	210	238	230	113	110	57-149	3	25	
74-83-9	Bromomethane	210	212	208	101	99	63-132	2	25	
75-00-3	Chloroethane	210	210	203	100	97	68-129	3	25	
64-17-5	Ethanol	1,040	1070	1050	103	101	62-131	2	25	
75-05-8	Acetonitrile	210	246	239	117	114	56-136	3	25	
107-02-8	Acrolein	209	257	250	123	120	60-132	2	25	
67-64-1	Acetone	1,050	1080	1040	103	99	63-124	4	25	
75-69-4	Trichlorofluoromethane (CFC 11)	208	204	198	98	95	65-113	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	433	425	103	101	62-135	2	25	
107-13-1	Acrylonitrile	212	245	238	116	112	68-138	4	25	
75-35-4	1,1-Dichloroethene	213	216	212	101	100	72-118	1	25	
75-09-2	Methylene Chloride	213	223	218	105	102	67-116	3	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	226	221	107	104	61-143	3	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	212	209	99	98	68-113	1	25	
75-15-0	Carbon Disulfide	214	208	204	97	95	68-120	2	25	
156-60-5	trans-1,2-Dichloroethene	214	230	226	107	106	71-125	0.9	25	
75-34-3	1,1-Dichloroethane	212	206	202	97	95	68-118	2	25	
1634-04-4	Methyl tert-Butyl Ether	213	214	211	100	99	60-123	1	25	
108-05-4	Vinyl Acetate	1,060	1330	1300	125	123	73-135	2	25	
78-93-3	2-Butanone (MEK)	212	234	228	110	108	70-129	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P180531-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	212	216	211	102	100	69-121	2	25	
141-78-6	Ethyl Acetate	426	519	504	122	118	66-140	3	25	
110-54-3	n-Hexane	213	210	205	99	96	61-124	3	25	
67-66-3	Chloroform	212	209	203	99	96	69-113	3	25	
109-99-9	Tetrahydrofuran (THF)	212	206	201	97	95	66-121	2	25	
107-06-2	1,2-Dichloroethane	212	211	204	100	96	62-120	4	25	
71-55-6	1,1,1-Trichloroethane	212	213	207	100	98	65-116	2	25	
71-43-2	Benzene	213	219	212	103	100	66-111	3	25	
56-23-5	Carbon Tetrachloride	214	221	213	103	100	64-122	3	25	
110-82-7	Cyclohexane	425	427	414	100	97	69-115	3	25	
78-87-5	1,2-Dichloropropane	212	216	210	102	99	69-121	3	25	
75-27-4	Bromodichloromethane	214	223	217	104	101	69-123	3	25	
79-01-6	Trichloroethene	212	221	214	104	101	69-112	3	25	
123-91-1	1,4-Dioxane	213	241	234	113	110	74-123	3	25	
80-62-6	Methyl Methacrylate	424	488	477	115	113	75-125	2	25	
142-82-5	n-Heptane	213	217	211	102	99	68-118	3	25	
10061-01-5	cis-1,3-Dichloropropene	208	241	234	116	113	74-129	3	25	
108-10-1	4-Methyl-2-pentanone	213	217	212	102	100	66-138	2	25	
10061-02-6	trans-1,3-Dichloropropene	213	273	266	128	125	75-130	2	25	
79-00-5	1,1,2-Trichloroethane	212	225	217	106	102	73-117	4	25	
108-88-3	Toluene	211	209	205	99	97	66-114	2	25	
591-78-6	2-Hexanone	211	231	228	109	108	58-146	0.9	25	
124-48-1	Dibromochloromethane	212	236	231	111	109	67-130	2	25	
106-93-4	1,2-Dibromoethane	211	235	231	111	109	70-127	2	25	
123-86-4	n-Butyl Acetate	215	240	236	112	110	62-140	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1802682
 ALS Sample ID: P180531-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/31/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD Limit		
111-65-9	n-Octane	212	216	212	102	100	65-121	2	25	
127-18-4	Tetrachloroethene	212	220	215	104	101	62-119	3	25	
108-90-7	Chlorobenzene	212	213	209	100	99	66-115	1	25	
100-41-4	Ethylbenzene	212	213	208	100	98	69-117	2	25	
179601-23-1	m,p-Xylenes	424	435	427	103	101	67-117	2	25	
75-25-2	Bromoform	212	250	244	118	115	67-135	3	25	
100-42-5	Styrene	211	230	226	109	107	70-128	2	25	
95-47-6	o-Xylene	211	217	213	103	101	67-118	2	25	
111-84-2	n-Nonane	212	212	208	100	98	61-127	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	224	219	106	103	70-125	3	25	
98-82-8	Cumene	212	215	211	101	100	68-116	1	25	
80-56-8	alpha-Pinene	213	219	215	103	101	69-122	2	25	
103-65-1	n-Propylbenzene	214	220	216	103	101	70-118	2	25	
622-96-8	4-Ethyltoluene	211	234	230	111	109	69-124	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	216	211	102	100	65-117	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	231	225	109	106	67-124	3	25	
100-44-7	Benzyl Chloride	212	289	285	136	134	75-142	1	25	
541-73-1	1,3-Dichlorobenzene	212	234	228	110	108	70-124	2	25	
106-46-7	1,4-Dichlorobenzene	214	236	230	110	107	63-124	3	25	
95-50-1	1,2-Dichlorobenzene	214	242	237	113	111	66-125	2	25	
5989-27-5	d-Limonene	213	232	226	109	106	64-135	3	25	
96-12-8	1,2-Dibromo-3-chloropropane	210	258	252	123	120	73-136	2	25	
120-82-1	1,2,4-Trichlorobenzene	218	255	250	117	115	70-141	2	25	
91-20-3	Naphthalene	209	237	234	113	112	71-146	0.9	25	
87-68-3	Hexachlorobutadiene	212	231	226	109	107	63-126	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** June 27, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: May 21, 2018 Air Sample
LAB: ALS Environmental P1802682

One (1) soil vapor extraction sample was collected on May 21, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1802682.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa™ canister (6 Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample was

collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicate (LCS/LCSDs) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery results for all control compounds met the % R and relative percent difference (RPD) laboratory acceptance criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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LABORATORY REPORT

July 9, 2018

Karsten Springstead
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Karsten:

Enclosed are the results of the sample submitted to our laboratory on June 22, 2018. For your reference, these analyses have been assigned our service request number P1803225.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 4:43 pm, 07/09/18

Kate Kaneko
Project Manager



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www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1803225

CASE NARRATIVE

The sample was received intact under chain of custody on June 22, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA01627201 7-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1803225

Date Received: 6/22/2018
Time Received: 09:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-0618	P1803225-001	Air	6/18/2018	13:25	SC00532	-1.53	3.69	X

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental

Work order: P1803225

Project: MVSC / 1358.001.007

Sample(s) received on: 6/22/18

Date opened: 6/22/18

by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? <u>Top and bottom of box sealing.</u> Sealing Lid? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were signature and date included? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Were seals intact? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1803225-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-0618
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P1803225-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00532

Date Collected: 6/18/18
 Date Received: 6/22/18
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.53 Final Pressure (psig): 3.69

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.73	ND	0.42	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.2	0.73	0.65	0.15	
74-87-3	Chloromethane	ND	0.70	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.71	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.34	
74-83-9	Bromomethane	ND	0.70	ND	0.18	
75-00-3	Chloroethane	ND	0.71	ND	0.27	
64-17-5	Ethanol	ND	7.4	ND	3.9	
75-05-8	Acetonitrile	ND	0.74	ND	0.44	
107-02-8	Acrolein	ND	2.9	ND	1.3	
67-64-1	Acetone	ND	7.4	ND	3.1	
75-69-4	Trichlorofluoromethane (CFC 11)	2.4	0.74	0.42	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.4	ND	3.0	
107-13-1	Acrylonitrile	ND	0.74	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.74	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.74	ND	0.097	
75-15-0	Carbon Disulfide	ND	7.4	ND	2.4	
156-60-5	trans-1,2-Dichloroethene	ND	0.76	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.71	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	7.4	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-0618
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P1803225-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00532

Date Collected: 6/18/18
 Date Received: 6/22/18
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.53 Final Pressure (psig): 3.69

Container Dilution Factor: 1.40

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
156-59-2	cis-1,2-Dichloroethene	2.9	0.74	0.74	0.19	
141-78-6	Ethyl Acetate	4.4	1.5	1.2	0.43	
110-54-3	n-Hexane	ND	0.74	ND	0.21	
67-66-3	Chloroform	6.8	0.74	1.4	0.15	
109-99-9	Tetrahydrofuran (THF)	3.3	0.74	1.1	0.25	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	2.0	0.74	0.37	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.38	
142-82-5	n-Heptane	0.82	0.74	0.20	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.74	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.14	
108-88-3	Toluene	3.4	0.74	0.89	0.20	
591-78-6	2-Hexanone	ND	0.74	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.087	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.097	
123-86-4	n-Butyl Acetate	ND	0.74	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SYS-0618
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P1803225-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00532

Date Collected: 6/18/18
 Date Received: 6/22/18
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.53 Final Pressure (psig): 3.69

Container Dilution Factor: 1.40

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.74	ND	0.16	
127-18-4	Tetrachloroethene	240	7.4	35	1.1	D
108-90-7	Chlorobenzene	ND	0.74	ND	0.16	
100-41-4	Ethylbenzene	42	0.74	9.7	0.17	
179601-23-1	m,p-Xylenes	120	1.5	27	0.35	
75-25-2	Bromoform	ND	0.74	ND	0.072	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	24	0.74	5.5	0.17	
111-84-2	n-Nonane	ND	0.74	ND	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
80-56-8	alpha-Pinene	ND	0.73	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.74	ND	0.15	
622-96-8	4-Ethyltoluene	0.95	0.73	0.19	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	1.5	0.74	0.31	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
5989-27-5	d-Limonene	0.72	0.70	0.13	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.74	ND	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	0.77	ND	0.10	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P180626-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.53	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.3	ND	2.8	
75-05-8	Acetonitrile	ND	0.53	ND	0.32	
107-02-8	Acrolein	ND	2.1	ND	0.92	
67-64-1	Acetone	ND	5.3	ND	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.3	ND	2.2	
107-13-1	Acrylonitrile	ND	0.53	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.53	ND	0.13	
75-09-2	Methylene Chloride	ND	0.53	ND	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	5.3	ND	1.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.54	ND	0.14	
75-34-3	1,1-Dichloroethane	ND	0.51	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	5.3	ND	1.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P180626-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.53	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.53	ND	0.17	
56-23-5	Carbon Tetrachloride	ND	0.53	ND	0.084	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.53	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.53	ND	0.097	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.53	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.53	ND	0.069	
123-86-4	n-Butyl Acetate	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P180626-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.53	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.53	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.52	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.53	ND	0.088	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.53	ND	0.055	
120-82-1	1,2,4-Trichlorobenzene	ND	0.55	ND	0.074	
91-20-3	Naphthalene	ND	0.53	ND	0.10	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 6/18/18
 Date(s) Received: 6/22/18
 Date(s) Analyzed: 6/26/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180626-MB	100	105	102	70-130	
Lab Control Sample	P180626-LCS	96	105	106	70-130	
Duplicate Lab Control Sample	P180626-DLCS	95	105	106	70-130	
SYS-0618	P1803225-001	100	102	106	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P180626-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	210	165	160	79	76	54-133	4	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	170	167	80	78	64-115	3	25	
74-87-3	Chloromethane	210	165	166	79	79	47-140	0	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	169	169	80	80	60-112	0	25	
75-01-4	Vinyl Chloride	211	170	172	81	82	63-127	1	25	
106-99-0	1,3-Butadiene	210	190	185	90	88	57-149	2	25	
74-83-9	Bromomethane	210	174	174	83	83	63-132	0	25	
75-00-3	Chloroethane	210	172	171	82	81	68-129	1	25	
64-17-5	Ethanol	1,040	903	891	87	86	62-131	1	25	
75-05-8	Acetonitrile	210	203	201	97	96	56-136	1	25	
107-02-8	Acrolein	209	211	208	101	100	60-132	1	25	
67-64-1	Acetone	1,050	882	871	84	83	63-124	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	208	166	165	80	79	65-113	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	363	359	86	85	62-135	1	25	
107-13-1	Acrylonitrile	212	200	199	94	94	68-138	0	25	
75-35-4	1,1-Dichloroethene	213	179	178	84	84	72-118	0	25	
75-09-2	Methylene Chloride	213	185	184	87	86	67-116	1	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	184	183	87	86	61-143	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	178	173	83	81	68-113	2	25	
75-15-0	Carbon Disulfide	214	171	171	80	80	68-120	0	25	
156-60-5	trans-1,2-Dichloroethene	214	189	189	88	88	71-125	0	25	
75-34-3	1,1-Dichloroethane	212	169	170	80	80	68-118	0	25	
1634-04-4	Methyl tert-Butyl Ether	213	175	176	82	83	60-123	1	25	
108-05-4	Vinyl Acetate	1,060	1090	1090	103	103	73-135	0	25	
78-93-3	2-Butanone (MEK)	212	190	192	90	91	70-129	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P180626-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	212	177	177	83	83	69-121	0	25	
141-78-6	Ethyl Acetate	426	423	423	99	99	66-140	0	25	
110-54-3	n-Hexane	213	169	171	79	80	61-124	1	25	
67-66-3	Chloroform	212	171	172	81	81	69-113	0	25	
109-99-9	Tetrahydrofuran (THF)	212	170	168	80	79	66-121	1	25	
107-06-2	1,2-Dichloroethane	212	172	172	81	81	62-120	0	25	
71-55-6	1,1,1-Trichloroethane	212	156	156	74	74	65-116	0	25	
71-43-2	Benzene	213	160	161	75	76	66-111	1	25	
56-23-5	Carbon Tetrachloride	214	162	162	76	76	64-122	0	25	
110-82-7	Cyclohexane	425	313	313	74	74	69-115	0	25	
78-87-5	1,2-Dichloropropane	212	159	159	75	75	69-121	0	25	
75-27-4	Bromodichloromethane	214	165	164	77	77	69-123	0	25	
79-01-6	Trichloroethene	212	165	165	78	78	69-112	0	25	
123-91-1	1,4-Dioxane	213	179	178	84	84	74-123	0	25	
80-62-6	Methyl Methacrylate	424	358	360	84	85	75-125	1	25	
142-82-5	n-Heptane	213	157	158	74	74	68-118	0	25	
10061-01-5	cis-1,3-Dichloropropene	208	177	177	85	85	74-129	0	25	
108-10-1	4-Methyl-2-pentanone	213	160	160	75	75	66-138	0	25	
10061-02-6	trans-1,3-Dichloropropene	213	200	201	94	94	75-130	0	25	
79-00-5	1,1,2-Trichloroethane	212	165	165	78	78	73-117	0	25	
108-88-3	Toluene	211	175	175	83	83	66-114	0	25	
591-78-6	2-Hexanone	211	196	197	93	93	58-146	0	25	
124-48-1	Dibromochloromethane	212	199	200	94	94	67-130	0	25	
106-93-4	1,2-Dibromoethane	211	198	198	94	94	70-127	0	25	
123-86-4	n-Butyl Acetate	215	204	205	95	95	62-140	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803225
 ALS Sample ID: P180626-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Raneem Sahtah
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 6/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
111-65-9	n-Octane	212	180	181	85	85	65-121	0	25	
127-18-4	Tetrachloroethene	212	186	188	88	89	62-119	1	25	
108-90-7	Chlorobenzene	212	180	180	85	85	66-115	0	25	
100-41-4	Ethylbenzene	212	178	179	84	84	69-117	0	25	
179601-23-1	m,p-Xylenes	424	365	367	86	87	67-117	1	25	
75-25-2	Bromoform	212	212	213	100	100	67-135	0	25	
100-42-5	Styrene	211	194	195	92	92	70-128	0	25	
95-47-6	o-Xylene	211	182	183	86	87	67-118	1	25	
111-84-2	n-Nonane	212	174	176	82	83	61-127	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	186	188	88	89	70-125	1	25	
98-82-8	Cumene	212	180	182	85	86	68-116	1	25	
80-56-8	alpha-Pinene	213	183	185	86	87	69-122	1	25	
103-65-1	n-Propylbenzene	214	185	186	86	87	70-118	1	25	
622-96-8	4-Ethyltoluene	211	198	199	94	94	69-124	0	25	
108-67-8	1,3,5-Trimethylbenzene	212	181	183	85	86	65-117	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	194	195	92	92	67-124	0	25	
100-44-7	Benzyl Chloride	212	244	248	115	117	75-142	2	25	
541-73-1	1,3-Dichlorobenzene	212	200	202	94	95	70-124	1	25	
106-46-7	1,4-Dichlorobenzene	214	202	204	94	95	63-124	1	25	
95-50-1	1,2-Dichlorobenzene	214	207	209	97	98	66-125	1	25	
5989-27-5	d-Limonene	213	193	193	91	91	64-135	0	25	
96-12-8	1,2-Dibromo-3-chloropropane	210	218	223	104	106	73-136	2	25	
120-82-1	1,2,4-Trichlorobenzene	218	221	227	101	104	70-141	3	25	
91-20-3	Naphthalene	209	206	213	99	102	71-146	3	25	
87-68-3	Hexachlorobutadiene	212	196	199	92	94	63-126	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** August 10, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: June 18, 2018 Air Sample
LAB: ALS Environmental P1803225

One (1) soil vapor extraction sample was collected on June 18, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1803225.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa Canister™ canister (6 Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample

was collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by Method TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicate (LCS/LCSDs) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery results for all control compounds met the % R and relative percent difference (RPD) laboratory acceptance criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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www.alsglobal.com

LABORATORY REPORT

August 1, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Matt:

Enclosed are the results of the sample submitted to our laboratory on July 18, 2018. For your reference, this analysis has been assigned our service request number P1803704.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 12:35 pm, 08/01/18

Kate Kaneko
Project Manager



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Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1803704

CASE NARRATIVE

The sample was received intact under chain of custody on July 18, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272017-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1803704

Date Received: 7/18/2018
Time Received: 09:20

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-0718	P1803704-001	Air	7/16/2018	09:30	SC01589	-1.19	3.71	X



2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard				ALS Project No P1803704			
Project Name MUSC				ALS Contact:			
Project Number 1358.001.01.007				Analysis Method			
P.O. # / Billing Information 1358.001.01.007				SI-01			
Sampler (Print & Sign) Karsten Spohr				X			
Canister ID (Bar code # - AC, SC, etc.) SC01589				Canister Start Pressure "Hg 29		Canister End Pressure "Hg/psig 2	
Flow Controller ID (Bar code # - FC #) —				Sample Volume 6L		Comments e.g. Actual Preservative or specific instructions	
Laboratory ID Number 716-18				Date Collected 7-16-18		Time Collected 9:30	
Client Sample ID SYS-0718							
Company Name & Address (Reporting Information) PES ENVIRONMENTAL, INC. 1215 4th AVE STE 1350, SEATTLE, WA 98161							
Project Manager Matt Dahl							
Phone 206-529-3980							
Fax 206-529-3985							
Email Address for Result Reporting							
Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) X Tier IV (Date Validation Package) 10% Surcharge _____				EDD required YES/No Type: EM Units: _____			
Relinquished by: (Signature) 				Received by: (Signature) Ann G...		Chain of Custody Seal: (Circle) INTACT <input checked="" type="radio"/> BROKEN <input type="radio"/> ABSENT <input type="radio"/>	
Relinquished by: (Signature) 				Received by: (Signature) 		Date: 7/18/18 Time: 09:20	
				Date: _____ Time: _____		Project Requirements (MRLs, QAPP)	
				Date: _____ Time: _____		Cooler / Blank Temperature _____ °C	

ALS Environmental Sample Acceptance Check Form

Client: PES Environmental Work order: P1803704
 Project: MVSC / 1358.001.01.007
 Sample(s) received on: 7/18/18 Date opened: 7/18/18 by: AARON GONZALEZ

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1803704-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-0718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P1803704-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01589

Date Collected: 7/16/18
 Date Received: 7/18/18
 Date Analyzed: 7/26 - 7/27/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.19 Final Pressure (psig): 3.71

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.71	ND	0.41	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.6	0.71	0.73	0.14	
74-87-3	Chloromethane	ND	0.68	ND	0.33	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.69	ND	0.099	
75-01-4	Vinyl Chloride	ND	0.71	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.72	ND	0.33	
74-83-9	Bromomethane	ND	0.68	ND	0.18	
75-00-3	Chloroethane	ND	0.69	ND	0.26	
64-17-5	Ethanol	ND	7.2	ND	3.8	
75-05-8	Acetonitrile	ND	0.72	ND	0.43	
107-02-8	Acrolein	ND	1.5	ND	0.65	
67-64-1	Acetone	ND	7.2	ND	3.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.8	0.72	0.51	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.9	ND	1.2	
107-13-1	Acrylonitrile	ND	0.72	ND	0.33	
75-35-4	1,1-Dichloroethene	ND	0.72	ND	0.18	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.72	ND	0.23	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.72	ND	0.094	
75-15-0	Carbon Disulfide	10	1.5	3.2	0.48	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.69	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.2	ND	2.0	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-0718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P1803704-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01589

Date Collected: 7/16/18
 Date Received: 7/18/18
 Date Analyzed: 7/26 - 7/27/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.19 Final Pressure (psig): 3.71

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	6.0	0.72	1.5	0.18	
141-78-6	Ethyl Acetate	ND	1.5	ND	0.42	
110-54-3	n-Hexane	1.6	0.72	0.46	0.20	
67-66-3	Chloroform	4.7	0.72	0.97	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	0.72	ND	0.24	
107-06-2	1,2-Dichloroethane	ND	0.72	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	ND	0.72	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.72	ND	0.11	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.72	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.72	ND	0.11	
79-01-6	Trichloroethene	3.0	0.72	0.55	0.13	
123-91-1	1,4-Dioxane	ND	0.72	ND	0.20	
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.37	
142-82-5	n-Heptane	ND	0.72	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.76	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.72	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.72	ND	0.13	
108-88-3	Toluene	3.2	0.72	0.84	0.19	
591-78-6	2-Hexanone	ND	0.72	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.72	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.72	ND	0.094	
123-86-4	n-Butyl Acetate	ND	0.72	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SYS-0718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P1803704-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01589

Date Collected: 7/16/18
 Date Received: 7/18/18
 Date Analyzed: 7/26 - 7/27/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.19 Final Pressure (psig): 3.71

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.72	ND	0.15	
127-18-4	Tetrachloroethene	240	7.2	35	1.1	D
108-90-7	Chlorobenzene	ND	0.72	ND	0.16	
100-41-4	Ethylbenzene	28	0.72	6.5	0.17	
179601-23-1	m,p-Xylenes	84	1.5	19	0.34	
75-25-2	Bromoform	ND	0.72	ND	0.070	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	18	0.72	4.2	0.17	
111-84-2	n-Nonane	ND	0.72	ND	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	ND	0.11	
98-82-8	Cumene	ND	0.72	ND	0.15	
80-56-8	alpha-Pinene	ND	0.71	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.72	ND	0.15	
622-96-8	4-Ethyltoluene	0.75	0.71	0.15	0.14	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	1.6	0.72	0.33	0.15	
100-44-7	Benzyl Chloride	ND	1.5	ND	0.29	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.72	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
5989-27-5	d-Limonene	28	0.68	5.1	0.12	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.72	ND	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	0.75	ND	0.10	
91-20-3	Naphthalene	5.2	0.72	0.99	0.14	
87-68-3	Hexachlorobutadiene	ND	0.72	ND	0.068	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.53	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.3	ND	2.8	
75-05-8	Acetonitrile	ND	0.53	ND	0.32	
107-02-8	Acrolein	ND	1.1	ND	0.48	
67-64-1	Acetone	ND	5.3	ND	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.53	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.53	ND	0.13	
75-09-2	Methylene Chloride	ND	0.53	ND	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.54	ND	0.14	
75-34-3	1,1-Dichloroethane	ND	0.51	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.1	ND	0.37	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.53	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.53	ND	0.17	
56-23-5	Carbon Tetrachloride	ND	0.53	ND	0.084	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.53	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.53	ND	0.097	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.53	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.53	ND	0.069	
123-86-4	n-Butyl Acetate	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.53	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.53	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.52	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.53	ND	0.088	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.53	ND	0.055	
120-82-1	1,2,4-Trichlorobenzene	ND	0.55	ND	0.074	
91-20-3	Naphthalene	ND	0.53	ND	0.10	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.53	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.3	ND	2.8	
75-05-8	Acetonitrile	ND	0.53	ND	0.32	
107-02-8	Acrolein	ND	1.1	ND	0.48	
67-64-1	Acetone	ND	5.3	ND	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.53	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.53	ND	0.13	
75-09-2	Methylene Chloride	ND	0.53	ND	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.54	ND	0.14	
75-34-3	1,1-Dichloroethane	ND	0.51	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.1	ND	0.37	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.53	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.53	ND	0.17	
56-23-5	Carbon Tetrachloride	ND	0.53	ND	0.084	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.53	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.53	ND	0.097	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.53	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.53	ND	0.069	
123-86-4	n-Butyl Acetate	ND	0.53	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.53	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.53	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.52	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.53	ND	0.088	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.53	ND	0.055	
120-82-1	1,2,4-Trichlorobenzene	ND	0.55	ND	0.074	
91-20-3	Naphthalene	ND	0.53	ND	0.10	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 7/16/18
 Date(s) Received: 7/18/18
 Date(s) Analyzed: 7/26/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180726-MB	109	95	96	70-130	
Method Blank	P180726-MB	112	93	94	70-130	
Lab Control Sample	P180726-LCS	108	94	95	70-130	
Lab Control Sample	P180726-LCS	112	92	95	70-130	
SYS-0718	P1803704-001	110	95	91	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
115-07-1	Propene	210	200	95	54-133	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	190	89	64-115	
74-87-3	Chloromethane	210	214	102	47-140	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	183	87	60-112	
75-01-4	Vinyl Chloride	211	204	97	63-127	
106-99-0	1,3-Butadiene	210	211	100	57-149	
74-83-9	Bromomethane	210	191	91	63-132	
75-00-3	Chloroethane	210	197	94	68-129	
64-17-5	Ethanol	1,040	1030	99	62-131	
75-05-8	Acetonitrile	210	203	97	56-136	
107-02-8	Acrolein	209	203	97	60-132	
67-64-1	Acetone	1,050	932	89	63-124	
75-69-4	Trichlorofluoromethane (CFC 11)	208	187	90	65-113	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	418	99	62-135	
107-13-1	Acrylonitrile	212	208	98	68-138	
75-35-4	1,1-Dichloroethene	213	194	91	72-118	
75-09-2	Methylene Chloride	213	190	89	67-116	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	225	106	61-143	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	180	84	68-113	
75-15-0	Carbon Disulfide	214	190	89	68-120	
156-60-5	trans-1,2-Dichloroethene	214	210	98	71-125	
75-34-3	1,1-Dichloroethane	212	200	94	68-118	
1634-04-4	Methyl tert-Butyl Ether	213	200	94	60-123	
108-05-4	Vinyl Acetate	1,060	1060	100	73-135	
78-93-3	2-Butanone (MEK)	212	205	97	70-129	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
156-59-2	cis-1,2-Dichloroethene	212	206	97	69-121	
141-78-6	Ethyl Acetate	426	410	96	66-140	
110-54-3	n-Hexane	213	189	89	61-124	
67-66-3	Chloroform	212	194	92	69-113	
109-99-9	Tetrahydrofuran (THF)	212	200	94	66-121	
107-06-2	1,2-Dichloroethane	212	204	96	62-120	
71-55-6	1,1,1-Trichloroethane	212	194	92	65-116	
71-43-2	Benzene	213	193	91	66-111	
56-23-5	Carbon Tetrachloride	214	198	93	64-122	
110-82-7	Cyclohexane	425	391	92	69-115	
78-87-5	1,2-Dichloropropane	212	205	97	69-121	
75-27-4	Bromodichloromethane	214	204	95	69-123	
79-01-6	Trichloroethene	212	186	88	69-112	
123-91-1	1,4-Dioxane	213	196	92	74-123	
80-62-6	Methyl Methacrylate	424	400	94	75-125	
142-82-5	n-Heptane	213	197	92	68-118	
10061-01-5	cis-1,3-Dichloropropene	208	209	100	74-129	
108-10-1	4-Methyl-2-pentanone	213	208	98	66-138	
10061-02-6	trans-1,3-Dichloropropene	213	219	103	75-130	
79-00-5	1,1,2-Trichloroethane	212	194	92	73-117	
108-88-3	Toluene	211	172	82	66-114	
591-78-6	2-Hexanone	211	196	93	58-146	
124-48-1	Dibromochloromethane	212	186	88	67-130	
106-93-4	1,2-Dibromoethane	211	182	86	70-127	
123-86-4	n-Butyl Acetate	215	201	93	62-140	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
111-65-9	n-Octane	212	193	91	65-121	
127-18-4	Tetrachloroethene	212	171	81	62-119	
108-90-7	Chlorobenzene	212	178	84	66-115	
100-41-4	Ethylbenzene	212	181	85	69-117	
179601-23-1	m,p-Xylenes	424	358	84	67-117	
75-25-2	Bromoform	212	187	88	67-135	
100-42-5	Styrene	211	187	89	70-128	
95-47-6	o-Xylene	211	179	85	67-118	
111-84-2	n-Nonane	212	198	93	61-127	
79-34-5	1,1,2,2-Tetrachloroethane	212	186	88	70-125	
98-82-8	Cumene	212	179	84	68-116	
80-56-8	alpha-Pinene	213	188	88	69-122	
103-65-1	n-Propylbenzene	214	187	87	70-118	
622-96-8	4-Ethyltoluene	211	181	86	69-124	
108-67-8	1,3,5-Trimethylbenzene	212	182	86	65-117	
95-63-6	1,2,4-Trimethylbenzene	212	183	86	67-124	
100-44-7	Benzyl Chloride	212	226	107	75-142	
541-73-1	1,3-Dichlorobenzene	212	183	86	70-124	
106-46-7	1,4-Dichlorobenzene	214	183	86	63-124	
95-50-1	1,2-Dichlorobenzene	214	183	86	66-125	
5989-27-5	d-Limonene	213	193	91	64-135	
96-12-8	1,2-Dibromo-3-chloropropane	210	199	95	73-136	
120-82-1	1,2,4-Trichlorobenzene	218	217	100	70-141	
91-20-3	Naphthalene	209	233	111	71-146	
87-68-3	Hexachlorobutadiene	212	183	86	63-126	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
115-07-1	Propene	210	199	95	54-133	
75-71-8	Dichlorodifluoromethane (CFC 12)	213	183	86	64-115	
74-87-3	Chloromethane	210	206	98	47-140	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	173	82	60-112	
75-01-4	Vinyl Chloride	211	198	94	63-127	
106-99-0	1,3-Butadiene	210	215	102	57-149	
74-83-9	Bromomethane	210	187	89	63-132	
75-00-3	Chloroethane	210	200	95	68-129	
64-17-5	Ethanol	1,040	1060	102	62-131	
75-05-8	Acetonitrile	210	213	101	56-136	
107-02-8	Acrolein	209	208	100	60-132	
67-64-1	Acetone	1,050	938	89	63-124	
75-69-4	Trichlorofluoromethane (CFC 11)	208	183	88	65-113	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	428	101	62-135	
107-13-1	Acrylonitrile	212	212	100	68-138	
75-35-4	1,1-Dichloroethene	213	190	89	72-118	
75-09-2	Methylene Chloride	213	188	88	67-116	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	232	109	61-143	
76-13-1	Trichlorotrifluoroethane (CFC 113)	214	174	81	68-113	
75-15-0	Carbon Disulfide	214	188	88	68-120	
156-60-5	trans-1,2-Dichloroethene	214	209	98	71-125	
75-34-3	1,1-Dichloroethane	212	199	94	68-118	
1634-04-4	Methyl tert-Butyl Ether	213	196	92	60-123	
108-05-4	Vinyl Acetate	1,060	1020	96	73-135	
78-93-3	2-Butanone (MEK)	212	204	96	70-129	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
156-59-2	cis-1,2-Dichloroethene	212	207	98	69-121	
141-78-6	Ethyl Acetate	426	400	94	66-140	
110-54-3	n-Hexane	213	184	86	61-124	
67-66-3	Chloroform	212	190	90	69-113	
109-99-9	Tetrahydrofuran (THF)	212	197	93	66-121	
107-06-2	1,2-Dichloroethane	212	201	95	62-120	
71-55-6	1,1,1-Trichloroethane	212	188	89	65-116	
71-43-2	Benzene	213	188	88	66-111	
56-23-5	Carbon Tetrachloride	214	192	90	64-122	
110-82-7	Cyclohexane	425	381	90	69-115	
78-87-5	1,2-Dichloropropane	212	204	96	69-121	
75-27-4	Bromodichloromethane	214	198	93	69-123	
79-01-6	Trichloroethene	212	177	83	69-112	
123-91-1	1,4-Dioxane	213	190	89	74-123	
80-62-6	Methyl Methacrylate	424	385	91	75-125	
142-82-5	n-Heptane	213	192	90	68-118	
10061-01-5	cis-1,3-Dichloropropene	208	205	99	74-129	
108-10-1	4-Methyl-2-pentanone	213	206	97	66-138	
10061-02-6	trans-1,3-Dichloropropene	213	216	101	75-130	
79-00-5	1,1,2-Trichloroethane	212	187	88	73-117	
108-88-3	Toluene	211	160	76	66-114	
591-78-6	2-Hexanone	211	189	90	58-146	
124-48-1	Dibromochloromethane	212	172	81	67-130	
106-93-4	1,2-Dibromoethane	211	168	80	70-127	
123-86-4	n-Butyl Acetate	215	193	90	62-140	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1803704
 ALS Sample ID: P180726-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 7/26/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
111-65-9	n-Octane	212	183	86	65-121	
127-18-4	Tetrachloroethene	212	156	74	62-119	
108-90-7	Chlorobenzene	212	166	78	66-115	
100-41-4	Ethylbenzene	212	168	79	69-117	
179601-23-1	m,p-Xylenes	424	334	79	67-117	
75-25-2	Bromoform	212	171	81	67-135	
100-42-5	Styrene	211	174	82	70-128	
95-47-6	o-Xylene	211	167	79	67-118	
111-84-2	n-Nonane	212	192	91	61-127	
79-34-5	1,1,2,2-Tetrachloroethane	212	175	83	70-125	
98-82-8	Cumene	212	167	79	68-116	
80-56-8	alpha-Pinene	213	176	83	69-122	
103-65-1	n-Propylbenzene	214	175	82	70-118	
622-96-8	4-Ethyltoluene	211	169	80	69-124	
108-67-8	1,3,5-Trimethylbenzene	212	169	80	65-117	
95-63-6	1,2,4-Trimethylbenzene	212	170	80	67-124	
100-44-7	Benzyl Chloride	212	213	100	75-142	
541-73-1	1,3-Dichlorobenzene	212	168	79	70-124	
106-46-7	1,4-Dichlorobenzene	214	169	79	63-124	
95-50-1	1,2-Dichlorobenzene	214	169	79	66-125	
5989-27-5	d-Limonene	213	183	86	64-135	
96-12-8	1,2-Dibromo-3-chloropropane	210	183	87	73-136	
120-82-1	1,2,4-Trichlorobenzene	218	197	90	70-141	
91-20-3	Naphthalene	209	213	102	71-146	
87-68-3	Hexachlorobutadiene	212	165	78	63-126	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** August 10, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: July 16, 2018 Air Sample
LAB: ALS Environmental P1803704

One (1) soil vapor extraction sample was collected on July 16, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1803704.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa Canister™ canister (6 Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample

was collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by Method TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

Two sets of laboratory control samples (LCS) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS recovery results for all control compounds met the % R. Precision was not assessed however both sets of LCS recoveries are within criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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www.alsglobal.com

LABORATORY REPORT

August 31, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Matt:

Enclosed are the results of the sample submitted to our laboratory on August 21, 2018. For your reference, this analysis has been assigned our service request number P1804329.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 11:55 am, 08/31/18

Kate Kaneko
Project Manager



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Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1804329

CASE NARRATIVE

The sample was received intact under chain of custody on August 21, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA01627201 8-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1804329

Date Received: 8/21/2018
Time Received: 10:00

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-081718	P1804329-001	Air	8/17/2018	08:50	1SC00271	-2.25	5.87	X



Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Company Name & Address (Reporting Information) PES ENVIRONMENTAL, INC. 1215 4TH AVE STE B50, Seattle, WA 98161				Project Name MNSL		Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard				ALS Project No P1804329	
Project Manager Matt Davis				Project Number 1358.001.01.057		ALS Contact:				Analysis Method ST-15	
Phone 206-529-3980				P.O. # / Billing Information 1358.001.01.057		Sampler (Print & Sign) Kristen Sprinksted				Comments e.g. Actual Preservative or specific instructions	
Fax 206-529-3985				Email Address for Result Reporting MDavis@peseenv.com		Canister ID (Bar code # - AC, SC, etc.) 15607A1	Flow Controller ID (Bar code # - FC #) AV603463	Canister Start Pressure "Hg 30	Canister End Pressure "Hg/psig 4	Sample Volume 1L	Client Sample ID SYS-081718
Laboratory ID Number	Date Collected 8-17-18	Time Collected 850									

Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II - Results + QC Summaries _____ Tier III - Results + QC & Calibration Summaries _____ Tier IV - Data Validation Package) 10% Surcharge _____			EDD required YES / No Type: <u>BM</u> Units: _____		Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT		Project Requirements (MRLs, GAPP)	
Relinquished by: (Signature)			Received by: (Signature) <u>An Gonzalez</u>		Date: <u>8/21/18</u> Time: <u>1000</u>		Cooler / Blank Temperature _____ °C	
Relinquished by: (Signature)			Received by: (Signature) _____		Date: _____ Time: _____		Cooler / Blank Temperature _____ °C	

ALS Environmental
Sample Acceptance Check Form

Client: PES Environmental

Work order: P1804329

Project: MVSC / 1358.001.01.007

Sample(s) received on: 8/21/18

Date opened: 8/21/18

by: AARON GONZALEZ

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1804329-001.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-081718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P1804329-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00271

Date Collected: 8/17/18
 Date Received: 8/21/18
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.25 Final Pressure (psig): 5.87

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	2.1	ND	1.2	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.2	2.1	0.65	0.43	
74-87-3	Chloromethane	ND	2.1	ND	1.0	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.1	ND	0.30	
75-01-4	Vinyl Chloride	ND	2.2	ND	0.86	
106-99-0	1,3-Butadiene	ND	2.1	ND	0.97	
74-83-9	Bromomethane	ND	2.1	ND	0.53	
75-00-3	Chloroethane	ND	2.1	ND	0.80	
64-17-5	Ethanol	ND	21	ND	11	
75-05-8	Acetonitrile	ND	2.1	ND	1.3	
107-02-8	Acrolein	ND	4.1	ND	1.8	
67-64-1	Acetone	53	22	22	9.4	
75-69-4	Trichlorofluoromethane (CFC 11)	2.6	2.2	0.47	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.7	ND	3.5	
107-13-1	Acrylonitrile	ND	2.1	ND	0.99	
75-35-4	1,1-Dichloroethene	ND	2.2	ND	0.56	
75-09-2	Methylene Chloride	ND	2.2	ND	0.64	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.2	ND	0.70	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	2.2	ND	0.29	
75-15-0	Carbon Disulfide	ND	4.5	ND	1.5	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	ND	0.55	
75-34-3	1,1-Dichloroethane	ND	2.1	ND	0.53	
1634-04-4	Methyl tert-Butyl Ether	ND	2.2	ND	0.62	
108-05-4	Vinyl Acetate	ND	22	ND	6.2	
78-93-3	2-Butanone (MEK)	5.0	4.1	1.7	1.4	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-081718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P1804329-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00271

Date Collected: 8/17/18
 Date Received: 8/21/18
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.25 Final Pressure (psig): 5.87

Container Dilution Factor: 1.65

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	9.8	2.2	2.5	0.55	
141-78-6	Ethyl Acetate	ND	4.5	ND	1.3	
110-54-3	n-Hexane	ND	2.2	ND	0.63	
67-66-3	Chloroform	9.4	2.2	1.9	0.46	
109-99-9	Tetrahydrofuran (THF)	ND	2.2	ND	0.74	
107-06-2	1,2-Dichloroethane	ND	2.2	ND	0.54	
71-55-6	1,1,1-Trichloroethane	ND	2.2	ND	0.41	
71-43-2	Benzene	ND	2.1	ND	0.67	
56-23-5	Carbon Tetrachloride	ND	2.1	ND	0.34	
110-82-7	Cyclohexane	ND	4.1	ND	1.2	
78-87-5	1,2-Dichloropropane	ND	2.2	ND	0.48	
75-27-4	Bromodichloromethane	ND	2.2	ND	0.33	
79-01-6	Trichloroethene	3.7	2.2	0.68	0.41	
123-91-1	1,4-Dioxane	ND	2.2	ND	0.61	
80-62-6	Methyl Methacrylate	ND	4.5	ND	1.1	
142-82-5	n-Heptane	ND	2.2	ND	0.54	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ND	0.51	
108-10-1	4-Methyl-2-pentanone	ND	2.2	ND	0.53	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	ND	0.48	
79-00-5	1,1,2-Trichloroethane	ND	2.2	ND	0.41	
108-88-3	Toluene	12	2.2	3.2	0.58	
591-78-6	2-Hexanone	ND	2.2	ND	0.54	
124-48-1	Dibromochloromethane	ND	2.2	ND	0.26	
106-93-4	1,2-Dibromoethane	ND	2.2	ND	0.29	
123-86-4	n-Butyl Acetate	ND	2.2	ND	0.47	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SYS-081718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P1804329-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00271

Date Collected: 8/17/18
 Date Received: 8/21/18
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.25 Final Pressure (psig): 5.87

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	8.2	2.2	1.8	0.48	
127-18-4	Tetrachloroethene	400	2.2	59	0.32	
108-90-7	Chlorobenzene	ND	2.2	ND	0.47	
100-41-4	Ethylbenzene	56	2.1	13	0.49	
179601-23-1	m,p-Xylenes	160	4.5	36	1.0	
75-25-2	Bromoform	ND	2.2	ND	0.21	
100-42-5	Styrene	ND	2.2	ND	0.51	
95-47-6	o-Xylene	27	2.2	6.3	0.50	
111-84-2	n-Nonane	2.4	2.2	0.45	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	ND	0.32	
98-82-8	Cumene	ND	2.2	ND	0.44	
80-56-8	alpha-Pinene	ND	2.1	ND	0.39	
103-65-1	n-Propylbenzene	ND	2.2	ND	0.45	
622-96-8	4-Ethyltoluene	ND	2.2	ND	0.44	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	ND	0.44	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	ND	0.44	
100-44-7	Benzyl Chloride	ND	4.5	ND	0.88	
541-73-1	1,3-Dichlorobenzene	ND	2.2	ND	0.37	
106-46-7	1,4-Dichlorobenzene	ND	2.2	ND	0.37	
95-50-1	1,2-Dichlorobenzene	ND	2.2	ND	0.37	
5989-27-5	d-Limonene	2.5	2.1	0.45	0.38	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ND	0.22	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	ND	0.29	
91-20-3	Naphthalene	ND	2.1	ND	0.40	
87-68-3	Hexachlorobutadiene	ND	2.2	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P180824-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.53	ND	0.21	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.1	ND	2.7	
75-05-8	Acetonitrile	ND	0.52	ND	0.31	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.4	ND	2.3	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.52	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.54	ND	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.52	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P180824-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.54	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.52	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.54	ND	0.12	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.54	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.54	ND	0.099	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.54	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.54	ND	0.070	
123-86-4	n-Butyl Acetate	ND	0.54	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P180824-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.54	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.54	ND	0.090	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.51	ND	0.092	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	ND	0.054	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	ND	0.071	
91-20-3	Naphthalene	ND	0.51	ND	0.097	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 8/17/18
 Date(s) Received: 8/21/18
 Date(s) Analyzed: 8/24/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P180824-MB	107	106	95	70-130	
Lab Control Sample	P180824-LCS	101	103	95	70-130	
Duplicate Lab Control Sample	P180824-DLCS	100	105	94	70-130	
SYS-081718	P1804329-001	104	100	98	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P180824-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD Limit		
115-07-1	Propene	211	155	159	73	75	54-133	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	168	172	80	82	64-115	2	25	
74-87-3	Chloromethane	211	140	156	66	74	47-140	11	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	172	184	82	87	60-112	6	25	
75-01-4	Vinyl Chloride	214	185	200	86	93	63-127	8	25	
106-99-0	1,3-Butadiene	210	179	194	85	92	57-149	8	25	
74-83-9	Bromomethane	212	154	164	73	77	63-132	5	25	
75-00-3	Chloroethane	214	160	166	75	78	68-129	4	25	
64-17-5	Ethanol	1,020	662	689	65	68	62-131	5	25	
75-05-8	Acetonitrile	206	137	144	67	70	56-136	4	25	
107-02-8	Acrolein	205	171	179	83	87	60-132	5	25	
67-64-1	Acetone	1,060	819	845	77	80	63-124	4	25	
75-69-4	Trichlorofluoromethane (CFC 11)	211	169	171	80	81	65-113	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	311	322	75	78	62-135	4	25	
107-13-1	Acrylonitrile	207	178	184	86	89	68-138	3	25	
75-35-4	1,1-Dichloroethene	218	204	208	94	95	72-118	1	25	
75-09-2	Methylene Chloride	217	161	166	74	76	67-116	3	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	227	236	105	109	61-143	4	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	167	172	77	80	68-113	4	25	
75-15-0	Carbon Disulfide	218	171	174	78	80	68-120	3	25	
156-60-5	trans-1,2-Dichloroethene	214	212	218	99	102	71-125	3	25	
75-34-3	1,1-Dichloroethane	216	187	189	87	88	68-118	1	25	
1634-04-4	Methyl tert-Butyl Ether	214	177	182	83	85	60-123	2	25	
108-05-4	Vinyl Acetate	1,060	1050	1030	99	97	73-135	2	25	
78-93-3	2-Butanone (MEK)	208	182	181	88	87	70-129	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P180824-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	211	185	187	88	89	69-121	1	25	
141-78-6	Ethyl Acetate	436	390	382	89	88	66-140	1	25	
110-54-3	n-Hexane	216	236	225	109	104	61-124	5	25	
67-66-3	Chloroform	217	172	173	79	80	69-113	1	25	
109-99-9	Tetrahydrofuran (THF)	216	201	203	93	94	66-121	1	25	
107-06-2	1,2-Dichloroethane	215	169	169	79	79	62-120	0	25	
71-55-6	1,1,1-Trichloroethane	215	163	170	76	79	65-116	4	25	
71-43-2	Benzene	211	164	166	78	79	66-111	1	25	
56-23-5	Carbon Tetrachloride	212	168	175	79	83	64-122	5	25	
110-82-7	Cyclohexane	416	336	346	81	83	69-115	2	25	
78-87-5	1,2-Dichloropropane	216	166	170	77	79	69-121	3	25	
75-27-4	Bromodichloromethane	215	173	177	80	82	69-123	2	25	
79-01-6	Trichloroethene	213	173	176	81	83	69-112	2	25	
123-91-1	1,4-Dioxane	214	168	175	79	82	74-123	4	25	
80-62-6	Methyl Methacrylate	431	362	372	84	86	75-125	2	25	
142-82-5	n-Heptane	215	179	179	83	83	68-118	0	25	
10061-01-5	cis-1,3-Dichloropropene	214	181	185	85	86	74-129	1	25	
108-10-1	4-Methyl-2-pentanone	209	173	178	83	85	66-138	2	25	
10061-02-6	trans-1,3-Dichloropropene	213	191	198	90	93	75-130	3	25	
79-00-5	1,1,2-Trichloroethane	215	159	163	74	76	73-117	3	25	
108-88-3	Toluene	212	163	169	77	80	66-114	4	25	
591-78-6	2-Hexanone	214	182	190	85	89	58-146	5	25	
124-48-1	Dibromochloromethane	213	186	193	87	91	67-130	4	25	
106-93-4	1,2-Dibromoethane	216	182	189	84	88	70-127	5	25	
123-86-4	n-Butyl Acetate	219	192	200	88	91	62-140	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1804329
 ALS Sample ID: P180824-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Raneem Sahtah
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 8/24/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD Limit		
111-65-9	n-Octane	217	189	193	87	89	65-121	2	25	
127-18-4	Tetrachloroethene	213	172	177	81	83	62-119	2	25	
108-90-7	Chlorobenzene	215	165	170	77	79	66-115	3	25	
100-41-4	Ethylbenzene	212	170	176	80	83	69-117	4	25	
179601-23-1	m,p-Xylenes	426	345	359	81	84	67-117	4	25	
75-25-2	Bromoform	213	186	196	87	92	67-135	6	25	
100-42-5	Styrene	212	181	188	85	89	70-128	5	25	
95-47-6	o-Xylene	214	174	181	81	85	67-118	5	25	
111-84-2	n-Nonane	215	182	188	85	87	61-127	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	214	167	174	78	81	70-125	4	25	
98-82-8	Cumene	214	170	178	79	83	68-116	5	25	
80-56-8	alpha-Pinene	211	204	213	97	101	69-122	4	25	
103-65-1	n-Propylbenzene	218	174	181	80	83	70-118	4	25	
622-96-8	4-Ethyltoluene	214	180	188	84	88	69-124	5	25	
108-67-8	1,3,5-Trimethylbenzene	214	171	178	80	83	65-117	4	25	
95-63-6	1,2,4-Trimethylbenzene	215	184	191	86	89	67-124	3	25	
100-44-7	Benzyl Chloride	217	194	204	89	94	75-142	5	25	
541-73-1	1,3-Dichlorobenzene	216	168	175	78	81	70-124	4	25	
106-46-7	1,4-Dichlorobenzene	216	166	174	77	81	63-124	5	25	
95-50-1	1,2-Dichlorobenzene	216	174	182	81	84	66-125	4	25	
5989-27-5	d-Limonene	211	198	207	94	98	64-135	4	25	
96-12-8	1,2-Dibromo-3-chloropropane	209	177	186	85	89	73-136	5	25	
120-82-1	1,2,4-Trichlorobenzene	214	170	178	79	83	70-141	5	25	
91-20-3	Naphthalene	203	147	154	72	76	71-146	5	25	
87-68-3	Hexachlorobutadiene	209	159	166	76	79	63-126	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Method Path : I:\MS08\Methods\
Method File : R8082218.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Aug 22 11:13:29 2018
Response Via : Initial Calibration

Calibration Files

0.1 =08211809.D 0.2 =08211810.D 0.5 =08211811.D 1.0 =08211812.D 5.0 =08211813.D 25 =08211814.D 50 =08211815.D
100 =08211816.D

Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
-----ISTD-----										
1) IR Bromochloromethane...										
2) T Propene	2.059	1.874	1.700	1.801	1.510	1.326	1.289	1.306	1.608	18.23
3) T Dichlorodifluo...		2.948	2.840	2.698	2.281	1.994	1.867	1.760	2.341	20.86
4) T Chloromethane	2.683	2.640	2.411	2.526	2.169	2.175	2.246	1.955	2.351	10.91
5) T 1,2-Dichloro-1...		1.653	1.507	1.480	1.172	1.087	1.038	0.967	1.272	21.18
6) T Vinyl Chloride	2.184	2.159	2.078	2.010	1.654	1.409	1.462	1.497	1.807	18.45
7) T 1,3-Butadiene	1.903	1.751	1.676	1.661	1.367	1.331	1.324	1.306	1.540	15.22
8) T Bromomethane	1.420	1.338	1.182	1.234	1.017	0.976	0.981	0.986	1.142	15.51
9) T Chloroethane		1.255	1.206	1.212	0.959	0.929	0.899	0.887	1.050	15.79
10) T Ethanol	1.625	1.359	1.272	1.262	1.064	1.392	1.300	1.139	1.301	13.03
11) T Acetonitrile	3.836	3.161	3.146	3.055	2.724	3.020	3.057	2.762	3.095	11.01
12) T Acrolein	0.848	0.843	0.823	0.832	0.777	0.875	0.863	0.890	0.844	4.15
13) T Acetone	1.563	1.335	1.139	1.095	0.933	0.978	0.997	0.997	1.130	19.16
14) T Trichlorofluor...	2.466	2.438	2.203	2.027	1.802	1.650	1.630	1.603	1.977	18.16
15) T 2-Propanol (Is...	4.662	4.069	3.910	4.088	3.656	4.419	4.109	3.573	4.061	8.92
16) T Acrylonitrile	1.513	1.743	1.869	1.954	1.643	1.786	1.730	1.676	1.739	7.83
17) T 1,1-Dichloroet...	1.268	1.185	1.109	1.008	0.950	0.771	0.881	0.999	1.021	15.83
18) T 2-Methyl-2-Pro...	3.963	3.740	3.558	3.780	3.477	4.147	3.901	3.225	3.724	7.91
19) T Methylene Chlo...	1.747	1.457	1.372	1.306	1.216	1.233	1.258	1.256	1.356	13.08
20) T 3-Chloro-1-pro...	1.909	1.888	1.699	1.696	1.410	1.335	1.357	1.500	1.599	14.43
21) T Trichlorotrifl...	1.358	1.337	1.242	1.202	1.035	1.035	1.024	1.017	1.156	12.61
22) T Carbon Disulfide		6.839	5.356	4.938	4.036	3.312	3.607	3.857	4.564	27.15
23) T trans-1,2-Dich...	1.795	1.739	1.651	1.633	1.347	1.312	1.309	1.382	1.521	13.40
24) T 1,1-Dichloroet...	2.906	2.555	2.244	2.268	1.730	1.698	1.605	1.554	2.070	24.08
25) T Methyl tert-Bu...	4.542	4.214	3.888	4.051	3.593	3.874	3.723	3.533	3.927	8.55
26) T Vinyl Acetate	0.312	0.331	0.349	0.376	0.319	0.341	0.325	0.294	0.331	7.53
27) T 2-Butanone (MEK)	0.874	0.921	0.952	1.033	0.843	0.907	0.832	0.763	0.891	9.25
28) T cis-1,2-Dichlo...	2.113	1.905	1.782	1.808	1.430	1.487	1.410	1.344	1.660	16.84
29) T Diisopropyl Ether	1.610	1.445	1.372	1.389	1.171	1.271	1.221	1.141	1.327	11.84
30) T Ethyl Acetate	0.467	0.480	0.472	0.520	0.429	0.476	0.453	0.408	0.463	7.33
31) T n-Hexane		2.153	2.031	1.436	1.342	1.257	1.167	1.167	1.564	26.85
32) T Chloroform	2.836	2.624	2.267	2.235	1.821	1.901	1.762	1.610	2.132	20.42
33) S 1,2-Dichloroet...	1.603	1.609	1.607	1.646	1.490	1.552	1.486	1.389	1.548	5.59
34) T Tetrahydrofura...	0.556	0.858	0.855	0.913	0.746	0.798	0.744	0.695	0.771	14.62
35) T Ethyl tert-But...	1.772	1.698	1.669	1.640	1.472	1.620	1.575	1.504	1.619	6.16
36) T 1,2-Dichloroet...	2.126	2.071	1.846	1.884	1.513	1.567	1.434	1.288	1.716	17.98
-----ISTD-----										
37) IR 1,4-Difluorobenzen...										
38) T 1,1,1-Trichlor...	0.549	0.501	0.441	0.435	0.427	0.434	0.440	0.446	0.459	9.37
39) T Isopropyl Acetate	0.204	0.201	0.190	0.200	0.196	0.214	0.214	0.211	0.204	4.19
40) T 1-Butanol	0.351	0.327	0.334	0.320	0.360	0.487	0.496	0.480	0.394	19.84
41) T Benzene	1.567	1.401	1.262	1.249	1.097	1.074	1.080	1.088	1.227	14.73
42) T Carbon Tetrach...	0.455	0.419	0.394	0.381	0.379	0.385	0.390	0.399	0.400	6.34

Method Path : I:\MS08\Methods\
 Method File : R8082218.M

Title	EPA TO-15 per SOP	VOA-TO15	(CASS TO-15/GC-MS)	ISTD	Response Factor					
43) T Cyclohexane	0.617	0.555	0.512	0.499	0.501	0.511	0.533	0.549	0.535	7.37
44) T tert-Amyl Meth...	0.951	0.875	0.823	0.807	0.854	0.908	0.937	0.966	0.890	6.69
45) T 1,2-Dichloropr...	0.365	0.342	0.306	0.308	0.287	0.293	0.286	0.286	0.309	9.44
46) T Bromodichlorom...	0.440	0.406	0.380	0.392	0.379	0.406	0.402	0.396	0.400	4.84
47) T Trichloroethene	0.364	0.355	0.308	0.322	0.297	0.297	0.296	0.301	0.318	8.62
48) T 1,4-Dioxane	0.266	0.254	0.244	0.259	0.263	0.288	0.287	0.294	0.269	6.78
49) T 2,2,4-Trimethy...	1.644	1.515	1.329	1.305	1.292	1.318	1.380	1.431	1.402	8.79
50) T Methyl Methacr...	0.111	0.119	0.122	0.127	0.131	0.141	0.141	0.141	0.129	8.94
51) T n-Heptane	0.370	0.350	0.317	0.315	0.283	0.271	0.267	0.267	0.305	13.00
52) T cis-1,3-Dichlo...	0.450	0.452	0.418	0.451	0.470	0.521	0.518	0.515	0.474	8.20
53) T 4-Methyl-2-pen...	0.300	0.275	0.279	0.291	0.305	0.342	0.339	0.332	0.308	8.68
54) T trans-1,3-Dich...	0.315	0.321	0.341	0.379	0.435	0.500	0.498	0.490	0.410	19.67
55) T 1,1,2-Trichlor...	0.339	0.315	0.300	0.307	0.294	0.308	0.304	0.297	0.308	4.60
56) IR Chlorobenzene-d5	(...)	-----	ISTD	-----						
57) S Toluene-d8 (SS2)	2.391	2.354	2.333	2.318	2.235	2.135	2.145	2.153	2.258	4.60
58) T Toluene	3.543	3.095	2.712	2.674	2.332	2.241	2.202	2.176	2.622	18.73
59) T 2-Hexanone	1.496	1.512	1.487	1.470	1.451	1.509	1.479	1.434	1.480	1.84
60) T Dibromochlorom...	0.743	0.666	0.632	0.653	0.614	0.634	0.636	0.634	0.651	6.14
61) T 1,2-Dibromoethane	0.666	0.692	0.643	0.647	0.604	0.612	0.603	0.598	0.633	5.42
62) T n-Butyl Acetate	1.751	1.557	1.526	1.590	1.594	1.646	1.609	1.569	1.605	4.29
63) T n-Octane	0.591	0.624	0.527	0.557	0.501	0.488	0.489	0.497	0.534	9.62
64) T Tetrachloroethene	0.845	0.825	0.728	0.724	0.629	0.615	0.611	0.621	0.700	13.71
65) T Chlorobenzene	2.371	2.046	1.771	1.765	1.587	1.579	1.572	1.552	1.780	16.35
66) T Ethylbenzene	3.707	3.190	2.925	2.997	2.854	2.830	2.814	2.741	3.007	10.47
67) T m- & p-Xylenes	2.861	2.479	2.312	2.324	2.172	2.246	2.254	2.178	2.353	9.65
68) T Bromoform	0.562	0.504	0.519	0.538	0.546	0.596	0.593	0.592	0.556	6.39
69) T Styrene	1.917	1.714	1.646	1.726	1.756	1.866	1.869	1.823	1.790	5.22
70) T o-Xylene	2.845	2.485	2.286	2.363	2.229	2.301	2.306	2.241	2.382	8.55
71) T n-Nonane	1.593	1.358	1.349	1.377	1.316	1.332	1.323	1.276	1.366	7.09
72) T 1,1,2,2-Tetrac...	1.304	1.211	1.103	1.136	1.076	1.126	1.135	1.117	1.151	6.34
73) S Bromofluoroben...	0.799	0.809	0.818	0.822	0.865	0.876	0.880	0.869	0.842	3.95
74) T Cumene	3.968	3.351	2.967	3.071	2.886	2.934	2.942	2.813	3.116	12.21
75) T alpha-Pinene	1.515	1.366	1.311	1.300	1.381	1.310	1.335	1.355	1.359	5.09
76) T n-Propylbenzene	4.337	3.770	3.521	3.616	3.425	3.519	3.465	3.276	3.616	8.97
77) T 3-Ethyltoluene	3.732	3.007	2.850	2.973	2.843	3.141	3.091	3.050	3.086	9.12
78) T 4-Ethyltoluene	3.378	3.096	2.818	2.955	2.771	2.723	2.787	2.530	2.882	9.01
79) T 1,3,5-Trimethy...	3.040	2.626	2.399	2.539	2.404	2.490	2.513	2.411	2.553	8.29
80) T alpha-Methylst...	1.337	1.176	1.220	1.206	1.228	1.416	1.436	1.388	1.301	8.05
81) T 2-Ethyltoluene	3.131	2.927	3.026	2.847	2.960	2.960	2.957	2.817	2.952	3.59
82) T 1,2,4-Trimethy...	2.973	2.585	2.419	2.499	2.455	2.739	2.743	2.410	2.603	7.67
83) T n-Decane	0.083	0.049	0.056	0.056	0.056	0.064	0.065	0.063	0.062	16.96
84) T Benzyl Chloride	1.870	1.585	1.435	1.469	1.406	1.484	1.505	1.420	1.522	26.79
85) T 1,3-Dichlorobe...	1.886	1.561	1.426	1.472	1.390	1.482	1.472	1.432	1.515	9.97
86) T 1,4-Dichlorobe...	4.063	3.561	3.323	3.416	3.251	3.397	3.376	3.152	3.442	10.43
87) T sec-Butylbenzene	3.761	3.395	3.118	3.261	3.138	3.524	3.389	2.766	3.294	8.08
88) T 4-Isopropyltol...	2.920	2.619	2.443	2.575	2.501	2.822	2.827	2.455	2.645	9.07
89) T 1,2,3-Trimethy...	1.753	1.448	1.389	1.411	1.345	1.472	1.476	1.323	1.452	7.05
90) T 1,2-Dichlorobe...	0.982	0.895	0.922	0.909	0.994	1.165	1.203	1.105	1.022	9.23
91) T d-Limonene	0.520	0.459	0.470	0.490	0.511	0.561	0.559	0.553	0.516	11.78
92) T 1,2-Dibromo-3-...	1.147	0.954	1.037	1.303	1.313	1.532	1.560	1.489	1.292	7.79
93) T n-Undecane	1.139	0.946	0.890	1.003	0.973	1.142	1.160	1.123	1.047	17.78
94) T 1,2,4-Trichlor...										10.10

Method Path : I:\MS08\Methods\
 Method File : R8082218.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95) T	Naphthalene	4.725	3.995	4.002	3.251	3.307	4.141	4.126	3.613	3.895	12.52
96) T	n-Dodecane			1.076	1.159	1.704	1.741	1.741	1.531	1.442	21.35
97) T	Hexachlorobuta...	0.815	0.708	0.662	0.665	0.640	0.682	0.698	0.691	0.695	7.64
98) T	Cyclohexanone	1.124	1.000	0.962	0.963	0.986	1.072	1.058	1.033	1.025	5.60
99) T	tert-Butylbenzene	3.084	2.664	2.437	2.535	2.431	2.690	2.630	2.243	2.589	9.61
100) T	n-Butylbenzene	3.171	2.706	2.565	2.687	2.632	2.798	2.765	2.582	2.738	7.05

(#) = Out of Range

Data File : I:\MS08\Data\2018 08\23\08241802.D
 Acq On : 24 Aug 2018 4:04
 Sample : CCV R8082318 5ng
 Misc : S31-08091802/S31-08011811 (8/30)

Vial: 16
 Operator: RS
 Inst : MS08

RS 8/24/18

Quant Time: Aug 24 08:09:11 2018
 Quant Method : I:\MS08\Methods\R8082218.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Aug 22 11:13:29 2018
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	123	-0.03
2 T	Propene	1.608	1.492	7.2	122	0.00
3 T	Dichlorodifluoromethane (CF	2.341	2.381	-1.7	129	0.00
4 T	Chloromethane	2.351	2.226	5.3	127	-0.01
5 T	1,2-Dichloro-1,1,2,2-tetra	1.272	1.363	-7.2	144	0.00
6 T	Vinyl Chloride	1.807	2.073	-14.7	155	-0.02
7 T	1,3-Butadiene	1.540	1.676	-8.8	151	-0.02
8 T	Bromomethane	1.142	1.111	2.7	135	-0.02
9 T	Chloroethane	1.050	1.010	3.8	130	-0.02
10 T	Ethanol	1.301	1.076	17.3	125	-0.11
11 T	Acetonitrile	3.095	2.632	15.0	119	-0.06
12 T	Acrolein	0.844	0.905	-7.2	144	-0.04
13 T	Acetone	1.130	1.066	5.7	141	-0.05
14 T	Trichlorofluoromethane	1.977	1.924	2.7	132	-0.02
15 T	2-Propanol (Isopropanol)	4.061	3.789	6.7	128	-0.08
16 T	Acrylonitrile	1.739	1.858	-6.8	140	-0.04
17 T	1,1-Dichloroethene	1.021	1.217	-19.2	158	-0.02
18 T	2-Methyl-2-Propanol (tert-B	3.724	3.536	5.0	126	-0.07
19 T	Methylene Chloride	1.356	1.276	5.9	130	-0.03
20 T	3-Chloro-1-propene (Allyl C	1.599	2.010	-25.7	176	-0.03
21 T	Trichlorotrifluoroethane	1.156	1.142	1.2	136	-0.01
22 T	Carbon Disulfide	4.564	4.536	0.6	139	-0.02
23 T	trans-1,2-Dichloroethene	1.521	1.850	-21.6	170	-0.02
24 T	1,1-Dichloroethane	2.070	2.214	-7.0	158	-0.02
25 T	Methyl tert-Butyl Ether	3.927	3.931	-0.1	135	0.00
26 T	Vinyl Acetate	0.331	0.375	-13.3	145	-0.03
27 T	2-Butanone (MEK)	0.891	0.959	-7.6	141	-0.02
28 T	cis-1,2-Dichloroethene	1.660	1.785	-7.5	154	-0.02
29 T	Diisopropyl Ether	1.327	1.335	-0.6	141	-0.02
30 T	Ethyl Acetate	0.463	0.477	-3.0	137	-0.02
31 T	n-Hexane	1.564	1.969	-25.9	169	-0.01
32 T	Chloroform	2.132	2.098	1.6	142	-0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.548	1.537	0.7	127	-0.02
34 T	Tetrahydrofuran (THF)	0.771	0.890	-15.4	147	-0.01
35 T	Ethyl tert-Butyl Ether	1.619	1.651	-2.0	138	-0.01
36 T	1,2-Dichloroethane	1.716	1.686	1.7	138	-0.02
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	128	-0.02
38 T	1,1,1-Trichloroethane	0.459	0.438	4.6	131	-0.02
39 T	Isopropyl Acetate	0.204	0.207	-1.5	135	-0.01
40 T	1-Butanol	0.394	0.400	-1.5	142	-0.05
41 T	Benzene	1.227	1.193	2.8	139	-0.01
42 T	Carbon Tetrachloride	0.400	0.390	2.5	132	-0.02
43 T	Cyclohexane	0.535	0.511	4.5	131	-0.01
44 T	tert-Amyl Methyl Ether	0.890	0.892	-0.2	134	-0.01
45 T	1,2-Dichloropropane	0.309	0.296	4.2	132	-0.01
46 T	Bromodichloromethane	0.400	0.389	2.8	131	-0.01
47 T	Trichloroethene	0.318	0.317	0.3	136	-0.01
48 T	1,4-Dioxane	0.269	0.267	0.7	130	-0.01
49 T	2,2,4-Trimethylpentane (Iso	1.402	1.402	0.0	139	-0.01
50 T	Methyl Methacrylate	0.129	0.133	-3.1	129	-0.01
51 T	n-Heptane	0.305	0.312	-2.3	141	-0.01
52 T	cis-1,3-Dichloropropene	0.474	0.484	-2.1	132	-0.01
53 T	4-Methyl-2-pentanone	0.308	0.315	-2.3	132	0.00
54 T	trans-1,3-Dichloropropene	0.410	0.439	-7.1	129	0.00
55 T	1,1,2-Trichloroethane	0.308	0.284	7.8	124	-0.01

Data File : I:\MS08\Data\2018 08\23\08241802.D
 Acq On : 24 Aug 2018 4:04
 Sample : CCV R8082318 5ng
 Misc : S31-08091802/S31-08011811 (8/30)

Vial: 16
 Operator: RS
 Inst : MS08

Quant Time: Aug 24 08:09:11 2018
 Quant Method : I:\MS08\Methods\R8082218.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Aug 22 11:13:29 2018
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
56 IR Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	116	0.00
57 S Toluene-d8 (SS2)	2.258	2.330	-3.2	121	0.00
58 T Toluene	2.622	2.566	2.1	128	0.00
59 T 2-Hexanone	1.480	1.587	-7.2	127	-0.01
60 T Dibromochloromethane	0.651	0.669	-2.8	127	-0.01
61 T 1,2-Dibromoethane	0.633	0.664	-4.9	128	0.00
62 T n-Butyl Acetate	1.605	1.707	-6.4	125	0.00
63 T n-Octane	0.534	0.558	-4.5	129	-0.01
64 T Tetrachloroethene	0.700	0.701	-0.1	130	0.00
65 T Chlorobenzene	1.780	1.704	4.3	125	0.00
66 T Ethylbenzene	3.007	3.047	-1.3	124	0.00
67 T m- & p-Xylenes	2.353	2.289	2.7	123	-0.02
68 T Bromoform	0.556	0.578	-4.0	123	0.00
69 T Styrene	1.790	1.859	-3.9	123	0.00
70 T o-Xylene	2.382	2.349	1.4	123	-0.01
71 T n-Nonane	1.366	1.386	-1.5	123	-0.01
72 T 1,1,2,2-Tetrachloroethane	1.151	1.098	4.6	119	0.00
73 S Bromofluorobenzene (SS3)	0.842	0.824	2.1	111	0.00
74 T Cumene	3.116	3.028	2.8	122	0.00
75 T alpha-Pinene	1.359	1.514	-11.4	127	0.00
76 T n-Propylbenzene	3.616	3.570	1.3	121	0.00
77 T 3-Ethyltoluene	3.086	3.037	1.6	124	0.00
78 T 4-Ethyltoluene	2.882	2.808	2.6	118	-0.01
79 T 1,3,5-Trimethylbenzene	2.553	2.482	2.8	120	0.00
80 T alpha-Methylstyrene	1.301	1.358	-4.4	129	-0.01
81 T 2-Ethyltoluene	2.952	2.934	0.6	120	-0.01
82 T 1,2,4-Trimethylbenzene	2.603	2.548	2.1	121	-0.01
83 T n-Decane	0.062	0.062	0.0	128	-0.01
84 T Benzyl Chloride	1.994	1.932	3.1	133	-0.02
85 T 1,3-Dichlorobenzene	1.522	1.465	3.7	121	-0.01
86 T 1,4-Dichlorobenzene	1.515	1.451	4.2	121	-0.01
87 T sec-Butylbenzene	3.442	3.376	1.9	121	-0.01
88 T 4-Isopropyltoluene (p-Cymen)	3.294	3.316	-0.7	123	0.00
89 T 1,2,3-Trimethylbenzene	2.645	2.595	1.9	121	-0.01
90 T 1,2-Dichlorobenzene	1.452	1.386	4.5	120	0.00
91 T d-Limonene	1.022	1.072	-4.9	125	-0.01
92 T 1,2-Dibromo-3-Chloropropane	0.516	0.533	-3.3	121	0.00
93 T n-Undecane	1.292	1.496	-15.8	132	0.00
94 T 1,2,4-Trichlorobenzene	1.047	1.086	-3.7	130	0.00
95 T Naphthalene	3.895	3.773	3.1	133	0.00
96 T n-Dodecane	1.442	1.563	-8.4	157	0.00
97 T Hexachlorobutadiene	0.695	0.659	5.2	120	0.00
98 T Cyclohexanone	1.025	1.056	-3.0	125	-0.02
99 T tert-Butylbenzene	2.589	2.542	1.8	122	-0.01
100 T n-Butylbenzene	2.738	2.731	0.3	121	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

MEMORANDUM

TO: Project File **DATE:** September 7, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: September 7, 2018 Air Sample
LAB: ALS Environmental P1804329

One (1) soil vapor extraction sample was collected on August 17, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1804329.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa Canister™ canister (1Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample

was collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by Method TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery and relative percent differences (RPDs) for all control compounds met laboratory control limit criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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www.alsglobal.com

LABORATORY REPORT

October 15, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.0007

Dear Matt:

Enclosed are the results of the sample submitted to our laboratory on October 1, 2018. For your reference, these analyses have been assigned our service request number P1805158.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 4:07 pm, 10/15/18

Kate Kaneko
Laboratory Director



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Simi Valley, CA 93065
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F: +1 805 526 7270
www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.0007

Service Request No: P1805158

CASE NARRATIVE

The sample was received intact under chain of custody on October 1, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413- 18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA01627201 8-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.0007

Service Request: P1805158

Date Received: 10/1/2018
Time Received: 09:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-092718	P1805158-001	Air	9/27/2018	11:30	1SC01357	-1.89	5.34	X



Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Company Name & Address (Reporting Information) PRES ENVIRONMENTAL INC 4TH AVE STE 1350 BATTLE CREEK WA 98106 Project Manager: <u>Matt Dahn</u> Phone: <u>206-529-3960</u> Fax: <u>206-529-3985</u> Email Address for Result Reporting: <u>M.Dahn@presenv.com</u>		Project Name: <u>MVSC</u> Project Number: <u>B58.001.01.007</u> P.O. # / Billing Information:		Requested Turnaround Time in Business Days (Surcharges) please circle: 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard		ALS Project No: <u>P18 05158</u>	
Project Requirements (MRLs, QAPP)		ALS Contact:		Analysis Method: <u>SL RL</u>		Comments e.g. Actual Preservative or specific instructions	
Sampler (Print & Sign) <u>Kirsten Sprystead</u>		Flow Controller ID (Bar code # - FC #) <u>Aug03394</u>		Canister Start Pressure "Hg <u>30</u>		Canister End Pressure "Hg/psig <u>5</u>	
Canister ID (Bar code # - AC, SC, etc.) <u>SC0357</u>		Sample Volume <u>12</u>		Canister ID (Bar code # - FC #) <u>Aug03394</u>		Canister Start Pressure "Hg <u>30</u>	
Client Sample ID <u>SYS-092718</u>		Date Collected <u>9-27-18</u>		Time Collected <u>1130</u>		Chain of Custody Seal: (Circle) INTACT <input checked="" type="checkbox"/> BROKEN <input type="checkbox"/> ABSENT <input type="checkbox"/>	
Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) _____ Tier IV (Date Validation Package) 10% Surcharge _____		EDD required <input checked="" type="checkbox"/> Yes / No Type: <u>EM</u> Units:		Received by: (Signature) <u>Jan Gumber</u>		Date: <u>9-27-18</u> Time: <u>1200</u>	
Relinquished by: (Signature) <u>[Signature]</u>		Date: _____ Time: _____		Received by: (Signature) <u>[Signature]</u>		Date: <u>9-27-18</u> Time: <u>0930</u>	
Relinquished by: (Signature) <u>[Signature]</u>		Date: _____ Time: _____		Received by: (Signature) <u>[Signature]</u>		Date: _____ Time: _____	

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental Work order: P1805158
 Project: Manhattan Village Shopping Center / 1358.001.010007
 Sample(s) received on: 10/1/18 Date opened: 10/1/18 by: AARON GONZALEZ

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1805158-001.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-092718
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P1805158-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01357

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.89 Final Pressure (psig): 5.34

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	2.0	ND	1.2	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.1	2.0	0.83	0.41	
74-87-3	Chloromethane	ND	2.0	ND	0.94	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.0	ND	0.28	
75-01-4	Vinyl Chloride	ND	2.1	ND	0.81	
106-99-0	1,3-Butadiene	ND	2.0	ND	0.92	
74-83-9	Bromomethane	ND	2.0	ND	0.50	
75-00-3	Chloroethane	ND	2.0	ND	0.75	
64-17-5	Ethanol	ND	20	ND	11	
75-05-8	Acetonitrile	ND	2.0	ND	1.2	
107-02-8	Acrolein	ND	3.9	ND	1.7	
67-64-1	Acetone	ND	21	ND	8.9	
75-69-4	Trichlorofluoromethane (CFC 11)	3.2	2.1	0.56	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.2	ND	3.3	
107-13-1	Acrylonitrile	ND	2.0	ND	0.93	
75-35-4	1,1-Dichloroethene	ND	2.1	ND	0.53	
75-09-2	Methylene Chloride	ND	2.1	ND	0.61	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.1	ND	0.66	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	2.1	ND	0.27	
75-15-0	Carbon Disulfide	ND	4.3	ND	1.4	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ND	0.52	
75-34-3	1,1-Dichloroethane	ND	2.0	ND	0.50	
1634-04-4	Methyl tert-Butyl Ether	ND	2.1	ND	0.58	
108-05-4	Vinyl Acetate	ND	21	ND	5.9	
78-93-3	2-Butanone (MEK)	ND	3.9	ND	1.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-092718
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P1805158-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01357

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.89 Final Pressure (psig): 5.34

Container Dilution Factor: 1.56

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	2.3	2.1	0.58	0.52	
141-78-6	Ethyl Acetate	ND	4.3	ND	1.2	
110-54-3	n-Hexane	ND	2.1	ND	0.60	
67-66-3	Chloroform	6.3	2.1	1.3	0.43	
109-99-9	Tetrahydrofuran (THF)	ND	2.1	ND	0.70	
107-06-2	1,2-Dichloroethane	ND	2.1	ND	0.51	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ND	0.39	
71-43-2	Benzene	ND	2.0	ND	0.64	
56-23-5	Carbon Tetrachloride	ND	2.0	ND	0.32	
110-82-7	Cyclohexane	ND	3.9	ND	1.1	
78-87-5	1,2-Dichloropropane	ND	2.1	ND	0.46	
75-27-4	Bromodichloromethane	ND	2.1	ND	0.31	
79-01-6	Trichloroethene	ND	2.1	ND	0.38	
123-91-1	1,4-Dioxane	ND	2.1	ND	0.57	
80-62-6	Methyl Methacrylate	ND	4.3	ND	1.0	
142-82-5	n-Heptane	2.2	2.1	0.54	0.51	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	ND	0.48	
108-10-1	4-Methyl-2-pentanone	ND	2.1	ND	0.50	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ND	0.46	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ND	0.39	
108-88-3	Toluene	15	2.1	3.9	0.55	
591-78-6	2-Hexanone	ND	2.1	ND	0.51	
124-48-1	Dibromochloromethane	ND	2.1	ND	0.25	
106-93-4	1,2-Dibromoethane	ND	2.1	ND	0.27	
123-86-4	n-Butyl Acetate	ND	2.1	ND	0.44	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SYS-092718
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P1805158-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01357

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.89 Final Pressure (psig): 5.34

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	2.1	ND	0.45	
127-18-4	Tetrachloroethene	210	2.1	31	0.30	
108-90-7	Chlorobenzene	ND	2.1	ND	0.45	
100-41-4	Ethylbenzene	160	2.0	37	0.47	
179601-23-1	m,p-Xylenes	470	4.3	110	0.99	
75-25-2	Bromoform	ND	2.1	ND	0.20	
100-42-5	Styrene	ND	2.1	ND	0.49	
95-47-6	o-Xylene	100	2.1	24	0.48	
111-84-2	n-Nonane	ND	2.1	ND	0.40	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ND	0.30	
98-82-8	Cumene	ND	2.1	ND	0.42	
80-56-8	alpha-Pinene	ND	2.0	ND	0.36	
103-65-1	n-Propylbenzene	2.1	2.1	0.44	0.43	
622-96-8	4-Ethyltoluene	3.7	2.1	0.75	0.42	
108-67-8	1,3,5-Trimethylbenzene	2.4	2.1	0.48	0.42	
95-63-6	1,2,4-Trimethylbenzene	6.0	2.1	1.2	0.42	
100-44-7	Benzyl Chloride	ND	4.3	ND	0.83	
541-73-1	1,3-Dichlorobenzene	ND	2.1	ND	0.35	
106-46-7	1,4-Dichlorobenzene	ND	2.1	ND	0.35	
95-50-1	1,2-Dichlorobenzene	ND	2.1	ND	0.35	
5989-27-5	d-Limonene	2.0	2.0	0.36	0.36	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ND	0.21	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	ND	0.28	
91-20-3	Naphthalene	ND	2.0	ND	0.38	
87-68-3	Hexachlorobutadiene	ND	2.1	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P181013-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.53	ND	0.21	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.1	ND	2.7	
75-05-8	Acetonitrile	ND	0.52	ND	0.31	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.4	ND	2.3	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.52	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.54	ND	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.52	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P181013-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.54	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.52	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.54	ND	0.12	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.54	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.54	ND	0.099	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.54	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.54	ND	0.070	
123-86-4	n-Butyl Acetate	ND	0.54	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P181013-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.54	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.54	ND	0.090	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.51	ND	0.092	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	ND	0.054	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	ND	0.071	
91-20-3	Naphthalene	ND	0.51	ND	0.097	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 9/27/18
 Date(s) Received: 10/1/18
 Date(s) Analyzed: 10/13/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P181013-MB	98	111	117	70-130	
Lab Control Sample	P181013-LCS	96	103	118	70-130	
Duplicate Lab Control Sample	P181013-DLCS	98	110	114	70-130	
SYS-092718	P1805158-001	101	110	118	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P181013-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	211	155	159	73	75	54-133	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	174	166	83	79	64-115	5	25	
74-87-3	Chloromethane	211	157	142	74	67	47-140	10	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	185	172	88	82	60-112	7	25	
75-01-4	Vinyl Chloride	214	175	163	82	76	63-127	8	25	
106-99-0	1,3-Butadiene	210	162	168	77	80	57-149	4	25	
74-83-9	Bromomethane	212	177	168	83	79	63-132	5	25	
75-00-3	Chloroethane	214	165	157	77	73	68-129	5	25	
64-17-5	Ethanol	1,020	864	850	85	83	62-131	2	25	
75-05-8	Acetonitrile	206	166	173	81	84	56-136	4	25	
107-02-8	Acrolein	205	158	164	77	80	60-132	4	25	
67-64-1	Acetone	1,060	834	860	79	81	63-124	3	25	
75-69-4	Trichlorofluoromethane (CFC 11)	211	180	185	85	88	65-113	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	349	361	85	87	62-135	2	25	
107-13-1	Acrylonitrile	207	170	176	82	85	68-138	4	25	
75-35-4	1,1-Dichloroethene	218	177	184	81	84	72-118	4	25	
75-09-2	Methylene Chloride	217	172	178	79	82	67-116	4	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	182	188	84	87	61-143	4	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	187	193	87	89	68-113	2	25	
75-15-0	Carbon Disulfide	218	173	179	79	82	68-120	4	25	
156-60-5	trans-1,2-Dichloroethene	214	172	177	80	83	71-125	4	25	
75-34-3	1,1-Dichloroethane	216	171	175	79	81	68-118	3	25	
1634-04-4	Methyl tert-Butyl Ether	214	181	187	85	87	60-123	2	25	
108-05-4	Vinyl Acetate	1,060	901	916	85	86	73-135	1	25	
78-93-3	2-Butanone (MEK)	208	175	179	84	86	70-129	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P181013-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD Limit		
156-59-2	cis-1,2-Dichloroethene	211	169	172	80	82	69-121	2	25	
141-78-6	Ethyl Acetate	436	362	368	83	84	66-140	1	25	
110-54-3	n-Hexane	216	166	167	77	77	61-124	0	25	
67-66-3	Chloroform	217	179	182	82	84	69-113	2	25	
109-99-9	Tetrahydrofuran (THF)	216	171	174	79	81	66-121	3	25	
107-06-2	1,2-Dichloroethane	215	177	182	82	85	62-120	4	25	
71-55-6	1,1,1-Trichloroethane	215	192	189	89	88	65-116	1	25	
71-43-2	Benzene	211	172	172	82	82	66-111	0	25	
56-23-5	Carbon Tetrachloride	212	185	187	87	88	64-122	1	25	
110-82-7	Cyclohexane	416	352	354	85	85	69-115	0	25	
78-87-5	1,2-Dichloropropane	216	179	181	83	84	69-121	1	25	
75-27-4	Bromodichloromethane	215	194	197	90	92	69-123	2	25	
79-01-6	Trichloroethene	213	190	191	89	90	69-112	1	25	
123-91-1	1,4-Dioxane	214	185	187	86	87	74-123	1	25	
80-62-6	Methyl Methacrylate	431	377	378	87	88	75-125	1	25	
142-82-5	n-Heptane	215	167	174	78	81	68-118	4	25	
10061-01-5	cis-1,3-Dichloropropene	214	175	191	82	89	74-129	8	25	
108-10-1	4-Methyl-2-pentanone	209	165	182	79	87	66-138	10	25	
10061-02-6	trans-1,3-Dichloropropene	213	181	196	85	92	75-130	8	25	
79-00-5	1,1,2-Trichloroethane	215	176	191	82	89	73-117	8	25	
108-88-3	Toluene	212	159	171	75	81	66-114	8	25	
591-78-6	2-Hexanone	214	170	181	79	85	58-146	7	25	
124-48-1	Dibromochloromethane	213	195	205	92	96	67-130	4	25	
106-93-4	1,2-Dibromoethane	216	182	194	84	90	70-127	7	25	
123-86-4	n-Butyl Acetate	219	173	183	79	84	62-140	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.0007

ALS Project ID: P1805158
 ALS Sample ID: P181013-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan/Topacio De Leon
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD Limit		
111-65-9	n-Octane	217	163	171	75	79	65-121	5	25	
127-18-4	Tetrachloroethene	213	187	191	88	90	62-119	2	25	
108-90-7	Chlorobenzene	215	182	184	85	86	66-115	1	25	
100-41-4	Ethylbenzene	212	176	176	83	83	69-117	0	25	
179601-23-1	m,p-Xylenes	426	355	342	83	80	67-117	4	25	
75-25-2	Bromoform	213	215	212	101	100	67-135	1	25	
100-42-5	Styrene	212	191	189	90	89	70-128	1	25	
95-47-6	o-Xylene	214	179	178	84	83	67-118	1	25	
111-84-2	n-Nonane	215	177	176	82	82	61-127	0	25	
79-34-5	1,1,2,2-Tetrachloroethane	214	188	186	88	87	70-125	1	25	
98-82-8	Cumene	214	183	181	86	85	68-116	1	25	
80-56-8	alpha-Pinene	211	185	182	88	86	69-122	2	25	
103-65-1	n-Propylbenzene	218	188	184	86	84	70-118	2	25	
622-96-8	4-Ethyltoluene	214	199	181	93	85	69-124	9	25	
108-67-8	1,3,5-Trimethylbenzene	214	180	178	84	83	65-117	1	25	
95-63-6	1,2,4-Trimethylbenzene	215	187	172	87	80	67-124	8	25	
100-44-7	Benzyl Chloride	217	197	182	91	84	75-142	8	25	
541-73-1	1,3-Dichlorobenzene	216	189	179	88	83	70-124	6	25	
106-46-7	1,4-Dichlorobenzene	216	180	178	83	82	63-124	1	25	
95-50-1	1,2-Dichlorobenzene	216	197	184	91	85	66-125	7	25	
5989-27-5	d-Limonene	211	192	179	91	85	64-135	7	25	
96-12-8	1,2-Dibromo-3-chloropropane	209	209	195	100	93	73-136	7	25	
120-82-1	1,2,4-Trichlorobenzene	214	225	214	105	100	70-141	5	25	
91-20-3	Naphthalene	203	227	219	112	108	71-146	4	25	
87-68-3	Hexachlorobutadiene	209	205	198	98	95	63-126	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** November 7, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: September 27, 2018 Air Sample
LAB: ALS Environmental P1805158

One (1) soil vapor extraction system stack sample was collected on September 27, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1805158.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa Canister™ canister (1Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample

was collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by Method TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery and relative percent differences (RPDs) for all control compounds met laboratory control limit criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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LABORATORY REPORT

October 15, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Matt:

Enclosed are the results of the samples submitted to our laboratory on October 1, 2018. For your reference, these analyses have been assigned our service request number P1805166.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 4:53 pm, 10/15/18

Kate Kaneko
Laboratory Director



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Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1805166

CASE NARRATIVE

The samples were received intact under chain of custody on October 1, 2018 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272018-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
 Project ID: MVSC / 1358.001.01.007

Service Request: P1805166

Date Received: 10/1/2018
 Time Received: 09:30

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SVE-1-092718	P1805166-001	Air	9/27/2018	12:10	SC02225	-2.20	3.68	X
SVE-2-092718	P1805166-002	Air	9/27/2018	12:20	SC02086	-2.30	4.46	X
SVE-3-092718	P1805166-003	Air	9/27/2018	12:30	SC01001	-2.40	3.69	X
SVE-4-092718	P1805166-004	Air	9/27/2018	12:35	SC02099	-1.79	3.68	X
SVE-5-092718	P1805166-005	Air	9/27/2018	12:40	SC02220	-1.84	3.90	X
SVE-6-092718	P1805166-006	Air	9/27/2018	12:45	SC01500	-1.87	3.56	X
SVE-7-092718	P1805166-007	Air	9/27/2018	12:50	SC02206	-2.16	3.72	X
SVE-8-092718	P1805166-008	Air	9/27/2018	12:55	SC01819	-1.64	3.76	X
SVE-9-092718	P1805166-009	Air	9/27/2018	13:00	SC01944	-2.34	3.55	X
SVE-10-092718	P1805166-010	Air	9/27/2018	13:05	SC00868	-2.52	4.23	X
SVE-11A-092718	P1805166-011	Air	9/27/2018	13:10	SC00825	-3.11	3.76	X
SVE-11B-092718	P1805166-012	Air	9/27/2018	13:15	SC01489	-2.72	3.71	X
SVE-12A-092718	P1805166-013	Air	9/27/2018	13:20	SC00803	-2.05	3.66	X
SVE-12B-092718	P1805166-014	Air	9/27/2018	13:25	SC01086	-2.40	3.76	X
SVE-13A-092718	P1805166-015	Air	9/27/2018	00:00	SC01687	-2.29	3.64	X
SVE-13B-092718	P1805166-016	Air	9/27/2018	00:00	SC02203	-2.41	3.59	X
SVE-14-092718	P1805166-017	Air	9/27/2018	00:00	SC01649	-2.88	3.56	X
SVE-15-092718	P1805166-018	Air	9/27/2018	00:00	SC01569	-2.76	3.77	X
SVE-16-092718	P1805166-019	Air	9/27/2018	00:00	SC01825	-2.07	3.65	X
SVE-17-092718	P1805166-020	Air	9/27/2018	00:00	SC01547	-2.77	3.75	X
SVE-18-092718	P1805166-021	Air	9/27/2018	00:00	SC01980	-2.76	3.63	X
SVE-19-092718	P1805166-022	Air	9/27/2018	00:00	SC02217	-1.80	3.68	X



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Air - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P805766

Company Name & Address (Reporting Information) <u>PES ENVIRONMENTAL, INC.</u> <u>1715 E 10th Ave</u> <u>SEATTLE, WA 98161</u>		Project Name <u>MVSL</u>		ALS Contact:				
Project Manager <u>Matt Dahn</u>		Project Number <u>1358.001.01.007</u>		Analysis Method				
Phone <u>206-529-3960</u>		P.O. # / Billing Information <u>1358.001.01.007</u>		10-15				
Email Address for Result Reporting <u>MDahn@pescenv.com</u>		Sampler (Print & Sign) <u>Matt Dahn Springfield</u>		Comments e.g. Actual Preservative or specific instructions				
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume
SVE-1-092718	1	9-27-18	1710	S022075		30	5	6L
SVE-2-092718	2		1720	S022086				
SVE-3-092718	3		1730	S01001				
SVE-4-092718	4		1735	S02099				
SVE-5-092718	5		1740	S02220				
SVE-6-092718	6		1745	S00500				
SVE-7-092718	7		1750	S02206				
SVE-8-092718	8		1755	S00189				
SVE-9-092718	9		1300	S09947				
SVE-10-092718	10		1305	S00868			4	
SVE-11A-092718	11		1310	S00825			5	
SVE-11B-092718	12		1315	S00189				
SVE-12A-092718	13		1320	S00803				
SVE-12B-092718	14		1325	S01086				

Report Tier Levels - please select
 Tier I - Results (Default in not specified)
 Tier II (Results + QC Summaries)
 Tier III (Results + QC & Calibration Summaries)
 Tier IV (Date Validation Package) 10% Surcharge

EDD required YES No
 Type: FIA Units: _____

Chain of Custody Seal (circle)
 INTACT BROKEN ABSENT

Received by: (Signature) _____ Date: _____ Time: _____
 Relinquished by: (Signature) _____ Date: _____ Time: _____

Project Requirements (MRLs, QAPP)
 Cooler / Blank Temperature _____ °C



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Air - Chain of Custody Record & Analytical Service Request

Company Name & Address (Reporting Information) PES ENVIRONMENTAL		Project Name MVSC		ALS Contact: Analysis Method		Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard		ALS-Project No. P1805166	
Project Manager M. Dahl		Project Number 1358.01.01.07		P.O. # / Billing Information		Project Requirements (MRLs, QAPP)		Project Requirements (MRLs, QAPP)	
Email Address for Result Reporting M.Dahl@pesenv.com		Sampler (Print & Sign) Kater Spitzsted		Flow Controller ID (Bar code # - FC #)		Chain of Custody Seal (Circle) INTACT <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/>		Project Requirements (MRLs, QAPP)	
Client Sample ID		Laboratory ID Number		Canister ID (Bar code # - AC, SC, etc.)		Canister Start Pressure "Hg		Canister End Pressure "Hg/psig	
SVE-13A-092718		15		S01604		30		5	
SVE-13B-092718		16		S02003		28		5	
SVE-14-092718		17		S01649		30		5	
SVE-15-092718		18		S01569		29		5	
SVE-16-092718		19		S01825		30		5	
SVE-17-092718		20		S05474		30		5	
SVE-18-092718		21		S01980		30		5	
SVE-19-092718		22		S02205		30		5	
Date Collected		Time Collected		Sample Volume		Date		Time	
9-27-18		15:00		6L		9-27-18		15:00	
Relinquished by: (Signature)		Date		Relinquished by: (Signature)		Date		Relinquished by: (Signature)	
[Signature]		9-27-18		[Signature]		9-27-18		[Signature]	
Relinquished by: (Signature)		Date		Relinquished by: (Signature)		Date		Relinquished by: (Signature)	
[Signature]		9-27-18		[Signature]		9-27-18		[Signature]	

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental

Work order: P1805166

Project: MVSC / 1358.001.01.007

Sample(s) received on: 10/1/18

Date opened: 10/1/18

by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1805166-001.01	6.0 L Source Can					
P1805166-002.01	6.0 L Source Can					
P1805166-003.01	6.0 L Source Can					
P1805166-004.01	6.0 L Source Can					
P1805166-005.01	6.0 L Source Can					
P1805166-006.01	6.0 L Source Can					
P1805166-007.01	6.0 L Source Can					
P1805166-008.01	6.0 L Source Can					
P1805166-009.01	6.0 L Source Can					
P1805166-010.01	6.0 L Source Can					
P1805166-011.01	6.0 L Source Can					
P1805166-012.01	6.0 L Source Can					
P1805166-013.01	6.0 L Source Can					
P1805166-014.01	6.0 L Source Can					
P1805166-015.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SVE-1-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02225

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.20 Final Pressure (psig): 3.68

Container Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.76	ND	0.44	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.76	0.42	0.15	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.78	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.35	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.28	
64-17-5	Ethanol	ND	7.5	ND	4.0	
75-05-8	Acetonitrile	ND	0.76	ND	0.46	
107-02-8	Acrolein	ND	1.5	ND	0.64	
67-64-1	Acetone	ND	7.9	ND	3.3	
75-69-4	Trichlorofluoromethane (CFC 11)	1.6	0.78	0.28	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.1	ND	1.3	
107-13-1	Acrylonitrile	ND	0.76	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.78	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SVE-1-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02225

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.20 Final Pressure (psig): 3.68

Container Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.78	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.45	
110-54-3	n-Hexane	ND	0.79	ND	0.23	
67-66-3	Chloroform	4.9	0.79	1.0	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.78	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.15	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.78	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.78	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.40	
142-82-5	n-Heptane	ND	0.79	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.78	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.15	
108-88-3	Toluene	1.5	0.78	0.40	0.21	
591-78-6	2-Hexanone	ND	0.79	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.79	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-1-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02225

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.20 Final Pressure (psig): 3.68

Container Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	160	7.8	23	1.1	D
108-90-7	Chlorobenzene	ND	0.78	ND	0.17	
100-41-4	Ethylbenzene	29	0.76	6.7	0.18	
179601-23-1	m,p-Xylenes	110	1.6	26	0.37	
75-25-2	Bromoform	ND	0.78	ND	0.075	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	20	0.78	4.7	0.18	
111-84-2	n-Nonane	ND	0.79	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ND	0.11	
98-82-8	Cumene	ND	0.78	ND	0.16	
80-56-8	alpha-Pinene	ND	0.76	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	0.78	0.78	0.16	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.78	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	1.4	0.78	0.28	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
5989-27-5	d-Limonene	ND	0.75	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.76	ND	0.079	
120-82-1	1,2,4-Trichlorobenzene	ND	0.78	ND	0.10	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.78	ND	0.073	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-2-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-002

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02086

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.30 Final Pressure (psig): 4.46

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.81	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.81	0.46	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.81	ND	0.48	
107-02-8	Acrolein	1.7	1.6	0.72	0.68	
67-64-1	Acetone	ND	8.4	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	1.2	0.82	0.21	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.3	ND	1.3	
107-13-1	Acrylonitrile	ND	0.81	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.82	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.2	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-2-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-002

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02086

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.30 Final Pressure (psig): 4.46

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.84	ND	0.24	
67-66-3	Chloroform	1.3	0.84	0.27	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.82	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.42	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.87	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	1.5	0.82	0.39	0.22	
591-78-6	2-Hexanone	ND	0.84	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-2-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-002

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02086

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.30 Final Pressure (psig): 4.46

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	240	8.2	35	1.2	D
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	25	0.81	5.7	0.19	
179601-23-1	m,p-Xylenes	91	1.7	21	0.39	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	17	0.82	4.0	0.19	
111-84-2	n-Nonane	ND	0.84	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	0.81	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	1.2	0.82	0.24	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.81	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.82	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-3-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-003

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01001

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.40 Final Pressure (psig): 3.69

Container Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.78	ND	0.45	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.78	0.42	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.78	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
64-17-5	Ethanol	ND	7.7	ND	4.1	
75-05-8	Acetonitrile	ND	0.78	ND	0.46	
107-02-8	Acrolein	ND	1.5	ND	0.65	
67-64-1	Acetone	ND	8.1	ND	3.4	
75-69-4	Trichlorofluoromethane (CFC 11)	1.1	0.80	0.20	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.2	ND	1.3	
107-13-1	Acrylonitrile	ND	0.78	ND	0.36	
75-35-4	1,1-Dichloroethene	ND	0.81	ND	0.20	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.22	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-3-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-003

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01001

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.40 Final Pressure (psig): 3.69

Container Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	6.2	0.80	1.6	0.20	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.46	
110-54-3	n-Hexane	ND	0.81	ND	0.23	
67-66-3	Chloroform	ND	0.81	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.81	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	5.3	0.80	0.98	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.40	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.84	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	1.5	0.80	0.39	0.21	
591-78-6	2-Hexanone	ND	0.81	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.81	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-3-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-003

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01001

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.40 Final Pressure (psig): 3.69

Container Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	750	8.0	110	1.2	D
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	26	0.78	5.9	0.18	
179601-23-1	m,p-Xylenes	91	1.7	21	0.38	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	18	0.80	4.0	0.18	
111-84-2	n-Nonane	ND	0.81	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.78	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	1.3	0.80	0.27	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
5989-27-5	d-Limonene	ND	0.77	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.78	ND	0.081	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-4-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-004

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02099

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.79 Final Pressure (psig): 3.68

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.5	0.74	0.88	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.74	0.40	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	0.73	0.71	0.19	0.18	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
64-17-5	Ethanol	44	7.2	23	3.8	
75-05-8	Acetonitrile	6.7	0.74	4.0	0.44	
107-02-8	Acrolein	25	1.4	11	0.62	
67-64-1	Acetone	27	7.7	11	3.2	
75-69-4	Trichlorofluoromethane (CFC 11)	0.77	0.75	0.14	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.3	3.0	1.3	1.2	
107-13-1	Acrylonitrile	ND	0.74	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.75	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	140	7.5	40	2.1	
78-93-3	2-Butanone (MEK)	5.7	1.4	1.9	0.48	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-4-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-004

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02099

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.79 Final Pressure (psig): 3.68

Container Dilution Factor: 1.42

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.43	
110-54-3	n-Hexane	ND	0.77	ND	0.22	
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.75	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.4	ND	0.41	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	1.4	0.75	0.39	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.38	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.75	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	1.1	0.75	0.30	0.20	
591-78-6	2-Hexanone	6.0	0.77	1.5	0.19	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.77	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-4-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-004

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02099

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.79 Final Pressure (psig): 3.68

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	130	0.75	18	0.11	
108-90-7	Chlorobenzene	ND	0.75	ND	0.16	
100-41-4	Ethylbenzene	15	0.74	3.5	0.17	
179601-23-1	m,p-Xylenes	50	1.6	12	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	13	0.75	3.0	0.17	
111-84-2	n-Nonane	ND	0.77	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
80-56-8	alpha-Pinene	ND	0.74	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	1.1	0.75	0.23	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
5989-27-5	d-Limonene	ND	0.72	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.74	ND	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	0.75	ND	0.10	
91-20-3	Naphthalene	2.7	0.72	0.51	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-5-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-005

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02220

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.84 Final Pressure (psig): 3.90

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.75	ND	0.44	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.75	0.41	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
64-17-5	Ethanol	ND	7.4	ND	3.9	
75-05-8	Acetonitrile	3.6	0.75	2.2	0.45	
107-02-8	Acrolein	ND	1.5	ND	0.63	
67-64-1	Acetone	ND	7.8	ND	3.3	
75-69-4	Trichlorofluoromethane (CFC 11)	1.1	0.77	0.20	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.0	ND	1.2	
107-13-1	Acrylonitrile	ND	0.75	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.78	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.77	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	2.9	1.6	0.95	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.49	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-5-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-005

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02220

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.84 Final Pressure (psig): 3.90

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	
110-54-3	n-Hexane	ND	0.78	ND	0.22	
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.77	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.78	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.81	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.78	ND	0.14	
108-88-3	Toluene	1.1	0.77	0.28	0.20	
591-78-6	2-Hexanone	ND	0.78	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.78	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.78	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-5-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-005

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02220

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.84 Final Pressure (psig): 3.90

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	270	7.7	40	1.1	D
108-90-7	Chlorobenzene	ND	0.77	ND	0.17	
100-41-4	Ethylbenzene	16	0.75	3.8	0.17	
179601-23-1	m,p-Xylenes	56	1.6	13	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	12	0.77	2.7	0.18	
111-84-2	n-Nonane	ND	0.78	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
80-56-8	alpha-Pinene	ND	0.75	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	0.90	0.77	0.18	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.78	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.78	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
5989-27-5	d-Limonene	ND	0.74	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.75	ND	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	0.77	ND	0.10	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-6-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-006

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01500

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.56

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.74	ND	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.74	0.40	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	1.4	0.75	0.53	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
64-17-5	Ethanol	12	7.2	6.2	3.8	
75-05-8	Acetonitrile	ND	0.74	ND	0.44	
107-02-8	Acrolein	ND	1.4	ND	0.62	
67-64-1	Acetone	ND	7.7	ND	3.2	
75-69-4	Trichlorofluoromethane (CFC 11)	1.1	0.75	0.19	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.0	ND	1.2	
107-13-1	Acrylonitrile	ND	0.74	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.75	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	1.7	1.6	0.56	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-6-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-006

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01500

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.56

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	45	0.75	11	0.19	
141-78-6	Ethyl Acetate	44	1.6	12	0.43	
110-54-3	n-Hexane	ND	0.77	ND	0.22	
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.75	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.4	ND	0.41	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	6.5	0.75	1.2	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.38	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.75	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	3.1	0.75	0.82	0.20	
591-78-6	2-Hexanone	ND	0.77	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.77	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-6-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-006

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01500

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.56

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	950	7.5	140	1.1	D
108-90-7	Chlorobenzene	ND	0.75	ND	0.16	
100-41-4	Ethylbenzene	13	0.74	2.9	0.17	
179601-23-1	m,p-Xylenes	45	1.6	10	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	9.6	0.75	2.2	0.17	
111-84-2	n-Nonane	ND	0.77	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
80-56-8	alpha-Pinene	ND	0.74	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	0.89	0.75	0.18	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
5989-27-5	d-Limonene	ND	0.72	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.74	ND	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	0.75	ND	0.10	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-7-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-007

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02206

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.16 Final Pressure (psig): 3.72

Container Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.76	ND	0.44	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.76	0.42	0.15	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.78	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.76	ND	0.35	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.28	
64-17-5	Ethanol	ND	7.5	ND	4.0	
75-05-8	Acetonitrile	ND	0.76	ND	0.46	
107-02-8	Acrolein	ND	1.5	ND	0.64	
67-64-1	Acetone	ND	7.9	ND	3.3	
75-69-4	Trichlorofluoromethane (CFC 11)	2.9	0.78	0.51	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.1	ND	1.3	
107-13-1	Acrylonitrile	1.6	0.76	0.76	0.35	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.78	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	6.3	1.6	2.0	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.76	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-7-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-007

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02206

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.16 Final Pressure (psig): 3.72

Container Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.78	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.45	
110-54-3	n-Hexane	ND	0.79	ND	0.23	
67-66-3	Chloroform	1.6	0.79	0.33	0.16	
109-99-9	Tetrahydrofuran (THF)	1.2	0.78	0.40	0.26	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.15	
71-43-2	Benzene	ND	0.76	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.76	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.78	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.78	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.40	
142-82-5	n-Heptane	ND	0.79	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.78	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.15	
108-88-3	Toluene	0.88	0.78	0.23	0.21	
591-78-6	2-Hexanone	ND	0.79	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.79	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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Client: PES Environmental
Client Sample ID: SVE-7-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-007

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02206

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.16 Final Pressure (psig): 3.72

Container Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	400	7.8	59	1.1	D
108-90-7	Chlorobenzene	ND	0.78	ND	0.17	
100-41-4	Ethylbenzene	15	0.76	3.5	0.18	
179601-23-1	m,p-Xylenes	53	1.6	12	0.37	
75-25-2	Bromoform	ND	0.78	ND	0.075	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	11	0.78	2.6	0.18	
111-84-2	n-Nonane	ND	0.79	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ND	0.11	
98-82-8	Cumene	ND	0.78	ND	0.16	
80-56-8	alpha-Pinene	ND	0.76	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.78	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	0.93	0.78	0.19	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
5989-27-5	d-Limonene	ND	0.75	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.76	ND	0.079	
120-82-1	1,2,4-Trichlorobenzene	ND	0.78	ND	0.10	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.78	ND	0.073	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-8-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-008

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01819

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.64 Final Pressure (psig): 3.76

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.73	ND	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.7	0.73	0.55	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
64-17-5	Ethanol	27	7.2	14	3.8	
75-05-8	Acetonitrile	ND	0.73	ND	0.44	
107-02-8	Acrolein	ND	1.4	ND	0.62	
67-64-1	Acetone	23	7.6	9.9	3.2	
75-69-4	Trichlorofluoromethane (CFC 11)	2.1	0.75	0.37	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.0	ND	1.2	
107-13-1	Acrylonitrile	0.81	0.73	0.37	0.34	
75-35-4	1,1-Dichloroethene	ND	0.76	ND	0.19	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.75	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	5.1	1.6	1.6	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.76	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	1.6	1.4	0.55	0.48	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-8-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-008

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01819

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.64 Final Pressure (psig): 3.76

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	10	1.6	2.8	0.43	
110-54-3	n-Hexane	ND	0.76	ND	0.22	
67-66-3	Chloroform	ND	0.76	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.75	ND	0.25	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.76	ND	0.14	
71-43-2	Benzene	ND	0.73	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.4	ND	0.41	
78-87-5	1,2-Dichloropropane	ND	0.76	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.38	
142-82-5	n-Heptane	ND	0.76	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.75	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.76	ND	0.14	
108-88-3	Toluene	11	0.75	3.0	0.20	
591-78-6	2-Hexanone	ND	0.76	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.76	ND	0.089	
106-93-4	1,2-Dibromoethane	ND	0.76	ND	0.099	
123-86-4	n-Butyl Acetate	0.93	0.76	0.20	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-8-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-008

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01819

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -1.64 Final Pressure (psig): 3.76

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.76	ND	0.16	
127-18-4	Tetrachloroethene	210	7.5	31	1.1	D
108-90-7	Chlorobenzene	ND	0.75	ND	0.16	
100-41-4	Ethylbenzene	16	0.73	3.6	0.17	
179601-23-1	m,p-Xylenes	55	1.6	13	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.072	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	12	0.75	2.7	0.17	
111-84-2	n-Nonane	ND	0.76	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
80-56-8	alpha-Pinene	ND	0.73	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.76	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	1.0	0.75	0.21	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.76	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.76	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.76	ND	0.13	
5989-27-5	d-Limonene	ND	0.72	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.73	ND	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	0.75	ND	0.10	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-9-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-009

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01944

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.55

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.77	ND	0.45	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.0	0.77	0.60	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.78	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.29	
64-17-5	Ethanol	ND	7.5	ND	4.0	
75-05-8	Acetonitrile	ND	0.77	ND	0.46	
107-02-8	Acrolein	ND	1.5	ND	0.65	
67-64-1	Acetone	ND	8.0	ND	3.4	
75-69-4	Trichlorofluoromethane (CFC 11)	14	0.78	2.4	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.1	ND	1.3	
107-13-1	Acrylonitrile	ND	0.77	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.78	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-9-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-009

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01944

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.55

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.78	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.45	
110-54-3	n-Hexane	ND	0.80	ND	0.23	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.78	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.78	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.78	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.40	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.83	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.78	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	0.97	0.78	0.26	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-9-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-009

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01944

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.55

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	170	7.8	25	1.2	D
108-90-7	Chlorobenzene	ND	0.78	ND	0.17	
100-41-4	Ethylbenzene	17	0.77	4.0	0.18	
179601-23-1	m,p-Xylenes	62	1.6	14	0.37	
75-25-2	Bromoform	ND	0.78	ND	0.076	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	13	0.78	2.9	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ND	0.11	
98-82-8	Cumene	ND	0.78	ND	0.16	
80-56-8	alpha-Pinene	ND	0.77	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.78	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	0.99	0.78	0.20	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	ND	0.75	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.77	ND	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	0.78	ND	0.11	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.78	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-10-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-010

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00868

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.52 Final Pressure (psig): 4.23

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.81	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	31	0.81	6.3	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.81	ND	0.48	
107-02-8	Acrolein	ND	1.6	ND	0.68	
67-64-1	Acetone	ND	8.4	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	23	0.82	4.1	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.3	ND	1.3	
107-13-1	Acrylonitrile	ND	0.81	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.82	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.2	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-10-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-010

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00868

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.52 Final Pressure (psig): 4.23

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.84	ND	0.24	
67-66-3	Chloroform	3.8	0.84	0.78	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.82	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.42	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.87	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.84	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-10-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-010

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00868

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.52 Final Pressure (psig): 4.23

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	270	8.2	40	1.2	D
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	7.3	0.81	1.7	0.19	
179601-23-1	m,p-Xylenes	24	1.7	5.6	0.39	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	5.4	0.82	1.2	0.19	
111-84-2	n-Nonane	ND	0.84	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	0.81	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.81	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.82	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-11A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-011

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00825

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.11 Final Pressure (psig): 3.76

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.83	ND	0.48	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	0.83	0.44	0.17	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.81	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.83	ND	0.37	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.81	ND	0.31	
64-17-5	Ethanol	ND	8.1	ND	4.3	
75-05-8	Acetonitrile	ND	0.83	ND	0.49	
107-02-8	Acrolein	ND	1.6	ND	0.69	
67-64-1	Acetone	ND	8.6	ND	3.6	
75-69-4	Trichlorofluoromethane (CFC 11)	1.2	0.84	0.21	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.3	ND	1.4	
107-13-1	Acrylonitrile	ND	0.83	ND	0.38	
75-35-4	1,1-Dichloroethene	ND	0.86	ND	0.22	
75-09-2	Methylene Chloride	ND	0.86	ND	0.25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.84	ND	0.27	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	2.5	1.7	0.79	0.56	
156-60-5	trans-1,2-Dichloroethene	ND	0.84	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.83	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.86	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.4	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.54	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-11A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-011

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00825

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.11 Final Pressure (psig): 3.76

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.84	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.49	
110-54-3	n-Hexane	ND	0.86	ND	0.24	
67-66-3	Chloroform	ND	0.86	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	0.84	ND	0.29	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.86	ND	0.16	
71-43-2	Benzene	ND	0.83	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.83	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.86	ND	0.19	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.13	
79-01-6	Trichloroethene	ND	0.84	ND	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.43	
142-82-5	n-Heptane	ND	0.86	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.89	ND	0.20	
108-10-1	4-Methyl-2-pentanone	ND	0.84	ND	0.21	
10061-02-6	trans-1,3-Dichloropropene	ND	0.84	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.86	ND	0.16	
108-88-3	Toluene	ND	0.84	ND	0.22	
591-78-6	2-Hexanone	ND	0.86	ND	0.21	
124-48-1	Dibromochloromethane	ND	0.86	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.86	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.86	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-11A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-011

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00825

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.11 Final Pressure (psig): 3.76

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.86	ND	0.18	
127-18-4	Tetrachloroethene	100	0.84	15	0.12	
108-90-7	Chlorobenzene	ND	0.84	ND	0.18	
100-41-4	Ethylbenzene	14	0.83	3.2	0.19	
179601-23-1	m,p-Xylenes	49	1.7	11	0.40	
75-25-2	Bromoform	ND	0.84	ND	0.082	
100-42-5	Styrene	ND	0.84	ND	0.20	
95-47-6	o-Xylene	10	0.84	2.3	0.19	
111-84-2	n-Nonane	ND	0.86	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
80-56-8	alpha-Pinene	ND	0.83	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.86	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.86	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.86	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.86	ND	0.14	
5989-27-5	d-Limonene	ND	0.81	ND	0.15	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.83	ND	0.086	
120-82-1	1,2,4-Trichlorobenzene	ND	0.84	ND	0.11	
91-20-3	Naphthalene	ND	0.81	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.079	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-11B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-012

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01489

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.71

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	0.80	0.44	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.48	
107-02-8	Acrolein	ND	1.5	ND	0.67	
67-64-1	Acetone	ND	8.3	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	1.3	0.82	0.23	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.2	ND	1.3	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.83	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.82	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.2	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-11B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-012

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01489

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.71

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.83	ND	0.24	
67-66-3	Chloroform	120	0.83	25	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.82	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.83	ND	0.15	
71-43-2	Benzene	ND	0.80	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.83	ND	0.18	
75-27-4	Bromodichloromethane	4.0	0.82	0.59	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.86	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.83	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.83	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.83	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.83	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-11B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-012

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01489

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.71

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	68	0.82	10	0.12	
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	8.9	0.80	2.0	0.18	
179601-23-1	m,p-Xylenes	31	1.7	7.1	0.39	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	6.6	0.82	1.5	0.19	
111-84-2	n-Nonane	ND	0.83	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.83	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.83	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.82	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-12A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-013

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00803

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.05 Final Pressure (psig): 3.66

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.75	ND	0.44	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.75	0.41	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
64-17-5	Ethanol	ND	7.4	ND	3.9	
75-05-8	Acetonitrile	ND	0.75	ND	0.45	
107-02-8	Acrolein	ND	1.5	ND	0.63	
67-64-1	Acetone	ND	7.8	ND	3.3	
75-69-4	Trichlorofluoromethane (CFC 11)	1.2	0.77	0.21	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.0	ND	1.2	
107-13-1	Acrylonitrile	ND	0.75	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.78	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.77	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	1.7	1.6	0.54	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.49	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-12A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-013

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00803

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.05 Final Pressure (psig): 3.66

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	
110-54-3	n-Hexane	ND	0.78	ND	0.22	
67-66-3	Chloroform	3.3	0.78	0.67	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.77	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.78	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.81	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.78	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.20	
591-78-6	2-Hexanone	ND	0.78	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.78	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.78	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-12A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-013

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC00803

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.05 Final Pressure (psig): 3.66

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	110	0.77	16	0.11	
108-90-7	Chlorobenzene	ND	0.77	ND	0.17	
100-41-4	Ethylbenzene	9.5	0.75	2.2	0.17	
179601-23-1	m,p-Xylenes	31	1.6	7.2	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	7.0	0.77	1.6	0.18	
111-84-2	n-Nonane	ND	0.78	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
80-56-8	alpha-Pinene	ND	0.75	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.78	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.78	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
5989-27-5	d-Limonene	ND	0.74	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.75	ND	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	0.77	ND	0.10	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-12B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-014

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01086

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.40 Final Pressure (psig): 3.76

Container Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.78	ND	0.45	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.78	0.40	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.78	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
64-17-5	Ethanol	ND	7.7	ND	4.1	
75-05-8	Acetonitrile	ND	0.78	ND	0.46	
107-02-8	Acrolein	ND	1.5	ND	0.65	
67-64-1	Acetone	ND	8.1	ND	3.4	
75-69-4	Trichlorofluoromethane (CFC 11)	1.5	0.80	0.26	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.2	ND	1.3	
107-13-1	Acrylonitrile	ND	0.78	ND	0.36	
75-35-4	1,1-Dichloroethene	ND	0.81	ND	0.20	
75-09-2	Methylene Chloride	ND	0.81	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.78	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.22	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-12B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-014

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01086

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.40 Final Pressure (psig): 3.76

Container Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.46	
110-54-3	n-Hexane	ND	0.81	ND	0.23	
67-66-3	Chloroform	39	0.81	8.0	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.81	ND	0.15	
71-43-2	Benzene	ND	0.78	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.78	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.81	ND	0.18	
75-27-4	Bromodichloromethane	1.8	0.80	0.27	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.40	
142-82-5	n-Heptane	ND	0.81	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.84	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.81	ND	0.15	
108-88-3	Toluene	ND	0.80	ND	0.21	
591-78-6	2-Hexanone	ND	0.81	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.81	ND	0.095	
106-93-4	1,2-Dibromoethane	ND	0.81	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.81	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-12B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-014

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01086

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.40 Final Pressure (psig): 3.76

Container Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.81	ND	0.17	
127-18-4	Tetrachloroethene	160	8.0	23	1.2	D
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	7.9	0.78	1.8	0.18	
179601-23-1	m,p-Xylenes	26	1.7	6.0	0.38	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	6.7	0.80	1.5	0.18	
111-84-2	n-Nonane	ND	0.81	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.78	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.81	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.81	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.81	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.81	ND	0.13	
5989-27-5	d-Limonene	ND	0.77	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.78	ND	0.081	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-13A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-015

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01687

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.29 Final Pressure (psig): 3.64

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.77	ND	0.45	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.77	0.41	0.16	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.75	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.78	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.75	ND	0.29	
64-17-5	Ethanol	ND	7.5	ND	4.0	
75-05-8	Acetonitrile	ND	0.77	ND	0.46	
107-02-8	Acrolein	ND	1.5	ND	0.65	
67-64-1	Acetone	ND	8.0	ND	3.4	
75-69-4	Trichlorofluoromethane (CFC 11)	1.3	0.78	0.24	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.1	ND	1.3	
107-13-1	Acrylonitrile	ND	0.77	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.78	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.78	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.8	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.50	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-13A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-015

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01687

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.29 Final Pressure (psig): 3.64

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.78	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.45	
110-54-3	n-Hexane	ND	0.80	ND	0.23	
67-66-3	Chloroform	5.7	0.80	1.2	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.78	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.78	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.78	ND	0.12	
79-01-6	Trichloroethene	ND	0.78	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.78	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.40	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.83	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.78	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	ND	0.78	ND	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-13A-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-015

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01687

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.29 Final Pressure (psig): 3.64

Container Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	94	0.78	14	0.12	
108-90-7	Chlorobenzene	ND	0.78	ND	0.17	
100-41-4	Ethylbenzene	3.4	0.77	0.77	0.18	
179601-23-1	m,p-Xylenes	4.4	1.6	1.0	0.37	
75-25-2	Bromoform	ND	0.78	ND	0.076	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	ND	0.78	ND	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	ND	0.11	
98-82-8	Cumene	ND	0.78	ND	0.16	
80-56-8	alpha-Pinene	ND	0.77	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.78	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.78	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	ND	0.75	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.77	ND	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	0.78	ND	0.11	
91-20-3	Naphthalene	ND	0.75	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.78	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-13B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-016

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02203

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.41 Final Pressure (psig): 3.59

Container Dilution Factor: 1.49

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	1.7	0.77	1.0	0.45	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.77	0.42	0.16	
74-87-3	Chloromethane	ND	0.75	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.76	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.75	ND	0.19	
75-00-3	Chloroethane	ND	0.76	ND	0.29	
64-17-5	Ethanol	ND	7.6	ND	4.0	
75-05-8	Acetonitrile	ND	0.77	ND	0.46	
107-02-8	Acrolein	ND	1.5	ND	0.65	
67-64-1	Acetone	ND	8.0	ND	3.4	
75-69-4	Trichlorofluoromethane (CFC 11)	1.3	0.79	0.22	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	7.7	3.1	3.1	1.3	
107-13-1	Acrylonitrile	ND	0.77	ND	0.36	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.79	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	1.8	1.6	0.58	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.9	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.51	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-13B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-016

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02203

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.41 Final Pressure (psig): 3.59

Container Dilution Factor: 1.49

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	39	1.6	11	0.46	
110-54-3	n-Hexane	ND	0.80	ND	0.23	
67-66-3	Chloroform	1.5	0.80	0.30	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.79	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	
79-01-6	Trichloroethene	ND	0.79	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.40	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.83	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.79	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	2.5	0.79	0.67	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-13B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-016

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02203

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.41 Final Pressure (psig): 3.59

Container Dilution Factor: 1.49

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	96	0.79	14	0.12	
108-90-7	Chlorobenzene	ND	0.79	ND	0.17	
100-41-4	Ethylbenzene	8.6	0.77	2.0	0.18	
179601-23-1	m,p-Xylenes	29	1.6	6.7	0.38	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	1.5	0.79	0.35	0.19	
95-47-6	o-Xylene	6.6	0.79	1.5	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.12	
98-82-8	Cumene	ND	0.79	ND	0.16	
80-56-8	alpha-Pinene	ND	0.77	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.32	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	ND	0.76	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.77	ND	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	0.79	ND	0.11	
91-20-3	Naphthalene	ND	0.76	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-14-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-017

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01649

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.88 Final Pressure (psig): 3.56

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.80	0.42	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.48	
107-02-8	Acrolein	ND	1.5	ND	0.67	
67-64-1	Acetone	ND	8.3	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	1.1	0.82	0.19	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.2	ND	1.3	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.83	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.82	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	2.6	1.7	0.82	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.2	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-14-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-017

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01649

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.88 Final Pressure (psig): 3.56

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.83	ND	0.24	
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.82	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.83	ND	0.15	
71-43-2	Benzene	ND	0.80	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.83	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.86	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.83	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.83	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.83	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.83	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-14-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-017

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01649

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.88 Final Pressure (psig): 3.56

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	110	0.82	16	0.12	
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	9.5	0.80	2.2	0.18	
179601-23-1	m,p-Xylenes	32	1.7	7.4	0.39	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	8.4	0.82	1.9	0.19	
111-84-2	n-Nonane	ND	0.83	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.83	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.83	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.82	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-15-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-018

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01569

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.76 Final Pressure (psig): 3.77

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.81	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.81	0.41	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.81	ND	0.48	
107-02-8	Acrolein	ND	1.6	ND	0.68	
67-64-1	Acetone	ND	8.4	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	1.1	0.82	0.20	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.3	ND	1.3	
107-13-1	Acrylonitrile	ND	0.81	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.82	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.2	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-15-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-018

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01569

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.76 Final Pressure (psig): 3.77

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.84	ND	0.24	
67-66-3	Chloroform	1.4	0.84	0.30	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.82	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.42	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.87	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.84	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-15-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-018

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01569

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.76 Final Pressure (psig): 3.77

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	170	8.2	25	1.2	D
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	6.4	0.81	1.5	0.19	
179601-23-1	m,p-Xylenes	21	1.7	4.9	0.39	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	4.9	0.82	1.1	0.19	
111-84-2	n-Nonane	ND	0.84	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	0.81	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.81	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.82	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-16-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-019

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01825

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.07 Final Pressure (psig): 3.65

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.75	ND	0.44	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.75	0.43	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
64-17-5	Ethanol	ND	7.4	ND	3.9	
75-05-8	Acetonitrile	ND	0.75	ND	0.45	
107-02-8	Acrolein	ND	1.5	ND	0.63	
67-64-1	Acetone	ND	7.8	ND	3.3	
75-69-4	Trichlorofluoromethane (CFC 11)	1.1	0.77	0.20	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.0	ND	1.2	
107-13-1	Acrylonitrile	ND	0.75	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.78	ND	0.20	
75-09-2	Methylene Chloride	ND	0.78	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.77	ND	0.25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.51	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.75	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.49	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-16-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-019

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01825

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.07 Final Pressure (psig): 3.65

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	2.4	0.77	0.61	0.19	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	
110-54-3	n-Hexane	ND	0.78	ND	0.22	
67-66-3	Chloroform	ND	0.78	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.77	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.78	ND	0.14	
71-43-2	Benzene	ND	0.75	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.75	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.78	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	3.2	0.77	0.59	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	ND	0.78	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.81	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.78	ND	0.14	
108-88-3	Toluene	ND	0.77	ND	0.20	
591-78-6	2-Hexanone	ND	0.78	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.78	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.78	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.78	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-16-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-019

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01825

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.07 Final Pressure (psig): 3.65

Container Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.78	ND	0.17	
127-18-4	Tetrachloroethene	330	7.7	49	1.1	D
108-90-7	Chlorobenzene	ND	0.77	ND	0.17	
100-41-4	Ethylbenzene	6.9	0.75	1.6	0.17	
179601-23-1	m,p-Xylenes	23	1.6	5.4	0.37	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	5.3	0.77	1.2	0.18	
111-84-2	n-Nonane	ND	0.78	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
80-56-8	alpha-Pinene	ND	0.75	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.78	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.31	
541-73-1	1,3-Dichlorobenzene	ND	0.78	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.78	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.78	ND	0.13	
5989-27-5	d-Limonene	ND	0.74	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.75	ND	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	0.77	ND	0.10	
91-20-3	Naphthalene	ND	0.74	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SVE-17-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-020

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01547

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.77 Final Pressure (psig): 3.75

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.81	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.81	0.43	0.16	
74-87-3	Chloromethane	ND	0.78	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.81	ND	0.36	
74-83-9	Bromomethane	ND	0.78	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.81	ND	0.48	
107-02-8	Acrolein	2.6	1.6	1.1	0.68	
67-64-1	Acetone	ND	8.4	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	1.2	0.82	0.21	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.3	ND	1.3	
107-13-1	Acrylonitrile	ND	0.81	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.84	ND	0.21	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.82	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.55	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.81	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.2	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.53	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-17-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-020

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01547

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.77 Final Pressure (psig): 3.75

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.84	ND	0.24	
67-66-3	Chloroform	3.2	0.84	0.65	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.82	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.42	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.87	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.84	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SVE-17-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-020

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01547

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.77 Final Pressure (psig): 3.75

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	3.3	0.82	0.49	0.12	
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	ND	0.81	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	ND	0.82	ND	0.19	
111-84-2	n-Nonane	ND	0.84	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	0.81	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.81	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.82	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SVE-18-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-021

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01980

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.76 Final Pressure (psig): 3.63

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	0.80	0.44	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.82	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	1.1	0.80	0.67	0.48	
107-02-8	Acrolein	6.9	1.5	3.0	0.67	
67-64-1	Acetone	ND	8.3	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	0.82	0.18	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.2	ND	1.3	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.83	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.82	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.82	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	19	8.2	5.5	2.3	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-18-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-021

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01980

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.76 Final Pressure (psig): 3.63

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.82	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.83	ND	0.24	
67-66-3	Chloroform	ND	0.83	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.82	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.83	ND	0.15	
71-43-2	Benzene	ND	0.80	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	1.7	1.5	0.51	0.45	
78-87-5	1,2-Dichloropropane	ND	0.83	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	ND	0.82	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.82	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.86	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.82	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.83	ND	0.15	
108-88-3	Toluene	ND	0.82	ND	0.22	
591-78-6	2-Hexanone	ND	0.83	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.83	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.83	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-18-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-021

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01980

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.76 Final Pressure (psig): 3.63

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	110	0.82	16	0.12	
108-90-7	Chlorobenzene	ND	0.82	ND	0.18	
100-41-4	Ethylbenzene	5.2	0.80	1.2	0.18	
179601-23-1	m,p-Xylenes	17	1.7	3.9	0.39	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.82	ND	0.19	
95-47-6	o-Xylene	4.8	0.82	1.1	0.19	
111-84-2	n-Nonane	ND	0.83	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.82	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.83	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.83	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.82	ND	0.11	
91-20-3	Naphthalene	0.91	0.79	0.17	0.15	
87-68-3	Hexachlorobutadiene	ND	0.82	ND	0.077	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SVE-19-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-022

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02217

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.80 Final Pressure (psig): 3.68

Container Dilution Factor: 1.42

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.74	ND	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	0.74	0.45	0.15	
74-87-3	Chloromethane	ND	0.71	ND	0.34	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.72	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.75	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.71	ND	0.18	
75-00-3	Chloroethane	ND	0.72	ND	0.27	
64-17-5	Ethanol	7.7	7.2	4.1	3.8	
75-05-8	Acetonitrile	ND	0.74	ND	0.44	
107-02-8	Acrolein	ND	1.4	ND	0.62	
67-64-1	Acetone	10	7.7	4.4	3.2	
75-69-4	Trichlorofluoromethane (CFC 11)	1.1	0.75	0.20	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.0	ND	1.2	
107-13-1	Acrylonitrile	ND	0.74	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.75	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.75	ND	0.098	
75-15-0	Carbon Disulfide	ND	1.6	ND	0.50	
156-60-5	trans-1,2-Dichloroethene	ND	0.75	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.5	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	1.4	ND	0.48	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SVE-19-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-022

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02217

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.80 Final Pressure (psig): 3.68

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	4.4	1.6	1.2	0.43	
110-54-3	n-Hexane	ND	0.77	ND	0.22	
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.75	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.75	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.74	ND	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.4	ND	0.41	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.75	ND	0.11	
79-01-6	Trichloroethene	ND	0.75	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.38	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	1.3	0.75	0.32	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.75	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	4.5	0.75	1.2	0.20	
591-78-6	2-Hexanone	ND	0.77	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.77	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SVE-19-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-022

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02217

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.80 Final Pressure (psig): 3.68

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	71	0.75	11	0.11	
108-90-7	Chlorobenzene	ND	0.75	ND	0.16	
100-41-4	Ethylbenzene	5.1	0.74	1.2	0.17	
179601-23-1	m,p-Xylenes	17	1.6	3.8	0.36	
75-25-2	Bromoform	ND	0.75	ND	0.073	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	4.3	0.75	0.99	0.17	
111-84-2	n-Nonane	ND	0.77	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.75	ND	0.15	
80-56-8	alpha-Pinene	ND	0.74	ND	0.13	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.75	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	1.6	ND	0.30	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
5989-27-5	d-Limonene	ND	0.72	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.74	ND	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	0.75	ND	0.10	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181013-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.53	ND	0.21	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.1	ND	2.7	
75-05-8	Acetonitrile	ND	0.52	ND	0.31	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.4	ND	2.3	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.52	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.54	ND	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.52	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181013-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.54	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.52	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.54	ND	0.12	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.54	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.54	ND	0.099	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.54	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.54	ND	0.070	
123-86-4	n-Butyl Acetate	ND	0.54	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181013-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.54	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.54	ND	0.090	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.51	ND	0.092	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	ND	0.054	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	ND	0.071	
91-20-3	Naphthalene	ND	0.51	ND	0.097	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 9/27/18
 Date(s) Received: 10/1/18
 Date(s) Analyzed: 10/12 - 10/13/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P181012-MB	106	103	95	70-130	
Method Blank	P181013-MB	108	103	90	70-130	
Lab Control Sample	P181012-LCS	89	101	107	70-130	
Lab Control Sample	P181013-LCS	88	102	106	70-130	
Duplicate Lab Control Sample	P181012-DLCS	93	98	104	70-130	
Duplicate Lab Control Sample	P181013-DLCS	87	101	107	70-130	
SVE-1-092718	P1805166-001	110	98	102	70-130	
SVE-2-092718	P1805166-002	109	98	100	70-130	
SVE-3-092718	P1805166-003	102	91	100	70-130	
SVE-4-092718	P1805166-004	99	88	115	70-130	
SVE-5-092718	P1805166-005	101	99	105	70-130	
SVE-6-092718	P1805166-006	102	90	108	70-130	
SVE-7-092718	P1805166-007	106	93	108	70-130	
SVE-8-092718	P1805166-008	108	94	106	70-130	
SVE-9-092718	P1805166-009	108	97	105	70-130	
SVE-10-092718	P1805166-010	108	97	103	70-130	
SVE-11A-092718	P1805166-011	109	98	103	70-130	
SVE-11B-092718	P1805166-012	111	98	100	70-130	
SVE-12A-092718	P1805166-013	100	95	97	70-130	
SVE-12B-092718	P1805166-014	103	98	102	70-130	
SVE-13A-092718	P1805166-015	106	101	96	70-130	
SVE-13B-092718	P1805166-016	106	98	101	70-130	
SVE-13B-092718	P1805166-016DUP	106	99	102	70-130	
SVE-14-092718	P1805166-017	106	98	107	70-130	
SVE-15-092718	P1805166-018	106	99	102	70-130	
SVE-16-092718	P1805166-019	107	98	100	70-130	
SVE-17-092718	P1805166-020	108	102	96	70-130	
SVE-18-092718	P1805166-021	103	97	112	70-130	
SVE-19-092718	P1805166-022	105	99	104	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181013-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	211	142	146	67	69	54-133	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	148	148	70	70	64-115	0	25	
74-87-3	Chloromethane	211	146	134	69	64	47-140	8	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	150	154	71	73	60-112	3	25	
75-01-4	Vinyl Chloride	214	162	164	76	77	63-127	1	25	
106-99-0	1,3-Butadiene	210	184	193	88	92	57-149	4	25	
74-83-9	Bromomethane	212	134	137	63	65	63-132	3	25	
75-00-3	Chloroethane	214	147	148	69	69	68-129	0	25	
64-17-5	Ethanol	1,020	809	834	79	82	62-131	4	25	
75-05-8	Acetonitrile	206	153	155	74	75	56-136	1	25	
107-02-8	Acrolein	205	170	172	83	84	60-132	1	25	
67-64-1	Acetone	1,060	875	881	83	83	63-124	0	25	
75-69-4	Trichlorofluoromethane (CFC 11)	211	153	156	73	74	65-113	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	308	303	75	73	62-135	3	25	
107-13-1	Acrylonitrile	207	174	174	84	84	68-138	0	25	
75-35-4	1,1-Dichloroethene	218	170	169	78	78	72-118	0	25	
75-09-2	Methylene Chloride	217	169	169	78	78	67-116	0	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	162	163	75	75	61-143	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	159	163	74	75	68-113	1	25	
75-15-0	Carbon Disulfide	218	163	163	75	75	68-120	0	25	
156-60-5	trans-1,2-Dichloroethene	214	168	167	79	78	71-125	1	25	
75-34-3	1,1-Dichloroethane	216	154	153	71	71	68-118	0	25	
1634-04-4	Methyl tert-Butyl Ether	214	159	155	74	72	60-123	3	25	
108-05-4	Vinyl Acetate	1,060	982	954	93	90	73-135	3	25	
78-93-3	2-Butanone (MEK)	208	186	182	89	88	70-129	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181013-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD Limit		
156-59-2	cis-1,2-Dichloroethene	211	156	155	74	73	69-121	1	25	
141-78-6	Ethyl Acetate	436	397	386	91	89	66-140	2	25	
110-54-3	n-Hexane	216	180	175	83	81	61-124	2	25	
67-66-3	Chloroform	217	159	157	73	72	69-113	1	25	
109-99-9	Tetrahydrofuran (THF)	216	171	169	79	78	66-121	1	25	
107-06-2	1,2-Dichloroethane	215	147	144	68	67	62-120	1	25	
71-55-6	1,1,1-Trichloroethane	215	160	161	74	75	65-116	1	25	
71-43-2	Benzene	211	165	162	78	77	66-111	1	25	
56-23-5	Carbon Tetrachloride	212	166	166	78	78	64-122	0	25	
110-82-7	Cyclohexane	416	347	342	83	82	69-115	1	25	
78-87-5	1,2-Dichloropropane	216	162	159	75	74	69-121	1	25	
75-27-4	Bromodichloromethane	215	174	173	81	80	69-123	1	25	
79-01-6	Trichloroethene	213	170	170	80	80	69-112	0	25	
123-91-1	1,4-Dioxane	214	180	180	84	84	74-123	0	25	
80-62-6	Methyl Methacrylate	431	391	386	91	90	75-125	1	25	
142-82-5	n-Heptane	215	172	168	80	78	68-118	3	25	
10061-01-5	cis-1,3-Dichloropropene	214	187	188	87	88	74-129	1	25	
108-10-1	4-Methyl-2-pentanone	209	189	185	90	89	66-138	1	25	
10061-02-6	trans-1,3-Dichloropropene	213	193	197	91	92	75-130	1	25	
79-00-5	1,1,2-Trichloroethane	215	177	175	82	81	73-117	1	25	
108-88-3	Toluene	212	179	178	84	84	66-114	0	25	
591-78-6	2-Hexanone	214	182	179	85	84	58-146	1	25	
124-48-1	Dibromochloromethane	213	202	200	95	94	67-130	1	25	
106-93-4	1,2-Dibromoethane	216	201	201	93	93	70-127	0	25	
123-86-4	n-Butyl Acetate	219	184	180	84	82	62-140	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181013-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD Limit		
111-65-9	n-Octane	217	180	179	83	82	65-121	1	25	
127-18-4	Tetrachloroethene	213	185	191	87	90	62-119	3	25	
108-90-7	Chlorobenzene	215	184	181	86	84	66-115	2	25	
100-41-4	Ethylbenzene	212	186	183	88	86	69-117	2	25	
179601-23-1	m,p-Xylenes	426	392	386	92	91	67-117	1	25	
75-25-2	Bromoform	213	202	199	95	93	67-135	2	25	
100-42-5	Styrene	212	214	211	101	100	70-128	1	25	
95-47-6	o-Xylene	214	196	194	92	91	67-118	1	25	
111-84-2	n-Nonane	215	182	179	85	83	61-127	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	214	199	194	93	91	70-125	2	25	
98-82-8	Cumene	214	198	194	93	91	68-116	2	25	
80-56-8	alpha-Pinene	211	195	192	92	91	69-122	1	25	
103-65-1	n-Propylbenzene	218	203	199	93	91	70-118	2	25	
622-96-8	4-Ethyltoluene	214	217	215	101	100	69-124	1	25	
108-67-8	1,3,5-Trimethylbenzene	214	201	196	94	92	65-117	2	25	
95-63-6	1,2,4-Trimethylbenzene	215	235	229	109	107	67-124	2	25	
100-44-7	Benzyl Chloride	217	183	189	84	87	75-142	4	25	
541-73-1	1,3-Dichlorobenzene	216	223	218	103	101	70-124	2	25	
106-46-7	1,4-Dichlorobenzene	216	216	210	100	97	63-124	3	25	
95-50-1	1,2-Dichlorobenzene	216	230	221	106	102	66-125	4	25	
5989-27-5	d-Limonene	211	213	209	101	99	64-135	2	25	
96-12-8	1,2-Dibromo-3-chloropropane	209	200	192	96	92	73-136	4	25	
120-82-1	1,2,4-Trichlorobenzene	214	205	191	96	89	70-141	8	25	
91-20-3	Naphthalene	203	215	198	106	98	71-146	8	25	
87-68-3	Hexachlorobutadiene	209	198	191	95	91	63-126	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SVE-13B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-016DUP

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02203

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.41

Final Pressure (psig): 3.59

Container Dilution Factor: 1.49

Compound	Sample Result		Duplicate Sample Result		Average µg/m ³	% RPD	RPD Limit	Data Qualifier
	µg/m ³	ppbV	µg/m ³	ppbV				
Propene	1.74	1.01	1.52	0.881	1.63	13	25	
Dichlorodifluoromethane (CFC 12)	2.05	0.415	2.07	0.418	2.06	1	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Acetonitrile	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Acetone	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	1.26	0.224	1.26	0.224	1.26	0	25	
2-Propanol (Isopropyl Alcohol)	7.69	3.13	7.90	3.22	7.795	3	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	1.80	0.578	1.79	0.575	1.795	0.6	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SVE-13B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-016DUP

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02203

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.41

Final Pressure (psig): 3.59

Container Dilution Factor: 1.49

Compound	Sample Result		Duplicate Sample Result		Average µg/m ³	% RPD	RPD Limit	Data Qualifier
	µg/m ³	ppbV	µg/m ³	ppbV				
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	39.2	10.9	39.2	10.9	39.2	0	25	
n-Hexane	ND	ND	ND	ND	-	-	25	
Chloroform	1.46	0.299	1.41	0.288	1.435	3	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
Methyl Methacrylate	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	2.51	0.667	2.61	0.692	2.56	4	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Butyl Acetate	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 3 of 3

Client: PES Environmental
Client Sample ID: SVE-13B-092718
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P1805166-016DUP

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC02203

Date Collected: 9/27/18
 Date Received: 10/1/18
 Date Analyzed: 10/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.41

Final Pressure (psig): 3.59

Container Dilution Factor: 1.49

Compound	Sample Result		Duplicate Sample Result		Average µg/m ³	% RPD	RPD Limit	Data Qualifier
	µg/m ³	ppbV	µg/m ³	ppbV				
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	96.1	14.2	96.2	14.2	96.15	0.1	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Ethylbenzene	8.62	1.99	8.61	1.98	8.615	0.1	25	
m,p-Xylenes	29.0	6.67	28.7	6.61	28.85	1	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	1.50	0.352	1.48	0.347	1.49	1	25	
o-Xylene	6.58	1.52	6.52	1.50	6.55	0.9	25	
n-Nonane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
alpha-Pinene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
d-Limonene	ND	ND	ND	ND	-	-	25	
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181012-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.53	ND	0.21	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.1	ND	2.7	
75-05-8	Acetonitrile	ND	0.52	ND	0.31	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.4	ND	2.3	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.52	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.54	ND	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.52	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181012-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.54	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.52	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.54	ND	0.12	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.54	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.54	ND	0.099	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.54	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.54	ND	0.070	
123-86-4	n-Butyl Acetate	ND	0.54	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181012-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.54	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.54	ND	0.090	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.51	ND	0.092	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	ND	0.054	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	ND	0.071	
91-20-3	Naphthalene	ND	0.51	ND	0.097	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181012-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	211	148	133	70	63	54-133	11	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	155	156	74	74	64-115	0	25	
74-87-3	Chloromethane	211	158	147	75	70	47-140	7	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	159	159	75	75	60-112	0	25	
75-01-4	Vinyl Chloride	214	170	173	79	81	63-127	3	25	
106-99-0	1,3-Butadiene	210	189	147	90	70	57-149	25	25	
74-83-9	Bromomethane	212	140	140	66	66	63-132	0	25	
75-00-3	Chloroethane	214	154	155	72	72	68-129	0	25	
64-17-5	Ethanol	1,020	859	887	84	87	62-131	4	25	
75-05-8	Acetonitrile	206	160	165	78	80	56-136	3	25	
107-02-8	Acrolein	205	180	180	88	88	60-132	0	25	
67-64-1	Acetone	1,060	914	966	86	91	63-124	6	25	
75-69-4	Trichlorofluoromethane (CFC 11)	211	160	162	76	77	65-113	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	328	332	79	80	62-135	1	25	
107-13-1	Acrylonitrile	207	182	189	88	91	68-138	3	25	
75-35-4	1,1-Dichloroethene	218	176	179	81	82	72-118	1	25	
75-09-2	Methylene Chloride	217	175	180	81	83	67-116	2	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	172	181	80	84	61-143	5	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	162	164	75	76	68-113	1	25	
75-15-0	Carbon Disulfide	218	170	179	78	82	68-120	5	25	
156-60-5	trans-1,2-Dichloroethene	214	175	181	82	85	71-125	4	25	
75-34-3	1,1-Dichloroethane	216	161	166	75	77	68-118	3	25	
1634-04-4	Methyl tert-Butyl Ether	214	168	157	79	73	60-123	8	25	
108-05-4	Vinyl Acetate	1,060	1030	1090	97	103	73-135	6	25	
78-93-3	2-Butanone (MEK)	208	195	203	94	98	70-129	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181012-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	211	164	171	78	81	69-121	4	25	
141-78-6	Ethyl Acetate	436	417	433	96	99	66-140	3	25	
110-54-3	n-Hexane	216	188	196	87	91	61-124	4	25	
67-66-3	Chloroform	217	167	174	77	80	69-113	4	25	
109-99-9	Tetrahydrofuran (THF)	216	179	186	83	86	66-121	4	25	
107-06-2	1,2-Dichloroethane	215	154	160	72	74	62-120	3	25	
71-55-6	1,1,1-Trichloroethane	215	167	165	78	77	65-116	1	25	
71-43-2	Benzene	211	173	172	82	82	66-111	0	25	
56-23-5	Carbon Tetrachloride	212	173	173	82	82	64-122	0	25	
110-82-7	Cyclohexane	416	360	356	87	86	69-115	1	25	
78-87-5	1,2-Dichloropropane	216	169	168	78	78	69-121	0	25	
75-27-4	Bromodichloromethane	215	182	182	85	85	69-123	0	25	
79-01-6	Trichloroethene	213	178	175	84	82	69-112	2	25	
123-91-1	1,4-Dioxane	214	188	188	88	88	74-123	0	25	
80-62-6	Methyl Methacrylate	431	407	408	94	95	75-125	1	25	
142-82-5	n-Heptane	215	179	178	83	83	68-118	0	25	
10061-01-5	cis-1,3-Dichloropropene	214	196	197	92	92	74-129	0	25	
108-10-1	4-Methyl-2-pentanone	209	197	198	94	95	66-138	1	25	
10061-02-6	trans-1,3-Dichloropropene	213	203	211	95	99	75-130	4	25	
79-00-5	1,1,2-Trichloroethane	215	184	186	86	87	73-117	1	25	
108-88-3	Toluene	212	186	180	88	85	66-114	3	25	
591-78-6	2-Hexanone	214	190	186	89	87	58-146	2	25	
124-48-1	Dibromochloromethane	213	209	203	98	95	67-130	3	25	
106-93-4	1,2-Dibromoethane	216	208	202	96	94	70-127	2	25	
123-86-4	n-Butyl Acetate	219	191	187	87	85	62-140	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805166
 ALS Sample ID: P181012-DLCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Anusha Bayyrapu
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 10/12/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m ³	LCS µg/m ³	DLCS µg/m ³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
111-65-9	n-Octane	217	189	183	87	84	65-121	4	25	
127-18-4	Tetrachloroethene	213	191	184	90	86	62-119	5	25	
108-90-7	Chlorobenzene	215	189	187	88	87	66-115	1	25	
100-41-4	Ethylbenzene	212	191	189	90	89	69-117	1	25	
179601-23-1	m,p-Xylenes	426	404	398	95	93	67-117	2	25	
75-25-2	Bromoform	213	208	204	98	96	67-135	2	25	
100-42-5	Styrene	212	219	215	103	101	70-128	2	25	
95-47-6	o-Xylene	214	202	199	94	93	67-118	1	25	
111-84-2	n-Nonane	215	189	187	88	87	61-127	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	214	206	202	96	94	70-125	2	25	
98-82-8	Cumene	214	203	199	95	93	68-116	2	25	
80-56-8	alpha-Pinene	211	199	164	94	78	69-122	19	25	
103-65-1	n-Propylbenzene	218	209	205	96	94	70-118	2	25	
622-96-8	4-Ethyltoluene	214	221	218	103	102	69-124	1	25	
108-67-8	1,3,5-Trimethylbenzene	214	206	202	96	94	65-117	2	25	
95-63-6	1,2,4-Trimethylbenzene	215	242	239	113	111	67-124	2	25	
100-44-7	Benzyl Chloride	217	190	194	88	89	75-142	1	25	
541-73-1	1,3-Dichlorobenzene	216	229	225	106	104	70-124	2	25	
106-46-7	1,4-Dichlorobenzene	216	222	217	103	100	63-124	3	25	
95-50-1	1,2-Dichlorobenzene	216	237	231	110	107	66-125	3	25	
5989-27-5	d-Limonene	211	219	200	104	95	64-135	9	25	
96-12-8	1,2-Dibromo-3-chloropropane	209	206	206	99	99	73-136	0	25	
120-82-1	1,2,4-Trichlorobenzene	214	212	209	99	98	70-141	1	25	
91-20-3	Naphthalene	203	221	219	109	108	71-146	0.9	25	
87-68-3	Hexachlorobutadiene	209	206	201	99	96	63-126	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** November 7, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: September 27, 2018 Air Samples
LAB: ALS Environmental P1805166

Twenty-two (22) soil vapor extraction well samples were collected on September 27, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The samples were analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January, 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1805166.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The samples were collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Summa Canister™ canister (6 Liter) for the air samples. The samples were shipped, delivered by FedEx, and received in good condition by the laboratory. The

samples were collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by Method TO-15 was performed within the 30-day recommended holding time limit for the air samples collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

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

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicates (LCS/LCSDs) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recoveries and relative percent differences (RPDs) for all control compounds met laboratory control limit criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

November 21, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Matt:

Enclosed are the results of the sample submitted to our laboratory on November 2, 2018. For your reference, these analyses have been assigned our service request number P1805998.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Michael Conejo at 9:55 am, Nov 21, 2018

For Kate Kaneko
Laboratory Director



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1805998

CASE NARRATIVE

The sample was received intact under chain of custody on November 2, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. The use of Bottle Vac Glass is considered a method modification. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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 Simi Valley, CA 93065
 T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA01627201 8-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1805998

Date Received: 11/2/2018
Time Received: 09:15

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-103118-B	P1805998-002	Air	10/31/2018	11:45	1BV13161	-1.78	5.35	X



2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Company Name & Address (Reporting Information) RES ENVIRONMENTAL INC 1715 4th Ave Ste B50, Santa Ana, CA 92706			Requested Turnaround Time in Business Days (Surcharges) please circle: 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard			ALS Project No 21805998
Project Manager Might Dahl			Project Name MUSC			ALS Contact:
Phone 206-529-3900			Project Number 1358.001.01007			Analysis Method
Fax 206-529-3985			P.O. # / Billing Information 1358.001.01.007			
Email Address for Result Reporting MDahl@preserv.com			Sampler (Print & Sign) Karsten Spinks stand			Comments e.g. Actual Preservative or specific instructions How
Client Sample ID SYS-103118			Canister ID (Bar code # - AC, SC, etc.) SC01063			
SYS-103118-B			Canister Start Pressure "Hg -30			Sample Volume 1L
SYS-103118-B			Canister End Pressure "Hg -30			
Laboratory ID Number 1			Flow Controller ID (Bar code # - FC #) SC01063			Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
2			Date Collected 10-31-18			
Date Collected 10-31-18			Time Collected 1140			Project Requirements (MRLs, QAPP) Cooler / Blank Temperature _____ °C
Report Tier Levels - please select <input checked="" type="checkbox"/> Tier III (Results + QC & Calibration Summaries) <input type="checkbox"/> Tier IV (Date Validation Package) 10% Surcharge			EDD required YES No Type: ELM Units: _____			
Relinquished by: (Signature) [Signature]			Received by: (Signature) [Signature]			Date: 10/31/18 Time: 1200 Date: 10/31/18 Time: 1300
Relinquished by: (Signature) [Signature]			Received by: (Signature) [Signature]			

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental

Work order: P1805998

Project: MVSC / 1358.001.01.007

Sample(s) received on: 11/2/18

Date opened: 11/2/18

by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1805998-001.01	1.0 L Source Can					
P1805998-002.01	1.0 L Bottle-Vac™					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-103118-B
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P1805998-002

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:
 Container ID: 1BV13161

Date Collected: 10/31/18
 Date Received: 11/2/18
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.78 Final Pressure (psig): 5.35

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	2.0	ND	1.2	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.3	2.0	1.1	0.41	
74-87-3	Chloromethane	ND	1.9	ND	0.94	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.0	ND	0.28	
75-01-4	Vinyl Chloride	ND	2.1	ND	0.80	
106-99-0	1,3-Butadiene	ND	2.0	ND	0.91	
74-83-9	Bromomethane	ND	1.9	ND	0.50	
75-00-3	Chloroethane	ND	2.0	ND	0.75	
64-17-5	Ethanol	ND	20	ND	10	
75-05-8	Acetonitrile	ND	2.0	ND	1.2	
107-02-8	Acrolein	ND	3.9	ND	1.7	
67-64-1	Acetone	ND	21	ND	8.8	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	2.1	0.72	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.1	ND	3.3	
107-13-1	Acrylonitrile	ND	2.0	ND	0.93	
75-35-4	1,1-Dichloroethene	ND	2.1	ND	0.53	
75-09-2	Methylene Chloride	ND	2.1	ND	0.60	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.1	ND	0.66	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	2.1	ND	0.27	
75-15-0	Carbon Disulfide	ND	4.3	ND	1.4	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ND	0.52	
75-34-3	1,1-Dichloroethane	ND	2.0	ND	0.50	
1634-04-4	Methyl tert-Butyl Ether	ND	2.1	ND	0.58	
108-05-4	Vinyl Acetate	ND	21	ND	5.8	
78-93-3	2-Butanone (MEK)	ND	3.9	ND	1.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-103118-B
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P1805998-002

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:
 Container ID: 1BV13161

Date Collected: 10/31/18
 Date Received: 11/2/18
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.78 Final Pressure (psig): 5.35

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.1	ND	0.52	
141-78-6	Ethyl Acetate	ND	4.3	ND	1.2	
110-54-3	n-Hexane	10	2.1	2.9	0.59	
67-66-3	Chloroform	21	2.1	4.4	0.43	
109-99-9	Tetrahydrofuran (THF)	ND	2.1	ND	0.70	
107-06-2	1,2-Dichloroethane	ND	2.1	ND	0.51	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ND	0.38	
71-43-2	Benzene	ND	2.0	ND	0.63	
56-23-5	Carbon Tetrachloride	ND	2.0	ND	0.32	
110-82-7	Cyclohexane	5.6	3.9	1.6	1.1	
78-87-5	1,2-Dichloropropane	ND	2.1	ND	0.45	
75-27-4	Bromodichloromethane	ND	2.1	ND	0.31	
79-01-6	Trichloroethene	ND	2.1	ND	0.38	
123-91-1	1,4-Dioxane	ND	2.1	ND	0.57	
80-62-6	Methyl Methacrylate	ND	4.3	ND	1.0	
142-82-5	n-Heptane	ND	2.1	ND	0.51	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	ND	0.48	
108-10-1	4-Methyl-2-pentanone	ND	2.1	ND	0.50	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ND	0.45	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ND	0.38	
108-88-3	Toluene	ND	2.1	ND	0.55	
591-78-6	2-Hexanone	ND	2.1	ND	0.51	
124-48-1	Dibromochloromethane	ND	2.1	ND	0.25	
106-93-4	1,2-Dibromoethane	ND	2.1	ND	0.27	
123-86-4	n-Butyl Acetate	ND	2.1	ND	0.44	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SYS-103118-B
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P1805998-002

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:
 Container ID: 1BV13161

Date Collected: 10/31/18
 Date Received: 11/2/18
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.78 Final Pressure (psig): 5.35

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	2.1	ND	0.45	
127-18-4	Tetrachloroethene	250	2.1	37	0.30	
108-90-7	Chlorobenzene	ND	2.1	ND	0.45	
100-41-4	Ethylbenzene	76	2.0	17	0.46	
179601-23-1	m,p-Xylenes	230	4.3	53	0.98	
75-25-2	Bromoform	ND	2.1	ND	0.20	
100-42-5	Styrene	ND	2.1	ND	0.48	
95-47-6	o-Xylene	41	2.1	9.5	0.47	
111-84-2	n-Nonane	ND	2.1	ND	0.40	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ND	0.30	
98-82-8	Cumene	ND	2.1	ND	0.42	
80-56-8	alpha-Pinene	ND	2.0	ND	0.36	
103-65-1	n-Propylbenzene	ND	2.1	ND	0.43	
622-96-8	4-Ethyltoluene	ND	2.1	ND	0.42	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	ND	0.42	
95-63-6	1,2,4-Trimethylbenzene	2.2	2.1	0.44	0.42	
100-44-7	Benzyl Chloride	ND	4.3	ND	0.82	
541-73-1	1,3-Dichlorobenzene	ND	2.1	ND	0.35	
106-46-7	1,4-Dichlorobenzene	ND	2.1	ND	0.35	
95-50-1	1,2-Dichlorobenzene	ND	2.1	ND	0.35	
5989-27-5	d-Limonene	ND	2.0	ND	0.35	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ND	0.21	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	ND	0.28	
91-20-3	Naphthalene	ND	2.0	ND	0.38	
87-68-3	Hexachlorobutadiene	ND	2.1	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P181120-MB

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.53	ND	0.21	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.1	ND	2.7	
75-05-8	Acetonitrile	ND	0.52	ND	0.31	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.4	ND	2.3	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.52	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.54	ND	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.52	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P181120-MB

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.54	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.52	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.54	ND	0.12	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.54	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.54	ND	0.099	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.54	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.54	ND	0.070	
123-86-4	n-Butyl Acetate	ND	0.54	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P181120-MB

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.54	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.54	ND	0.090	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.51	ND	0.092	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	ND	0.054	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	ND	0.071	
91-20-3	Naphthalene	ND	0.51	ND	0.097	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™(s)
 Test Notes:

Date(s) Collected: 10/31/18
 Date(s) Received: 11/2/18
 Date(s) Analyzed: 11/20/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P181120-MB	103	100	88	70-130	
Lab Control Sample	P181120-LCS	101	98	89	70-130	
Duplicate Lab Control Sample	P181120-DLCS	100	98	88	70-130	
SYS-103118-B	P1805998-002	103	98	90	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P181120-DLCS

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
115-07-1	Propene	211	200	217	95	103	54-133	8	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	179	188	85	90	64-115	6	25	
74-87-3	Chloromethane	211	206	209	98	99	47-140	1	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	181	183	86	87	60-112	1	25	
75-01-4	Vinyl Chloride	214	201	206	94	96	63-127	2	25	
106-99-0	1,3-Butadiene	210	195	208	93	99	57-149	6	25	
74-83-9	Bromomethane	212	193	200	91	94	63-132	3	25	
75-00-3	Chloroethane	214	196	203	92	95	68-129	3	25	
64-17-5	Ethanol	1,020	1120	1180	110	116	62-131	5	25	
75-05-8	Acetonitrile	206	192	206	93	100	56-136	7	25	
107-02-8	Acrolein	205	201	211	98	103	60-132	5	25	
67-64-1	Acetone	1,060	985	1050	93	99	63-124	6	25	
75-69-4	Trichlorofluoromethane (CFC 11)	211	186	190	88	90	65-113	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	376	385	91	93	62-135	2	25	
107-13-1	Acrylonitrile	207	216	227	104	110	68-138	6	25	
75-35-4	1,1-Dichloroethene	218	191	196	88	90	72-118	2	25	
75-09-2	Methylene Chloride	217	193	200	89	92	67-116	3	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	202	211	94	98	61-143	4	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	180	184	83	85	68-113	2	25	
75-15-0	Carbon Disulfide	218	197	201	90	92	68-120	2	25	
156-60-5	trans-1,2-Dichloroethene	214	201	207	94	97	71-125	3	25	
75-34-3	1,1-Dichloroethane	216	195	200	90	93	68-118	3	25	
1634-04-4	Methyl tert-Butyl Ether	214	194	200	91	93	60-123	2	25	
108-05-4	Vinyl Acetate	1,060	1050	1070	99	101	73-135	2	25	
78-93-3	2-Butanone (MEK)	208	212	221	102	106	70-129	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P181120-DLCS

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
156-59-2	cis-1,2-Dichloroethene	211	198	204	94	97	69-121	3	25	
141-78-6	Ethyl Acetate	436	453	461	104	106	66-140	2	25	
110-54-3	n-Hexane	216	200	206	93	95	61-124	2	25	
67-66-3	Chloroform	217	193	196	89	90	69-113	1	25	
109-99-9	Tetrahydrofuran (THF)	216	196	203	91	94	66-121	3	25	
107-06-2	1,2-Dichloroethane	215	191	194	89	90	62-120	1	25	
71-55-6	1,1,1-Trichloroethane	215	187	192	87	89	65-116	2	25	
71-43-2	Benzene	211	188	195	89	92	66-111	3	25	
56-23-5	Carbon Tetrachloride	212	186	191	88	90	64-122	2	25	
110-82-7	Cyclohexane	416	383	393	92	94	69-115	2	25	
78-87-5	1,2-Dichloropropane	216	200	205	93	95	69-121	2	25	
75-27-4	Bromodichloromethane	215	200	204	93	95	69-123	2	25	
79-01-6	Trichloroethene	213	186	189	87	89	69-112	2	25	
123-91-1	1,4-Dioxane	214	211	218	99	102	74-123	3	25	
80-62-6	Methyl Methacrylate	431	398	407	92	94	75-125	2	25	
142-82-5	n-Heptane	215	187	192	87	89	68-118	2	25	
10061-01-5	cis-1,3-Dichloropropene	214	202	207	94	97	74-129	3	25	
108-10-1	4-Methyl-2-pentanone	209	215	223	103	107	66-138	4	25	
10061-02-6	trans-1,3-Dichloropropene	213	207	214	97	100	75-130	3	25	
79-00-5	1,1,2-Trichloroethane	215	194	198	90	92	73-117	2	25	
108-88-3	Toluene	212	185	187	87	88	66-114	1	25	
591-78-6	2-Hexanone	214	217	222	101	104	58-146	3	25	
124-48-1	Dibromochloromethane	213	207	209	97	98	67-130	1	25	
106-93-4	1,2-Dibromoethane	216	205	206	95	95	70-127	0	25	
123-86-4	n-Butyl Acetate	219	224	227	102	104	62-140	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Duplicate Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1805998
 ALS Sample ID: P181120-DLCS

Test Code: EPA TO-15 Modified
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
 Analyst: Lusine Hakobyan
 Sample Type: 1.0 L Bottle-Vac™
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/20/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount		Result		% Recovery		ALS		Data Qualifier
		LCS / DLCS µg/m³	LCS µg/m³	DLCS µg/m³	LCS	DLCS	Acceptance Limits	RPD	RPD Limit	
111-65-9	n-Octane	217	193	197	89	91	65-121	2	25	
127-18-4	Tetrachloroethene	213	183	183	86	86	62-119	0	25	
108-90-7	Chlorobenzene	215	192	196	89	91	66-115	2	25	
100-41-4	Ethylbenzene	212	193	195	91	92	69-117	1	25	
179601-23-1	m,p-Xylenes	426	414	418	97	98	67-117	1	25	
75-25-2	Bromoform	213	208	209	98	98	67-135	0	25	
100-42-5	Styrene	212	202	204	95	96	70-128	1	25	
95-47-6	o-Xylene	214	208	209	97	98	67-118	1	25	
111-84-2	n-Nonane	215	216	219	100	102	61-127	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	214	219	221	102	103	70-125	1	25	
98-82-8	Cumene	214	203	204	95	95	68-116	0	25	
80-56-8	alpha-Pinene	211	204	207	97	98	69-122	1	25	
103-65-1	n-Propylbenzene	218	215	216	99	99	70-118	0	25	
622-96-8	4-Ethyltoluene	214	224	223	105	104	69-124	1	25	
108-67-8	1,3,5-Trimethylbenzene	214	203	204	95	95	65-117	0	25	
95-63-6	1,2,4-Trimethylbenzene	215	223	224	104	104	67-124	0	25	
100-44-7	Benzyl Chloride	217	207	210	95	97	75-142	2	25	
541-73-1	1,3-Dichlorobenzene	216	206	206	95	95	70-124	0	25	
106-46-7	1,4-Dichlorobenzene	216	197	197	91	91	63-124	0	25	
95-50-1	1,2-Dichlorobenzene	216	218	217	101	100	66-125	1	25	
5989-27-5	d-Limonene	211	240	242	114	115	64-135	0.9	25	
96-12-8	1,2-Dibromo-3-chloropropane	209	215	216	103	103	73-136	0	25	
120-82-1	1,2,4-Trichlorobenzene	214	195	197	91	92	70-141	1	25	
91-20-3	Naphthalene	203	190	192	94	95	71-146	1	25	
87-68-3	Hexachlorobutadiene	209	191	193	91	92	63-126	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Method Path : I:\MS16\METHODS\
 Method File : R16101918.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Sat Oct 20 10:34:51 2018
 Response Via : Initial Calibration

LH 10/20/18

Calibration Files

0.1 =10191816.D 0.2 =10191817.D 0.5 =10191818.D 1.0 =10191819.D 5.0 =10191820.D 25 =10191
 100 =10191823.D

Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1) IR Bromochloromethane... -----ISTD-----										
2) T Propene	1.201	1.058	1.133	1.147	1.082	1.083	1.203	1.399	1.163	9.42
3) T Dichlorodifluo...	2.763	2.575	2.705	2.579	2.615	2.607	2.582	2.479	2.613	3.31
4) T Chloromethane	1.925	1.817	1.839	1.624	1.741	1.720	1.582	1.058	1.663	16.17
5) T 1,2-Dichloro-1...	1.623	1.511	1.596	1.567	1.552	1.552	1.536	1.491	1.553	2.75
6) T Vinyl Chloride	1.779	1.722	1.869	1.822	1.836	1.842	1.831	1.811	1.814	2.50
7) T 1,3-Butadiene	1.118	1.078	1.084	1.099	1.157	1.230	1.275	1.346	1.174	8.48
8) T Bromomethane	1.057	1.018	1.115	1.083	1.100	1.130	1.132	1.110	1.093	3.59
9) T Chloroethane	0.780	0.747	0.757	0.779	0.782	0.792	0.796	0.799	0.779	2.36
10) T Ethanol	0.747	0.658	0.639	0.614	0.609	0.765	0.794	0.799	0.703	11.56
11) T Acetonitrile	2.203	1.879	1.834	1.694	1.626	1.817	1.845	1.822	1.840	9.22
12) T Acrolein	0.555	0.531	0.624	0.602	0.621	0.666	0.683	0.686	0.621	9.20
13) T Acetone	0.893	0.812	0.840	0.804	0.761	0.850	0.888	0.863	0.839	5.33
14) T Trichlorofluor...	2.274	2.190	2.363	2.272	2.268	2.278	2.265	2.195	2.263	2.39
15) T 2-Propanol (Is...	2.896	2.688	2.855	2.613	2.625	2.868	2.699	2.278	2.690	7.45
16) T Acrylonitrile	0.970	1.086	1.248	1.235	1.300	1.436	1.457	1.456	1.273	14.05
17) T 1,1-Dichloroet...	1.145	1.127	1.140	1.114	1.142	1.183	1.186	1.180	1.152	2.37
18) T 2-Methyl-2-Pro...	2.985	2.838	2.989	2.861	2.968	3.054	2.981	1.985	2.833	12.35
19) T Methylene Chlo...	1.224	1.127	1.176	1.125	1.153	1.186	1.191	1.192	1.172	2.94
20) T 3-Chloro-1-pro...	1.876	1.353	1.377	1.332	1.359	1.454	1.459	1.447	1.457	12.11
21) T Trichlorotrifl...	1.232	1.132	1.234	1.205	1.205	1.227	1.217	1.184	1.204	2.81
22) T Carbon Disulfide	4.561	4.046	4.216	4.055	4.054	4.235	4.199	4.098	4.183	4.10
23) T trans-1,2-Dich...	1.509	1.410	1.583	1.564	1.604	1.666	1.657	1.623	1.577	5.36
24) T 1,1-Dichloroet...	2.043	1.857	1.994	1.933	1.964	1.999	1.978	1.922	1.961	2.90
25) T Methyl tert-Bu...	3.456	3.390	3.563	3.456	3.454	3.488	3.484	3.456	3.468	1.39
26) T Vinyl Acetate			0.245	0.240	0.276	0.335	0.351	0.317	0.294	16.13
27) T 2-Butanone (MEK)	0.581	0.596	0.711	0.729	0.759	0.835	0.853	0.873	0.742	15.04
28) T cis-1,2-Dichlo...	1.463	1.442	1.571	1.546	1.576	1.622	1.611	1.573	1.550	4.21
29) T Diisopropyl Ether	1.138	1.073	0.994	0.952	0.952	1.036	1.104	1.045	1.037	6.55
30) T Ethyl Acetate	0.326	0.326	0.370	0.381	0.398	0.446	0.478	0.456	0.398	14.60
31) T n-Hexane	1.896	1.743	1.811	1.761	1.724	1.798	1.917	1.849	1.812	3.89
32) T Chloroform	2.115	2.022	2.187	2.084	2.124	2.161	2.127	2.042	2.108	2.66
33) S 1,2-Dichloroet...	1.518	1.508	1.540	1.526	1.508	1.495	1.483	1.451	1.504	1.83
34) T Tetrahydrofura...	0.780	0.695	0.740	0.713	0.725	0.768	0.773	0.786	0.748	4.56
35) T Ethyl tert-But...	1.466	1.340	1.428	1.390	1.429	1.483	1.521	1.551	1.451	4.74
36) T 1,2-Dichloroet...	1.666	1.558	1.655	1.621	1.645	1.683	1.653	1.567	1.631	2.82
37) IR 1,4-Difluorobenzen... -----ISTD-----										
38) T 1,1,1-Trichlor...	0.487	0.449	0.467	0.457	0.468	0.484	0.479	0.468	0.470	2.81
39) T Isopropyl Acetate	0.156	0.159	0.170	0.163	0.172	0.188	0.202	0.201	0.176	10.35
40) T 1-Butanol				0.185	0.194	0.284	0.302	0.298	0.253	23.00
41) T Benzene	1.245	1.103	1.113	1.065	1.096	1.166	1.204	1.202	1.149	5.57
42) T Carbon Tetrach...	0.430	0.409	0.420	0.415	0.435	0.462	0.460	0.453	0.435	4.73
43) T Cyclohexane	0.454	0.417	0.432	0.419	0.431	0.463	0.480	0.467	0.445	5.33
44) T tert-Amyl Meth...	0.809	0.732	0.773	0.751	0.777	0.822	0.832	0.837	0.792	4.95
45) T 1,2-Dichloropr...	0.251	0.246	0.253	0.251	0.251	0.261	0.262	0.266	0.255	2.77
46) T Bromodichlorom...	0.407	0.366	0.393	0.376	0.402	0.426	0.429	0.418	0.402	5.65
47) T Trichloroethene	0.336	0.314	0.327	0.321	0.331	0.353	0.359	0.361	0.338	5.28
48) T 1,4-Dioxane	0.188	0.183	0.194	0.197	0.203	0.251	0.257	0.268	0.217	16.03
49) T 2,2,4-Trimethy...	1.143	1.054	1.063	1.017	1.039	1.072	1.075	1.070	1.067	3.43
50) T Methyl Methacr...	0.099	0.099	0.112	0.111	0.120	0.133	0.139	0.140	0.119	14.06
51) T n-Heptane	0.277	0.258	0.259	0.253	0.255	0.261	0.271	0.282	0.264	4.07
52) T cis-1,3-Dichlo...	0.430	0.386	0.418	0.417	0.418	0.494	0.505	0.511	0.451	10.44
53) T 4-Methyl-2-pen...	0.196	0.203	0.216	0.219	0.236	0.257	0.262	0.268	0.232	12.01
54) T trans-1,3-Dich...	0.343	0.329	0.357	0.361	0.408	0.459	0.467	0.466	0.399	14.69

55)	T	1,1,2-Trichlor...	0.261	0.256	0.273	0.268	0.278	0.292	0.293	0.295	0.277	5.51
56)	IR	Chlorobenzene-d5 (...	-----ISTD-----									
57)	S	Toluene-d8 (SS2)	2.003	2.015	2.000	1.997	1.991	1.982	1.967	1.969	1.991	0.84
58)	T	Toluene	3.054	2.809	2.769	2.669	2.643	2.745	2.763	2.660	2.764	4.76
59)	T	2-Hexanone	1.530	1.004	1.229	1.186	1.235	1.344	1.328	1.276	1.266	11.82
60)	T	Dibromochlorom...	0.745	0.726	0.751	0.753	0.820	0.885	0.896	0.884	0.807	8.96
61)	T	1,2-Dibromoethane	0.709	0.666	0.713	0.705	0.754	0.802	0.793	0.782	0.740	6.66
62)	T	n-Butyl Acetate	1.443	1.250	1.266	1.299	1.397	1.480	1.449	1.397	1.373	6.48
63)	T	n-Octane	0.750	0.497	0.488	0.471	0.473	0.499	0.512	0.520	0.526	17.49
64)	T	Tetrachloroethene	0.879	0.804	0.837	0.808	0.837	0.885	0.883	0.871	0.851	3.91
65)	T	Chlorobenzene	1.926	1.803	1.804	1.763	1.825	1.952	1.975	1.927	1.872	4.35
66)	T	Ethylbenzene	3.404	2.982	3.024	2.966	3.093	3.313	3.323	3.077	3.148	5.47
67)	T	m- & p-Xylenes	2.344	2.202	2.288	2.239	2.345	2.580	2.576	2.230	2.350	6.36
68)	T	Bromoform	0.614	0.594	0.643	0.657	0.742	0.841	0.840	0.816	0.718	14.46
69)	T	Styrene	1.821	1.684	1.754	1.768	1.921	2.147	2.162	2.038	1.912	9.69
70)	T	o-Xylene	2.485	2.233	2.292	2.243	2.386	2.587	2.577	2.283	2.386	6.14
71)	T	n-Nonane	1.163	1.089	1.095	1.059	1.084	1.135	1.123	1.023	1.096	4.02
72)	T	1,1,2,2-Tetrac...	1.108	1.020	1.083	1.075	1.149	1.270	1.273	1.160	1.142	7.96
73)	S	Bromofluoroben...	0.894	0.902	0.901	0.903	0.921	0.923	0.896	0.898	0.905	1.23
74)	T	Cumene	3.219	3.066	3.045	2.937	3.114	3.359	3.348	2.963	3.131	5.19
75)	T	alpha-Pinene	1.621	1.458	1.541	1.507	1.613	1.757	1.808	1.688	1.624	7.50
76)	T	n-Propylbenzene	3.782	3.328	3.459	3.402	3.616	3.939	3.856	3.278	3.582	7.05
77)	T	3-Ethyltoluene	3.284	3.064	2.895	2.863	3.069	3.619	3.521	2.936	3.156	9.14
78)	T	4-Ethyltoluene	2.771	2.471	2.829	2.785	2.969	3.070	3.090	2.794	2.847	6.99
79)	T	1,3,5-Trimethy...	2.818	2.513	2.513	2.416	2.571	2.835	2.808	2.487	2.620	6.53
80)	T	alpha-Methylst...	1.311	1.204	1.312	1.309	1.438	1.624	1.639	1.495	1.416	11.27
81)	T	2-Ethyltoluene	3.465	2.840	2.922	2.865	3.058	3.339	3.285	2.841	3.077	8.19
82)	T	1,2,4-Trimethy...	2.752	2.339	2.452	2.411	2.646	3.018	2.820	2.126	2.571	11.31
83)	T	n-Decane	0.076	0.044	0.047	0.052	0.052	0.059	0.059	0.055	0.055	17.41
84)	T	Benzyl Chloride				1.696	2.040	2.617	2.652	2.326	2.266	17.81
85)	T	1,3-Dichlorobe...	1.605	1.404	1.508	1.480	1.603	1.796	1.780	1.568	1.593	8.65
86)	T	1,4-Dichlorobe...	1.746	1.463	1.504	1.495	1.589	1.760	1.762	1.604	1.615	7.77
87)	T	sec-Butylbenzene	3.333	3.125	3.266	3.234	3.459	3.723	3.629	3.047	3.352	7.06
88)	T	4-Isopropyltol...	3.338	2.998	3.112	3.079	3.355	3.770	3.411	2.485	3.193	11.76
89)	T	1,2,3-Trimethy...	2.734	2.417	2.448	2.434	2.665	3.013	2.808	2.097	2.577	11.07
90)	T	1,2-Dichlorobe...	1.512	1.358	1.413	1.414	1.541	1.763	1.688	1.327	1.502	10.42
91)	T	d-Limonene	0.871	0.798	0.882	0.880	0.978	1.128	1.093	0.841	0.934	12.89
92)	T	1,2-Dibromo-3-...	0.495	0.450	0.486	0.514	0.571	0.659	0.660	0.646	0.560	15.26
93)	T	n-Undecane	1.283	1.125	1.180	1.116	1.242	1.335	1.359	1.237	1.235	7.32
94)	T	1,2,4-Trichlor...	1.257	1.067	1.074	1.103	1.154	1.326	1.361	1.289	1.204	9.81
95)	T	Naphthalene	4.049	3.354	3.439	3.406	3.548	4.119	4.118	3.528	3.695	9.15
96)	T	n-Dodecane	1.245	1.082	1.139	1.124	1.222	1.139	1.196	1.155	1.163	4.68
97)	T	Hexachlorobuta...	0.788	0.717	0.769	0.754	0.802	0.888	0.902	0.863	0.810	8.25
98)	T	Cyclohexanone	0.839	0.724	0.705	0.686	0.712	0.945	0.935	0.920	0.808	14.04
99)	T	tert-Butylbenzene	2.599	2.357	2.441	2.407	2.604	2.926	2.704	2.060	2.512	10.31
100)	T	n-Butylbenzene	2.656	2.408	2.548	2.519	2.758	2.984	2.910	2.489	2.659	7.81

(#) = Out of Range

R16101918.M Sat Oct 20 11:02:54 2018

Data File : I:\MS16\DATA\2018 11\19\11201801.D
 Acq On : 20 Nov 2018 2:57
 Sample : CCV R16112018 25ng
 Misc : S31-09141801/S31-11081802 (12/7)

Vial: 2
 Operator: LH
 Inst : GCMS-16

Quant Time: Nov 20 07:22:17 2018
 Quant Method : I:\MS16\METHODS\R16101918.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Oct 20 10:23:27 2018
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

RS 11/20/18

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	109	-0.02
2 T	Propene	1.163	1.270	-9.2	127	0.00
3 T	Dichlorodifluoromethane (CF	2.613	2.515	3.8	105	0.00
4 T	Chloromethane	1.663	1.916	-15.2	121	0.00
5 T	1,2-Dichloro-1,1,2,2-tetra	1.553	1.413	9.0	99	0.00
6 T	Vinyl Chloride	1.814	1.983	-9.3	117	0.00
7 T	1,3-Butadiene	1.174	1.324	-12.8	117	0.00
8 T	Bromomethane	1.093	1.121	-2.6	108	0.00
9 T	Chloroethane	0.779	0.821	-5.4	113	0.00
10 T	Ethanol	0.703	0.869	-23.6	123	-0.07
11 T	Acetonitrile	1.840	2.013	-9.4	120	-0.04
12 T	Acrolein	0.621	0.679	-9.3	111	-0.02
13 T	Acetone	0.839	0.878	-4.6	112	-0.04
14 T	Trichlorofluoromethane	2.263	2.123	6.2	101	0.00
15 T	2-Propanol (Isopropanol)	2.690	2.819	-4.8	107	-0.04
16 T	Acrylonitrile	1.273	1.506	-18.3	114	-0.03
17 T	1,1-Dichloroethene	1.152	1.114	3.3	102	-0.01
18 T	2-Methyl-2-Propanol (tert-B	2.833	2.751	2.9	98	-0.04
19 T	Methylene Chloride	1.172	1.153	1.6	106	-0.02
20 T	3-Chloro-1-propene (Allyl C	1.457	1.475	-1.2	110	-0.02
21 T	Trichlorotrifluoroethane	1.204	1.078	10.5	95	-0.01
22 T	Carbon Disulfide	4.183	4.123	1.4	106	0.00
23 T	trans-1,2-Dichloroethene	1.577	1.616	-2.5	105	-0.02
24 T	1,1-Dichloroethane	1.961	1.930	1.6	105	-0.02
25 T	Methyl tert-Butyl Ether	3.468	3.340	3.7	104	0.00
26 T	Vinyl Acetate	0.294	0.304	-3.4	98	-0.03
27 T	2-Butanone (MEK)	0.742	0.821	-10.6	107	-0.02
28 T	cis-1,2-Dichloroethene	1.550	1.575	-1.6	105	-0.01
29 T	Diisopropyl Ether	1.037	0.966	6.8	101	-0.01
30 T	Ethyl Acetate	0.398	0.443	-11.3	108	-0.02
31 T	n-Hexane	1.812	1.773	2.2	107	0.00
32 T	Chloroform	2.108	2.020	4.2	101	-0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.504	1.508	-0.3	109	-0.01
34 T	Tetrahydrofuran (THF)	0.748	0.738	1.3	104	0.00
35 T	Ethyl tert-Butyl Ether	1.451	1.381	4.8	101	0.00
36 T	1,2-Dichloroethane	1.631	1.535	5.9	99	-0.01
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	108	-0.01
38 T	1,1,1-Trichloroethane	0.470	0.436	7.2	97	0.00
39 T	Isopropyl Acetate	0.176	0.184	-4.5	106	-0.01
40 T	1-Butanol	0.253	0.288	-13.8	109	-0.03
41 T	Benzene	1.149	1.104	3.9	102	-0.01
42 T	Carbon Tetrachloride	0.435	0.411	5.5	96	0.00
43 T	Cyclohexane	0.445	0.434	2.5	101	0.00
44 T	tert-Amyl Methyl Ether	0.792	0.782	1.3	103	0.00
45 T	1,2-Dichloropropane	0.255	0.251	1.6	104	0.00
46 T	Bromodichloromethane	0.402	0.391	2.7	99	0.00
47 T	Trichloroethene	0.338	0.309	8.6	95	-0.01
48 T	1,4-Dioxane	0.217	0.228	-5.1	98	-0.01
49 T	2,2,4-Trimethylpentane (Iso	1.067	1.060	0.7	107	-0.01
50 T	Methyl Methacrylate	0.119	0.116	2.5	94	-0.02
51 T	n-Heptane	0.264	0.242	8.3	100	-0.01
52 T	cis-1,3-Dichloropropene	0.451	0.458	-1.6	100	-0.01
53 T	4-Methyl-2-pentanone	0.232	0.243	-4.7	102	-0.01
54 T	trans-1,3-Dichloropropene	0.399	0.420	-5.3	99	-0.01
55 T	1,1,2-Trichloroethane	0.277	0.262	5.4	97	0.00

19 of 20

Data File : I:\MS16\DATA\2018 11\19\11201801.D
 Acq On : 20 Nov 2018 2:57
 Sample : CCV R16112018 25ng
 Misc : S31-09141801/S31-11081802 (12/7)

Vial: 2
 Operator: LH
 Inst : GCMS-16

Quant Time: Nov 20 07:22:17 2018
 Quant Method : I:\MS16\METHODS\R16101918.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Oct 20 10:23:27 2018
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	104	0.00
57 S	Toluene-d8 (SS2)	1.991	1.950	2.1	103	0.00
58 T	Toluene	2.764	2.558	7.5	97	-0.01
59 T	2-Hexanone	1.266	1.294	-2.2	100	-0.01
60 T	Dibromochloromethane	0.807	0.814	-0.9	96	0.00
61 T	1,2-Dibromoethane	0.740	0.743	-0.4	97	0.00
62 T	n-Butyl Acetate	1.373	1.402	-2.1	99	0.00
63 T	n-Octane	0.526	0.495	5.9	104	-0.01
64 T	Tetrachloroethene	0.851	0.760	10.7	90	0.00
65 T	Chlorobenzene	1.872	1.785	4.6	95	-0.01
66 T	Ethylbenzene	3.148	3.094	1.7	97	0.00
67 T	m- & p-Xylenes	2.350	2.393	-1.8	97	-0.01
68 T	Bromoform	0.718	0.746	-3.9	93	0.00
69 T	Styrene	1.912	1.935	-1.2	94	0.00
70 T	o-Xylene	2.386	2.411	-1.0	97	-0.01
71 T	n-Nonane	1.096	1.158	-5.7	106	0.00
72 T	1,1,2,2-Tetrachloroethane	1.142	1.244	-8.9	102	0.00
73 S	Bromofluorobenzene (SS3)	0.905	0.810	10.5	92	0.00
74 T	Cumene	3.131	3.108	0.7	97	0.00
75 T	alpha-Pinene	1.624	1.660	-2.2	99	0.00
76 T	n-Propylbenzene	3.582	3.685	-2.9	98	0.00
77 T	3-Ethyltoluene	3.156	3.124	1.0	90	0.00
78 T	4-Ethyltoluene	2.847	2.973	-4.4	101	0.00
79 T	1,3,5-Trimethylbenzene	2.620	2.597	0.9	96	0.00
80 T	alpha-Methylstyrene	1.416	1.418	-0.1	91	0.00
81 T	2-Ethyltoluene	3.077	3.064	0.4	96	0.00
82 T	1,2,4-Trimethylbenzene	2.571	2.751	-7.0	95	-0.01
83 T	n-Decane	0.055	0.059	-7.3	106	0.00
84 T	Benzyl Chloride	2.266	2.366	-4.4	94	0.00
85 T	1,3-Dichlorobenzene	1.593	1.582	0.7	92	-0.01
86 T	1,4-Dichlorobenzene	1.615	1.547	4.2	92	0.00
87 T	sec-Butylbenzene	3.352	3.410	-1.7	96	0.00
88 T	4-Isopropyltoluene (p-Cymen)	3.193	3.325	-4.1	92	0.00
89 T	1,2,3-Trimethylbenzene	2.577	2.757	-7.0	95	-0.01
90 T	1,2-Dichlorobenzene	1.502	1.544	-2.8	91	-0.01
91 T	d-Limonene	0.934	1.110	-18.8	103	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.560	0.589	-5.2	93	0.00
93 T	n-Undecane	1.235	1.345	-8.9	105	0.00
94 T	1,2,4-Trichlorobenzene	1.204	1.158	3.8	91	0.00
95 T	Naphthalene	3.695	3.594	2.7	91	0.00
96 T	n-Dodecane	1.163	1.146	1.5	105	0.00
97 T	Hexachlorobutadiene	0.810	0.750	7.4	88	0.00
98 T	Cyclohexanone	0.808	0.870	-7.7	96	-0.01
99 T	tert-Butylbenzene	2.512	2.605	-3.7	93	0.00
100 T	n-Butylbenzene	2.659	2.792	-5.0	98	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

MEMORANDUM

TO: Project File **DATE:** November 27, 2018
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: EIM Data Validation Level EPA2A - October 31, 2018 Air Sample
LAB: ALS Environmental P1805998

Two (2) soil vapor extraction samples were collected on October 31, 2018 as part of as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. One soil vapor extraction sample was placed on hold. The remaining sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1805998.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report.

Sample Collection and Preservation

The laboratory supplied a Bottle-VacTM canister (1Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample was

collected, handled, and delivered in an appropriate manner. Review of the Sample Acceptance Check Form indicates that signed chain of custody seals were not placed on the exterior of the cooler. No action is taken other than to note that the samples were received in good condition. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by Method TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recovery and relative percent differences (RPDs) for all control compounds met laboratory control limit criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.



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Simi Valley, CA 93065
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www.alsglobal.com

LABORATORY REPORT

December 17, 2018

Matt Dahl
PES Environmental
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: MVSC / 1358.001.01.007

Dear Matt:

Enclosed are the results of the sample submitted to our laboratory on November 26, 2018. For your reference, this analysis has been assigned our service request number P1806520.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Kaneko at 2:37 pm, 12/17/18

Kate Kaneko
Laboratory Director



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: PES Environmental
Project: MVSC / 1358.001.01.007

Service Request No: P1806520

CASE NARRATIVE

The sample was received intact under chain of custody on November 26, 2018 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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 T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-005
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA01627201 8-9
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: PES Environmental
Project ID: MVSC / 1358.001.01.007

Service Request: P1806520

Date Received: 11/26/2018
Time Received: 09:00

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SYS-112118	P1806520-001	Air	11/21/2018	10:30	AC01934	-2.64	3.72	X



2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Company Name & Address (Reporting Information) PES ENVIRONMENTAL INC 1215 4th Ave STE 1350 SEATTLE WA 98161		Project Name MWSC		Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard		ALS Project No P1806520	
Project Manager Matt Dahl		Project Number 1358.001.01.007		ALS Contact:			
P.O. # / Billing Information 1358.001.01.007		Analysis Method					
Sampler (Print & Sign) Forsten Spohnstedt		Flow Controller ID (Bar code # - FC #) AC01934		Canister Start Pressure "Hg -29		Canister End Pressure "Hg/psig -5	
Canister ID (Bar code # - AC, SC, etc.) AC01934		Sample Volume 79		Date Collected 11-21-18		Time Collected 1030	
Client Sample ID SYS-N12118							
Laboratory ID Number 706-529-3900							
Email Address for Result Reporting M.dahl@pesc.com							
Phone 206-529-3900							
Fax 206-529-3985							
Comments e.g. Actual Preservative or specific instructions							

Report Tier Levels - please select

Tier I - Results (Default in not specified) X

Tier II (Results + QC Summaries) _____

Tier III (Results + QC & Calibration Summaries) _____

Tier IV (Date Validation Package) 10% Surcharge _____

Relinquished by: (Signature) *[Signature]* Date: **11-21-18** Time: **1100**

Relinquished by: (Signature) *[Signature]* Date: **11-21-18** Time: _____

Received by: (Signature) *[Signature]* Date: **11/20/18** Time: _____

Received by: (Signature) *[Signature]* Date: **11/20/18** Time: _____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

EDD required YES / No NO
 Type: **EM** Units: _____

Project Requirements (MRLs, QAPP)

Cooler / Blank Temperature _____ °C

**ALS Environmental
Sample Acceptance Check Form**

Client: PES Environmental

Work order: P1806520

Project: MVSC / 1358.001.01.007

Sample(s) received on: 11/26/18

Date opened: 11/26/18

by: AARON GONZALEZ

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Were chain-of-custody papers used and filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8 Were custody seals on outside of cooler/Box/Container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1806520-001.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: SYS-112118
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P1806520-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC01934

Date Collected: 11/21/18
 Date Received: 11/26/18
 Date Analyzed: 12/14/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 3.72

Container Dilution Factor: 1.53

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.46	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.1	0.80	0.83	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.81	ND	0.32	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.78	ND	0.30	
64-17-5	Ethanol	ND	7.8	ND	4.1	
75-05-8	Acetonitrile	ND	0.80	ND	0.47	
107-02-8	Acrolein	ND	1.5	ND	0.67	
67-64-1	Acetone	ND	8.3	ND	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	3.2	0.81	0.56	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3.2	ND	1.3	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.83	ND	0.21	
75-09-2	Methylene Chloride	ND	0.83	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.81	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.81	ND	0.11	
75-15-0	Carbon Disulfide	ND	1.7	ND	0.54	
156-60-5	trans-1,2-Dichloroethene	ND	0.81	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.83	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.1	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	1.5	ND	0.52	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: PES Environmental
Client Sample ID: SYS-112118
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P1806520-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC01934

Date Collected: 11/21/18
 Date Received: 11/26/18
 Date Analyzed: 12/14/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 3.72

Container Dilution Factor: 1.53

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	3.4	0.81	0.86	0.20	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.47	
110-54-3	n-Hexane	ND	0.83	ND	0.23	
67-66-3	Chloroform	4.5	0.83	0.93	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.81	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.81	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.83	ND	0.15	
71-43-2	Benzene	ND	0.80	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	ND	1.5	ND	0.44	
78-87-5	1,2-Dichloropropane	ND	0.83	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.81	ND	0.12	
79-01-6	Trichloroethene	0.93	0.81	0.17	0.15	
123-91-1	1,4-Dioxane	ND	0.81	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	ND	0.83	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.86	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.81	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.81	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.83	ND	0.15	
108-88-3	Toluene	ND	0.81	ND	0.22	
591-78-6	2-Hexanone	ND	0.83	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.83	ND	0.097	
106-93-4	1,2-Dibromoethane	ND	0.83	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.83	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: SYS-112118
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P1806520-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC01934

Date Collected: 11/21/18
 Date Received: 11/26/18
 Date Analyzed: 12/14/18
 Volume(s) Analyzed: 1.00 Liter(s)
 0.10 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 3.72

Container Dilution Factor: 1.53

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.83	ND	0.18	
127-18-4	Tetrachloroethene	200	8.1	29	1.2	D
108-90-7	Chlorobenzene	ND	0.81	ND	0.18	
100-41-4	Ethylbenzene	8.4	0.80	1.9	0.18	
179601-23-1	m,p-Xylenes	24	1.7	5.6	0.39	
75-25-2	Bromoform	ND	0.81	ND	0.078	
100-42-5	Styrene	ND	0.81	ND	0.19	
95-47-6	o-Xylene	5.2	0.81	1.2	0.19	
111-84-2	n-Nonane	ND	0.83	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.81	ND	0.12	
98-82-8	Cumene	ND	0.81	ND	0.17	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.83	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.81	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.81	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.81	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.7	ND	0.33	
541-73-1	1,3-Dichlorobenzene	ND	0.83	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.83	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.83	ND	0.14	
5989-27-5	d-Limonene	ND	0.78	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.082	
120-82-1	1,2,4-Trichlorobenzene	ND	0.81	ND	0.11	
91-20-3	Naphthalene	ND	0.78	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.81	ND	0.076	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P181213-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 12/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
115-07-1	Propene	ND	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.52	ND	0.11	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.51	ND	0.073	
75-01-4	Vinyl Chloride	ND	0.53	ND	0.21	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
64-17-5	Ethanol	ND	5.1	ND	2.7	
75-05-8	Acetonitrile	ND	0.52	ND	0.31	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.4	ND	2.3	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.53	ND	0.094	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.1	ND	0.85	
107-13-1	Acrylonitrile	ND	0.52	ND	0.24	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.54	ND	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.53	ND	0.069	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.52	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.3	ND	1.5	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P181213-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 12/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.1	ND	0.31	
110-54-3	n-Hexane	ND	0.54	ND	0.15	
67-66-3	Chloroform	ND	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	0.53	ND	0.18	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.54	ND	0.099	
71-43-2	Benzene	ND	0.52	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.54	ND	0.12	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.54	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.56	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	0.53	ND	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	0.53	ND	0.12	
79-00-5	1,1,2-Trichloroethane	ND	0.54	ND	0.099	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	0.54	ND	0.13	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.54	ND	0.070	
123-86-4	n-Butyl Acetate	ND	0.54	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: PES Environmental
Client Sample ID: Method Blank
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P181213-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 12/13/18
 Volume(s) Analyzed: 1.00 Liter(s)

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.53	ND	0.051	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.54	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.53	ND	0.11	
80-56-8	alpha-Pinene	ND	0.52	ND	0.093	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.54	ND	0.090	
106-46-7	1,4-Dichlorobenzene	ND	0.54	ND	0.090	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	0.51	ND	0.092	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.52	ND	0.054	
120-82-1	1,2,4-Trichlorobenzene	ND	0.53	ND	0.071	
91-20-3	Naphthalene	ND	0.51	ND	0.097	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: PES Environmental
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 11/21/18
 Date(s) Received: 11/26/18
 Date(s) Analyzed: 12/13 - 12/14/18

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P181213-MB	96	103	100	70-130	
Lab Control Sample	P181213-LCS	98	100	102	70-130	
SYS-112118	P1806520-001	92	102	100	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P181213-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 12/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
115-07-1	Propene	211	198	94	53-112	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	205	98	62-103	
74-87-3	Chloromethane	211	214	101	51-121	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	208	99	56-111	
75-01-4	Vinyl Chloride	214	207	97	57-117	
106-99-0	1,3-Butadiene	210	217	103	53-134	
74-83-9	Bromomethane	212	209	99	65-110	
75-00-3	Chloroethane	214	211	99	64-111	
64-17-5	Ethanol	1,020	997	98	57-124	
75-05-8	Acetonitrile	206	208	101	57-126	
107-02-8	Acrolein	205	203	99	62-121	
67-64-1	Acetone	1,060	1010	95	60-113	
75-69-4	Trichlorofluoromethane (CFC 11)	211	208	99	63-104	
67-63-0	2-Propanol (Isopropyl Alcohol)	413	446	108	60-124	
107-13-1	Acrylonitrile	207	222	107	66-125	
75-35-4	1,1-Dichloroethene	218	220	101	68-107	
75-09-2	Methylene Chloride	217	214	99	66-105	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	228	106	63-127	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	212	98	59-109	
75-15-0	Carbon Disulfide	218	214	98	67-109	
156-60-5	trans-1,2-Dichloroethene	214	210	98	70-115	
75-34-3	1,1-Dichloroethane	216	209	97	66-106	
1634-04-4	Methyl tert-Butyl Ether	214	216	101	67-109	
108-05-4	Vinyl Acetate	1,060	1290	122	68-136	
78-93-3	2-Butanone (MEK)	208	211	101	71-116	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P181213-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 12/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
156-59-2	cis-1,2-Dichloroethene	211	210	100	67-110	
141-78-6	Ethyl Acetate	436	459	105	64-127	
110-54-3	n-Hexane	216	202	94	60-115	
67-66-3	Chloroform	217	213	98	66-105	
109-99-9	Tetrahydrofuran (THF)	216	212	98	65-110	
107-06-2	1,2-Dichloroethane	215	207	96	60-110	
71-55-6	1,1,1-Trichloroethane	215	211	98	64-108	
71-43-2	Benzene	211	196	93	67-106	
56-23-5	Carbon Tetrachloride	212	205	97	64-112	
110-82-7	Cyclohexane	416	415	100	67-110	
78-87-5	1,2-Dichloropropane	216	215	100	66-112	
75-27-4	Bromodichloromethane	215	216	100	67-113	
79-01-6	Trichloroethene	213	214	100	66-108	
123-91-1	1,4-Dioxane	214	226	106	70-116	
80-62-6	Methyl Methacrylate	431	472	110	73-118	
142-82-5	n-Heptane	215	222	103	66-110	
10061-01-5	cis-1,3-Dichloropropene	214	222	104	75-120	
108-10-1	4-Methyl-2-pentanone	209	230	110	65-124	
10061-02-6	trans-1,3-Dichloropropene	213	231	108	77-123	
79-00-5	1,1,2-Trichloroethane	215	220	102	68-112	
108-88-3	Toluene	212	210	99	62-111	
591-78-6	2-Hexanone	214	236	110	59-128	
124-48-1	Dibromochloromethane	213	226	106	67-123	
106-93-4	1,2-Dibromoethane	216	228	106	66-122	
123-86-4	n-Butyl Acetate	219	242	111	64-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

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Client: PES Environmental
Client Sample ID: Lab Control Sample
Client Project ID: MVSC / 1358.001.01.007

ALS Project ID: P1806520
 ALS Sample ID: P181213-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Simon Cao
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 12/13/18
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
111-65-9	n-Octane	217	220	101	65-114	
127-18-4	Tetrachloroethene	213	218	102	55-120	
108-90-7	Chlorobenzene	215	216	100	61-114	
100-41-4	Ethylbenzene	212	210	99	64-113	
179601-23-1	m,p-Xylenes	426	428	100	64-114	
75-25-2	Bromoform	213	225	106	65-132	
100-42-5	Styrene	212	229	108	67-124	
95-47-6	o-Xylene	214	215	100	65-114	
111-84-2	n-Nonane	215	222	103	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	214	226	106	66-119	
98-82-8	Cumene	214	217	101	61-116	
80-56-8	alpha-Pinene	211	223	106	65-120	
103-65-1	n-Propylbenzene	218	224	103	63-117	
622-96-8	4-Ethyltoluene	214	229	107	63-124	
108-67-8	1,3,5-Trimethylbenzene	214	217	101	60-117	
95-63-6	1,2,4-Trimethylbenzene	215	226	105	61-122	
100-44-7	Benzyl Chloride	217	245	113	77-142	
541-73-1	1,3-Dichlorobenzene	216	233	108	61-125	
106-46-7	1,4-Dichlorobenzene	216	233	108	59-123	
95-50-1	1,2-Dichlorobenzene	216	235	109	61-126	
5989-27-5	d-Limonene	211	235	111	66-124	
96-12-8	1,2-Dibromo-3-chloropropane	209	244	117	67-138	
120-82-1	1,2,4-Trichlorobenzene	214	260	121	62-141	
91-20-3	Naphthalene	203	264	130	62-145	
87-68-3	Hexachlorobutadiene	209	229	110	49-131	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

MEMORANDUM

TO: Project File **DATE:** January 10, 2019
FROM: Jessie Compeau
SUBJECT: Laboratory Data Validation Review
PROJECT: Manhattan Village Shopping Center - Soil Vapor Extraction System Performance Data Review
PROJECT #: 1358.001.01.007
TASK: EIM Data Validation Level EPA2A – November 21, 2018 Air Sample
LAB: ALS Environmental P1806520A

One (1) soil vapor extraction sample was collected on November 21, 2018 as part of SVE system O&M at the Manhattan Village Shopping Center in Normandy Park, Washington. The sample was analyzed for 75 VOCs by USEPA Method TO-15 (*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*, Second Edition, EPA/625/R-96/010B, January 1999). Laboratory analytical services were provided by ALS Environmental (ALS) (also known as ALS Global (ALS)) of Simi Valley, California. Analytical data are reported under ALS's service request number P1806520A.

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

DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation 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, 2017).

DATA VALIDATION

Completeness

The sample was collected and analyzed as requested. No concerns, issues, or anomalies were identified in the laboratory report with the following discussion:

- The report was revised on January 11, 2018 by ALS per PES's request to include laboratory control sample duplicate (LCSD) results.

Sample Collection and Preservation

The laboratory supplied an Ambient Can canister (6-Liter) for the air sample. The sample was shipped, delivered by FedEx, and received in good condition by the laboratory. The sample was collected, handled, and delivered in an appropriate manner. Review of the Sample Acceptance Check Form indicates that signed chain of custody seals were not placed on the exterior of the cooler. No action is taken other than to note that the samples were received in good condition. No data qualifications were warranted based upon sampling and preservation techniques.

Holding Times

The analysis for VOCs by Method TO-15 was performed within the 30-day recommended holding time limit for the air sample collected in a Summa canister. No data was qualified based upon holding times.

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 and laboratory notes do not indicate that there are any issues with calibration.

Method Blank Results

Laboratory method blanks were included with the analytical batch per method requirement. The method blank results did not report any compounds at concentrations at or above the method reporting limits (MRLs).

Trip Blank Results

A trip blank was not required for the VOCs by TO-15 analyses. No qualifications were warranted due to the lack of a trip blank for this method.

Field Duplicate Analyses

No field duplicates were required or collected during this field event.

Laboratory Duplicate/Replicate Analyses

A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

Surrogate Recoveries

The surrogate percent recovery (% R) results for the VOCs by TO-15 air sample, method blank, and laboratory control samples are within the laboratory surrogate control limits of 70 -130% R. No data qualifications were warranted.

Laboratory Control Samples

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) was analyzed for the VOCs by TO-15 along with each analytical batch. LCS/LCSD %Rs and relative percent differences (RPDs) are within QC criteria.

Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15 method.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory MRLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of ppbv and $\mu\text{g}/\text{m}^3$.

The MRLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The MRL for tetrachloroethene is elevated due to a method-required dilution. The MRLs were acceptable for the project; therefore, no data qualifications were warranted.

Data Assessment

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.

ATTACHMENT C
SVE CAPTURE ZONE EVALUATION DATA

Attachment C SVE Well Capture Zone Evaluation Harris and MVSC Properties Normandy Park, Washington

PROBLEM:

- 1) Calculate normalized vacuum at monitoring points and plot on semi-log chart for capture zone (CZ) evaluation.
Field testing on 1/5/2018

GIVEN:

- A) ROI test vacuum and flow data

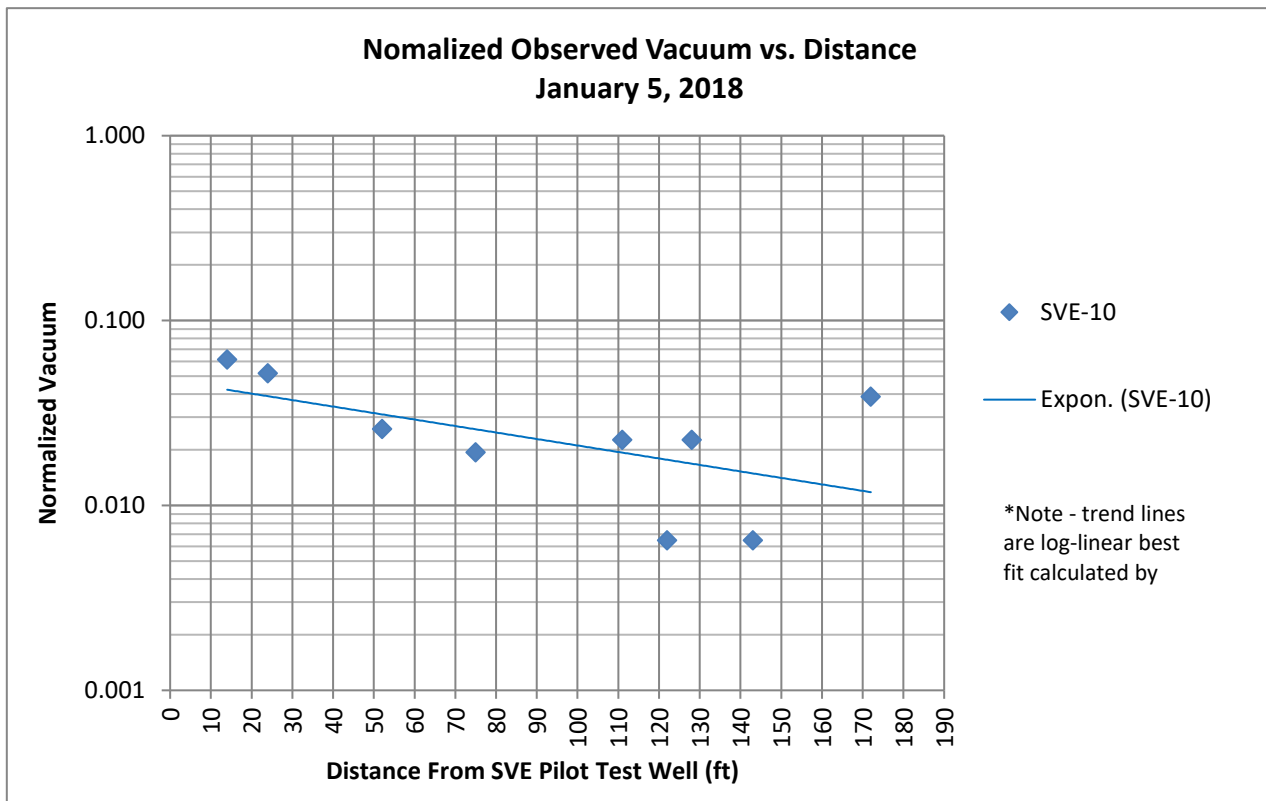
SVE-10 Screen interval 10 - 30 ft bgs

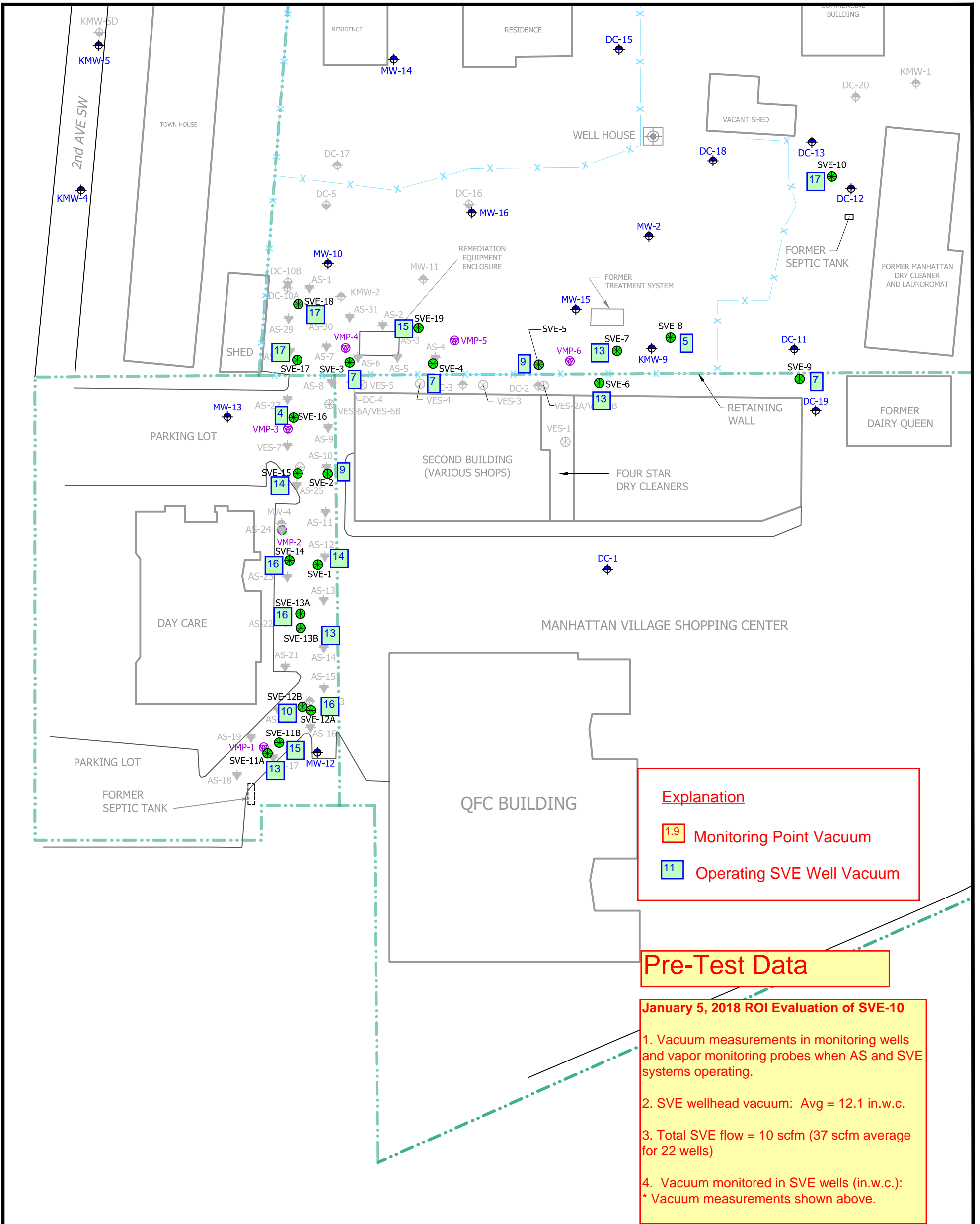
Pilot Test Well ID	Distance from SVE-10 (ft)	Vacuum		Pilot Test Well ID	Distance from SVE-10 (ft)	Vacuum	
		Const. Rate (in.w.c.)	Normalized			Const. Rate (in.w.c.)	Normalized
SVE-10	0.1	15.5	1.0	DC-12	14	0.95	0.061
SVE-7	172	0.6	0.039	DC-13	24	0.8	0.052
SVE-8	143	0.1	0.006	DC-18	75	0.3	0.019
SVE-9	128	0.35	0.023	DC-20	52	0.4	0.026
DC-11	111	0.35	0.023	MW-2	122	0.1	0.006

* Note - Constant rate vacuum is test vacuum minus baseline vacuum measurement

CALCULATION:

- 1) Plot normalized vacuum vs distance.

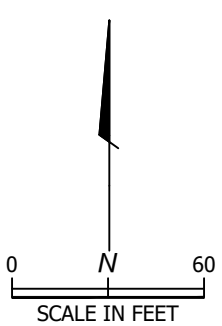




Note:

- SCS operated a 9 well interim SVE system between October 1999 and July 2000. The former SVE system and wells have been decommissioned.

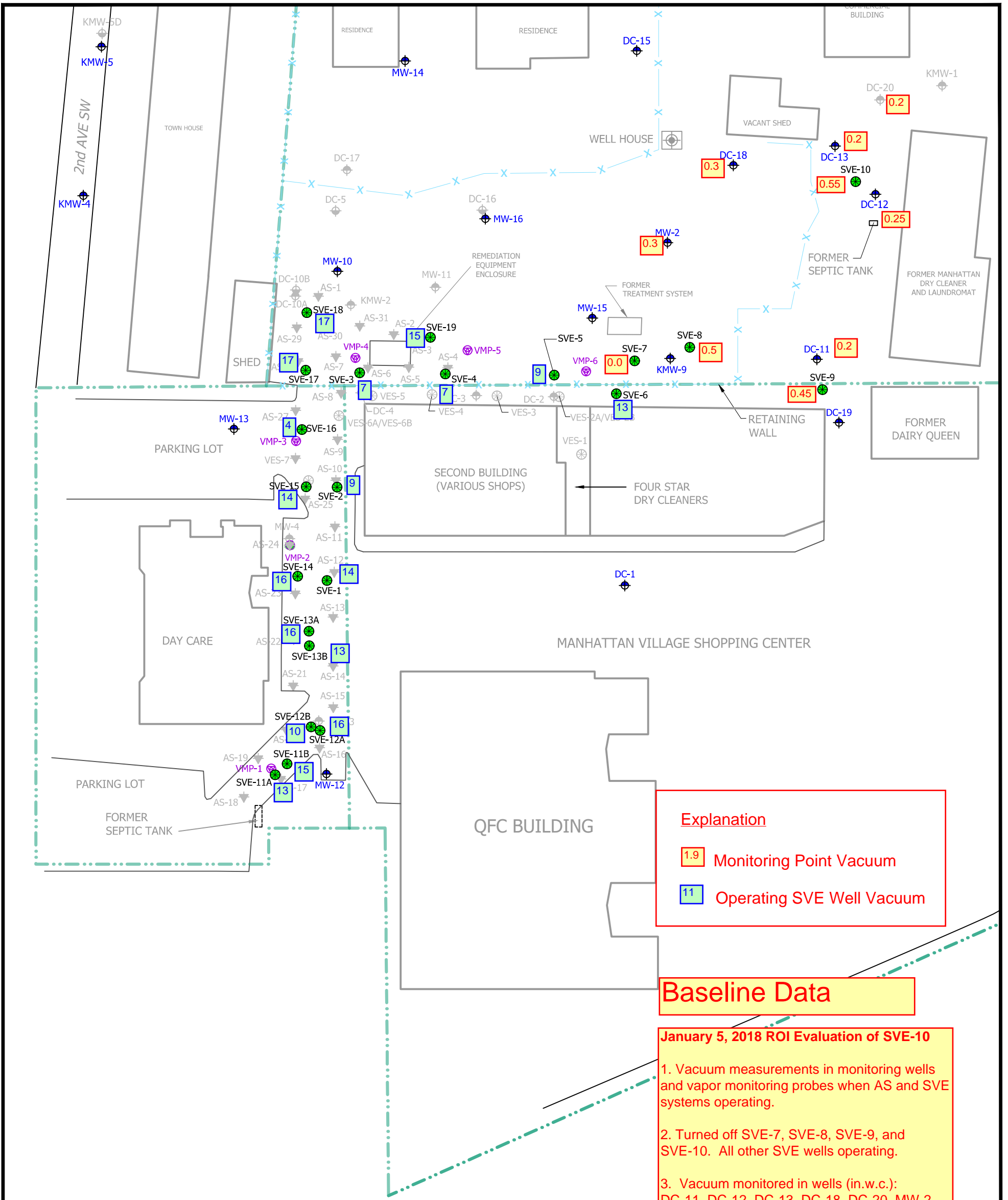
- EXPLANATION**
- Approximate Property Boundary
 - MW-12 Shallow Monitoring Well
 - DC-16 Deep Monitoring Well
 - AS-1 Air Sparge Well
 - SVE-1 Soil Vapor Extraction Well
 - VES-3 Decommissioned Soil Vapor Extraction Well (SCS, 1999)
 - VMP-1 Vapor Monitoring Probe



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Remediation Well Locations
Manhattan Village/Harris Properties
17817, 17825, and 17835 1st Avenue South
Normandy Park, Washington

FIGURE
3A

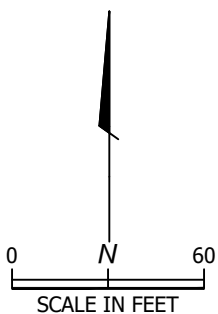


Note:

- SCS operated a 9 well interim SVE system between October 1999 and July 2000. The former SVE system and wells have been decommissioned.

EXPLANATION

- Approximate Property Boundary
- MW-12 Shallow Monitoring Well
- DC-16 Deep Monitoring Well
- AS-1 Air Sparge Well
- SVE-1 Soil Vapor Extraction Well
- VES-3 Decommissioned Soil Vapor Extraction Well (SCS, 1999)
- VMP-1 Vapor Monitoring Probe



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Remediation Well Locations

Manhattan Village/Harris Properties
17817, 17825, and 17835 1st Avenue South
Normandy Park, Washington

FIGURE

3A

1358.001.01.003 135800101003_17Q3Q4_3a

DRAFT

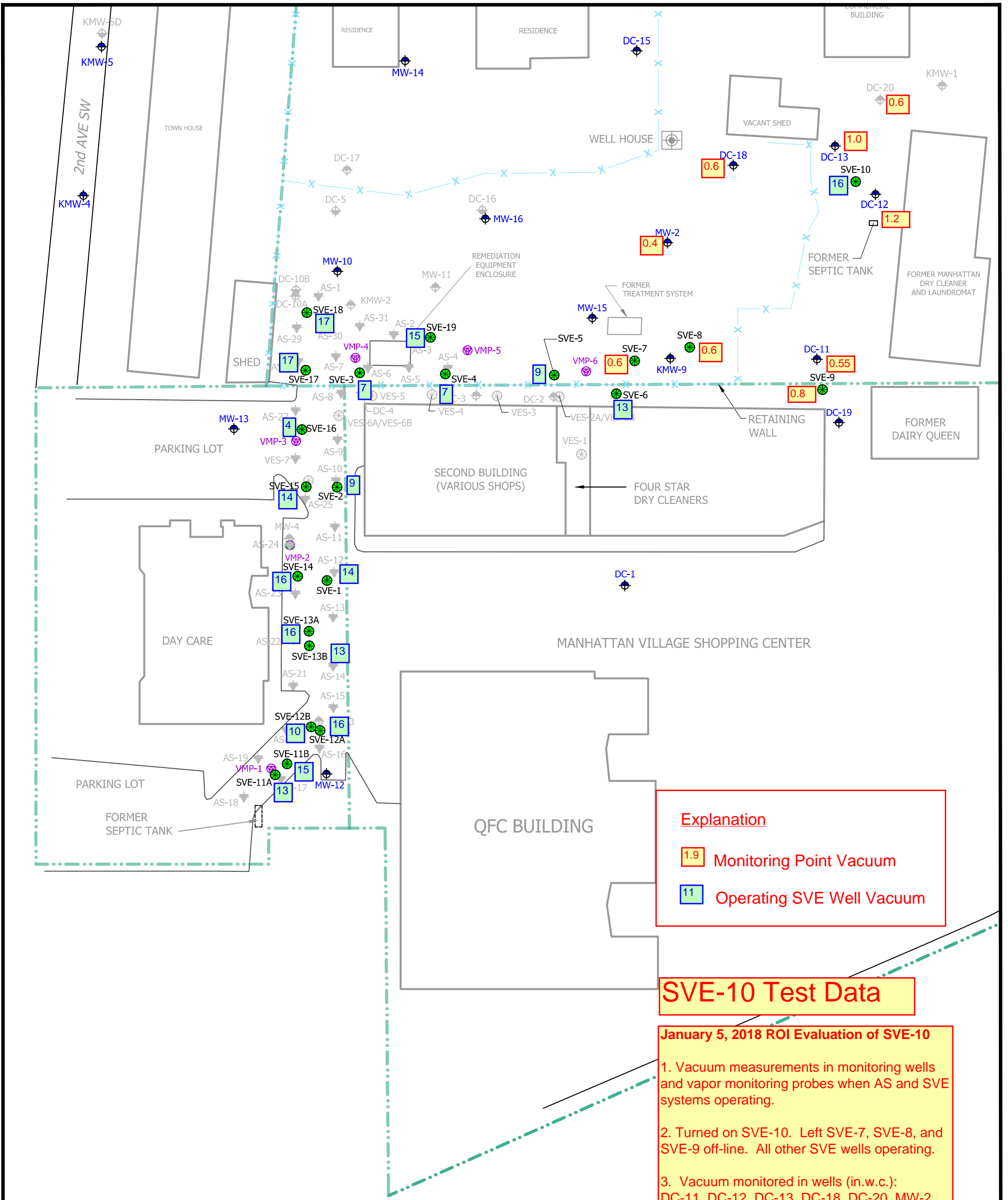
12/17

JOB NUMBER

DRAWING NUMBER

REVIEWED BY

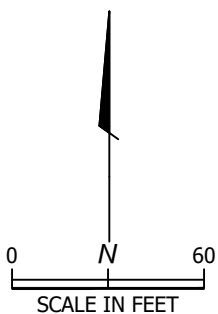
DATE



Note:

- SCS operated a 9 well interim SVE system between October 1999 and July 2000. The former SVE system and wells have been decommissioned.

- EXPLANATION**
- Approximate Property Boundary
 - MW-12 Shallow Monitoring Well
 - DC-16 Deep Monitoring Well
 - AS-1 Air Sparge Well
 - SVE-1 Soil Vapor Extraction Well
 - VES-3 Decommissioned Soil Vapor Extraction Well (SCS, 1999)
 - VMP-1 Vapor Monitoring Probe



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Remediation Well Locations
Manhattan Village/Harris Properties
17817, 17825, and 17835 1st Avenue South
Normandy Park, Washington

FIGURE

3A

ATTACHMENT D
WELL COMPLETION DETAILS AND HISTORICAL GROUNDWATER DATA
SUMMARIES

- Table D1 – Well Completion Details
- Table D2 – Historical Summary of Groundwater Elevations (1999-2018)
- Table D3 – Historical Summary of Groundwater Analytical Results (1999-2018)
- Table D4 – Historical Summary of Soil Analytical Results (1998 – 2018)

**Table D1
Well Completion and Boring Details
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Well	Ecology Well Tag Number	Date Installed	Drilling Method	Location (feet NAD 83/91)		Elevation (feet NAVD 88)			Survey Notes	29.80-39.80 Monument Type	Boring Depth (feet)	Well Diameter (inches)	Screen Depth (ft bgs)		Slot Size (inch)	Filter Pack (ft bgs)	Seal (ft bgs)
				Northing	Easting	Monitoring Point	Surface Casing Rim	Ground Surface					Below Ground	Below Top of Casing			
Shallow Monitoring Wells																	
MW-1		12/9/99	HSA	--	--	309.97	--	--	SCS, 1999 (converted)	Flush	44	2	34-44	--	0.020	est. 32-44	0-est. 32
MW-2		12/9/99	HSA	165,149.8	1,268,724.6	308.34	309.13	309.12	PES, 08/2015	Flush	43	2	33-43	32.22-42.22	0.020	est. 31-43	0-est. 31
MW-3		4/8/08	HSA	164,857.2	1,268,511.5	311.41	311.76	311.74	PES, 08/2015	Flush	47	2	36-46	35.67-45.67	0.010	34-46	0-34
MW-4		4/8/08	HSA	164,968.5	1,268,493.6	310.47	311.03	311.02	PES, 08/2015	Flush	44	2	34-44	33.45-43.45	0.010	32-44	0-32
MW-5		4/8/08	HSA	165,331.6	1,268,938.6	310.38	310.84	--	PES, 02/2013	Flush	46	2	36-46	35.6-45.6	0.010	34-46	0-34
MW-6		4/9/08	HSA	165,615.5	1,268,908.5	304.14	304.71	304.68	PES, 02/2013; PES, 08/2015	Flush	45	2	35-45	34.46-44.46	0.010	33-45	0-35
MW-7		4/9/08	HSA	165,652.2	1,268,684.8	302.64	303.18	303.17	PES, 02/2013; PES, 08/2015	Flush	45	2	35-45	34.47-44.47	0.010	33-45	0-35
MW-8		8/18/08	HSA	165,681.2	1,268,349.8	280.68	281.05	280.97	PES, 02/2013; PES, 08/2015	Flush	26	2	13-23	12.71-22.71	0.010	11-23	0-11
MW-9		8/18/08	HSA	166,019.8	1,268,663.9	284.97	285.35	285.37	PES, 02/2013; PES, 08/2015	Flush	55	2	32-42	31.6-41.6	0.010	30-42	0-30
MW-10		2/3/11	HSA	165,132.3	1,268,522.8	306.71	307.20	307.19	PES, 02/2013; PES, 08/2015	Flush	42	2	32-42	31.52-41.52	0.010	30-42	0-30
MW-11		2/3/11	HSA	165,122.2	1,268,582.9	307.62	308.13	308.06	PES, 02/2013; PES, 08/2015	Flush	42	2	32-42	31.56-41.56	0.010	30-42	0-30
MW-12		3/28/12	HSA	164,825.0	1,268,516.1	312.80	313.12	313.10	PES, 02/2013; PES, 08/2015	Flush	46.5	2	36-46	35.7-45.7	0.010	34-46.5	0-34
MW-13		3/29/12	HSA	165,036.5	1,268,459.8	308.75	309.16	309.17	PES, 02/2013; PES, 08/2015	Flush	46.5	2	35-45	34.58-44.58	0.010	33-45	0-33
MW-14		3/27/12	HSA	165,261.1	1,268,564.6	303.82	304.24	--	PES, 02/2013	Flush	38	2	28-38	27.6-37.6	0.010	26-38	0-26
MW-15		3/28/12	HSA	165,103.9	1,268,678.7	312.44	312.81	310.30	PES, 02/2013	AG	46.5	2	35-45	37.14-47.14	0.010	33-45.5	0-33
MW-16	BHV646	5/16/13	HSA	165,164.5	1,268,613.3	310.37	311.21	307.92	PES, 05/2013	AG	43	2	27.2-42.2	29.45-44.65	0.020	25-43	0-25
MW-17	BLI196	3/1/19	HSA	165,371.0	1,268,609.7	303.00	303.32	303.30	PES, 03/2019	Flush	39.5	2	27.94-37.94	27.64-37.64	0.010	26-39.5	0-26
MW-18	BLI195	2/28/19	HSA	165,386.9	1,268,688.3	305.26	305.56	305.40	PES, 03/2019	Flush	41.5	2	29.95-39.95	29.80-39.80	0.010	27.5-41.5	0-27.5
DC-1		10/12/98	HSA	164,940.2	1,268,698.6	312.82	313.34	--	PES, 02/2013	Flush	47	2	40-45	39.5-44.5	0.020	37-47	0-37
DC-2		10/13/98	HSA	165,055.6	1,268,655.1	312.92	313.61	313.70	PES, 02/2013; PES, 08/2015	Flush	50	2	42-47	41.22-46.22	0.020	40-50	0-40
DC-3		10/13/98	HSA	165,056.4	1,268,607.7	313.11	313.68	313.79	PES, 02/2013; PES, 08/2015	Flush	48	2	43-48	42.32-47.32	0.020	41-48	0-41
DC-4		10/13/98	HSA	165,058.1	1,268,537.4	312.35	312.96	312.99	PES, 02/2013; PES, 08/2015	Flush	49	2	44-49	43.36-48.36	0.020	41-49	0-41
DC-6		1/22/99	HSA	--	--	308.46	--	--	SCS, 1999 (converted)	Flush	45	2	40-45	--	0.020	37-45	0-37
DC-7		1/18/99	HSA	165,318.1	1,268,514.4	302.61	303.30	303.26	PES, 02/2013; PES, 08/2015	Flush	40	2	35-40	34.35-39.35	0.020	33-40	0-33
DC-8		1/18/99	HSA	165,328.8	1,268,685.4	306.23	306.70	306.59	PES, 02/2013; PES, 08/2015	Flush	42	2	37-42	36.64-41.64	0.020	34-42	0-34
DC-9A		4/6/99	HSA	165,124.7	1,268,587.3	308.02	--	--	ERM, 08/2008	Flush	38	2	33-38	32.6-37.6	0.020	31-38	0-31
DC-10A		4/5/99	HSA	165,117.2	1,268,497.2	307.73	307.83	307.72	PES, 02/2013; PES, 08/2015	Flush	37	2	32-37	32.01-37.01	0.020	30-37	0-30
DC-11		4/19/07	HSA	165,078.5	1,268,816.1	311.25	311.66	--	PES, 02/2013	Flush	42	2	32-42	31.6-41.6	0.010	30-42	0-30
DC-12		4/18/07	HSA	165,179.4	1,268,851.9	311.25	311.58	--	PES, 02/2013	Flush	42	2	32-42	31.7-41.7	0.010	30-42	0-30
DC-13		4/19/07	HSA	165,208.9	1,268,827.2	310.20	310.52	--	PES, 02/2013	Flush	42	2	32-42	31.7-41.7	0.010	30-42	0-30
DC-14		4/17/07	HSA	165,355.0	1,268,812.6	308.94	309.49	--	PES, 02/2013	Flush	45	2	35-45	34.4-44.4	0.010	33-45	0-33
DC-15		4/16/07	HSA	165,267.1	1,268,705.9	307.89	308.20	--	PES, 02/2013	Flush	42	2	31-41	30.7-40.7	0.010	29-41	0-29
DC-17		4/16/07	HSA	165,194.2	1,268,528.6	305.16	305.58	305.35	PES, 05/2013	Flush	40	2	30-40	29.81-39.81	0.010	28-40	0-28
DC-18		4/18/07	HSA	165,197.1	1,268,765.0	309.51	309.95	309.93	PES, 02/2013; PES, 08/2015	Flush	42	2	32-42	31.58-41.58	0.010	30-42	0-30
DC-19		6/1/07	HSA	165,039.3	1,268,829.6	313.62	313.82	--	PES, 02/2013	Flush	47	2	37-47	36.8-46.8	0.010	35-47	0-35
DC-20		5/28/08	HSA	165,237.2	1,268,854.8	310.92	311.13	--	PES, 02/2013	Flush	44	2	34-44	33.8-43.8	0.020	32-44	0-32
KMW-1		7/25/05	HSA	165,245.9	1,268,892.6	311.59	311.82	--	PES, 02/2013; PES, 08/2015	Flush	52	2	37-52	36.8-51.8	0.010	34-52	0-34
KMW-2		5/1/06	HSA	165,111.7	1,268,531.0	307.04	307.27	307.13	PES, 02/2013; PES, 08/2015	Flush	50	6	30-40	29.91-39.91	0.010	8-40	0-8
KMW-3		5/1/06	HSA	165,357.4	1,268,462.5	296.92	297.52	--	Farallon, 05/2007	Flush	40	2	25-35	24.6-34.6	0.010	8-35	0-8
KMW-4		3/28/07	HSA	165,175.7	1,268,369.8	299.57	299.84	299.78	Farallon, 05/2007; PES, 08/2015	Flush	34	2	24-34	23.79-33.79	0.020	22-34	0-22
KMW-5		3/28/07	HSA	165,267.7	1,268,380.4	297.22	297.58	297.56	Farallon, 05/2007; PES, 08/2015	Flush	34	2	24-34	23.66-33.66	0.020	22-34	0-22
KMW-6		3/27/07	HSA	165,391.1	1,268,399.1	294.81	295.06	295.08	Farallon, 05/2007; PES, 08/2015	Flush	42.5	2	26-41	25.73-40.73	0.020	22-41	0-22
KMW-7		3/25/07	HSA	165,389.7	1,268,563.6	301.43	301.66	301.65	Farallon, 05/2007; PES, 08/2015	Flush	44	2	29-44	28.78-43.78	0.020	27-44	0-27
KMW-8		3/26/07	HSA	165,386.2	1,268,800.7	308.15	308.51	308.46	Farallon, 05/2007; PES, 08/2015	Flush	44	2	29-44	28.69-43.69	0.020	27-44	0-29
KMW-9		3/27/07	HSA	165,079.0	1,268,726.3	310.33	310.83	310.83	PES, 02/2013; PES, 08/2015	Flush	44	2	34-44	33.5-43.5	0.020	32-44	0-32

**Table D1
Well Completion and Boring Details
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Well	Ecology Well Tag Number	Date Installed	Drilling Method	Location (feet NAD 83/91)		Elevation (feet NAVD 88)			Survey Notes	29.80-39.80 Monument Type	Boring Depth (feet)	Well Diameter (inches)	Screen Depth (ft bgs)		Slot Size (inch)	Filter Pack (ft bgs)	Seal (ft bgs)
				Northing	Easting	Monitoring Point	Surface Casing Rim	Ground Surface					Below Ground	Below Top of Casing			
Deep Monitoring Wells																	
DC-5		1/22/99	HSA	165,166.5	1,268,526.9	306.03	306.28	306.24	PES, 02/2013; PES, 08/2015	Flush	58.5	2	41-46	40.79-45.79	0.020	39-47	0-39
DC-9B		4/5/99	HSA	165,122.8	1,268,589.4	308.16	--	--	ERM, 08/2008	Flush	60	2	53-58	--	0.020	50.5-58	0-50.5
DC-10B		4/6/99	HSA	165,120.4	1,268,497.5	307.80	308.29	307.89	PES, 02/2013; PES, 08/2015	Flush	56	2	45-50	44.91-49.91	0.020	43-50	0-43
DC-16		4/18/07	HSA	165,169.7	1,268,611.5	307.12	307.79	--	Farallon, 05/2007; PES, 02/2013	Flush	61.5	2	50-60	49.3-59.3	0.010	50-60	0-50
KMW-5D		3/28/07	HSA	165,276.5	1,268,382.0	297.04	297.35	297.32	Farallon, 05/2007; PES, 08/2015	Flush	46	2	41-46	40.72-45.72	0.020	41-46	0-41
Former SCS Soil Vapor Extraction Wells (1999)																	
VES-1 (B1)		1999	--	--	--	--	--	--	PES, 02/2013; PES, 08/2015	Flush	11.5	2	3-11	--	0.020	2.5-11.5	1.5-2.5
VES-2A		1999	--	--	--	--	--	--	PES, 02/2013; PES, 08/2015	Flush	6.5	2	3-6	--	0.020	2.5-6.5	1.5-2.5
VES-2B		1999	--	--	--	--	--	--	PES, 02/2013	Flush	36	2	11.5-35.5	--	0.020	7.5-36	1.5-2.5/6.5-7.5
VES-3 (BH-15)		1999	--	--	--	--	--	--	PES, 02/2013	Flush	6.5	2	3-6	--	0.020	2.5-6.5	1.5-2.5
VES-4 (BH-16)		1999	--	--	--	--	--	--	PES, 02/2013	Flush	6.5	2	3-6	--	0.020	2.5-6.5	1.5-2.5
VES-5 (BH-17)		1999	--	--	--	--	--	--	PES, 02/2013	Flush	6.5	2	3-6	--	0.010	2.5-6.5	1.5-2.5
VES-6A (BH-1)		1999	--	--	--	--	--	--	PES, 02/2013	Flush	6.5	2	3-6	--	0.020	2.5-6.5	1.5-2.5
VES-6B (BH-1)		1999	--	--	--	--	--	--	PES, 02/2013	Flush	36	2	11.5-35.5	--	0.020	7.5-36	1.5-2.5/6.5-7.5
VES-7		1999	--	--	--	--	--	--	PES, 02/2013	Flush	6.5	2	3-6	--	0.020	2.5-6.5	1.5-2.5
Soil Vapor Extraction Wells																	
SVE-1		6/29/09	HSA	164,943.5	1,268,516.2	311.85	312.02	--	PES, 02/2013; PES, 08/2015	Flush	35.5	2	10-35	9.7-34.7	0.020	8-35.5	0-8
SVE-2		6/29/09	HSA	165,000.3	1,268,522.6	312.41	312.58	--	PES, 02/2013; PES, 08/2015	Flush	35.5	2	10-35	9.6-34.6	0.020	8-35.5	0-8
SVE-3		6/30/09	HSA	165,070.2	1,268,536.4	308.28	--	307.84	PES, 02/2013	Flush	30.5	2	10-30	10.44-30.44	0.020	8-30.5	0-8
SVE-4		6/30/09	HSA	165,069.1	1,268,589.2	308.90	--	308.31	PES, 02/2013	Flush	30.5	2	10-30	10.59-30.59	0.020	8-30.5	0-8
SVE-5		6/30/09	HSA	165,068.8	1,268,655.3	309.91	--	309.31	PES, 02/2013	Flush	30.5	2	10-30	10.6-30.6	0.020	8-30.5	0-8
SVE-6		6/26/09	AKVAC	165,057.5	1,268,693.4	313.03	313.57	--	PES, 02/2013	Flush	10	2	5-10	4.6-9.6	0.010	4-10	0-4
SVE-7		6/30/09	HSA	165,077.5	1,268,704.6	310.71	--	309.95	PES, 02/2013	Flush	30.5	2	10-30	10.76-30.76	0.020	8-30.5	0-8
SVE-8		6/30/09	HSA	165,085.8	1,268,738.3	311.48	--	310.56	PES, 02/2013	Flush	30.5	2	10-30	10.92-30.92	0.020	8-30.5	0-8
SVE-9		6/29/09	HSA	165,060.0	1,268,819.5	313.31	--	312.13	PES, 02/2013	Flush	30.5	2	10-30	11.18-31.18	0.020	8-30.5	0-8
SVE-10		6/30/09	HSA	165,187.1	1,268,839.8	311.06	311.28	--	PES, 02/2013	Flush	30.5	2	10-30	9.8-29.8	0.020	8-30.5	0-8
SVE-11A	BIE307	11/18/13	HSA	164,824.5	1,268,484.7	--	311.21	--	PES, 08/2015	Flush	20	4	5-19.98	4.6-19.58	0.020	3-20	0-3
SVE-11B	BIE301	11/18/13	HSA	164,831.2	1,268,492.0	--	311.43	--	PES, 08/2015	Flush	57	4	20-35	19.6-34.6	0.020	18-36	0-18
SVE-12A	BIE303	11/19/13	HSA	164,851.6	1,268,512.2	--	312.06	--	PES, 08/2015	Flush	20	4	5-19.98	4.6-19.58	0.020	3-20	0-3
SVE-12B	BIE304	11/20/13	HSA	164,853.8	1,268,506.7	--	311.52	--	PES, 08/2015	Flush	57	4	20-35	19.6-34.6	0.020	18-36	0-18
SVE-13A	BIE306	11/22/13	HSA	164,912.3	1,268,505.4	--	310.95	--	PES, 08/2015	Flush	20	4	5-19.98	4.6-19.58	0.020	3-20	0-3
SVE-13B	BIE305	11/21/13	HSA	164,903.3	1,268,505.6	--	310.99	--	PES, 08/2015	Flush	57.5	4	20-35	19.6-34.6	0.020	18-36	0-18
SVE-14	BID732	10/13/14	HSA	164,945.9	1,268,498.5	--	311.06	--	PES, 08/2015	Flush	36	4	19.63-34.63	19.23-34.23	0.020	18.3-36	3-18.3
SVE-15	BID736	10/15/14	HSA	165,000.5	1,268,503.7	--	311.30	--	PES, 08/2015	Flush	36	4	20.61-34.96	20.21-34.56	0.020	19.3-36	3.5-19.3
SVE-16	BID737	10/15/14	HSA	165,035.5	1,268,501.1	--	310.83	--	PES, 08/2015	Flush	36	4	20.49-34.79	20.09-34.39	0.020	18-36	3.5-18
SVE-17	BID709	9/24/14	HSA	165,071.8	1,268,503.4	--	308.39	--	PES, 08/2015	Flush	31	4	19.91-29.91	19.51-29.51	0.020	18-31	3.3-18
SVE-18	BID708	9/23/14	HSA	165,107.0	1,268,504.1	--	307.34	--	PES, 08/2015	Flush	31	4	19.79-29.79	19.39-29.39	0.020	17.9-31	16-17.9
SVE-19	BID715	9/29/14	HSA	165,091.9	1,268,579.7	--	308.53	--	PES, 08/2015	Flush	31	4	19.99-29.99	19.59-29.59	0.020	18-31	3.5-18

**Table D1
Well Completion and Boring Details
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Well	Ecology Well Tag Number	Date Installed	Drilling Method	Location (feet NAD 83/91)		Elevation (feet NAVD 88)			Survey Notes	29.80-39.80 Monument Type	Boring Depth (feet)	Well Diameter (inches)	Screen Depth (ft bgs)		Slot Size (inch)	Filter Pack (ft bgs)	Seal (ft bgs)
				Northing	Easting	Monitoring Point	Surface Casing Rim	Ground Surface					Below Ground	Below Top of Casing			
Vapor Monitoring Probes																	
VMP-1 (B-5)		3/26/08	DP	164,828.0	1,268,482.4	310.91	311.01	--	PES, 02/2013; PES, 08/2015	Flush	30	0.75	10-15	9.7-14.7	0.010	7-30	0-7
VMP-2 (B-7)		3/25/08	DP	164,964.6	1,268,493.8	310.97	311.04	--	PES, 02/2013; PES, 08/2015	Flush	30	0.75	10-15	9.8-14.8	0.010	7-30	0-7
VMP-3 (B-9)		3/25/08	DP	165,028.4	1,268,497.6	310.58	310.71	--	PES, 02/2013	Flush	30	0.75	10-15	9.9-14.9	0.010	7-30	0-7
VMP-4 (B-11)		3/27/08	DP	165,079.0	1,268,533.8	307.67	308.00	--	PES, 02/2013	Flush	30	0.75	10-15	9.7-14.7	0.010	7-30	0-7
VMP-5 (B-12)		3/27/08	DP	165,083.7	1,268,602.8	308.22	308.48	--	PES, 02/2013	Flush	25	0.75	10-15	9.7-14.7	0.010	7-25	0-7
VMP-6 (B-13)		3/27/08	DP	165,071.2	1,268,674.9	308.95	309.18	--	PES, 02/2013	Flush	26	0.75	10-15	9.8-14.8	0.010	7-26	0-7
Recirculation Well																	
TW-1		5/2/06	HSA	165,114.8	1,268,571.3	--	--	--	PES, 02/2013	AG	50	6	25-35/45-50	--	0.010	22-35/40-50	0-22/35-40
Pilot Test Injection Well																	
IW-1		--	--	--	--	--	--	--	--	AG	38	--	--	--	--	--	--
Air Sparging Wells																	
AS-1	BHV647	5/17/13	HSA	165,116.9	1,268,511.0	--	307.23	307.34	PES, 05/2013; PES, 08/2015	Flush	48	1	43.8-45.8	43.4-45.4	0.010	43.5-48	0-43.5
AS-2	BID714	9/29/14	HSA	165,093.2	1,268,557.0	--	308.30	--	PES, 08/2015	Flush	53	2	48.08-51.13	47.68-50.73	0.020	48-53	3.0-48
AS-3	BID718	10/1/14	HSA	165,091.7	1,268,574.0	--	308.44	--	PES, 08/2015	Flush	51	2	48.14-50.14	47.74-49.74	0.020	46-51	3.6-46
AS-4	BID717	9/30/14	HSA	165,073.3	1,268,590.4	--	308.25	--	PES, 08/2015	Flush	51	2	48.82-50.80	48.42-50.4	0.020	47.3-51	3.3-47.3
AS-5	BID716	9/30/14	HSA	165,073.7	1,268,566.0	--	307.97	--	PES, 08/2015	Flush	52	2	48.77-50.79	48.37-50.39	0.020	47.5-52	3.5-47.5
AS-6	BID713	9/26/14	HSA	165,073.2	1,268,541.5	--	307.89	--	PES, 08/2015	Flush	52	2	48.91-50.92	48.51-50.52	0.020	47.6-52	3.5-47.6
AS-7	BID710	9/24/14	HSA	165,080.3	1,268,521.9	--	308.01	--	PES, 08/2015	Flush	50.5	2	46.93-48.91	46.53-48.51	0.020	46-50.5	3.5-43
AS-8	BID740	10/17/14	HSA	165,058.0	1,268,525.1	--	312.52	--	PES, 08/2015	Flush	54	2	52.10-54.14	51.7-53.74	0.020	51-54.31	3.5-51
AS-9	BID739	10/16/14	HSA	165,029.5	1,268,522.9	--	312.52	--	PES, 08/2015	Flush	54	2	51.09-53.11	50.69-52.71	0.020	50-54	4-50
AS-10	BID733	10/14/14	HSA	165,004.5	1,268,521.9	--	312.52	--	PES, 08/2015	Flush	56	2	52.78-54.80	52.38-54.4	0.020	52-56	3.9-52
AS-11	BID731	10/13/14	HSA	164,976.2	1,268,521.3	--	312.57	--	PES, 08/2015	Flush	54.5	2	52.27-54.27	51.87-53.87	0.020	50.51-54.5	3-50.5
AS-12	BID729	10/10/14	HSA	164,948.4	1,268,520.9	--	312.34	--	PES, 08/2015	Flush	54.24	2	52.06-54.07	51.66-53.67	0.020	50.7-54.24	3.5-50.7
AS-13	BID728	10/9/14	HSA	164,920.9	1,268,520.2	--	311.72	--	PES, 08/2015	Flush	54	2	51.64-53.67	51.24-53.27	0.020	50.7-54	3.5-50.7
AS-14	BID726	10/8/14	HSA	164,891.0	1,268,520.2	--	311.93	--	PES, 08/2015	Flush	54.09	2	51.88-53.92	51.48-53.52	0.020	50.9-54.09	3.3-50.09
AS-15	BID723	10/6/14	HSA	164,865.7	1,268,520.3	--	312.35	--	PES, 08/2015	Flush	54	2	50.89-52.87	50.49-52.47	0.020	50-54	3.5-50
AS-16	BID724	10/7/14	HSA	164,841.0	1,268,511.9	--	312.37	--	PES, 08/2015	Flush	54	2	51.89-53.97	51.49-53.57	0.020	51-54.04	3.3-51
AS-17	BID721	10/3/14	HSA	164,821.9	1,268,488.3	--	311.44	--	PES, 08/2015	Flush	54.02	2	51.87-53.85	51.47-53.45	0.020	50.5-54.02	3.3-50.5
AS-18	BID719	10/2/14	HSA	164,810.9	1,268,465.6	--	310.51	--	PES, 08/2015	Flush	54.5	2	50.37-52.35	49.97-51.95	0.020	49.5-54.5	3.6-49.5
AS-19	BID720	10/3/14	HSA	164,834.5	1,268,474.4	--	310.67	--	PES, 08/2015	Flush	54.08	2	51.94-53.91	51.54-53.51	0.020	50.7-54.08	3.0-54.08
AS-20	BID722	10/6/14	HSA	164,852.1	1,268,491.4	--	311.00	--	PES, 08/2015	Flush	54	2	50.96-52.94	50.56-52.54	0.020	49.6-54	3.5-49.6
AS-21	BID725	10/7/14	HSA	164,879.0	1,268,495.8	--	310.98	--	PES, 08/2015	Flush	55	2	51.92-53.92	51.52-53.52	0.020	50.7-55	3.5-50.7
AS-22	BID727	10/8/14	HSA	164,907.4	1,268,496.1	--	310.72	--	PES, 08/2015	Flush	55	2	52.38-54.40	51.98-54	0.020	51.5-55	3.5-51.5
AS-23	BID730	10/10/14	HSA	164,935.3	1,268,497.1	--	310.88	--	PES, 08/2015	Flush	55	2	52.72-54.76	52.32-54.36	0.020	52-55	3.7-55
AS-24	BID734	10/14/14	HSA	164,963.7	1,268,494.9	--	311.08	--	PES, 08/2015	Flush	55	2	52.68-54.74	52.28-54.34	0.020	52-55	3.5-52
AS-25	BID735	10/15/14	HSA	164,993.3	1,268,503.1	--	311.33	--	PES, 08/2015	Flush	56	2	53.35-55.36	52.95-54.96	0.020	51.9-56	3.5-51.9
AS-26	BID738	10/16/14	HSA	165,018.0	1,268,497.2	--	310.75	--	PES, 08/2015	Flush	55.5	2	53.10-54.14	52.7-53.74	0.020	52-55.5	4-52
AS-27	BID741	10/17/14	HSA	165,047.3	1,268,497.3	--	310.99	--	PES, 08/2015	Flush	55.5	2	53.10-55.14	52.7-54.74	0.020	52-55.5	4-52
AS-28	BID706	9/22/14	HSA	165,077.4	1,268,498.9	--	308.11	--	PES, 08/2015	Flush	50.5	2	47.94-49.88	47.54-49.48	0.020	47.5-50.5	3.5-47.5
AS-29	BID707	9/23/14	HSA	165,098.0	1,268,498.4	--	307.74	--	PES, 08/2015	Flush	51	2	48.10-50.08	47.7-49.68	0.020	47-51	3.3-47
AS-30	BID711	9/25/14	HSA	165,100.2	1,268,516.2	--	307.36	--	PES, 08/2015	Flush	52	2	48.24-50.24	47.84-49.84	0.020	46.8-52	3.8-46.8
AS-31	BID712	9/26/14	HSA	165,098.2	1,268,535.6	--	308.10	--	PES, 08/2015	Flush	52.5	2	48.86-50.89	48.46-50.49	0.020	47.6-52.5	3.5-47.6

**Table D1
Well Completion and Boring Details
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Well	Ecology Well Tag Number	Date Installed	Drilling Method	Location (feet NAD 83/91)		Elevation (feet NAVD 88)			Survey Notes	29.80-39.80 Monument Type	Boring Depth (feet)	Well Diameter (inches)	Screen Depth (ft bgs)		Slot Size (inch)	Filter Pack (ft bgs)	Seal (ft bgs)
				Northing	Easting	Monitoring Point	Surface Casing Rim	Ground Surface					Below Ground	Below Top of Casing			
Supplemental Investigation Borings																	
SB-10	--	4/16/18	DP	164,837.8	1,268,523.0	--	--	313.30	PES, 05/2018	--	11	2.25	--	--	--	--	--
SB-11	--	4/16/18	DP	164,831.3	1,268,470.8	--	--	310.59	PES, 05/2018	--	15	2.25	--	--	--	--	--
SB-12	--	4/16/18	DP	164,812.7	1,268,480.9	--	--	311.18	PES, 05/2018	--	11	2.25	--	--	--	--	--
SB-13	--	4/16/18	DP	165,056.3	1,268,696.8	--	--	313.34	PES, 05/2018	--	29	2.25	--	--	--	--	--
SB-13A	--	4/25/18	DP	165,055.2	1,268,697.2	--	--	313.38	PES, 05/2018	--	33	2.25	--	--	--	--	--
SB-13B	--	4/25/18	DP	165,067.3	1,268,697.4	--	--	309.32	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-14	--	4/16/18	DP	165,056.3	1,268,717.0	--	--	313.60	PES, 05/2018	--	31.5	2.25	--	--	--	--	--
SB-14A	--	4/25/18	DP	165,056.2	1,268,717.8	--	--	313.60	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-15	--	4/17/18	DP	165,078.3	1,268,721.7	--	--	310.28	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-16	--	4/17/18	DP	165,172.1	1,268,822.2	--	--	310.61	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-17	--	4/18/18	DP	165,175.7	1,268,798.0	--	--	310.03	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-18	--	4/18/18	DP	165,201.4	1,268,799.7	--	--	309.93	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-19	--	4/19/18	DP	165,132.6	1,268,649.4	--	--	308.76	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-20	--	4/19/18	DP	165,154.5	1,268,680.2	--	--	309.00	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-21	--	4/19/18	DP	165,187.4	1,268,742.4	--	--	309.65	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-22	--	4/20/18	DP	165,173.0	1,268,709.8	--	--	309.07	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-23	--	4/20/18	DP	165,109.3	1,268,725.1	--	--	309.76	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-24	--	4/23/18	DP	165,113.2	1,268,695.3	--	--	310.24	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-25	--	4/23/18	DP	165,107.6	1,268,755.1	--	--	310.27	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-26	--	4/24/18	DP	165,177.8	1,268,857.4	--	--	312.30	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-27	--	4/24/18	DP	165,166.7	1,268,856.4	--	--	311.62	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-28	--	4/24/18	DP	165,209.6	1,268,850.2	--	--	310.94	PES, 05/2018	--	40	2.25	--	--	--	--	--
SB-29	--	4/24/18	DP	165,116.8	1,268,669.9	--	--	309.39	PES, 05/2018	--	40	2.25	36-40	--	0.004	--	--
SB-30	--	4/25/18	DP	165,196.5	1,268,529.1	--	--	304.82	PES, 05/2018	--	40	2.25	--	--	--	--	--

- Notes:**
- Northing and easting in feet relative to the Washington State Plane System North Zone (NAD 83/91)
 - Elevations in feet relative to the North American Vertical Datum (NAVD 88)
 - Monitoring point = top of the PVC well casing
 - All depths shown in feet below ground surface (ft bgs)
 - All wells completed with Schedule 40 PVC with the exception of AS-1 (Schedule 80 PVC)
 - Drilling methods include hollow stem auger (HSA), direct push (DP), and vacuum truck with air knife (AKVAC)
 - = not documented or unknown
 - Surface elevations for the direct push borings represents ground surface adjacent to the boring
 - Screened intervals are documented on boring logs and are typically based on a field measurements relative to ground surface at the time of drilling.
Screened intervals relative to top of casing are estimated using well field construction measurements, surveyed top of casing elevations, surveyed ground surface elevations, and in some cases surveyed monument rim elevations. If ground or rim elevations are not surveyed, then top of casing is assumed to be 0.4 ft depth.
 - Monitoring wells MW-1, DC-6, DC-9A, DC-9B are missing or destroyed. The 1999 SCS VES wells have been decommissioned.
 - Temporary well screens consisting of Geoprobe SP22 stainless steel slotted tooling were deployed in direct push borings SB-19 through SB-25 and SB-29.

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-1	12/10/1999	309.97	37.44	272.53
MW-1	2/9/2005	309.97	39.52	270.45
MW-1	4/11/2006	309.97	37.78	272.19
MW-1	10/26/2006	309.97	39.22	270.75
MW-1	4/24/2007	309.97	36.61	273.36
MW-1	8/21/2008	309.97	37.32	272.65
MW-2	12/10/1999	307.69	35.60	272.09
MW-2	11/5/2010	307.69	37.03	270.66
MW-2	2/11/2011	307.69	35.81	271.88
MW-2	5/30/2011	307.69	34.40	273.29
MW-2	7/19/2011	307.69	34.71	272.98
MW-2	10/17/2011	307.69	35.80	271.89
MW-2	4/2/2012	307.69	36.11	271.58
MW-2	5/28/2013	308.56	35.73	272.83
MW-2	4/14/2014	308.56	36.17	272.39
MW-2	10/21/2014	308.34	36.48	271.86
MW-2	12/11/2015	308.34	36.89	271.45
MW-2	12/13/2016	308.34	36.09	272.25
MW-2	3/13/2017	308.34	34.93	273.41
MW-2	7/17/2017	308.34	33.97	274.37
MW-2	10/20/2017	308.34	35.45	272.89
MW-2	1/24/2018	308.34	35.61	272.73
MW-2	4/17/2018	308.34	34.93	273.41
MW-2	7/18/2018	308.34	35.12	273.22
MW-2	10/15/2018	308.34	36.26	272.08

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-3	8/21/2008	311.49	39.77	271.72
MW-3	11/5/2010	311.49	39.43	272.06
MW-3	2/11/2011	311.49	38.10	273.39
MW-3	5/30/2011	311.49	36.66	274.83
MW-3	7/19/2011	311.49	37.03	274.46
MW-3	10/17/2011	311.49	38.18	273.31
MW-3	4/2/2012	311.49	38.39	273.10
MW-3	5/28/2013	311.62	38.09	273.53
MW-3	10/21/2014	311.41	38.91	272.50
MW-3	12/9/2015	311.41	39.28	272.13
MW-3	12/13/2016	311.41	38.44	272.97
MW-3	3/13/2017	311.41	37.09	274.32
MW-3	7/17/2017	311.41	36.21	275.20
MW-3	10/20/2017	311.41	37.61	273.80
MW-3	1/24/2018	311.41	37.73	273.68
MW-3	4/17/2018	311.41	37.24	274.17
MW-3	7/18/2018	311.41	37.52	273.89
MW-3	10/15/2018	311.41	38.68	272.73
MW-4	11/5/2010	310.54	38.74	271.80
MW-4	2/11/2011	310.54	37.41	273.13
MW-4	5/30/2011	310.54	35.99	274.55
MW-4	7/19/2011	310.54	36.37	274.17
MW-4	10/17/2011	310.54	37.50	273.04
MW-4	4/2/2012	310.54	37.67	272.87
MW-4	5/28/2013	310.68	37.40	273.28
MW-4	10/21/2014	310.47	38.13	272.34
MW-4	12/9/2015	310.47	38.60	271.87
MW-4	12/13/2016	310.47	37.36	273.11
MW-4	3/13/2017	310.47	36.42	274.05
MW-4	7/17/2017	310.47	35.59	274.88
MW-4	10/20/2017	310.47	37.17	273.30
MW-4	1/24/2018	310.47	37.04	273.43
MW-4	4/17/2018	310.47	36.59	273.88
MW-4	7/18/2018	310.47	36.86	273.61
MW-4	10/15/2018	310.47	38.01	272.46

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-5	8/21/2008	310.28	39.96	270.32
MW-5	11/5/2010	310.28	39.73	270.55
MW-5	2/11/2011	310.28	38.60	271.68
MW-5	5/30/2011	310.28	37.24	273.04
MW-5	7/19/2011	310.28	37.51	272.77
MW-5	10/17/2011	310.28	38.54	271.74
MW-5	4/2/2012	310.28	38.90	271.38
MW-5	10/21/2014	310.38	39.17	271.21
MW-5	12/9/2015	310.38	39.69	270.69
MW-5	12/13/2016	310.38	38.80	271.58
MW-5	3/13/2017	310.38	37.80	272.58
MW-5	7/17/2017	310.38	36.80	273.58
MW-5	10/20/2017	310.38	38.17	272.21
MW-5	1/24/2018	310.38	38.60	271.78
MW-5	4/17/2018	310.38	37.71	272.67
MW-5	7/18/2018	310.38	37.89	272.49
MW-5	10/15/2018	310.38	38.92	271.46
MW-6	8/21/2008	304.27	37.46	266.81
MW-6	11/5/2010	304.27	37.25	267.02
MW-6	2/11/2011	304.27	36.30	267.97
MW-6	5/30/2011	304.27	35.50	268.77
MW-6	7/19/2011	304.27	35.38	268.89
MW-6	10/17/2011	304.27	36.24	268.03
MW-6	4/2/2012	304.27	36.53	267.74
MW-6	10/21/2014	304.14	37.79	266.35
MW-6	12/9/2015	304.14	37.22	266.92
MW-6	12/13/2016	304.14	36.49	267.65
MW-6	3/13/2017	304.14	35.68	268.46
MW-6	7/17/2017	304.14	34.79	269.35
MW-6	10/20/2017	304.14	38.24	265.90
MW-6	1/24/2018	304.14	36.08	268.06
MW-6	4/17/2018	304.14	35.61	268.53
MW-6	7/18/2018	304.14	35.71	268.43
MW-6	10/15/2018	304.14	36.58	267.56

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-7	8/21/2008	302.76	39.00	263.76
MW-7	11/5/2010	302.76	38.74	264.02
MW-7	2/11/2011	302.76	37.61	265.15
MW-7	5/30/2011	302.76	36.09	266.67
MW-7	7/19/2011	302.76	36.43	266.33
MW-7	10/17/2011	302.76	37.43	265.33
MW-7	4/2/2012	302.76	37.52	265.24
MW-7	5/28/2013	302.76	37.48	265.28
MW-7	10/30/2014	302.64	35.80	266.84
MW-7	12/9/2015	302.64	38.75	263.89
MW-7	12/13/2016	302.64	37.79	264.85
MW-7	3/13/2017	302.64	36.79	265.85
MW-7	7/17/2017	302.64	35.75	266.89
MW-7	10/20/2017	302.64	37.16	265.48
MW-7	1/24/2018	302.64	37.33	265.31
MW-7	4/17/2018	302.64	36.79	265.85
MW-7	7/18/2018	302.64	37.00	265.64
MW-7	10/23/2018	302.64	38.15	264.49
MW-8	8/21/2008	280.08	12.78	267.30
MW-8	2/11/2011	280.08	11.11	268.97
MW-8	5/30/2011	280.08	10.20	269.88
MW-8	7/19/2011	280.08	10.66	269.42
MW-8	10/17/2011	280.08	11.52	268.56
MW-8	4/2/2012	280.08	11.09	268.99
MW-8	10/21/2014	280.68	12.12	268.56
MW-8	12/9/2015	280.68	11.81	268.87
MW-8	12/13/2016	280.68	11.40	269.28
MW-8	3/13/2017	280.68	10.30	270.38
MW-8	7/17/2017	280.68	10.26	270.42
MW-8	10/20/2017	280.68	10.25	270.43
MW-8	1/24/2018	280.68	10.80	269.88
MW-8	4/17/2018	280.68	10.50	270.18
MW-8	7/18/2018	280.68	11.22	269.46
MW-8	10/16/2018	280.68	12.09	268.59

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-9	8/21/2008	285.11	32.24	252.87
MW-9	11/5/2010	285.11	31.98	253.13
MW-9	2/11/2011	285.11	30.93	254.18
MW-9	5/30/2011	285.11	29.76	255.35
MW-9	7/19/2011	285.11	30.12	254.99
MW-9	10/17/2011	285.11	31.04	254.07
MW-9	4/2/2012	285.11	31.05	254.06
MW-9	10/21/2014	284.97	31.68	253.29
MW-9	12/9/2015	284.97	32.06	252.91
MW-9	12/13/2016	284.97	31.24	253.73
MW-9	3/13/2017	284.97	30.20	254.77
MW-9	7/17/2017	284.97	29.59	255.38
MW-9	10/20/2017	284.97	30.75	254.22
MW-9	1/24/2018	284.97	30.84	254.13
MW-9	4/17/2018	284.97	30.43	254.54
MW-9	7/18/2018	284.97	30.60	254.37
MW-9	10/16/2018	284.97	31.40	253.57
MW-10	2/11/2011	306.70	34.04	272.66
MW-10	5/30/2011	306.70	32.69	274.01
MW-10	7/19/2011	306.70	33.05	273.65
MW-10	10/17/2011	306.70	34.13	272.57
MW-10	4/2/2012	306.70	34.31	272.39
MW-10	5/28/2013	306.91	34.03	272.88
MW-10	10/21/2014	306.71	34.81	271.90
MW-10	12/9/2015	306.71	35.22	271.49
MW-10	12/13/2016	306.71	34.41	272.30
MW-10	3/13/2017	306.71	33.15	273.56
MW-10	7/17/2017	306.71	32.34	274.37
MW-10	10/20/2017	306.71	33.82	272.89
MW-10	1/24/2018	306.71	33.82	272.89
MW-10	4/17/2018	306.71	33.30	273.41
MW-10	7/18/2018	306.71	33.55	273.16
MW-10	10/15/2018	306.71	34.66	272.05

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-11	2/11/2011	307.63	35.01	272.62
MW-11	5/30/2011	307.63	33.63	274.00
MW-11	7/19/2011	307.63	33.97	273.66
MW-11	10/17/2011	307.63	35.05	272.58
MW-11	4/2/2012	307.63	35.29	272.34
MW-11	5/28/2013	307.85	34.98	272.87
MW-11	10/21/2014	307.62	35.78	271.84
MW-11	12/9/2015	307.62	36.16	271.46
MW-11	12/13/2016	307.62	35.33	272.29
MW-11	3/13/2017	307.62	34.11	273.51
MW-11	7/17/2017	307.62	33.25	274.37
MW-11	10/20/2017	307.62	34.74	272.88
MW-11	1/24/2018	307.62	34.77	272.85
MW-11	4/17/2018	307.62	34.21	273.41
MW-11	7/18/2018	307.62	34.45	273.17
MW-11	10/19/2018	307.62	35.61	272.01
MW-12	4/2/2012	312.92	39.69	273.23
MW-12	5/28/2013	312.95	39.40	273.55
MW-12	10/21/2014	312.80	40.20	272.60
MW-12	12/9/2015	312.80	40.59	272.21
MW-12	12/13/2016	312.80	39.70	273.10
MW-12	3/13/2017	312.80	38.39	274.41
MW-12	7/17/2017	312.80	37.47	275.33
MW-12	10/20/2017	312.80	39.01	273.79
MW-12	1/24/2018	312.80	39.01	273.79
MW-12	4/17/2018	312.80	38.49	274.31
MW-12	7/18/2018	312.80	38.75	274.05
MW-12	10/15/2018	312.80	39.94	272.86

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-13	4/2/2012	308.88	36.04	272.84
MW-13	5/28/2013	308.90	35.82	273.08
MW-13	10/21/2014	308.75	36.66	272.09
MW-13	12/9/2015	308.75	37.00	271.75
MW-13	12/13/2016	308.75	36.13	272.62
MW-13	3/13/2017	308.75	34.78	273.97
MW-13	7/17/2017	308.75	33.99	274.76
MW-13	10/20/2017	308.75	35.45	273.30
MW-13	1/24/2018	308.75	35.45	273.30
MW-13	4/17/2018	308.75	34.98	273.77
MW-13	7/18/2018	308.75	35.24	273.51
MW-13	10/15/2018	308.75	36.40	272.35
MW-14	4/2/2012	303.78	31.84	271.94
MW-14	5/28/2013	303.82	31.57	272.25
MW-14	10/21/2014	303.82	32.34	271.48
MW-14	12/11/2015	303.82	32.65	271.17
MW-14	12/13/2016	303.82	31.90	271.92
MW-14	3/13/2017	303.82	30.73	273.09
MW-14	7/17/2017	303.82	29.94	273.88
MW-14	10/20/2017	303.82	31.36	272.46
MW-14	1/24/2018	303.82	31.33	272.49
MW-14	4/17/2018	303.82	30.84	272.98
MW-14	10/15/2018	303.82	32.14	271.68
MW-15	4/2/2012	312.40	39.92	272.48
MW-15	5/28/2013	312.44	39.55	272.89
MW-15	4/14/2014	312.44	39.97	272.47
MW-15	10/21/2014	312.44	40.31	272.13
MW-15	12/9/2015	312.44	40.77	271.67
MW-15	12/13/2016	312.44	39.90	272.54
MW-15	3/13/2017	312.44	38.72	273.72
MW-15	7/17/2017	312.44	37.77	274.67
MW-15	10/20/2017	312.44	39.25	273.19
MW-15	1/24/2018	312.44	39.31	273.13
MW-15	4/17/2018	312.44	38.75	273.69
MW-15	7/18/2018	312.44	38.99	273.45
MW-15	10/15/2018	312.44	40.08	272.36

**Table D2
 Historical Summary of Groundwater Elevations (1999 - 2018)
 Manhattan Village Shopping Center and Harris Properties
 Normandy Park, Washington**

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
MW-16	5/28/2013	310.37	37.78	272.59
MW-16	10/21/2014	310.37	38.52	271.85
MW-16	12/9/2015	310.37	38.96	271.41
MW-16	12/13/2016	310.37	38.12	272.25
MW-16	3/13/2017	310.37	36.92	273.45
MW-16	7/17/2017	310.37	36.04	274.33
MW-16	10/20/2017	310.37	37.50	272.87
MW-16	1/24/2018	310.37	37.53	272.84
MW-16	4/17/2018	310.37	36.99	273.38
MW-16	7/18/2018	310.37	37.20	273.17
MW-16	10/15/2018	310.37	38.31	272.06

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-1	2/3/1999	312.46	38.31	274.15
DC-1	4/16/1999	312.46	36.08	276.38
DC-1	12/8/1999	312.46	39.13	273.33
DC-1	4/26/2000	312.46	38.30	274.16
DC-1	8/3/2000	312.46	39.01	273.45
DC-1	11/14/2000	312.46	40.29	272.17
DC-1	3/6/2001	312.46	41.11	271.35
DC-1	6/20/2001	312.46	41.46	271.00
DC-1	9/17/2001	312.46	41.78	270.68
DC-1	12/20/2001	312.46	41.43	271.03
DC-1	3/13/2002	312.46	39.75	272.71
DC-1	9/17/2002	312.46	39.75	272.71
DC-1	12/10/2002	312.46	40.69	271.77
DC-1	3/31/2003	312.46	40.33	272.13
DC-1	9/3/2003	312.46	40.69	271.77
DC-1	3/16/2004	312.46	39.77	272.69
DC-1	9/7/2004	312.46	40.57	271.89
DC-1	2/9/2005	312.46	41.31	271.15
DC-1	4/24/2007	312.46	38.29	274.17
DC-1	8/21/2008	312.72	40.93	271.79
DC-1	11/5/2010	312.72	40.64	272.08
DC-1	2/11/2011	312.72	39.37	273.35
DC-1	5/30/2011	312.72	37.91	274.81
DC-1	7/19/2011	312.72	38.21	274.51
DC-1	10/17/2011	312.72	39.37	273.35
DC-1	4/2/2012	312.72	39.72	273.00
DC-1	5/28/2013	312.82	39.30	273.52
DC-1	10/21/2014	312.82	40.05	272.77
DC-1	12/9/2015	312.82	40.51	272.31
DC-1	12/13/2016	312.82	39.63	273.19
DC-1	3/13/2017	312.82	38.46	274.36
DC-1	7/17/2017	312.82	37.40	275.42
DC-1	10/20/2017	312.82	39.26	273.56
DC-1	1/24/2018	312.82	39.02	273.80
DC-1	4/17/2018	312.82	38.43	274.39
DC-1	10/15/2018	312.82	39.80	273.02

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-2	2/3/1999	312.80	39.04	273.76
DC-2	4/16/1999	312.80	36.90	275.90
DC-2	12/8/1999	312.80	39.88	272.92
DC-2	4/26/2000	312.80	39.11	273.69
DC-2	8/3/2000	312.80	39.85	272.95
DC-2	11/14/2000	312.80	41.04	271.76
DC-2	3/6/2001	312.80	41.82	270.98
DC-2	6/20/2001	312.80	42.18	270.62
DC-2	9/17/2001	312.80	42.50	270.30
DC-2	12/20/2001	312.80	42.12	270.68
DC-2	3/13/2002	312.80	40.45	272.35
DC-2	6/13/2002	312.80	39.64	273.16
DC-2	9/17/2002	312.80	40.50	272.30
DC-2	12/10/2002	312.80	41.42	271.38
DC-2	3/31/2003	312.80	41.03	271.77
DC-2	9/3/2003	312.80	41.41	271.39
DC-2	3/16/2004	312.80	40.51	272.29
DC-2	9/7/2004	312.80	41.30	271.50
DC-2	2/9/2005	312.80	41.99	270.81
DC-2	4/24/2007	312.80	39.03	273.77
DC-2	8/21/2008	313.04	41.65	271.39
DC-2	11/5/2010	313.04	41.34	271.70
DC-2	2/11/2011	313.04	40.08	272.96
DC-2	5/30/2011	313.04	38.67	274.37
DC-2	7/19/2011	313.04	38.98	274.06
DC-2	10/17/2011	313.04	40.08	272.96
DC-2	4/2/2012	313.04	40.41	272.63
DC-2	10/21/2014	312.92	40.78	272.14
DC-2	12/9/2015	312.92	41.22	271.70
DC-2	12/13/2016	312.92	40.36	272.56
DC-2	3/13/2017	312.92	39.19	273.73
DC-2	7/17/2017	312.92	38.20	274.72
DC-2	10/20/2017	312.92	39.71	273.21
DC-2	1/24/2018	312.92	39.76	273.16
DC-2	4/17/2018	312.92	39.20	273.72
DC-2	7/18/2018	312.92	39.42	273.50
DC-2	10/15/2018	312.92	40.53	272.39

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-3	10/21/1998	312.98	39.68	273.30
DC-3	2/3/1999	312.98	39.22	273.76
DC-3	4/16/1999	312.98	37.13	275.85
DC-3	12/8/1999	312.98	40.10	272.88
DC-3	4/26/2000	312.98	39.33	273.65
DC-3	8/3/2000	312.98	40.08	272.90
DC-3	11/14/2000	312.98	41.27	271.71
DC-3	3/6/2001	312.98	42.05	270.93
DC-3	6/20/2001	312.98	42.37	270.61
DC-3	9/17/2001	312.98	42.73	270.25
DC-3	12/20/2001	312.98	42.30	270.68
DC-3	3/13/2002	312.98	40.66	272.32
DC-3	6/13/2002	312.98	39.87	273.11
DC-3	9/17/2002	312.98	40.75	272.23
DC-3	12/10/2002	312.98	41.65	271.33
DC-3	3/31/2003	312.98	41.25	271.73
DC-3	9/3/2003	312.98	41.65	271.33
DC-3	3/16/2004	312.98	40.71	272.27
DC-3	9/7/2004	312.98	41.54	271.44
DC-3	2/9/2005	312.98	42.21	270.77
DC-3	4/24/2007	312.98	39.26	273.72
DC-3	8/21/2008	313.23	41.89	271.34
DC-3	11/5/2010	313.23	41.58	271.65
DC-3	2/11/2011	313.23	40.30	272.93
DC-3	5/30/2011	313.23	38.89	274.34
DC-3	7/19/2011	313.23	39.22	274.01
DC-3	10/17/2011	313.23	40.34	272.89
DC-3	4/2/2012	313.23	40.62	272.61
DC-3	10/21/2014	313.11	41.07	272.04
DC-3	12/9/2015	313.11	41.47	271.64
DC-3	12/13/2016	313.11	40.59	272.52
DC-3	3/13/2017	313.11	39.39	273.72
DC-3	7/17/2017	313.11	38.44	274.67
DC-3	10/20/2017	313.11	39.94	273.17
DC-3	1/24/2018	313.11	39.98	273.13
DC-3	4/17/2018	313.11	39.47	273.64
DC-3	7/18/2018	313.11	39.67	273.44
DC-3	10/15/2018	313.11	40.80	272.31

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-4	10/21/1998	312.20	39.96	272.24
DC-4	2/3/1999	312.20	38.37	273.83
DC-4	4/16/1999	312.20	36.34	275.86
DC-4	12/8/1999	312.20	39.32	272.88
DC-4	4/26/2000	312.20	38.55	273.65
DC-4	8/3/2000	312.20	39.33	272.87
DC-4	11/14/2000	312.20	40.52	271.68
DC-4	3/6/2001	312.20	41.29	270.91
DC-4	6/20/2001	312.20	41.60	270.60
DC-4	9/17/2001	312.20	41.89	270.31
DC-4	12/20/2001	312.20	41.49	270.71
DC-4	3/13/2002	312.20	39.86	272.34
DC-4	6/13/2002	312.20	39.11	273.09
DC-4	9/17/2002	312.20	40.00	272.20
DC-4	12/10/2002	312.20	40.92	271.28
DC-4	3/31/2003	312.20	40.44	271.76
DC-4	9/3/2003	312.20	40.88	271.32
DC-4	3/16/2004	312.20	39.94	272.26
DC-4	9/7/2004	312.20	40.81	271.39
DC-4	2/9/2005	312.20	41.42	270.78
DC-4	4/24/2007	312.20	38.50	273.70
DC-4	8/21/2008	312.12	41.13	270.99
DC-4	11/5/2010	312.12	40.81	271.31
DC-4	2/11/2011	312.12	39.51	272.61
DC-4	5/30/2011	312.12	38.13	273.99
DC-4	7/19/2011	312.12	38.48	273.64
DC-4	10/17/2011	312.12	39.57	272.55
DC-4	4/2/2012	312.12	38.82	273.30
DC-4	5/28/2013	312.56	39.50	273.06
DC-4	10/21/2014	312.35	40.34	272.01
DC-4	12/9/2015	312.35	40.34	272.01
DC-4	12/13/2016	312.35	39.84	272.51
DC-4	3/13/2017	312.35	38.59	273.76
DC-4	7/17/2017	312.35	37.70	274.65
DC-4	10/20/2017	312.35	39.50	272.85
DC-4	1/24/2018	312.35	39.21	273.14
DC-4	4/18/2018	312.35	38.61	273.74
DC-4	7/18/2018	312.35	38.95	273.40
DC-4	10/15/2018	312.35	40.16	272.19

**Table D2
 Historical Summary of Groundwater Elevations (1999 - 2018)
 Manhattan Village Shopping Center and Harris Properties
 Normandy Park, Washington**

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-5	2/3/1999	305.86	32.48	273.38
DC-5	4/16/1999	305.86	30.46	275.40
DC-5	4/11/2006	305.86	33.74	272.12
DC-5	4/24/2007	306.10	32.56	273.54
DC-5	8/21/2008	306.10	35.15	270.95
DC-5	11/5/2010	306.10	34.86	271.24
DC-5	2/11/2011	306.10	33.59	272.51
DC-5	5/30/2011	306.10	32.23	273.87
DC-5	7/19/2011	306.10	32.58	273.52
DC-5	10/17/2011	306.10	33.65	272.45
DC-5	4/2/2012	306.10	33.86	272.24
DC-5	5/28/2013	306.25	33.60	272.65
DC-5	10/15/2018	306.25	34.15	272.10
DC-6	2/3/1999	308.46	35.03	273.43
DC-6	4/16/1999	308.46	32.92	275.54

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-7	2/3/1999	302.50	29.89	272.61
DC-7	4/16/1999	302.50	28.05	274.45
DC-7	12/8/1999	302.50	30.76	271.74
DC-7	4/26/2000	302.50	30.12	272.38
DC-7	8/3/2000	302.50	30.84	271.66
DC-7	11/14/2000	302.50	31.90	270.60
DC-7	3/6/2001	302.50	32.60	269.90
DC-7	6/20/2001	302.50	32.91	269.59
DC-7	9/17/2001	302.50	33.25	269.25
DC-7	12/20/2001	302.50	32.75	269.75
DC-7	3/13/2002	302.50	31.22	271.28
DC-7	6/13/2002	302.50	30.57	271.93
DC-7	9/17/2002	302.50	31.44	271.06
DC-7	12/10/2002	302.50	32.27	270.23
DC-7	3/31/2003	302.50	31.78	270.72
DC-7	9/3/2003	302.50	32.26	270.24
DC-7	2/9/2005	302.50	32.67	269.83
DC-7	4/11/2006	302.50	31.05	271.45
DC-7	10/26/2006	302.50	32.58	269.92
DC-7	4/24/2007	302.50	29.96	272.54
DC-7	8/21/2008	302.78	32.48	270.30
DC-7	11/5/2010	302.78	32.15	270.63
DC-7	2/11/2011	302.78	30.91	271.87
DC-7	5/30/2011	302.78	29.68	273.10
DC-7	7/19/2011	302.78	30.03	272.75
DC-7	10/17/2011	302.78	31.04	271.74
DC-7	4/2/2012	302.78	31.12	271.66
DC-7	5/28/2013	302.88	30.94	271.94
DC-7	10/21/2014	302.61	31.71	270.90
DC-7	12/16/2015	302.61	31.79	270.82
DC-7	12/13/2016	302.61	31.19	271.42
DC-7	3/13/2017	302.61	30.03	272.58
DC-7	7/17/2017	302.61	29.37	273.24
DC-7	10/20/2017	302.61	30.51	272.10
DC-7	1/24/2018	302.61	30.69	271.92
DC-7	4/17/2018	302.61	30.19	272.42
DC-7	7/18/2018	302.61	30.48	272.13
DC-7	10/15/2018	302.61	31.52	271.09

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-8	2/3/1999	306.09	33.45	272.64
DC-8	4/16/1999	306.09	31.43	274.66
DC-8	12/8/1999	306.09	34.27	271.82
DC-8	4/26/2000	306.09	33.55	272.54
DC-8	8/3/2000	306.09	34.26	271.83
DC-8	11/14/2000	306.09	35.37	270.72
DC-8	3/6/2001	306.09	36.11	269.98
DC-8	6/20/2001	306.09	36.45	269.64
DC-8	9/17/2001	306.09	36.75	269.34
DC-8	12/20/2001	306.09	36.40	269.69
DC-8	3/13/2002	306.09	34.82	271.27
DC-8	6/13/2002	306.09	34.05	272.04
DC-8	9/17/2002	306.09	34.85	271.24
DC-8	12/10/2002	306.09	35.74	270.35
DC-8	3/31/2003	306.09	35.71	270.38
DC-8	9/3/2003	306.09	35.73	270.36
DC-8	2/9/2005	306.09	36.26	269.83
DC-8	4/11/2006	306.09	34.60	271.49
DC-8	10/26/2006	306.09	36.00	270.09
DC-8	4/24/2007	306.11	33.47	272.64
DC-8	11/5/2010	306.38	35.69	270.69
DC-8	2/11/2011	306.38	34.49	271.89
DC-8	5/30/2011	306.38	33.15	273.23
DC-8	7/19/2011	306.38	33.46	272.92
DC-8	10/17/2011	306.38	34.51	271.87
DC-8	4/2/2012	306.38	34.77	271.61
DC-8	5/28/2013	306.46	34.45	272.01
DC-8	10/21/2014	306.46	35.17	271.29
DC-8	12/9/2015	306.23	35.58	270.65
DC-8	12/13/2016	306.23	34.71	271.52
DC-8	3/13/2017	306.23	33.65	272.58
DC-8	7/17/2017	306.23	32.75	273.48
DC-8	10/20/2017	306.23	34.14	272.09
DC-8	1/24/2018	306.23	34.21	272.02
DC-8	4/17/2018	306.23	33.64	272.59
DC-8	7/18/2018	306.23	33.92	272.31
DC-8	10/15/2018	306.23	34.94	271.29

**Table D2
 Historical Summary of Groundwater Elevations (1999 - 2018)
 Manhattan Village Shopping Center and Harris Properties
 Normandy Park, Washington**

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-9A	4/16/1999	307.76	32.19	275.57
DC-9A	12/8/1999	307.76	35.03	272.73
DC-9A	4/26/2000	307.76	34.35	273.41
DC-9A	8/3/2000	307.76	35.11	272.65
DC-9A	11/14/2000	307.76	36.30	271.46
DC-9A	4/11/2006	307.76	35.45	272.31
DC-9A	8/8/2006	307.76	36.25	271.51
DC-9A	11/2/2006	307.76	36.90	270.86
DC-9A	4/24/2007	307.75	34.30	273.45
DC-9A	8/21/2008	308.02	36.92	271.10
DC-9B	4/16/1999	307.91	32.34	275.57
DC-9B	3/6/2001	307.91	37.22	270.69
DC-9B	6/20/2001	307.91	37.52	270.39
DC-9B	9/17/2001	307.91	37.87	270.04
DC-9B	12/20/2001	307.91	37.45	270.46
DC-9B	4/11/2006	307.91	35.65	272.26
DC-9B	8/8/2006	307.91	36.40	271.51
DC-9B	10/26/2006	307.91	37.15	270.76
DC-9B	4/24/2007	307.94	34.45	273.49
DC-9B	8/21/2008	308.16	37.05	271.11

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-10A	4/16/1999	307.59	31.85	275.74
DC-10A	12/8/1999	307.59	34.82	272.77
DC-10A	4/26/2000	307.59	34.05	273.54
DC-10A	8/3/2000	307.59	34.86	272.73
DC-10A	11/14/2000	307.59	36.05	271.54
DC-10A	2/11/2011	307.72	34.99	272.73
DC-10A	5/30/2011	307.72	33.65	274.07
DC-10A	7/19/2011	307.72	34.07	273.65
DC-10A	10/17/2011	307.72	35.12	272.60
DC-10A	4/2/2012	307.72	35.23	272.49
DC-10A	5/28/2013	307.93	35.04	272.89
DC-10A	10/21/2014	307.73	35.83	271.90
DC-10A	12/9/2015	307.73	36.19	271.54
DC-10A	12/13/2016	307.73	35.35	272.38
DC-10A	3/13/2017	307.73	34.09	273.64
DC-10A	7/17/2017	307.73	33.29	274.44
DC-10A	10/20/2017	307.73	34.79	272.94
DC-10A	1/24/2018	307.73	34.72	273.01
DC-10A	4/17/2018	307.73	34.23	273.50
DC-10A	4/17/2018	307.73	34.23	273.50
DC-10A	7/18/2018	307.73	34.50	273.23
DC-10A	10/15/2018	307.73	36.12	271.61
DC-10B	4/16/1999	307.66	31.92	275.74
DC-10B	3/6/2001	307.66	36.89	270.77
DC-10B	6/20/2001	307.66	37.46	270.20
DC-10B	9/17/2001	307.66	37.55	270.11
DC-10B	12/20/2001	307.66	37.03	270.63
DC-10B	2/9/2005	307.66	36.98	270.68
DC-10B	4/11/2006	307.66	35.24	272.42
DC-10B	4/24/2007	307.66	34.08	273.58
DC-10B	8/21/2008	307.89	36.74	271.15
DC-10B	11/5/2010	307.89	36.40	271.49
DC-10B	2/11/2011	307.89	35.06	272.83
DC-10B	5/30/2011	307.89	33.72	274.17
DC-10B	7/19/2011	307.89	34.09	273.80
DC-10B	10/17/2011	307.89	35.15	272.74
DC-10B	4/2/2012	307.89	35.34	272.55
DC-10B	12/13/2016	307.89	35.45	272.44
DC-10B	10/15/2018	307.89	35.70	272.19

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-11	4/24/2007	311.02	37.29	273.73
DC-11	11/5/2010	311.02	39.59	271.43
DC-11	2/11/2011	311.02	38.36	272.66
DC-11	5/30/2011	311.02	36.91	274.11
DC-11	4/2/2012	311.02	38.67	272.35
DC-11	4/14/2014	311.25	38.73	272.52
DC-11	10/21/2014	311.25	39.00	272.25
DC-11	12/9/2015	311.25	39.48	271.77
DC-11	12/13/2016	311.25	38.56	272.69
DC-11	3/13/2017	311.25	37.49	273.76
DC-11	7/17/2017	311.25	36.43	274.82
DC-11	10/20/2017	311.25	37.66	273.59
DC-11	1/24/2018	311.25	38.00	273.25
DC-11	4/17/2018	311.25	37.40	273.85
DC-11	7/18/2018	311.25	37.63	273.62
DC-11	10/15/2018	311.25	38.74	272.51
DC-12	4/24/2007	310.90	37.54	273.36
DC-12	8/21/2008	310.90	40.05	270.85
DC-12	11/5/2010	310.90	39.79	271.11
DC-12	2/11/2011	310.90	38.60	272.30
DC-12	5/30/2011	310.90	37.17	273.73
DC-12	7/19/2011	310.90	37.45	273.45
DC-12	10/17/2011	310.90	38.54	272.36
DC-12	4/2/2012	310.90	38.91	271.99
DC-12	5/28/2013	311.25	38.50	272.75
DC-12	4/14/2014	311.25	38.93	272.32
DC-12	10/27/2014	311.25	39.23	272.02
DC-12	12/9/2015	311.25	39.70	271.55
DC-12	12/13/2016	311.25	38.80	272.45
DC-12	3/13/2017	311.25	37.72	273.53
DC-12	7/17/2017	311.25	36.71	274.54
DC-12	10/20/2017	311.25	38.20	273.05
DC-12	1/24/2018	311.25	38.24	273.01
DC-12	4/17/2018	311.25	37.67	273.58
DC-12	7/19/2018	311.25	37.90	273.35
DC-12	10/15/2018	311.25	38.94	272.31

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-13	4/24/2007	310.85	36.64	274.21
DC-13	8/21/2008	310.85	39.13	271.72
DC-13	11/5/2010	310.85	38.88	271.97
DC-13	2/11/2011	310.85	37.68	273.17
DC-13	5/30/2011	310.85	36.28	274.57
DC-13	7/19/2011	310.85	36.57	274.28
DC-13	10/17/2011	310.85	37.65	273.20
DC-13	4/2/2012	310.85	38.01	272.84
DC-13	5/28/2013	310.20	37.61	272.59
DC-13	4/14/2014	310.20	38.02	272.18
DC-13	10/27/2014	310.20	38.37	271.83
DC-13	12/9/2015	310.20	38.37	271.83
DC-13	12/13/2016	310.20	37.89	272.31
DC-13	3/13/2017	310.20	36.82	273.38
DC-13	7/17/2017	310.20	37.82	272.38
DC-13	10/20/2017	310.20	37.26	272.94
DC-13	1/24/2018	310.20	37.33	272.87
DC-13	4/17/2018	310.20	36.77	273.43
DC-13	7/18/2018	310.20	36.97	273.23
DC-13	10/15/2018	310.20	38.06	272.14
DC-14	4/24/2007	308.60	36.15	272.45
DC-14	8/21/2008	308.60	38.59	270.01
DC-14	11/5/2010	308.60	38.34	270.26
DC-14	2/11/2011	308.60	37.18	271.42
DC-14	5/30/2011	308.60	35.83	272.77
DC-14	7/19/2011	308.60	36.12	272.48
DC-14	10/17/2011	308.60	37.14	271.46
DC-14	4/2/2012	308.60	37.49	271.11
DC-14	5/28/2013	308.94	37.10	271.84
DC-14	10/21/2014	308.94	37.77	271.17
DC-14	12/9/2015	308.94	38.23	270.71
DC-14	12/13/2016	308.94	37.40	271.54
DC-14	3/13/2017	308.94	36.38	272.56
DC-14	7/17/2017	308.94	35.40	273.54
DC-14	10/20/2017	308.94	36.78	272.16
DC-14	1/24/2018	308.94	36.84	272.10
DC-14	4/17/2018	308.94	36.31	272.63
DC-14	7/18/2018	308.94	36.51	272.43
DC-14	10/15/2018	308.94	Well Missing	--

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-15	4/24/2007	307.54	34.64	272.90
DC-15	11/5/2010	307.54	36.93	270.61
DC-15	2/11/2011	307.54	35.68	271.86
DC-15	5/30/2011	307.54	34.32	273.22
DC-15	7/19/2011	307.54	34.62	272.92
DC-15	10/17/2011	307.54	35.68	271.86
DC-15	4/2/2012	307.54	35.94	271.60
DC-15	5/28/2013	307.89	35.61	272.28
DC-15	4/14/2014	307.89	36.02	271.87
DC-15	10/21/2014	307.89	36.35	271.54
DC-15	12/9/2015	307.89	36.79	271.10
DC-15	12/13/2016	307.89	35.91	271.98
DC-15	3/13/2017	307.89	34.82	273.07
DC-15	7/17/2017	307.89	33.91	273.98
DC-15	10/20/2017	307.89	34.31	273.58
DC-15	1/24/2018	307.89	35.40	272.49
DC-15	4/17/2018	307.89	34.81	273.08
DC-15	7/18/2018	307.89	35.08	272.81
DC-15	10/16/2018	307.89	36.12	271.77
DC-16	4/24/2007	307.12	33.81	273.31
DC-16	8/21/2008	307.12	36.41	270.71
DC-16	11/5/2010	307.12	36.10	271.02
DC-16	2/11/2011	307.12	34.85	272.27
DC-16	5/30/2011	307.12	33.48	273.64
DC-16	7/19/2011	307.12	33.83	273.29
DC-16	10/17/2011	307.12	34.91	272.21
DC-16	4/2/2012	307.12	35.14	271.98
DC-16	12/13/2016	307.12	35.15	271.97
DC-16	3/13/2017	307.12	34.80	272.32
DC-16	10/15/2018	307.12	35.37	271.75
DC-17	4/24/2007	304.89	31.65	273.24
DC-17	5/28/2013	305.16	32.65	272.51
DC-17	10/21/2014	305.16	33.44	271.72
DC-17	12/16/2015	305.16	33.58	271.58
DC-17	3/13/2017	305.16	31.80	273.36
DC-17	7/17/2017	305.16	--	--
DC-17	10/20/2017	305.16	32.51	272.65
DC-17	1/24/2018	305.16	32.42	272.74
DC-17	4/17/2018	305.16	31.94	273.22
DC-17	7/18/2018	305.16	32.18	272.98
DC-17	10/15/2018	305.16	33.24	271.92

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-18	4/24/2007	309.37	36.10	273.27
DC-18	5/28/2013	309.64	37.05	272.59
DC-18	10/21/2014	309.51	37.81	271.70
DC-18	12/9/2015	309.51	38.26	271.25
DC-18	12/13/2016	309.51	37.35	272.16
DC-18	3/13/2017	309.51	36.26	273.25
DC-18	7/17/2017	309.51	35.28	274.23
DC-18	10/20/2017	309.51	36.73	272.78
DC-18	1/24/2018	309.51	36.81	272.70
DC-18	4/17/2018	309.51	36.24	273.27
DC-18	7/18/2018	309.51	36.46	273.05
DC-18	10/15/2018	309.51	37.54	271.97
DC-19	8/21/2008	313.53	42.02	271.51
DC-19	11/5/2010	313.53	41.75	271.78
DC-19	2/11/2011	313.53	40.52	273.01
DC-19	5/30/2011	313.53	39.06	274.47
DC-19	7/19/2011	313.53	39.36	274.17
DC-19	10/17/2011	313.53	40.47	273.06
DC-19	4/2/2012	313.53	40.85	272.68
DC-19	5/28/2013	313.62	40.40	273.22
DC-19	12/9/2015	313.62	41.66	271.96
DC-19	12/13/2016	313.62	40.73	272.89
DC-19	3/13/2017	313.62	39.65	273.97
DC-19	7/17/2017	313.62	38.57	275.05
DC-19	10/20/2017	313.62	40.07	273.55
DC-19	1/24/2018	313.62	40.16	273.46
DC-19	4/17/2018	313.62	39.57	274.05
DC-19	7/18/2018	313.62	39.78	273.84
DC-19	10/15/2018	313.62	40.90	272.72

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
DC-20	6/2/2008	--	39.46	--
DC-20	5/28/2013	310.92	38.42	272.50
DC-20	4/14/2014	310.92	38.86	272.06
DC-20	10/21/2014	310.92	39.12	271.80
DC-20	12/15/2015	310.92	39.44	271.48
DC-20	12/13/2016	310.92	38.69	272.23
DC-20	3/13/2017	310.92	37.65	273.27
DC-20	7/17/2017	310.92	36.64	274.28
DC-20	10/20/2017	310.92	38.08	272.84
DC-20	1/24/2018	310.92	38.17	272.75
DC-20	4/17/2018	310.92	37.59	273.33
DC-20	10/15/2018	310.92	38.87	272.05
KMW-1	4/24/2007	311.21	38.15	273.06
KMW-1	8/21/2008	311.21	40.60	270.61
KMW-1	11/5/2010	311.21	40.37	270.84
KMW-1	2/11/2011	311.21	39.19	272.02
KMW-1	5/30/2011	311.21	37.79	273.42
KMW-1	7/19/2011	311.21	38.06	273.15
KMW-1	10/17/2011	311.21	39.13	272.08
KMW-1	4/2/2012	311.21	39.50	271.71
KMW-1	5/28/2013	311.59	39.08	272.51
KMW-1	10/21/2014	311.59	39.81	271.78
KMW-1	12/9/2015	311.59	40.29	271.30
KMW-1	12/13/2016	311.59	39.36	272.23
KMW-1	3/13/2017	311.59	38.34	273.25
KMW-1	7/17/2017	311.59	37.31	274.28
KMW-1	10/20/2017	311.59	38.85	272.74
KMW-1	1/24/2018	311.59	38.83	272.76
KMW-1	4/17/2018	311.59	38.27	273.32
KMW-1	7/18/2018	311.59	38.47	273.12
KMW-1	10/15/2018	311.59	39.55	272.04

**Table D2
 Historical Summary of Groundwater Elevations (1999 - 2018)
 Manhattan Village Shopping Center and Harris Properties
 Normandy Park, Washington**

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
KMW-2	4/24/2007	306.90	33.33	273.57
KMW-2	8/21/2008	306.90	35.96	270.94
KMW-2	11/5/2010	306.90	34.59	272.31
KMW-2	2/11/2011	306.90	34.32	272.58
KMW-2	5/30/2011	306.90	32.96	273.94
KMW-2	7/19/2011	306.90	33.30	273.60
KMW-2	10/17/2011	306.90	34.39	272.51
KMW-2	4/2/2012	306.90	34.59	272.31
KMW-2	5/28/2013	307.25	34.30	272.95
KMW-2	10/21/2014	307.04	35.14	271.90
KMW-2	12/9/2015	307.04	35.51	271.53
KMW-2	12/13/2016	307.04	34.70	272.34
KMW-2	3/13/2017	307.04	33.42	273.62
KMW-2	7/17/2017	307.04	32.60	274.44
KMW-2	10/20/2017	307.04	34.02	273.02
KMW-2	1/24/2018	307.04	34.11	272.93
KMW-2	4/17/2018	307.04	33.56	273.48
KMW-2	7/18/2018	307.04	33.80	273.24
KMW-2	10/15/2018	307.04	34.92	272.12
KMW-3	4/24/2007	296.92	24.51	272.41
KMW-3	8/21/2008	296.92	27.01	269.91
KMW-3	11/5/2010	296.92	26.37	270.55
KMW-3	5/30/2011	296.92	24.22	272.70
KMW-3	7/19/2011	296.92	24.61	272.31
KMW-3	10/17/2011	296.92	25.58	271.34
KMW-3	4/2/2012	296.92	25.59	271.33
KMW-3	10/21/2014	296.92	26.25	270.67
KMW-3	12/13/2016	296.92	25.69	271.23
KMW-3	3/13/2017	296.92	24.33	272.59
KMW-3	7/17/2017	296.92	23.99	272.93
KMW-3	10/20/2017	296.92	25.35	271.57
KMW-3	1/24/2018	296.92	25.16	271.76
KMW-3	4/17/2018	296.92	24.69	272.23
KMW-3	7/18/2018	296.92	25.04	271.88
KMW-3	10/15/2018	296.92	26.09	270.83

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
KMW-4	4/24/2007	299.45	25.95	273.50
KMW-4	8/21/2008	299.45	28.62	270.83
KMW-4	11/5/2010	299.45	28.22	271.23
KMW-4	2/11/2011	299.45	26.87	272.58
KMW-4	5/30/2011	299.45	25.59	273.86
KMW-4	7/19/2011	299.45	25.99	273.46
KMW-4	10/17/2011	299.45	27.07	272.38
KMW-4	4/2/2012	299.45	27.10	272.35
KMW-4	10/21/2014	299.57	27.80	271.77
KMW-4	12/9/2015	299.57	28.08	271.49
KMW-4	12/13/2016	299.57	27.24	272.33
KMW-4	3/13/2017	299.57	25.90	273.67
KMW-4	7/17/2017	299.57	25.25	274.32
KMW-4	10/20/2017	299.57	27.26	272.31
KMW-4	1/24/2018	299.57	26.58	272.99
KMW-4	4/17/2018	299.57	26.13	273.44
KMW-4	7/18/2018	299.57	26.50	273.07
KMW-4	10/15/2018	299.57	27.60	271.97
KMW-5	4/24/2007	297.10	24.32	272.78
KMW-5	8/21/2008	297.10	26.85	270.25
KMW-5	11/5/2010	297.10	26.49	270.61
KMW-5	2/11/2011	297.10	25.21	271.89
KMW-5	5/30/2011	297.10	24.00	273.10
KMW-5	7/19/2011	297.10	24.41	272.69
KMW-5	10/17/2011	297.10	25.41	271.69
KMW-5	4/2/2012	297.10	25.37	271.73
KMW-5	5/28/2013	297.22	25.30	271.92
KMW-5	10/21/2014	297.22	26.09	271.13
KMW-5	12/9/2015	297.22	26.30	270.92
KMW-5	12/13/2016	297.22	25.52	271.70
KMW-5	3/13/2017	297.22	24.30	272.92
KMW-5	7/17/2017	297.22	24.75	272.47
KMW-5	10/20/2017	297.22	24.82	272.40
KMW-5	1/24/2018	297.22	24.95	272.27
KMW-5	4/17/2018	297.22	24.50	272.72
KMW-5	7/18/2018	297.22	24.87	272.35
KMW-5	10/31/2018	297.22	26.09	271.13

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
KMW-5D	4/24/2007	296.94	24.19	272.75
KMW-5D	8/21/2008	296.94	26.72	270.22
KMW-5D	11/5/2010	296.94	26.35	270.59
KMW-5D	2/11/2011	296.94	25.10	271.84
KMW-5D	5/30/2011	296.94	23.89	273.05
KMW-5D	7/19/2011	296.94	24.28	272.66
KMW-5D	10/17/2011	296.94	25.28	271.66
KMW-5D	4/2/2012	296.94	25.19	271.75
KMW-5D	12/13/2016	296.94	25.40	271.54
KMW-5D	3/13/2017	296.94	25.19	271.75
KMW-5D	10/15/2018	296.94	25.79	271.15
KMW-6	4/24/2007	294.70	22.40	272.30
KMW-6	8/21/2008	294.70	24.90	269.80
KMW-6	11/5/2010	294.70	24.51	270.19
KMW-6	2/11/2011	294.70	23.26	271.44
KMW-6	5/30/2011	294.70	22.12	272.58
KMW-6	7/19/2011	294.70	22.52	272.18
KMW-6	10/17/2011	294.70	23.48	271.22
KMW-6	4/2/2012	294.70	23.39	271.31
KMW-6	10/21/2014	294.81	21.05	273.76
KMW-6	12/9/2015	294.81	24.31	270.50
KMW-6	12/13/2016	294.81	23.53	271.28
KMW-6	3/13/2017	294.81	22.34	272.47
KMW-6	7/17/2017	294.81	21.90	272.91
KMW-6	10/20/2017	294.81	23.31	271.50
KMW-6	1/24/2018	294.81	23.30	271.51
KMW-6	4/17/2018	294.81	22.54	272.27
KMW-6	7/18/2018	294.81	22.98	271.83
KMW-6	10/15/2018	294.81	23.98	270.83

Table D2
Historical Summary of Groundwater Elevations (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
KMW-7	4/24/2007	301.32	29.22	272.10
KMW-7	8/21/2008	301.32	31.65	269.67
KMW-7	11/5/2010	301.32	31.36	269.96
KMW-7	2/11/2011	301.32	30.14	271.18
KMW-7	5/30/2011	301.32	28.92	272.40
KMW-7	7/19/2011	301.32	29.27	272.05
KMW-7	10/17/2011	301.32	30.25	271.07
KMW-7	4/2/2012	301.32	30.35	270.97
KMW-7	10/21/2014	301.43	30.88	270.55
KMW-7	12/15/2015	301.43	31.03	270.40
KMW-7	12/13/2016	301.43	30.40	271.03
KMW-7	3/13/2017	301.43	28.98	272.45
KMW-7	7/17/2017	301.43	28.61	272.82
KMW-7	10/20/2017	301.43	30.19	271.24
KMW-7	1/24/2018	301.43	28.66	272.77
KMW-7	4/17/2018	301.43	29.28	272.15
KMW-7	7/18/2018	301.43	29.70	271.73
KMW-7	10/15/2018	301.43	30.87	270.56
KMW-8	4/24/2007	308.08	35.73	272.35
KMW-8	8/21/2008	308.08	38.14	269.94
KMW-8	11/5/2010	308.08	37.87	270.21
KMW-8	2/11/2011	308.08	36.72	271.36
KMW-8	5/30/2011	308.08	35.40	272.68
KMW-8	7/19/2011	308.08	35.68	272.40
KMW-8	10/17/2011	308.08	36.71	271.37
KMW-8	4/2/2012	308.08	37.02	271.06
KMW-8	10/21/2014	308.15	37.34	270.81
KMW-8	12/9/2015	308.15	37.76	270.39
KMW-8	12/13/2016	308.15	36.92	271.23
KMW-8	3/13/2017	308.15	35.94	272.21
KMW-8	7/17/2017	308.15	34.98	273.17
KMW-8	10/20/2017	308.15	36.35	271.80
KMW-8	1/24/2018	308.15	36.41	271.74
KMW-8	4/17/2018	308.15	35.87	272.28
KMW-8	7/18/2018	308.15	36.10	272.05
KMW-8	10/15/2018	308.15	37.12	271.03

**Table D2
 Historical Summary of Groundwater Elevations (1999 - 2018)
 Manhattan Village Shopping Center and Harris Properties
 Normandy Park, Washington**

Location	Date	Well Casing Elevation (feet NAVD88)	Depth to Water (feet below well casing)	Water Level Elevation (feet NAVD88)
KMW-9	4/24/2007	310.18	36.49	273.69
KMW-9	11/5/2010	310.18	38.78	271.40
KMW-9	2/11/2011	310.18	37.51	272.67
KMW-9	5/30/2011	310.18	36.11	274.07
KMW-9	7/19/2011	310.18	36.49	273.69
KMW-9	10/17/2011	310.18	37.51	272.67
KMW-9	4/2/2012	310.18	37.84	272.34
KMW-9	4/14/2014	310.53	37.91	272.62
KMW-9	10/21/2014	310.33	38.24	272.09
KMW-9	12/9/2015	310.33	38.71	271.62
KMW-9	12/13/2016	310.33	37.79	272.54
KMW-9	3/13/2017	310.33	36.65	273.68
KMW-9	7/17/2017	310.33	35.66	274.67
KMW-9	10/20/2017	310.33	37.16	273.17
KMW-9	1/24/2018	310.33	37.22	273.11
KMW-9	4/17/2018	310.33	36.64	273.69
KMW-9	7/18/2018	310.33	36.87	273.46
KMW-9	10/15/2018	310.33	37.97	272.36
NOTES:				
1. '--' = not measured or not applicable.				
2. Well monument types: flush grade monuments and above ground (AG) monuments.				
3. Depth to water is measured from top of well casing.				
4. Elevations are reported relative to North American Vertical Datum of 1988 (NAVD 88).				
5. Top of casing (TOC) elevations were surveyed by D.R. Strong Consulting Engineers, Inc. in February and May 213 and by Lanktree Land Surveying, Inc. in July 215.				

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
Shallow Monitoring Wells			
MW-1	12/10/1999	21.6	
MW-1	7/25/2005	15	
MW-1	4/11/2006	14	
MW-1	10/26/2006	11	
MW-1	4/25/2007	13	
* Monitoring well cannot be located			
MW-2	12/10/1999	16.7	
MW-2	4/5/2012	7.1	
MW-2	5/30/2013	2.4	
MW-2	4/14/2014	3.2	
MW-2	10/24/2014	1.4	
MW-2	12/11/2015	1.00	U
MW-2	3/13/2017	6.02	
MW-2	7/18/2017	2.43	
MW-2	10/26/2017	1.55	
MW-2	4/19/2018	3.39	
MW-2	7/17/2018	1.78	Chloroform (0.569)
MW-2	10/18/2018	1.17	Chloroform (0.843)
MW-3	4/14/2008	2.31	Chloroform (0.990)
MW-3	11/1/2010	2.9	
MW-3	5/31/2011	2.0	U
MW-3	7/20/2011	2.0	U
MW-3	10/18/2011	6.1	
MW-3	4/4/2012	5.8	
MW-3	5/29/2013	4.0	
MW-3	10/24/2014	1.0	
MW-3	12/10/2015	1.34	
MW-3	12/14/2016	1.00	U
MW-3	3/13/2017	1.00	U
MW-3	7/18/2017	1.76	
MW-3	10/25/2017	4.21	
MW-3	4/20/2018	1.00	
MW-3	10/16/2018	0.500	U

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
MW-4	4/14/2008	33	Chloroform (0.780), cis-1,2-DCE (0.320), TCE (0.490)
MW-4	3/9/2010	7.8	
MW-4	11/1/2010	16	
MW-4	5/31/2011	10	
MW-4	7/21/2011	25	
MW-4	10/19/2011	21	
MW-4	4/4/2012	11	
MW-4	5/29/2013	8.1	
MW-4	10/29/2014	7.3	
MW-4	12/14/2015	4.89	
MW-4	12/14/2016	1.00 U	
MW-4	3/14/2017	1.00 U	
MW-4	7/18/2017	1.40	
MW-4	10/25/2017	3.23	
MW-4	4/20/2018	0.500 U	
MW-4	10/16/2018	0.500 U	
MW-5	4/11/2008	0.470	
MW-5	4/2/2012	2.0 U	
MW-6	4/15/2008	2.0 U	
MW-6	4/2/2012	2.0 U	
MW-7	4/16/2008	22.4	
MW-7	4/2/2012	14	
MW-7	10/29/2014	20	
MW-7	12/15/2015	7.42	
MW-7	3/17/2017	8.08	
MW-7	7/19/2017	7.20	
MW-7	10/25/2017	7.47	
MW-7	1/26/2018	7.73	
MW-7	4/20/2018	7.64	
MW-7	7/19/2018	6.60	
MW-7	10/23/2018	5.79	
MW-8	8/21/2008	0.20 J	
MW-8	4/2/2012	2.0 U	
MW-9	8/21/2008	0.10 J	
MW-9	4/2/2012	2.0 U	
MW-9	10/24/2014	1.0 U	
MW-9	12/10/2015	1.00 U	
MW-9	3/13/2017	1.00 U	
MW-9	10/23/2017	0.500 U	
MW-9	4/18/2018	0.500 U	
MW-9	10/17/2018	0.500 U	

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)		Other VOCs detected (µg/l)
MW-10	2/8/2011	10		
MW-10	5/31/2011	2.0	U	
MW-10	7/20/2011	4.1		
MW-10	10/18/2011	4.9		
MW-10	4/6/2012	6.7		
MW-10	5/29/2013	4.1		
MW-10	10/24/2014	1.7		
MW-10	12/11/2015	1.00	U	TCE (3.22)
MW-10	12/14/2016	1.13		
MW-10	3/14/2017	1.09		
MW-10	7/18/2017	1.00	U	
MW-10	10/23/2017	0.500	U	
MW-10	4/18/2018	0.716		
MW-10	10/18/2018	0.500	U	
MW-11	2/8/2011	47		
MW-11	5/31/2011	2.0	U	Acetone (51)
MW-11	7/20/2011	2.0	U	Acetone (154)
MW-11	10/18/2011	2.0	U	Acetone (130)
MW-11	4/6/2012	29		
MW-11	5/31/2013	22		
MW-11	10/29/2014	15		
MW-11	12/14/2015	11.9		
MW-11	12/15/2016	7.99		
MW-11	3/16/2017	4.66		
MW-11	7/19/2017	2.52		
MW-11	10/26/2017	2.15		
MW-11	1/25/2018	2.52		
MW-11	4/19/2018	2.97		
MW-11	10/19/2018	2.44		
MW-12	4/4/2012	2.0	U	
MW-12	5/28/2013	1.0	U	
MW-12	10/23/2014	1.0	U	
MW-12	12/10/2015	1.00	U	
MW-12	12/14/2016	1.00	U	
MW-12	3/13/2017	1.00	U	
MW-12	7/18/2017	1.00	U	
MW-12	10/23/2017	0.500	U	
MW-12	4/18/2018	0.500	U	
MW-12	10/16/2018	0.500	U	

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
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Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)		Other VOCs detected (µg/l)
MW-13	4/3/2012	2.0	U	
MW-13	5/30/2013	1.0	U	
MW-13	10/23/2014	1.0	U	
MW-13	12/10/2015	1.00	U	
MW-13	12/13/2016	1.00	U	
MW-13	3/14/2017	1.00	U	
MW-13	7/18/2017	1.00	U	
MW-13	10/23/2017	0.500	U	
MW-13	4/18/2018	0.500	U	
MW-13	10/16/2018	0.500	U	
MW-14	4/5/2012	2.0	U	
MW-14	5/29/2013	1.0	U	
MW-14	10/30/2014	1.0	U	
MW-14	12/11/2015	1.00	U	
MW-14	3/14/2017	1.00	U	
MW-14	10/24/2017	0.910		
MW-14	4/20/2018	1.27		
MW-14	10/23/2018	0.500	U	
MW-15	4/5/2012	2.0	U	
MW-15	5/28/2013	1.0	U	
MW-15	4/14/2014	1.0	U	
MW-15	10/23/2014	1.0	U	
MW-15	12/10/2015	1.00	U	
MW-15	3/14/2017	1.00	U	
MW-15	10/24/2017	0.954		
MW-15	4/19/2018	1.13		
MW-15	10/18/2018	0.500	U	
MW-16	5/31/2013	2.5		
MW-16	10/23/2014	1.3		
MW-16	12/11/2015	1.20		
MW-16	12/13/2016	1.63		
MW-16	3/16/2017	1.13		
MW-16	7/18/2017	1.00	U	
MW-16	10/24/2017	1.26		
MW-16	4/19/2018	1.33		
MW-16	10/18/2018	0.912		Chloroform (0.539)

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-1	10/21/1998	0.60	Toluene (0.8)
DC-1	2/3/1999	0.5 U	
DC-1	4/7/1999	0.5 U	Toluene (8.7)
DC-1	12/8/1999	1.0 U	
DC-1	4/26/2000	1.0 U	
DC-1	8/3/2000	1.0 U	
DC-1	11/14/2000	1.0 U	
DC-1	3/6/2001	1.0 U	
DC-1	6/20/2001	1.0 U	
DC-1	9/17/2001	1.0 U	
DC-1	12/20/2001	1.0 U	
DC-1	3/13/2002	1.0 U	
DC-1	9/17/2002	1.0 U	
DC-1	12/10/2002	1.0 U	
DC-1	3/31/2003	1.0 U	
DC-1	9/3/2003	1.0 U	
DC-1	3/16/2004	1.0 U	
DC-1	9/7/2004	1.0 U	
DC-1	4/25/2007	0.2 U	
DC-1	4/4/2012	2.0 U	

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-2	10/21/1998	2.4	Chloroform (1.8), Toluene (0.6)
DC-2	2/3/1999	0.7	
DC-2	4/7/1999	0.5 U	Chloroform (1.4), Toluene (14)
DC-2	12/8/1999	0.5 U	
DC-2	4/26/2000	1.0 U	
DC-2	8/3/2000	1.0 U	
DC-2	11/14/2000	1.0 U	
DC-2	3/6/2001	1.0 U	
DC-2	6/20/2001	1.0 U	
DC-2	9/17/2001	1.0 U	
DC-2	12/20/2001	1.0 U	
DC-2	3/13/2002	4.0	
DC-2	6/13/2002	1.0 U	
DC-2	9/17/2002	1.0 U	
DC-2	12/10/2002	0.50	
DC-2	3/31/2003	3.37	
DC-2	9/3/2003	1.0 U	
DC-2	3/16/2004	0.74	
DC-2	9/7/2004	1.0 U	
DC-2	4/26/2007	1.2	
DC-2	4/14/2008	0.340	Chloroform (1.60)
DC-2	11/3/2010	2.0 U	
DC-2	5/31/2011	2.0 U	
DC-2	7/21/2011	2.0 U	
DC-2	10/18/2011	2.0 U	
DC-2	4/4/2012	2.0 U	

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-3	10/28/1998	54	Chloroform (1.9), Toluene (0.6)
DC-3	2/4/1999	25	
DC-3	4/8/1999	36	Chloroform (1.2), Toluene (15)
DC-3	12/8/1999	45	
DC-3	4/26/2000	56	
DC-3	8/3/2000	25	
DC-3	11/14/2000	1.0	U
DC-3	3/6/2001	4.7	
DC-3	6/20/2001	2.8	
DC-3	9/17/2001	1.0	U
DC-3	12/20/2001	9.2	
DC-3	3/13/2002	40.0	
DC-3	6/13/2002	42.3	
DC-3	9/17/2002	33.4	
DC-3	12/10/2002	5.40	
DC-3	3/31/2003	7.34	
DC-3	9/3/2003	2.08	
DC-3	3/16/2004	1.0	U
DC-3	9/7/2004	3.43	
DC-3	4/26/2007	42.0	
DC-3	4/14/2008	27.8	Chloroform (1.50)
DC-3	3/9/2010	2.0	U
DC-3	11/3/2010	2.0	U
DC-3	5/30/2011	3.9	
DC-3	7/20/2011	12	
DC-3	10/18/2011	6.7	
DC-3	4/4/2012	2.9	
DC-3	10/27/2014	1.4	
DC-3	12/11/2015	1.49	
DC-3	12/14/2016	1.00	U
DC-3	3/14/2017	2.11	
DC-3	7/18/2017	1.00	U
DC-3	10/24/2017	0.786	
DC-3	4/18/2018	1.23	
DC-3	10/17/2018	0.500	U

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-4	10/28/1998	227	Chloroform (0.9), Toluene (0.7)
DC-4	2/4/1999	144	
DC-4	4/8/1999	110	Toluene (2.6)
DC-4	12/8/1999	71	
DC-4	4/26/2000	120	
DC-4	8/3/2000	42	
DC-4	11/14/2000	64	
DC-4	3/6/2001	52	TCE (3.0)
DC-4	6/20/2001	40	
DC-4	9/17/2001	23	
DC-4	12/20/2001	15	
DC-4	3/13/2002	55	
DC-4	6/13/2002	17.9	
DC-4	9/17/2002	28.8	
DC-4	12/10/2002	22.4	
DC-4	3/31/2003	12.5	
DC-4	9/3/2003	14.1	
DC-4	3/16/2004	19.8	
DC-4	9/7/2004	18.5	
DC-4	4/26/2007	19.0	
DC-4	4/11/2008	30.2	Chloroform (1.2)
DC-4	3/9/2010	9.2	
DC-4	11/3/2010	13	
DC-4	5/31/2011	2.0	U Acetone (46)
DC-4	7/20/2011	2.0	U Acetone (77)
DC-4	10/18/2011	22	
DC-4	4/4/2012	22	
DC-4	5/30/2013	11	
DC-4	10/29/2014	13	
DC-4	12/14/2015	5.49	
DC-4	12/14/2016	1.00	U
DC-4	3/14/2017	1.00	U
DC-4	7/18/2017	1.00	U
DC-4	10/24/2017	0.500	U
DC-4	4/18/2018	0.500	U
DC-4	10/17/2018	0.500	U

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-6	2/4/1999	5.1	
DC-6	4/8/1999	3.7	Chloroform(1.3), Toluene (2.3)
* Monitoring well cannot be located			
DC-7	2/4/1999	74	
DC-7	4/8/1999	64	Toluene (1.3)
DC-7	12/8/1999	107	
DC-7	4/26/2000	130	
DC-7	8/3/2000	50	
DC-7	11/14/2000	130	
DC-7	3/6/2001	140	
DC-7	6/20/2001	96	
DC-7	9/17/2001	81	
DC-7	12/20/2001	47	
DC-7	3/13/2002	31	
DC-7	6/13/2002	41.5	
DC-7	9/17/2002	77.7	
DC-7	12/10/2002	91.8	
DC-7	3/31/2003	40.1	
DC-7	9/3/2003	57.4	
DC-7	7/25/2005	37.0	
DC-7	4/11/2006	23.0	
DC-7	10/26/2006	51.0	
DC-7	4/24/2007	27.0	
DC-7	4/16/2008	50.8	
DC-7	11/3/2010	34	
DC-7	6/1/2011	15	
DC-7	7/21/2011	38	
DC-7	10/18/2011	42	
DC-7	4/5/2012	18	
DC-7	5/30/2013	15	
DC-7	10/30/2014	23	
DC-7	12/16/2015	13.3	
DC-7	3/17/2017	10.4	
DC-7	10/23/2017	6.67	J
DC-7	1/26/2018	12.1	
DC-7	4/20/2018	12.8	
DC-7	7/20/2018	12.3	
DC-7	10/23/2018	11.6	

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-8	2/4/1999	56	
DC-8	4/8/1999	48	Toluene (1.2)
DC-8	12/8/1999	98	
DC-8	4/26/2000	87	
DC-8	8/3/2000	70	
DC-8	11/14/2000	130	
DC-8	3/6/2001	82	
DC-8	6/20/2001	80	
DC-8	9/17/2001	62	
DC-8	12/20/2001	50	
DC-8	3/13/2002	31	
DC-8	6/13/2002	26.6	
DC-8	9/17/2002	38.4	
DC-8	12/10/2002	53.1	
DC-8	3/31/2003	36.4	
DC-8	9/3/2003	34.7	
DC-8	7/25/2005	26.0	
DC-8	4/11/2006	14.0	
DC-8	10/26/2006	28.0	
DC-8	4/24/2007	24.0	
DC-8	4/16/2008	39.4	
DC-8	11/3/2010	25	
DC-8	6/1/2011	11	
DC-8	7/21/2011	25	
DC-8	10/19/2011	26	
DC-8	4/5/2012	18	
DC-8	5/30/2013	11	
DC-8	10/30/2014	18	
DC-8	12/16/2015	8.61	
DC-8	3/16/2017	9.69	
DC-8	7/19/2017	8.94	
DC-8	10/23/2017	14.8	
DC-8	1/24/2018	12.0	
DC-8	4/18/2018	13.0	
DC-8	7/18/2018	11.7	
DC-8	10/18/2018	12.1	

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-9A	4/8/1999	135	Toluene (3.2)
DC-9A	12/8/1999	73	
DC-9A	4/26/2000	240	
DC-9A	8/3/2000	110	
DC-9A	4/11/2006	78	
DC-9A	8/8/2006	49	
DC-9A	11/2/2006	2.9	
DC-9A	4/26/2007	33	
* Monitoring well cannot be located			
DC-10A	4/8/1999	150	Toluene (1.7)
DC-10A	12/8/1999	73	TCE (1.1)
DC-10A	4/26/2000	210	
DC-10A	4/5/2012	41	
DC-10A	5/31/2013	19	
DC-10A	10/30/2014	17	
DC-10A	12/15/2016	10.8	
DC-10A	3/17/2017	8.62	
DC-10A	7/19/2017	4.69	
DC-10A	10/26/2017	4.72	
DC-10A	1/25/2018	3.62	
DC-10A	4/20/2018	4.67	
DC-10A	7/17/2018	2.68	
DC-11	4/26/2007	12	
DC-11	3/9/2010	4.6	
DC-11	11/1/2010	4.8	
DC-11	4/4/2012	3.1	
DC-11	4/15/2014	1.2	
DC-11	10/27/2014	1.4	
DC-11	12/11/2015	1.48	
DC-11	3/15/2017	1.97	
DC-11	10/26/2017	1.35	
DC-11	4/19/2018	1.21	
DC-11	10/18/2018	1.25	
DC-12	4/25/2007	16	
DC-12	4/4/2012	3.7	
DC-12	5/30/2013	2.3	
DC-12	4/15/2014	1.4	
DC-12	10/27/2014	1.8	
DC-12	12/14/2015	2.04	
DC-12	3/15/2017	2.02	
DC-12	10/27/2017	1.66	
DC-12	4/20/2018	1.50	
DC-12	10/19/2018	1.66	

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-13	4/25/2007	15	
DC-13	4/16/2008	23	
DC-13	3/1/2010	10	
DC-13	11/2/2010	9.2	
DC-13	4/5/2012	6.4	
DC-13	5/30/2013	1.7	
DC-13	4/14/2014	3.2	
DC-13	10/27/2014	2.7	
DC-13	12/14/2015	2.78	
DC-13	3/15/2017	4.32	
DC-13	10/27/2017	2.79	
DC-13	4/20/2018	2.87	
DC-13	10/19/2018	2.74	
DC-14	4/25/2007	11	
DC-14	4/3/2012	11	
DC-14	5/30/2013	6.0	
DC-14	10/29/2014	19	
DC-14	12/15/2015	6.02	
DC-14	3/16/2017	6.20	
DC-14	7/19/2017	4.94	
DC-14	10/26/2017	5.40	Chloroform (2.23)
DC-14	2/2/2018	7.81	
DC-14	4/19/2018	5.14	Chloroform (2.27)
DC-14	7/19/2018	5.40	Chloroform (1.25)
DC-15	4/24/2007	11	
DC-15	4/5/2012	20	
DC-15	4/15/2014	10	
DC-15	10/30/2014	5.8	
DC-15	12/16/2015	5.93	
DC-15	3/16/2017	8.96	
DC-15	10/23/2017	7.42	
DC-15	1/24/2018	8.61	
DC-15	4/18/2018	9.88	
DC-15	7/18/2018	7.82	
DC-15	10/18/2018	7.65	

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-17	4/25/2007	47	
DC-17	4/16/2008	74.6	
DC-17	5/31/2013	21	
DC-17	10/23/2014	17	
DC-17	12/16/2015	15.1	
DC-17	3/17/2017	13.9	
DC-17	10/23/2017	8.06	
DC-17	1/26/2018	7.38	
DC-17	4/20/2018	10.1	
DC-17	7/20/2018	8.62	
DC-17	10/19/2018	8.24	
DC-18	4/25/2007	19	
DC-18	4/5/2012	7.2	
DC-18	5/30/2013	4.8	
DC-18	10/28/2014	3.0	
DC-18	12/14/2015	3.19	
DC-18	3/16/2017	3.24	
DC-18	10/26/2017	3.26	Chloroform (3.00)
DC-18	4/20/2018	3.31	Chloroform (3.23)
DC-18	10/19/2018	2.79	Chloroform (2.36)
DC-19	6/4/2007	0.79	
DC-19	4/14/2008	0.66	
DC-19	4/4/2012	2.0 U	
DC-20	6/2/2008	8.1	
DC-20	5/30/2013	1.7	
DC-20	4/14/2014	1.4	
DC-20	10/28/2014	1.0 U	
DC-20	12/15/2015	1.74	1,2-Dichlororpropane (1.82)
DC-20	3/15/2017	2.00	
DC-20	10/27/2017	0.991	
DC-20	4/19/2018	1.14	
DC-20	10/19/2018	0.885	Benzene (0.54), sec-Butylbenzene (0.6 0)

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)		Other VOCs detected (µg/l)
KMW-1	4/11/2006	1.0	U	
KMW-1	10/26/2006	1.0	U	
KMW-1	4/25/2007	0.2	U	
KMW-1	4/14/2008	0.2	U	Chloroform (0.450)
KMW-1	4/3/2012	2.0	U	
KMW-2	6/12/2006	130		
KMW-2	8/8/2006	130		
KMW-2	10/26/2006	190		
KMW-2	4/24/2007	63		
KMW-2	4/16/2008	96		
KMW-2	3/8/2010	81		
KMW-2	11/3/2010	74		
KMW-2	6/1/2011	12		Acetone (140)
KMW-2	7/20/2011	44		
KMW-2	10/19/2011	40		
KMW-2	4/6/2012	25		
KMW-2	5/31/2013	22		
KMW-2	10/29/2014	18		
KMW-2	12/15/2015	15		
KMW-2	12/15/2016	1.18		
KMW-2	3/14/2017	1.00	U	
KMW-2	7/18/2017	1.00	U	
KMW-2	10/24/2017	0.500	U	
KMW-2	4/18/2018	0.500	U	
KMW-2	10/16/2018	0.500	U	
KMW-3	6/12/2006	20		
KMW-3	10/26/2006	13		
KMW-3	4/24/2007	9.9		
KMW-3	11/2/2010	11		
KMW-3	5/31/2011	6.2		
KMW-3	7/20/2011	12		
KMW-3	10/18/2011	11		
KMW-3	4/3/2012	6.8		
KMW-3	10/28/2014	1.0	U	
KMW-3	3/14/2017	3.23		
KMW-3	10/26/2017	5.78		
KMW-3	1/25/2018	4.95		
KMW-3	4/20/2018	5.37		
KMW-3	7/19/2018	5.18		
KMW-3	10/23/2018	5.41		

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
KMW-4	4/25/2007	0.73	
KMW-4	4/3/2012	2.0 U	
KMW-5	4/25/2007	0.82	
KMW-5	4/3/2012	2.0 U	
KMW-6	4/24/2007	3.8	
KMW-6	4/3/2012	2.0 U	
KMW-7	4/24/2007	3.8	
KMW-7	4/15/2008	3.9	
KMW-7	11/3/2010	2.0 U	
KMW-7	5/30/2011	2.3	
KMW-7	7/20/2011	2.0 U	
KMW-7	10/18/2011	2.0 U	
KMW-7	4/3/2012	3.3	
KMW-7	10/28/2014	2.0	p-isopropyltoluene (2.8)
KMW-7	12/15/2015	2.17	
KMW-7	3/16/2017	1.17	
KMW-7	10/25/2017	0.500 U	
KMW-7	4/19/2018	1.59	
KMW-7	10/23/2018	0.711	
KMW-8	4/24/2007	11	
KMW-8	4/15/2008	17.4	
KMW-8	4/3/2012	10	
KMW-8	10/28/2014	5.9	
KMW-8	12/15/2015	3.98	
KMW-8	3/16/2017	6.71	
KMW-8	7/19/2017	5.00	
KMW-8	10/26/2017	4.99	Chloroform (1.15)
KMW-8	1/25/2018	5.89	Chloroform (2.01)
KMW-8	4/19/2018	5.74	Chloroform (1.68)
KMW-8	7/19/2018	5.17	Chloroform (1.13)
KMW-8	10/23/2018	5.26	Chloroform (1.16)
KMW-9	4/26/2007	9.3	
KMW-9	3/8/2010	4.4	
KMW-9	11/4/2010	2.8	
KMW-9	4/5/2012	4.0	
KMW-9	4/15/2014	1.0	
KMW-9	10/27/2014	1.0 U	
KMW-9	12/10/2015	1.47	
KMW-9	3/15/2017	2.07	
KMW-9	10/26/2017	0.770	
KMW-9	4/18/2018	1.02	
KMW-9	10/18/2018	0.500 U	Chloroform (0.699)

Table D3

Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
Deep Monitoring Wells			
DC-5	2/4/1999	2.4	
DC-5	4/8/1999	1.6	Chloroform (2.6), Toluene (1.0)
DC-5	7/25/2005	37	
DC-5	4/11/2006	1.3	
DC-5	4/26/2007	2.1	
DC-5	11/3/2010	2.1	
DC-5	5/30/2011	2.0	U
DC-5	7/19/2011	2.0	U
DC-5	10/18/2011	2.0	U
DC-5	4/6/2012	2.0	U
DC-5	5/29/2013	1.0	U
DC-9B	4/8/1999	1.4	Chloroform (1.4), Toluene (2.9)
DC-9B	3/6/2001	2.0	
DC-9B	6/20/2001	1.0	U
DC-9B	9/17/2001	1.0	U
DC-9B	12/20/2001	6.4	
DC-9B	7/25/2005	1.0	U
DC-9B	4/11/2006	1.0	U
DC-9B	8/8/2006	1.0	U
DC-9B	10/26/2006	1.0	U
DC-9B	4/26/2007	0.2	U
DC-9B	4/15/2008	0.60	
* Monitoring well has been decommissioned			
DC-10B	4/8/1999	1.8	Chloroform (1.2), Toluene (1.9)
DC-10B	3/6/2001	3.3	TCE (1.7)
DC-10B	6/20/2001	2.4	
DC-10B	9/17/2001	1.0	U
DC-10B	12/20/2001	1.0	U
DC-10B	7/25/2005	1.0	U
DC-10B	4/11/2006	1.0	U
DC-10B	4/26/2007	0.34	
DC-10B	11/3/2010	2.6	
DC-10B	5/30/2011	2.0	U Acetone (290)
DC-10B	7/19/2011	2.0	U Acetone (54)
DC-10B	10/18/2011	2.0	U Acetone (31)
DC-10B	4/6/2012	2.0	U

Table D3

**Historical Summary of Groundwater Analytical Results (1999 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Monitoring Well	Date	PCE (µg/l)	Other VOCs detected (µg/l)
DC-16	4/25/2007	0.42	
DC-16	11/5/2010	2.0 U	
DC-16	5/31/2011	2.0 U	
DC-16	7/19/2011	2.0 U	
DC-16	10/18/2011	2.0 U	
DC-16	4/6/2012	2.0 U	
KMW-5D	4/25/2007	0.2 U	
KMW-5D	4/3/2012	2.0 U	

NOTES:

1. Tetrachloroethene (PCE) concentrations in micrograms per liter (µg/l).
2. Groundwater samples analyzed using USEPA Method 8260B.
3. U = concentration not detected at or above the laboratory practical quantitation limit (PQL).
4. J = the identification of the analyte is acceptable; the reported value is an estimate
5. Detected concentrations are shown in **bold**.
6. Concentrations exceeding the cleanup level are **bold and shaded**.
7. Other detected VOCs are below their respective cleanup level unless otherwise noted.
8. Shallow monitoring wells are screened at the top of the shallow aquifer, and deep monitoring wells are screened below and deeper within the shallow aquifer.
9. Review of historical results indicate that DC-17 was inadvertently sampled as DC-5 in 2010, 2011 and 2012. This table reports the 2010 - 2012 DC-17 data as DC-5.

Table D4

Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
B-01	2	03/12/98	0.28		
B-01	5	03/12/98	35		
B-02	2	03/12/98	0.3		
B-02	4	03/12/98	1.2		
B-03	2	03/12/98	1.2		
B-03	5	03/12/98	1.3		
B-04	2	03/12/98	1.4		
B-04	2	03/12/98	0.88		Duplicate
B-04	5	03/12/98	0.99		
S-01	11	04/14/98	0.8		
S-01	20	04/14/98	0.6		
S-01	30	04/14/98	ND U		
S-01	34	04/14/98	ND U		
DC-01	NA	12/17/98	ND U		Composite
DC-02	NA	12/17/98	0.19		Composite
DC-03	NA	12/17/98	ND U		Composite
DC-04	NA	12/17/98	0.15		Composite
DC-04	NA	12/17/98	0.16		Duplicate
DC-03	NA	12/17/98	0.18		Comp (sat)
DC-04	NA	12/17/98	ND U		Comp (sat)
BH-01	3.5	12/16/98	0.88	Ethylbenzene = 0.17 Xylenes = 0.63	
BH-01	3.5	12/16/98	0.9	Benzene = 0.15, Xylenes 0.66	Duplicate
BH-01	9	12/16/98	0.19		
BH-02	8	12/16/98	ND U		
BH-03	7	12/16/98	ND U		
BH-04	7	12/16/98	ND U		
BH-05	6	12/16/98	2.2		
BH-05	6	12/16/98	2.2		Duplicate
BH-05	11	12/16/98	ND U		
BH-06	7	12/16/98	ND U		
BH-06	10	12/16/98	ND U	cis-1,2-dichloroethene = 0.07	
BH-07	1	12/16/98	0.1	Benzene = 0.31 Toluene = 0.32 Xylenes = 0.38	
BH-08	8	12/16/98	ND U		
BH-09	8	12/16/98	ND U	Benzene = 0.66 Ethylbenzene = 1.1	
BH-10	8	12/16/98	ND U		
BH-11	1	12/16/98	ND U		
BH-12	8	12/16/98	ND U		
BH-13	7	12/16/98	1.4		
BH-13	11	12/16/98	ND U		

Table D4

Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
BH-14	8	12/16/98	10		
BH-14	11	12/16/98	0.22		
BH-14	11	12/16/98	0.16		Duplicate
BH-14	20	12/16/98	ND U		
BH-15	6	12/17/98	1.1		
BH-15	11	12/17/98	ND U		
BH-16	7	12/17/98	0.3		
BH-16	11	12/17/98	ND U		
BH-17	11	12/17/98	ND U		
BH-18	7	12/17/98	ND U		
BH-18	11	12/17/98	ND U		
BH-19	8	12/17/98	ND U		
DC-05	56	01/22/99	ND U		
DC-06	40	01/22/99	ND U		
DC-07	35	01/22/99	ND U		
DC-08	35	01/22/99	ND U		
DC-9B	35	04/05/99	ND U		
DC-10B	50	04/05/99	ND U		
MW-01	2.5-4	12/09/99	ND U		
MW-02	32.5-34	12/09/99	ND U		
HA-01	4.5-5	12/22/99	0.05 U		
HA-01	10.10.5	12/22/99	0.0685		
HA-01	12.5-13	12/22/99	0.05 U		
T-01	4	07/26/00	ND U		S.Sewer Ex.
T-02	4	07/26/00	ND U		S.Sewer Ex.
T-03	3	07/26/00	ND U		S.Sewer Ex.
T-04	3	07/26/00	ND U		S.Sewer Ex.
SVS-04	0-4	02/11/05	0.0058		
SVS-05	0-4	02/11/05	0.0011 U		
KB-01	4-5	04/15/05	0.02 U		
KB-01	15-16	04/15/05	0.02		
KB-01	25-26	04/15/05	0.084		
KB-01	35-36	04/15/05	0.18		
KB-02	4-5	04/15/05	0.02 U		
KB-02	15-16	04/15/05	0.02 U		
KB-02	25-26	04/15/05	0.098		
KB-02	35-36	04/15/05	0.16		
KB-03	4-5	04/15/05	0.02 U		
KB-03	15-16	04/15/05	0.02 U		
KB-03	25-26	04/15/05	0.02 U		
KB-04	4-5	04/15/05	0.02 U		
KB-04	15-16	04/15/05	0.049		
KB-04	19-20	04/15/05	0.1		

Table D4

Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
KB-05	4-5	04/15/05	0.02 U		
KB-05	15-16	04/15/05	0.02 U		
KB-05	25-26	04/15/05	0.035		
KB-05	35-36	04/15/05	0.055		
ST-01	6	03/29/06	0.07		Overexcavated
North Septic Sidewall	9	04/05/06	0.005 U		Sidewall
East Septic Sidewall	9	04/05/06	0.033		Overexcavated
South Septic Sidewall	9	04/05/06	0.005 U		Sidewall
West Septic Sidewall	9	04/05/06	0.005 U		Sidewall
ST-02	6	04/05/06	0.006		Overexcavated
ST-03	7	04/05/06	0.016		Overexcavated
ST-04	7	04/05/06	0.073		Overexcavated
ST5 Clearance	9	04/05/06	0.005 U		Overexcavated
ST6 Clearance	9	04/05/06	0.007		Bottom
East Septic Sidewall 2	11	04/06/06	0.005 U		Sidewall
ST5 Clearance 2	12	04/05/06	0.005 U		Bottom
KMW-01	7	07/25/05	0.05 U		
KMW-01	22	07/25/05	0.05 U		
KMW-01	40	07/25/05	0.05 U		
KMW-02	10	05/01/06	0.05 U		
KMW-02	20	05/01/06	0.05 U		
KMW-02	30	05/01/06	0.05 U		
KMW-03	10	05/01/06	0.05 U		
KMW-03	20	05/01/06	0.05 U		
TW-01	5	05/01/06	0.05 U		
TW-01	10	05/01/06	0.05 U		
TW-01	20	05/01/06	0.05 U		
TW-01	30	05/01/06	0.05 U		
KMW-04	4-5.5	03/28/07	0.05 U		
KMW-04	9-10.5	03/28/07	0.05 U		
KMW-04	19-20.5	03/28/07	0.05 U		
KMW-04	29-30.5	03/28/07	0.05 U		
KMW-05	4-5.5	03/28/07	0.05 U		
KMW-05	9-10.5	03/28/07	0.05 U		
KMW-05	19-20.5	03/28/07	0.05 U		
KMW-05	29-30.5	03/28/07	0.05 U		
KMW-5D	4-5.5	03/28/07	0.05 U		
KMW-5D	9-10.5	03/28/07	0.05 U		
KMW-5D	24-25.5	03/28/07	0.05 U		
KMW-5D	46	03/28/07	0.05 U		
KMW-06	9-10.5	03/27/07	0.05 U		
KMW-06	19-20.5	03/27/07	0.05 U		
KMW-06	29-30.5	03/27/07	0.05 U		
KMW-06	41-42.5	03/27/07	0.05 U		

Table D4

**Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
KMW-07	9-10.5	03/27/07	0.05 U		
KMW-07	19-20.5	03/27/07	0.05 U		
KMW-07	29-30.5	03/27/07	0.05 U		
KMW-08	9-10.5	03/27/07	0.05 U		
KMW-08	20-21.5	03/27/07	0.05 U		
KMW-08	29-30.5	03/27/07	0.05 U		
KMW-09	5	03/27/07	0.0043		
KMW-09	14-15.5	03/27/07	0.2		
KMW-09	19-20.5	03/27/07	0.23		
KMW-09	24-25.5	03/27/07	1.8		
KMW-09	29-30.5	03/27/07	0.32		
KMW-09	34-35.5	03/27/07	0.29		Split
KMW-09	35	03/27/07	0.016		Split
KMW-09	39-40.5	03/27/07	0.053		
KGP-01	4	07/06/07	1.6		Split
KGP-01	4	07/06/07	13	TCE = 0.15	Split
KGP-01	8	07/06/07	59		Split
KGP-01	8	07/06/07	14		Split
KGP-01	10.5	07/06/07	2.1		
KGP-01	16	07/06/07	0.28		Split
KGP-01	16	07/06/07	0.08		Split
KGP-01	20	07/06/07	0.23		
KGP-01	23	07/06/07	0.15		
KGP-01	32	07/06/07	0.17		
KGP-01	38	07/06/07	0.051		
KGP-02	4	07/06/07	0.16		Split
KGP-02	4	07/06/07	0.087		Split
KGP-02	8	07/06/07	0.013		Split
KGP-02	8	07/06/07	0.0082		Split
KGP-02	10.5	07/06/07	0.064		
KGP-02	16	07/06/07	0.02		Split
KGP-02	16	07/06/07	0.022		Split
KGP-02	20	07/06/07	0.088		
KGP-02	23	07/06/07	0.033		
KGP-02	30-31	07/06/07	0.016		
KGP-02	37	07/06/07	0.015		

Table D4

Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
KGP-03	2-4	07/06/07	0.001		Split
KGP-03	2-4	07/06/07	0.0017		Split
KGP-03	8	07/06/07	0.005		Split
KGP-03	8	07/06/07	0.0045		Split
KGP-03	10.5	07/06/07	0.007		
KGP-03	13-16	07/06/07	0.009		Split
KGP-03	13-16	07/06/07	0.0089		Split
KGP-03	20	07/06/07	0.009		
KGP-03	23	07/06/07	0.012		
KGP-03	29-32	07/06/07	0.011		
KGP-03	38	07/06/07	0.01		
GP-01	8-12	03/30/07	0.0008 U		
GP-01	30-34	03/30/07	0.0067		
GP-02	4-8	04/02/07	0.0009 U		
GP-02	28-32	04/02/07	0.0055		
GP-03	8-12	03/30/07	0.00099 U		
GP-03	28-30	03/30/07	0.011		
GP-04	20-24	03/30/07	0.0023		
GP-05	4-8	04/03/07	0.0028		
GP-05	16-20	04/03/07	0.024		
GP-06	4-8	04/02/07	0.0011 U		
GP-06	27-30	04/02/07	0.0033		
GP-07	4-8	04/02/07	0.00095 U		
GP-07	30-34	04/02/07	0.0016		
GP-08	6	05/27/08	0.0017		
GP-08	10	05/27/08	0.0026		
GP-09	4	05/27/08	0.00086 U		
GP-09	10	05/27/08	0.0019		
GP-10	4	05/27/08	0.001 U		
GP-10	10	05/27/08	0.0017		
GP-11	6	05/27/08	0.0014		
GP-11	10	05/27/08	0.0013		
GP-12	6	05/27/08	0.0011		
GP-12	10	05/27/08	0.00092 U		
DC-11	15-16.5	04/19/07	0.0013		
DC-11	30-31.5	04/19/07	0.0084		
DC-12	15-16.5	04/18/07	0.0024		
DC-13	15-16.5	04/19/07	0.00096		
DC-13	35-36.5	04/19/07	0.0081		
DC-14	15-16.5	04/17/07	0.0011 U		
DC-15	15-16.5	04/16/07	0.0011 U		
DC-16	15-16.5	04/17/07	0.0011 U		
DC-17	15-16.5	04/16/07	0.001 U		
DC-17	35-36.5	04/16/07	0.077		
DC-18	15-16.5	04/18/07	0.001 U		

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Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
DC-19	3.5-5	06/01/07	0.00077 U		
DC-19	7.5-9	06/01/07	0.00069 U		
DC-19	37.5-38	06/01/07	0.0047		
DC-20	10	05/28/08	0.0026		
DC-20	35	05/28/08	0.0018		
TP-01	4	05/12/08	0.001		Split
TP-01	4	05/12/08	0.02 U		Split
TP-01	6.5	05/12/08	0.0012 U		Split
TP-01	6.5	05/12/08	0.02		Split
TP-02-south	4	05/12/08	0.0068		Split
TP-02-south	4	05/12/08	0.27		Split
TP-02-north	4	05/12/08	0.05		
TP-03	3.5	05/12/08	0.014		Split
TP-03	3.5	05/12/08	0.02		Split
TP-05	2.5	05/12/08	0.34		
B-05	10	03/26/08	0.00287 U		
B-05	20	03/26/08	0.0034		
B-05	30	03/26/08	0.00888		
B-06	10	03/25/08	0.00302 U		
B-06	20	03/25/08	0.00816		
B-06	30	03/25/08	0.00899		
B-07	10	03/25/08	0.000151 U		
B-07	20	03/25/08	0.00351		
B-07	30	03/25/08	0.00884		
B-08	10	03/26/08	0.00654		
B-08	20	03/26/08	0.00554		
B-08	30	03/26/08	0.00562		
B-09	10	03/25/08	0.00616		
B-09	20	03/25/08	0.0143		
B-09	30	03/25/08	0.0116		
B-10	10	03/24/08	0.671		
B-10	20	03/24/08	0.0508		
B-10	30	03/24/08	0.0154		
B-11	10	03/27/08	0.0324		
B-11	20	03/27/08	0.346		
B-11	30	03/27/08	0.279		
B-12	10	03/27/08	0.00292 U		
B-12	20	03/27/08	0.00299		
B-12	30	03/27/08	0.00848		
B-13	10	03/27/08	0.0311		
B-13	20	03/27/08	0.0314		
B-13	30	03/27/08	0.0231		
B-14	10	03/24/08	0.0118		
B-14	20	03/24/08	0.0296		
B-14	30	03/24/08	0.594		

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Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
B-15	10	03/24/08	0.00532		
B-15	20	03/24/08	0.0188		
B-15	30	03/24/08	0.00785		
B-16	10	03/25/08	0.00324 U		
B-16	20	03/25/08	0.00324 U		
B-16	24	03/25/08	0.000139 U		
B-17	10	03/26/08	0.00269 U		
B-17	20	03/26/08	0.00251 U		
B-17	30	03/26/08	0.00244 U		
SB-01	10	04/19/11	0.01 U		
SB-01	20	04/19/11	0.01 U		
SB-01	30	04/19/11	0.01 U		
SB-02	10	04/19/11	0.01 U		
SB-02	20	04/19/11	0.01 U		
SB-02	30	04/19/11	0.01 U		
SB-03	10	04/19/11	0.01 U		
SB-03	20	04/19/11	0.01 U		
SB-03	30	04/19/11	0.01 U		
SB-04	5	03/01/12	0.01 U		
SB-04	10	03/01/12	0.01 U		
SB-04	20	03/01/12	0.01 U		
SB-04	30	03/01/12	0.01 U		
SB-04	34	03/01/12	0.01 U		
SB-05	10	02/29/12	0.01 U		
SB-05	20	02/29/12	0.01 U		
SB-05	30	02/29/12	0.01 U		
SB-06	5	02/29/12	0.01 U		
SB-06	10	02/29/12	0.028		
SB-06	20	02/29/12	0.01 U		
SB-06	30	02/29/12	0.01 U		
SB-06	38	02/29/12	0.01 U		
SB-07	5	03/01/12	0.01 U		
SB-07	20	03/01/12	0.01 U		
SB-07	30	03/01/12	0.01 U		
SB-07	38	03/01/12	0.01 U		
SB-07	43	03/01/12	0.01 U		
SB-08	10	02/29/12	0.01 U		
SB-08	20	02/29/12	0.01 U		
SB-08	30	02/29/12	0.01 U		
SB-09	2	04/28/12	ND U		
SB-09	8	04/28/12	0.013		
SB-09	12	04/28/12	ND U		
SB-09	20	04/28/12	ND U		
AS-2	5	09/29/14	0.0011 U	Acetone = 0.082	
AS-3	10	10/01/14	0.0010		
AS-4	5	09/30/14	0.0011		

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**Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
AS-5	15	09/30/14	0.0040		
AS-6	5	09/26/14	0.0042	Acetone = 0.063	
AS-7	5	09/24/14	0.0012 U	Acetone = 0.29	
AS-8	3.5	09/30/14	0.0075		
				n-butylbenzene = 0.0036, sec-butylbenzene = 0.002 p-isopropyltoluene = 0.0016 Naphthalene = 0.0041 1,2,4-Trimethylbenzene = 0.047 1,2,3-Trimethylbenzene = 0.014 1,3,5-Trimethylbenzene = 0.013 Total xylenes = 0.011	
AS-8	25	10/17/14	0.029		
AS-9	3	09/30/14	0.0039		
				n-butylbenzene = 0.0034, sec-butylbenzene = 0.0014 p-isopropyltoluene = 0.0012 Naphthalene = 0.0088 n-propylbenzene = 0.0029 1,2,4-Trimethylbenzene = 0.042 1,2,3-Trimethylbenzene = 0.016 1,3,5-Trimethylbenzene = 0.010 Total xylenes = 0.0078	
AS-9	25	10/16/14	0.012		
AS-10	3	10/01/14	0.0011 U	Acetone = 0.069	
AS-10	8	10/14/14	0.007		
AS-11	3	10/01/14	0.0011		
AS-11	10	10/13/14	0.0021		
				Acetone = 0.100 n-butylbenzene = 0.0013, n-propylbenzene = 0.0019 1,2,4-Trimethylbenzene = 0.020 1,2,3-Trimethylbenzene = 0.0053 1,3,5-Trimethylbenzene = 0.006 Total xylenes = 0.0084	
AS-12	3	10/01/14	0.0017		
AS-12	8	10/10/14	0.017		
AS-13	3	10/01/14	0.0028		
AS-13	8	10/01/14	0.0022		
AS-14	3	09/29/14	0.0038		
AS-14	8	10/08/14	0.0021		
AS-15	3	09/29/14	0.014	Acetone = 0.11	
AS-15	8	10/06/14	0.0031		
AS-16	3	09/29/14	0.018		
AS-16	15	10/07/14	0.0032		
AS-17	3	09/29/14	0.044	Acetone = 0.33, MEK = 0.011	
				1,2,4-Trimethylbenzene = 0.0028 1,2,3-Trimethylbenzene = 0.001	
AS-17	8	10/03/14	0.0071		
AS-17	30	10/03/14	0.0022		

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**Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
AS-18	3	09/29/14	0.0049		
AS-18	8	10/02/14	0.0014		
AS-19	3	09/29/14	0.0091		
				n-butylbenzene = 1.4 sec-butylbenzene = 0.67 2-Chlorotoluene = 0.48 4-Chlorotoluene = 0.52 Ethylbenzene = 0.94 Cumene = 0.41 p-isopropyltoluene = 0.41 Naphthalene = 1.5 n-propylbenzene = 1.8 Styrene = 0.089 1,1,2,2-Tetrachloroethane = 0.45 Toluene = 0.13 1,2,3-Trichlorotoluene = 0.036 1,1,2-Trichloroethane = 0.34 1,2,4-Trimethlybenzene = 18 1,2,3-Trimethlybenzene = 4.6 1,3,5-Trimethlybenzene = 5.0 Total xylenes = 7.7	
AS-19	8	10/02/14	0.094		
AS-20	3	09/29/14	0.012		
AS-20	10	10/06/14	0.0033	1,2,4-Trimethlybenzene = 0.0029	
AS-21	3	10/01/14	0.0034		
AS-21	8	10/07/14	0.0038		
AS-22	3	10/01/14	0.0066	Acetone = 0.062	
AS-22	8	10/01/14	0.0052		
				Acetone = 0.073 n-butylbenzene = 0.0097 sec-butylbenzene = 0.0059 Ethylbenzene = 0.0072 Cumene = 0.0041 p-isopropyltoluene = 0.0036 Naphthalene = 0.022 n-propylbenzene = 0.019 1,2,4-Trimethlybenzene = 0.18 1,2,3-Trimethlybenzene = 0.052 1,3,5-Trimethlybenzene = 0.047 Total xylenes = 0.076	
AS-22	10	10/08/14	0.0027		
AS-23	3	09/30/14	0.0012		
AS-23	8	09/30/14	0.0022		
AS-23	10	10/10/14	0.0038		
AS-24	3	09/30/14	0.0074	Acetone = 0.066	
AS-24	8	09/30/14	0.0013		
AS-24	10	10/14/14	0.0022		

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**Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
AS-25	3	10/01/14	0.0017		
AS-25	10	10/15/14	0.0020		
AS-26	3	09/30/14	0.0093	Acetone = 0.057	
AS-26	8	09/30/14	0.0089	Acetone = 0.057	
AS-26	10	10/16/14	0.0067		
AS-27	3	09/30/14	0.0051		
AS-27	8	10/17/14	0.015		
AS-28	10	09/22/14	0.0082		
AS-29	5	09/23/14	0.0034	Acetone = 0.21, MEK = 0.018	
AS-30	5	09/25/14	0.0015		
AS-31	5	09/25/14	0.0011 U	Acetone = 0.076	
SVE-14	3.5	09/30/14	0.0011 U		
SVE-14	8.5	10/13/14	0.0012	1,2,4-Trimethylbenzene = 0.0044 1,2,3-Trimethylbenzene = 0.0019 1,3,5-Trimethylbenzene = 0.0015	
SVE-15	3	11/01/14	0.0018		
SVE-15	8	10/15/14	0.0024		
SVE-16	3	09/30/14	0.0037		
SVE-16	10	10/15/14	0.008	n-butylbenzene = 0.0048 sec-butylbenzene = 0.0028 Ethylbenzene = 0.0013 Cumene = 0.0013 p-isopropyltoluene = 0.0023 Naphthalene = 0.0075 n-propylbenzene = 0.0057 Styrene = 0.089 1,1,2,2-Tetrachloroethane = 0.45 1,2,4-Trimethylbenzene = 0.074 1,2,3-Trimethylbenzene = 0.023 1,3,5-Trimethylbenzene = 0.021 Total xylenes = 0.020	
SVE-17	5	09/24/14	0.026		
SVE-18	5	09/23/14	0.0024		
SVE-19	5	09/29/14	0.0011 U		
SB-10	6	04/16/18	0.193		
SB-10	10	04/16/18	0.0359 U		
SB-11	8	04/16/18	0.0347 U		
SB-11	15	04/16/18	0.0353 U		
SB-12	1	04/16/18	0.0348 U		
SB-12	5	04/16/18	0.138		
SB-12	10	04/16/18	0.0325 U		

Table D4

**Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
SB-13	5	04/16/18	0.0350 U		
SB-13	10	04/16/18	0.128		
SB-13	20	04/16/18	6.03		
SB-13	29	04/16/18	0.110		
SB-13b	36	04/25/18	0.0829		
SB-13b	40	04/25/18	0.128		
SB-14	5	04/16/18	0.0317 U		
SB-14	10	04/16/18	0.0298 U		
SB-14	20	04/16/18	0.0253 U		
SB-14	30	04/16/18	0.109		
SB-14a	40	04/25/18	0.105		
SB-15	10	04/17/18	0.0334 U		
SB-15	20	04/17/18	0.0781		
SB-15	30	04/17/18	0.0645		
SB-15	40	04/17/18	0.132		
SB-16	20	04/17/18	0.0366 U		
SB-16	30	04/17/18	0.0505		
SB-16	40	04/17/18	0.0575		
SB-17	20	04/18/18	0.0435		
SB-17	30	04/18/18	0.0281 U		
SB-17	40	04/18/18	0.0286		
SB-18	30	04/18/18	0.0429		
SB-18	40	04/18/18	0.0284		
SB-26	2	04/24/18	0.0960		
SB-26	4	04/24/18	0.0292 U		
SB-26	10	04/24/18	0.0433 U		
SB-26	20	04/24/18	0.0763		
SB-26	30	04/24/18	0.0647		
SB-26	40	04/24/18	0.0340 U		
SB-27	2	04/24/18	0.0800		
SB-27	4	04/24/18	0.0426 U		
SB-27	10	04/24/18	0.0339 U		
SB-27	20	04/24/18	0.0942		
SB-27	30	04/24/18	0.118		
SB-27	40	04/24/18	0.169		
SB-28	20	04/24/18	0.0323 U		
SB-28	30	04/24/18	0.0784		
SB-28	40	04/24/18	0.0325 U		
SB-30	30	04/25/18	0.0395 U		
SB-30	35	04/25/18	0.142		
SB-30	40	04/25/18	0.0665		

Table D4

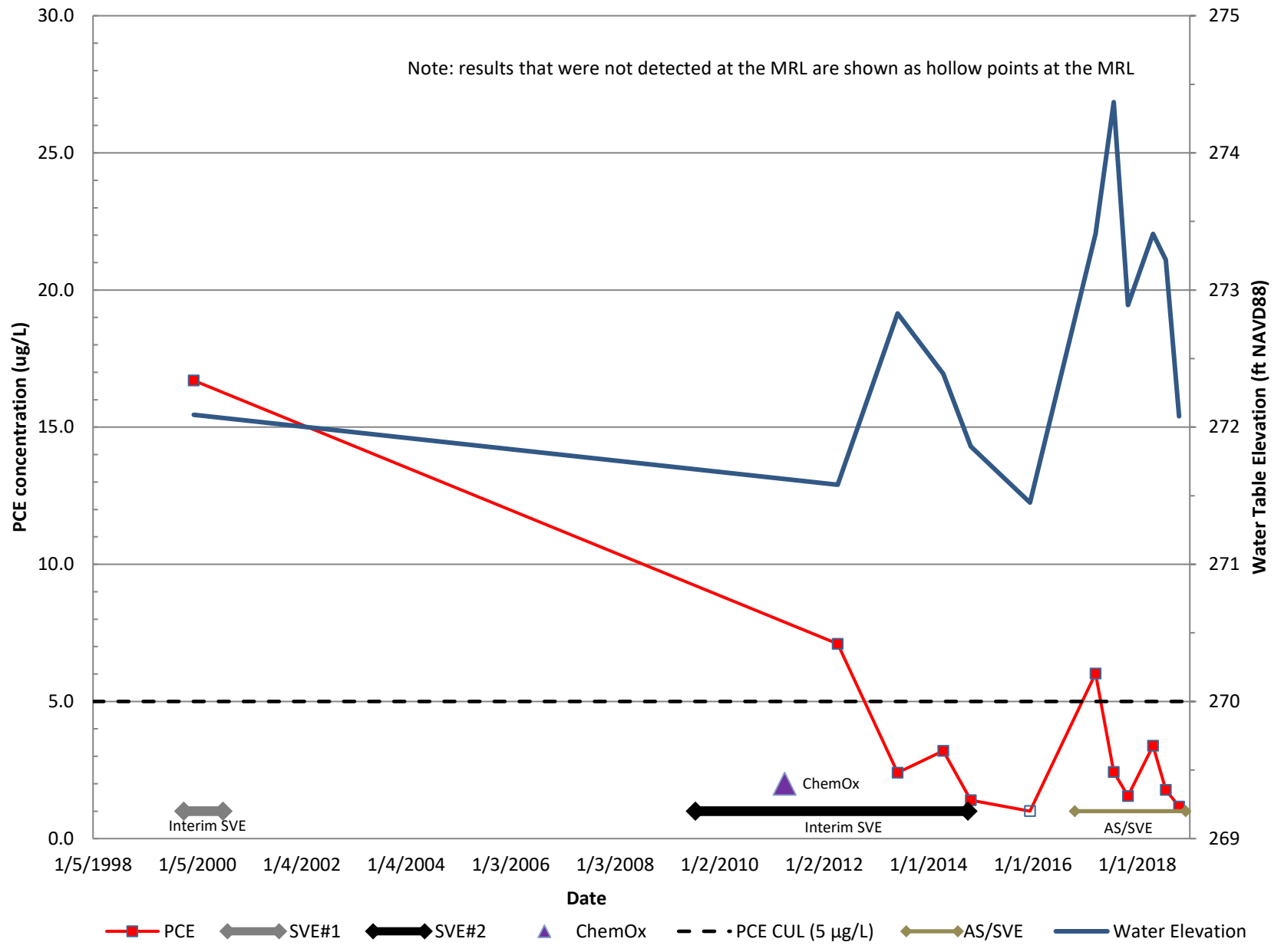
**Historical Summary of Soil Analytical Results (1998 - 2018)
Manhattan Village Shopping Center and Harris Properties
Normandy Park, Washington**

Sample ID	Depth (ft bgs)	Date	PCE (mg/kg)	Other VOCs detected (mg/kg)	Comments
<p><u>NOTES:</u></p> <ol style="list-style-type: none"> 1. Tetrachloroethene (PCE) concentrations in milligrams per kilogram (mg/kg). 2. Soil samples analyzed using USEPA Methods 8260B and 8021B (1998 through 2000 only). 3. ND and U = concentration not detected at or above the laboratory practical quantitation limit (PQL). 4. Detected concentrations are shown in bold. 5. Concentrations exceeding the PCE MTCA Method A cleanup level of 0.050 mg/kg are bold and shaded. 6. Other detected VOCs - only those which are above their respective cleanup level are listed. 					

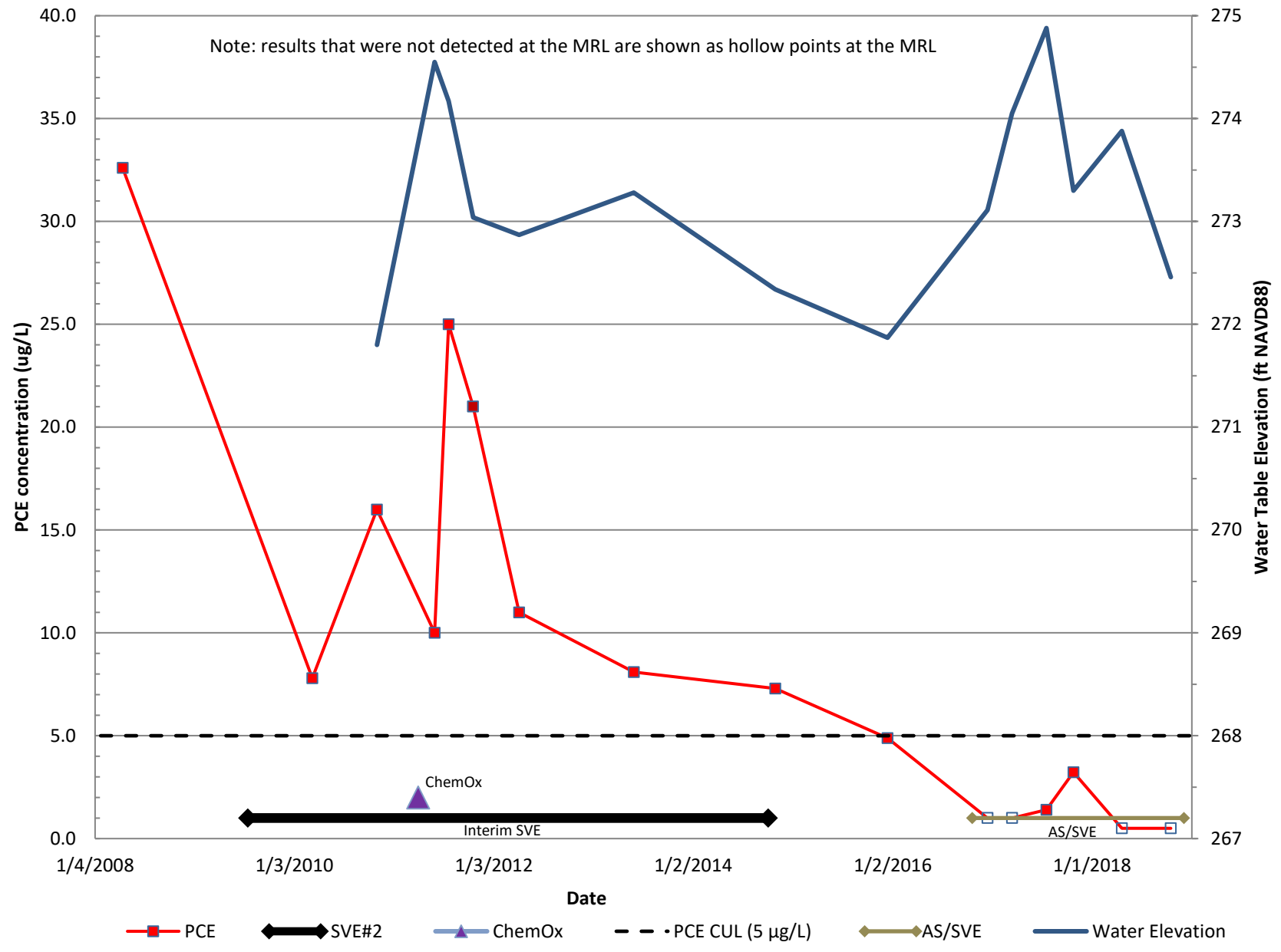
**ATTACHMENT E
TIME TREND PLOTS**

- MW-2, MW-4, MW-7
- DC-3, DC-4, DC-7 DC-8, DC-13, DC-14, DC-15, DC-17
- KM-3, KMW-8, KMW-9

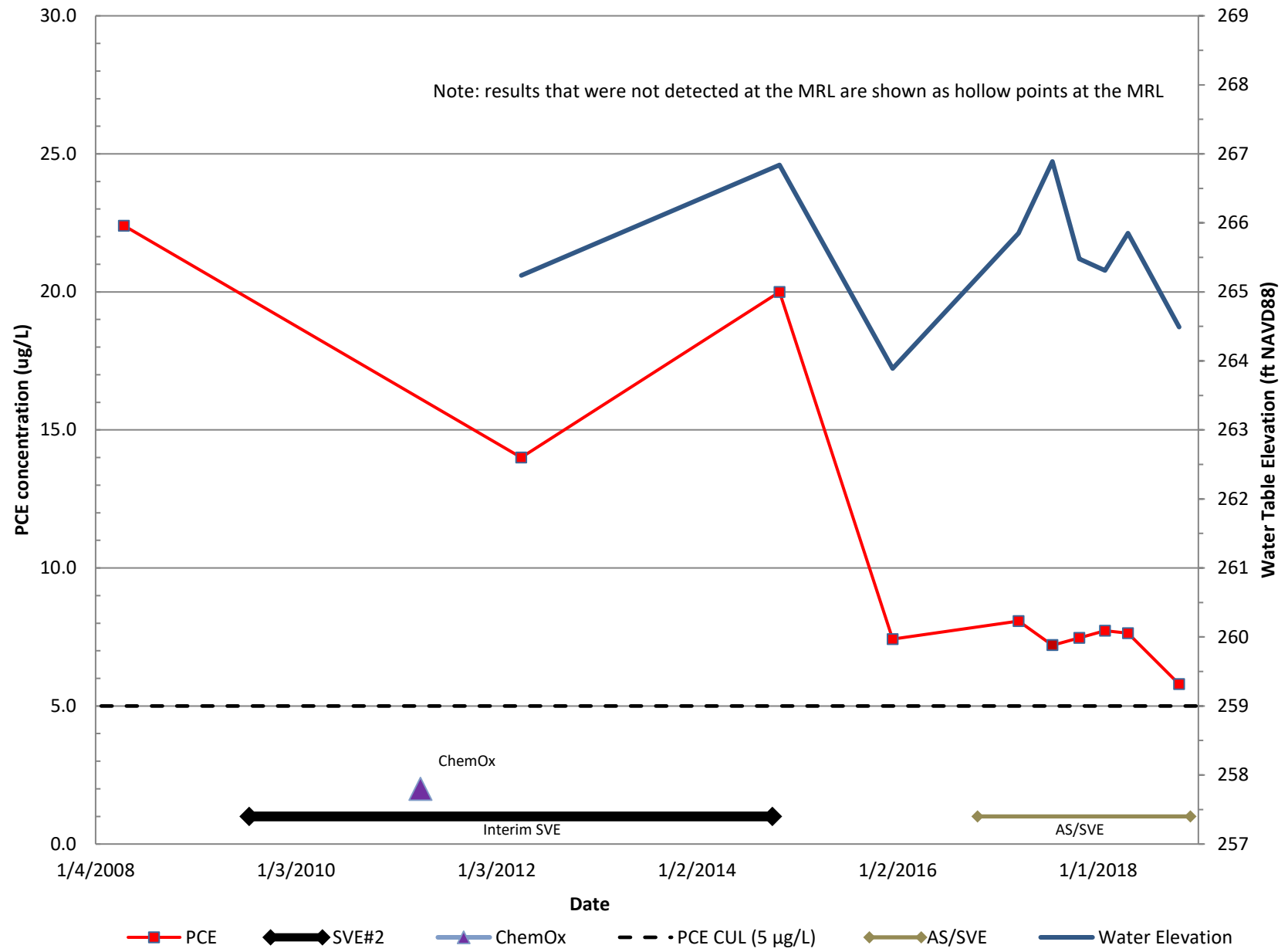
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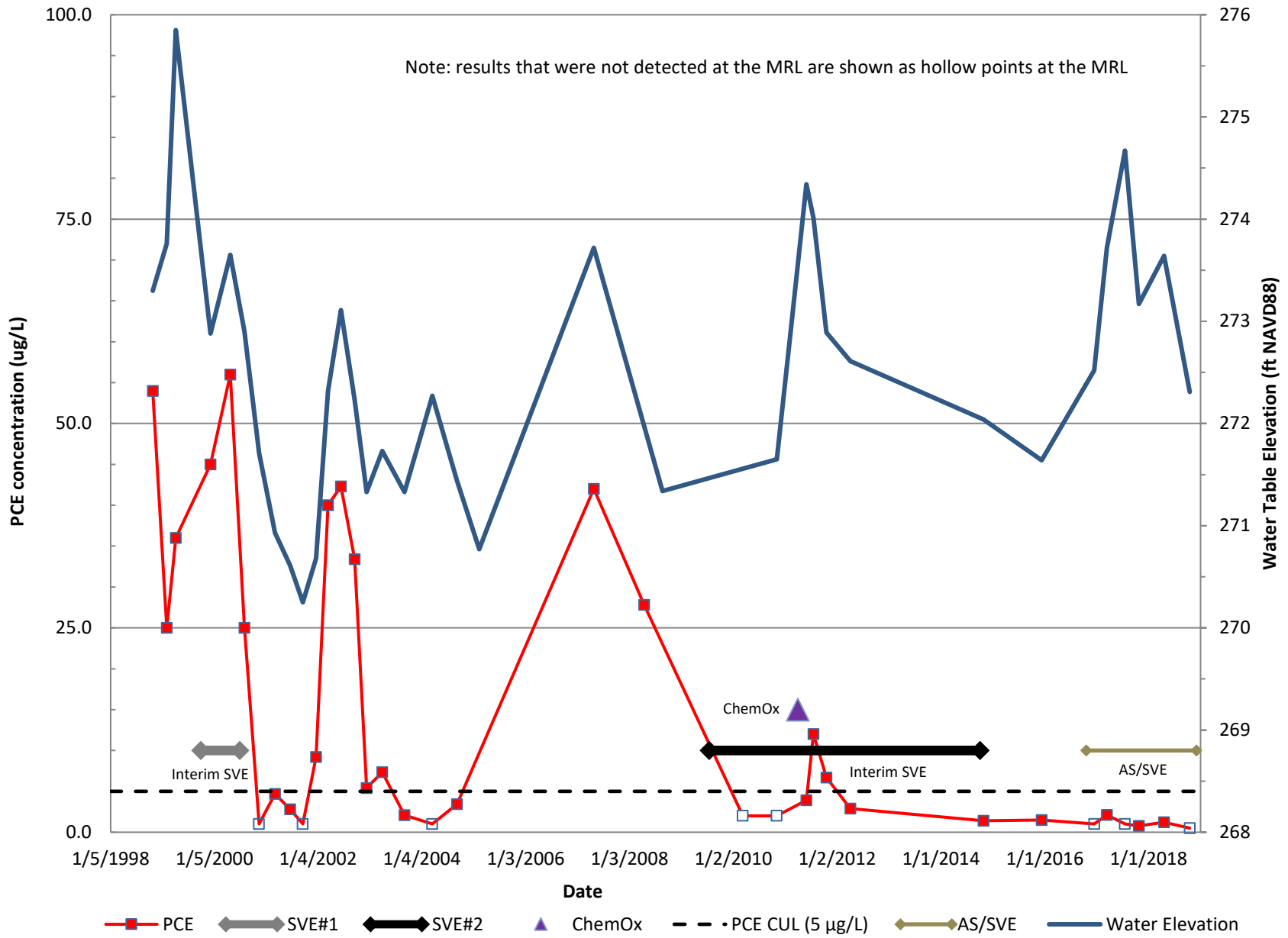
MW-4



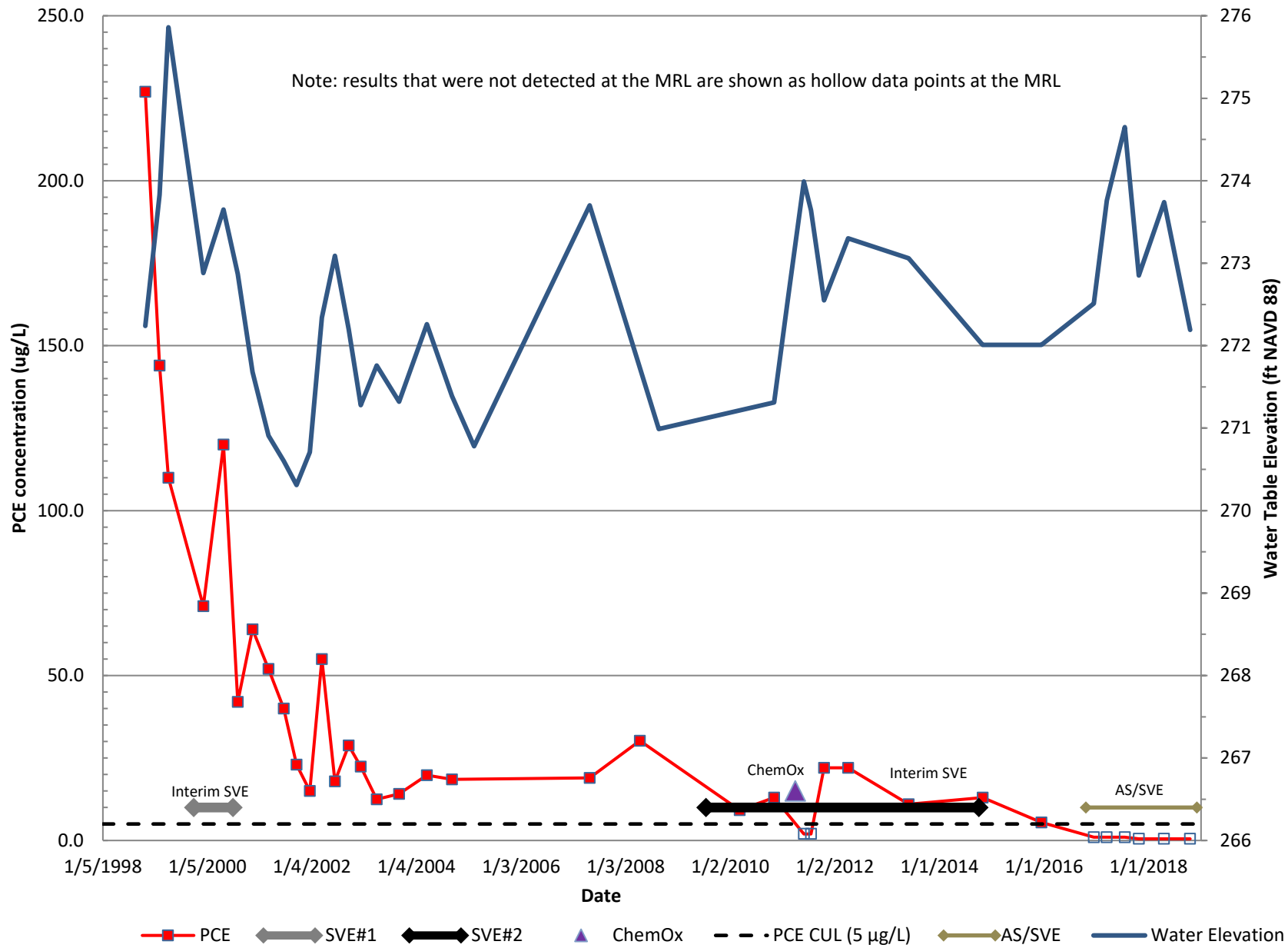
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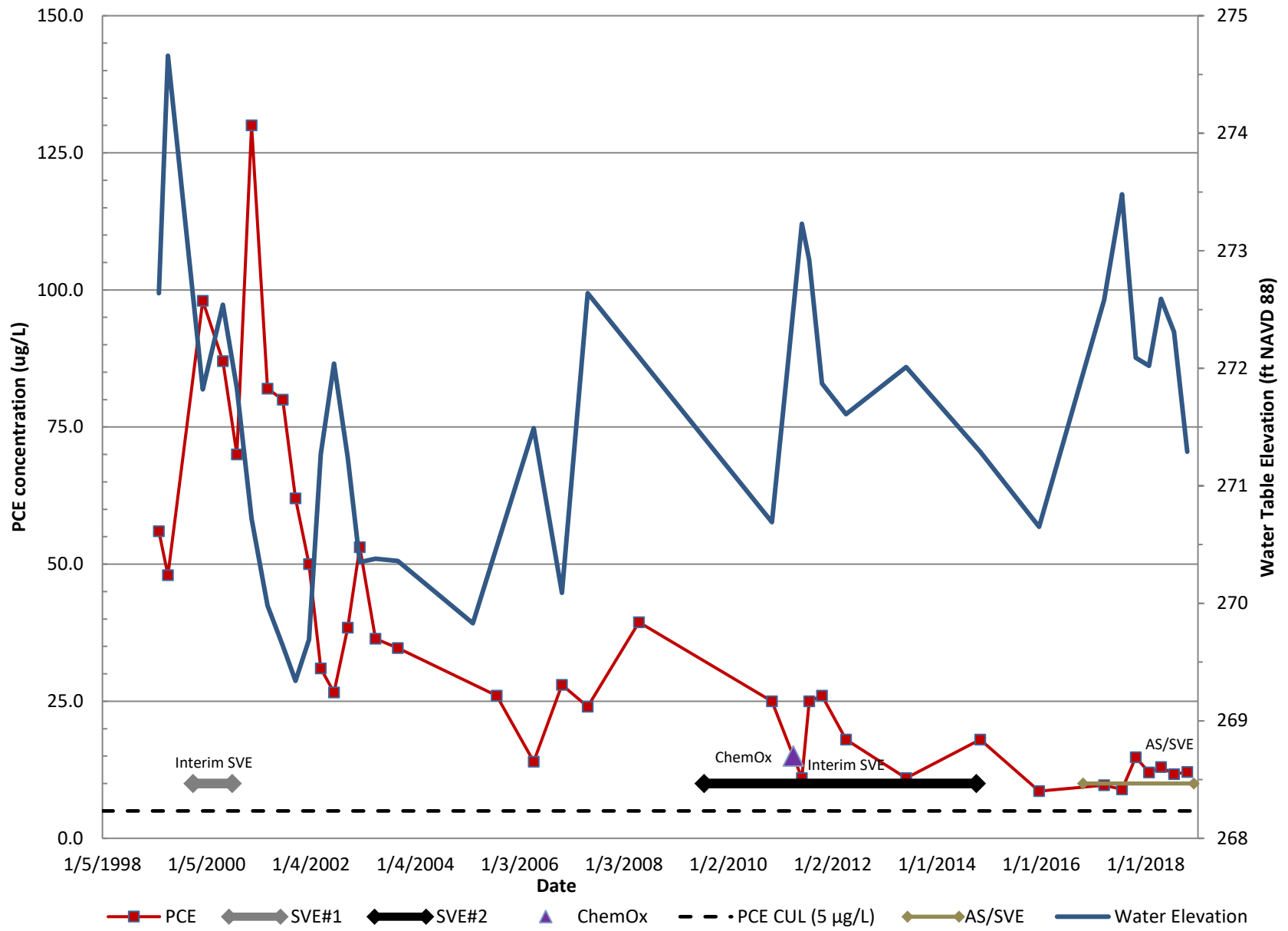
DC-3



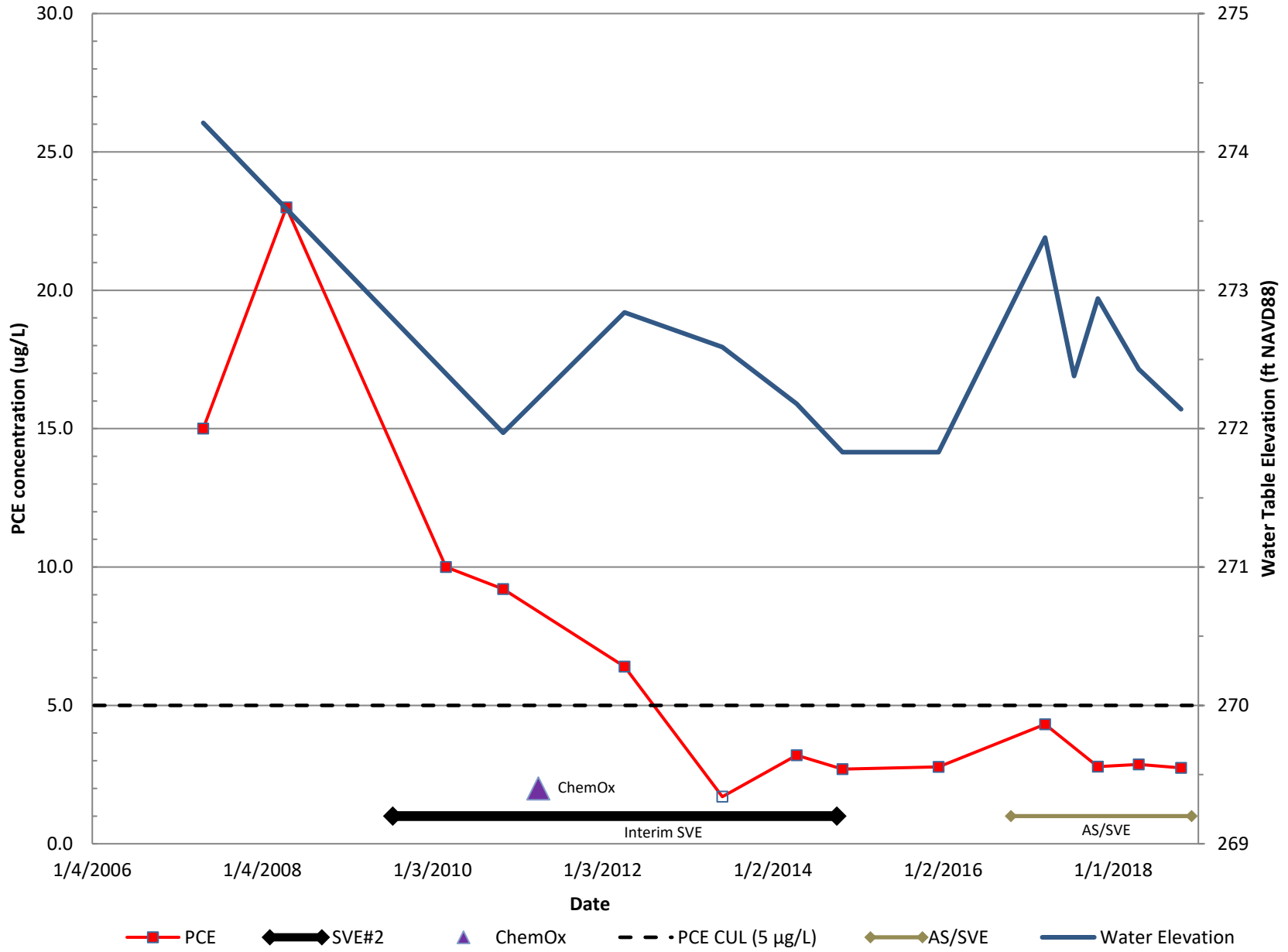
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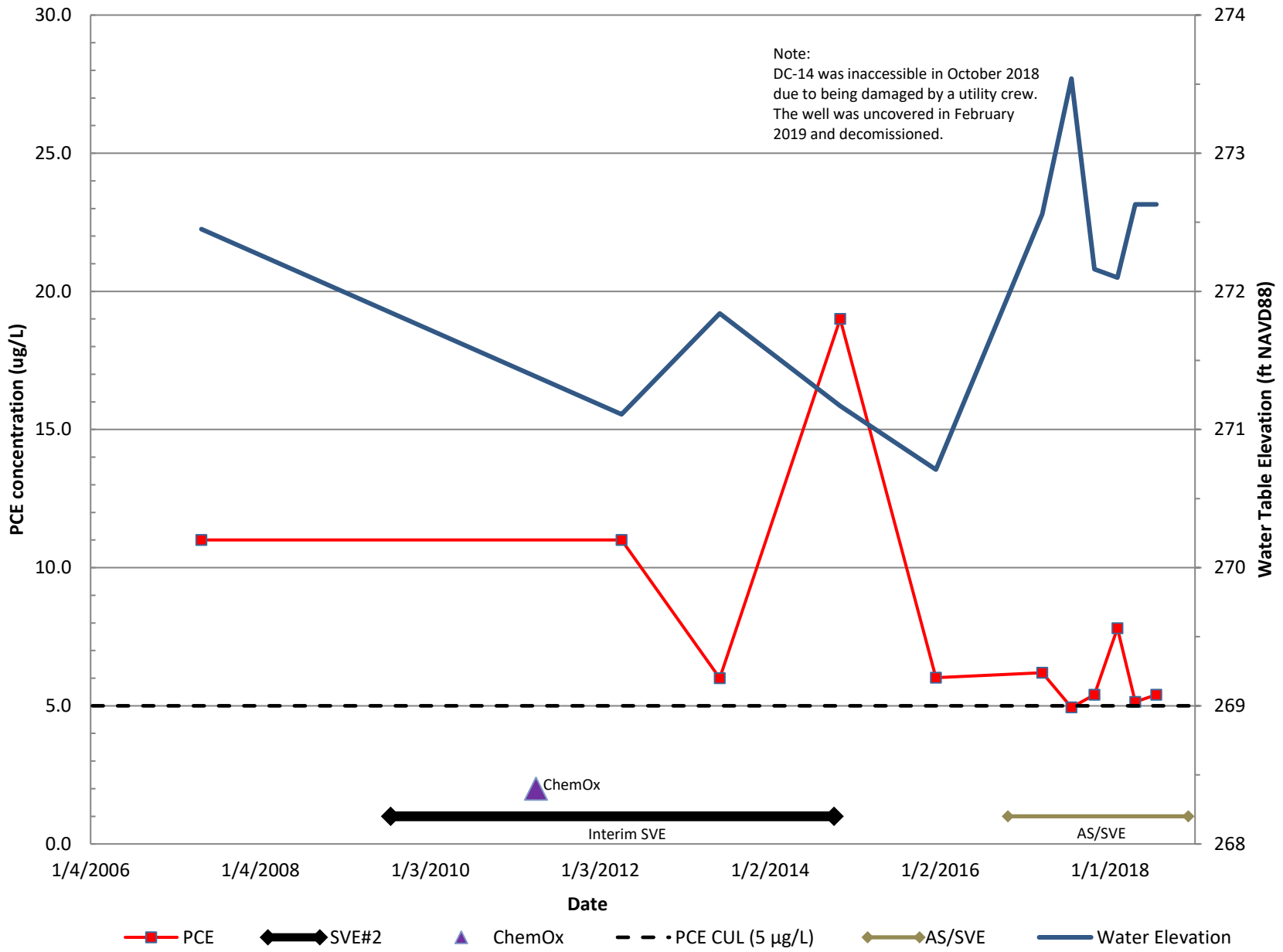
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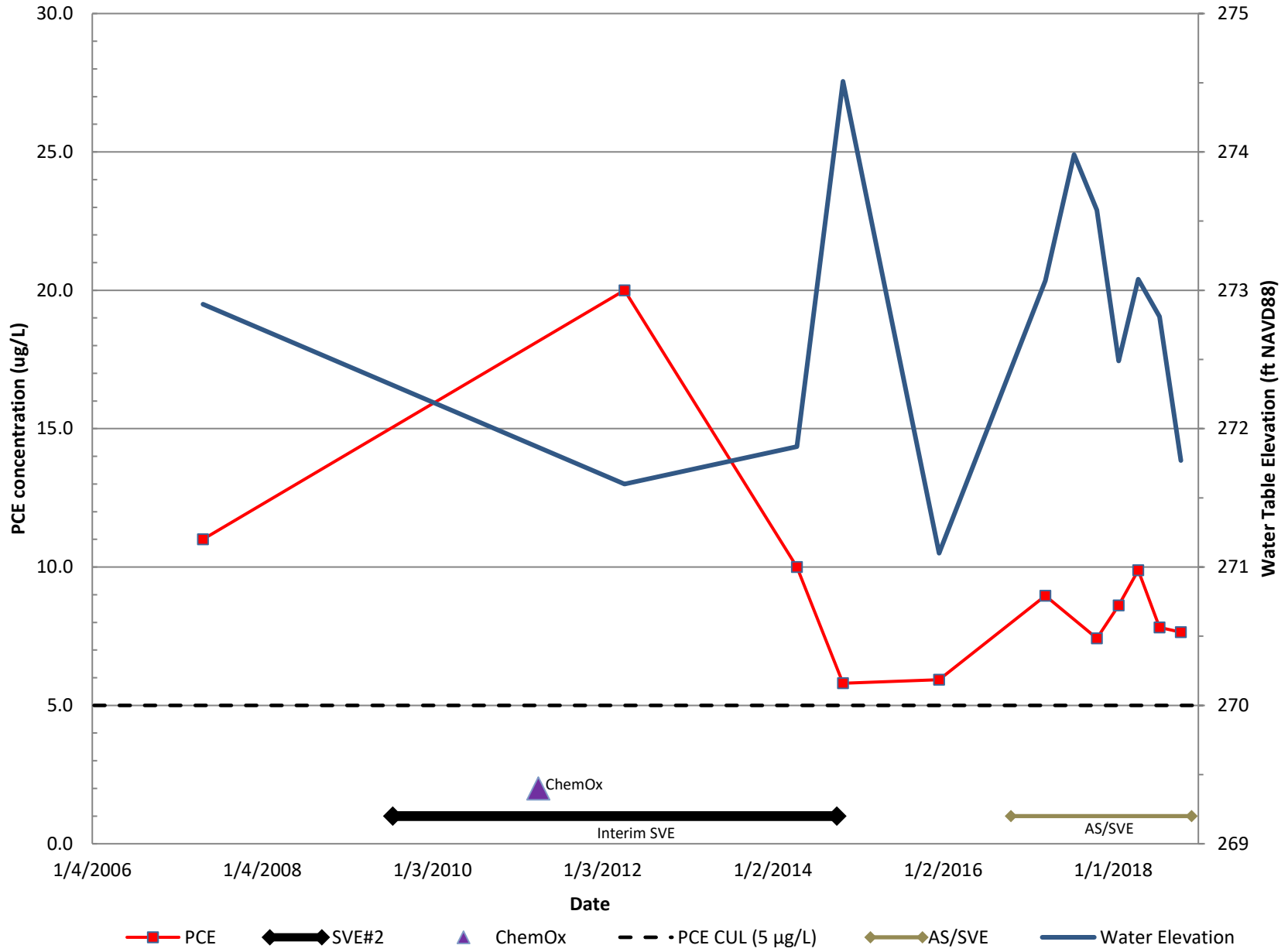
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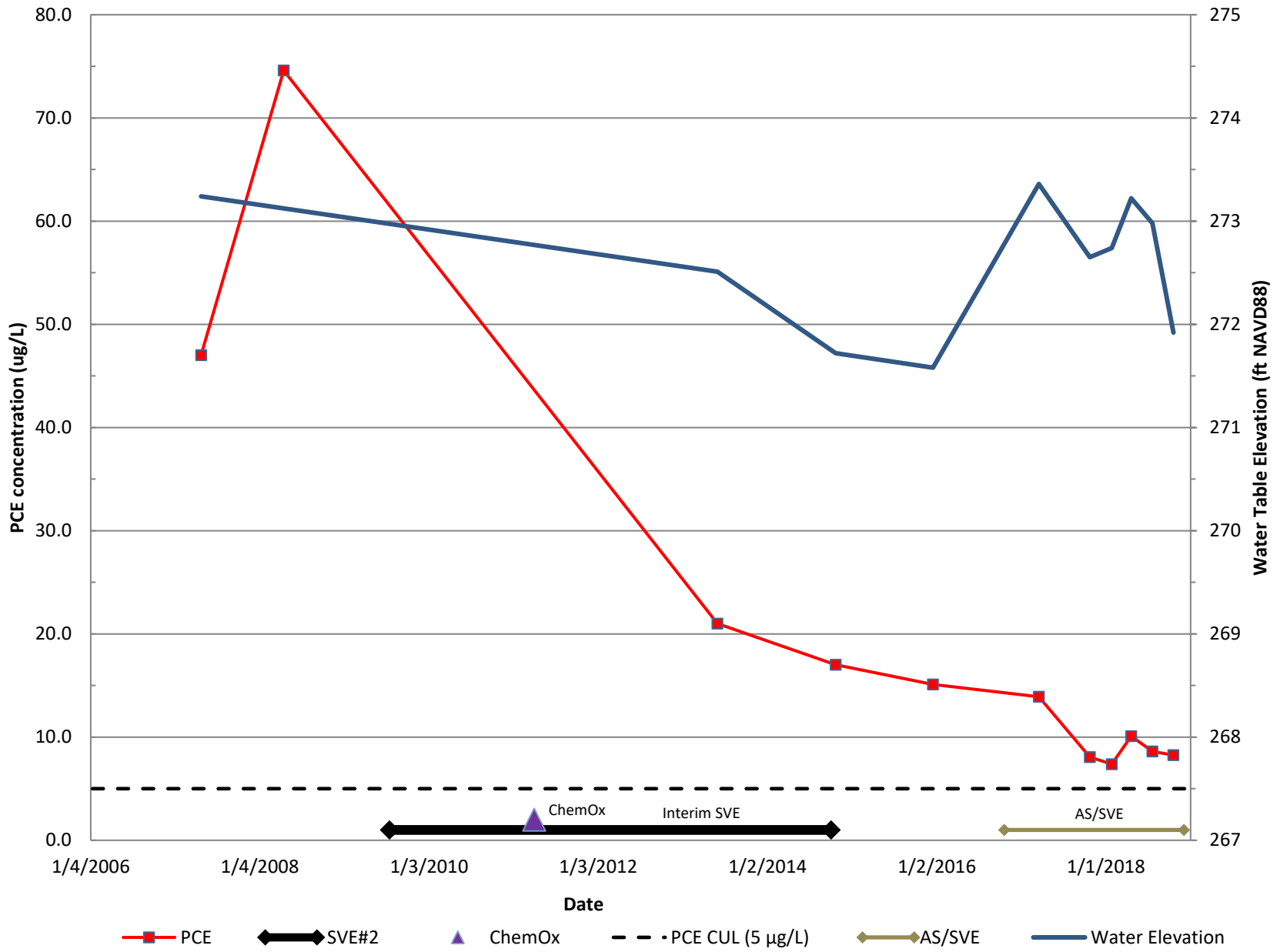
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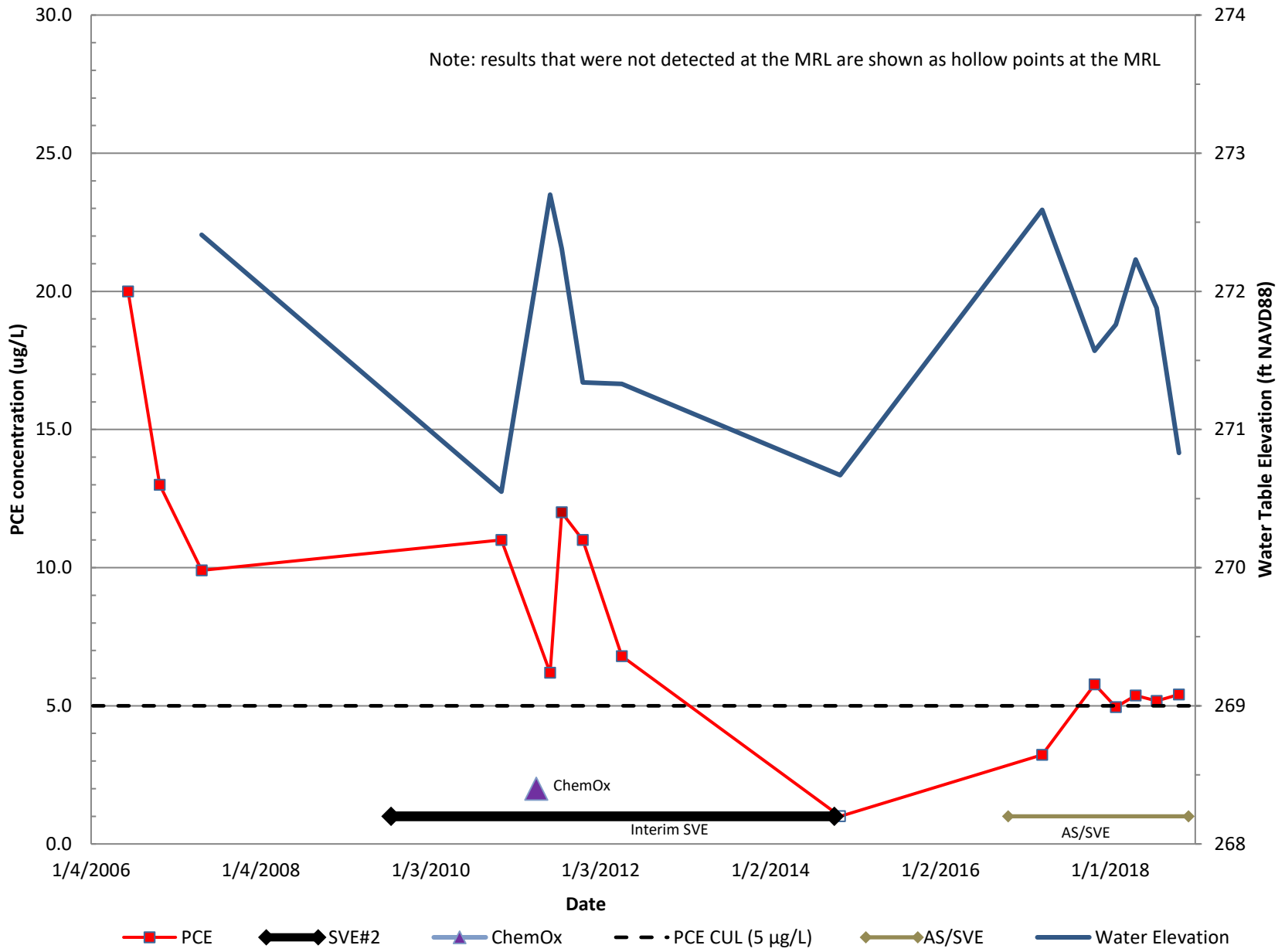
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DC-17



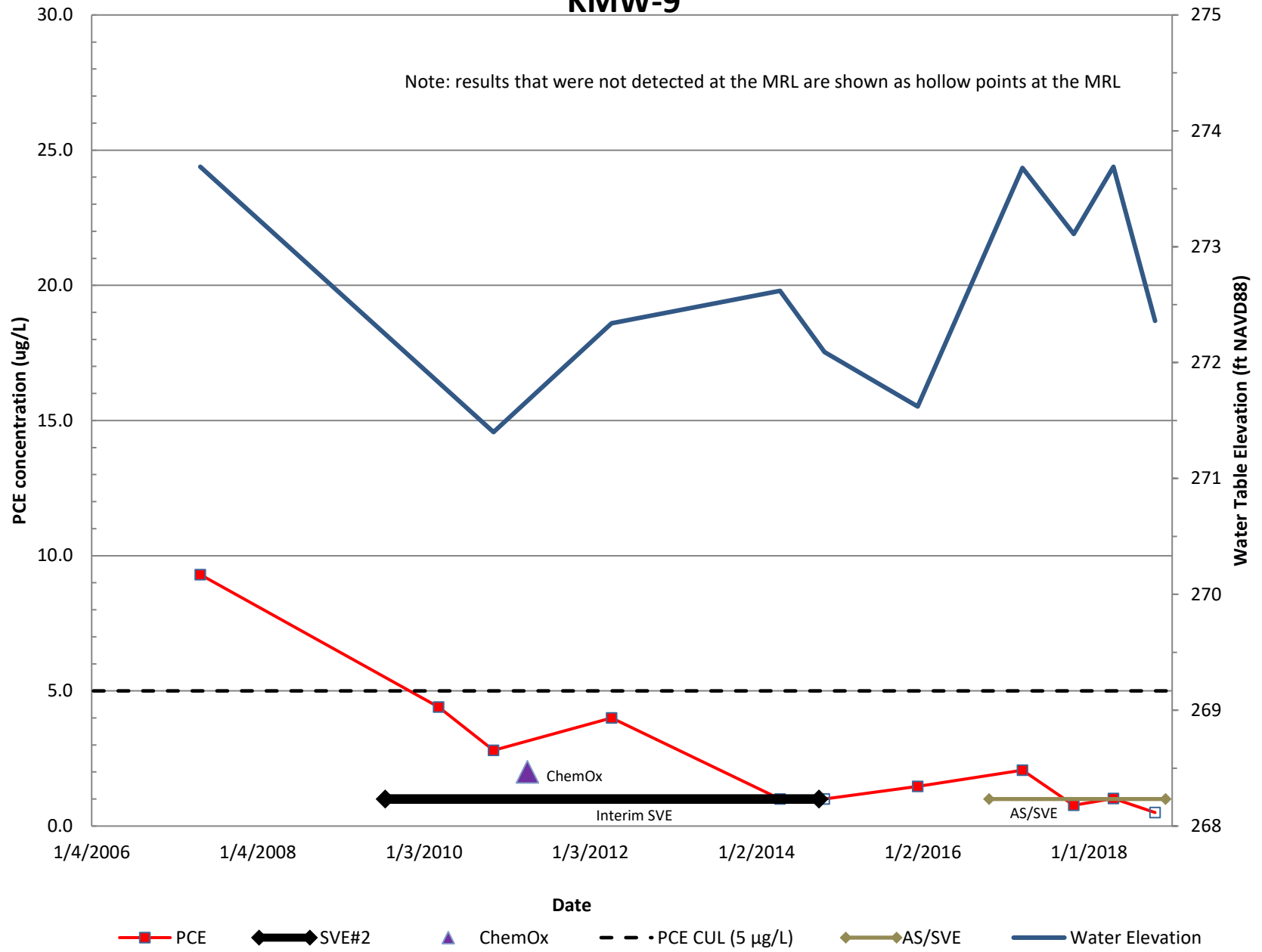
KMW-3



KMW-8



KMW-9



ATTACHMENT F
BORING LOGS

- SB-10 through SB-30 including SB-13A, SB-13B, and SB-14A



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description	
<p>Concrete</p> <p>Bentonite</p>	3.0	SB-10-6*	24	3.0 - 4.9	0	Asphalt (4 inches)	BROWN SILTY SAND (SM), moist, fine to medium, little fine to coarse subrounded gravel up to 2-inch diameter, little fines, (FILL, soil hand cleared to 3 feet) at 1.5 feet: asphalt layer	
	3.0				2	LIGHT BROWN SILTY SAND (SM), moist, fine, little fines, few fine subrounded gravel, occasional orange staining, (soil hand cleared to 3 feet)		
	4.9				4	BROWN SAND WITH SILT (SP), dry to moist, fine to medium, few coarse gravel up to 1-inch diameter, few fines		
	3.6				5	at 5 feet: red-brown, fine sand		
	3.1				6	at 6 feet: yellow-brown, coarsens downward		
	3.0	SB-10-10*	12	3.0 - 3.5	8			
	3.4							
	3.5							
	4.8					10		Bottom of boring at 11 feet bgs.
						12		Boring backfilled with hydrated bentonite and capped with concrete. * sample submitted for laboratory analysis.
					14			
					16			
					18			
					20			
					22			
					24			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 11 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/16/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description	
<p>Concrete</p> <p>Bentonite</p>					0		Asphalt (4 inches)	
	0.0				2		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to medium, little fine to coarse subrounded gravel, little fines, (soil hand cleared to 3 feet)	
	0.0				4		BROWN SANDY SILT (ML), moist, some fine to medium sand, low plasticity, roots, (soil hand cleared to 3 feet)	
	4.3		24		4		RED-BROWN SAND WITH SILT (SP), moist, fine to medium, few fines	
	4.8				6		at 6 feet: yellow-brown, fine sand	
	7.6				8		GRAY SAND (SP), moist, fine, few fines, trace fine subrounded gravel, coarsens downward	
	10.4		SB-11-8*		10			
	9.1				12			
	8.3			60	14			
	7.4		SB-11-15*		15			
						16		Bottom of boring at 15 feet bgs.
						16		Boring backfilled with hydrated bentonite and capped with concrete. * sample submitted for laboratory analysis.
						18		
						20		
						22		
					24			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 15 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/16/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description	
<p>Concrete</p> <p>Bentonite</p>					0	Asphalt (2 inches)		
	4.6	SB-12-1*			2		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to medium, little fine subrounded gravel, little fines, (soil hand cleared to 3 feet)	
	4.8						at 2.5 feet: red-brown	
	25.4		24		4		YELLOW-BROWN SAND (SP), dry, fine, few fines, roots, pine odor	
	26.4	SB-12-5*			6		at 6 feet: grades to light brown, trace fine gravel, no roots or odor	
	7.3				8			
	8.4		36		10			
	6.2	SB-12-10*	12		12		Bottom of boring at 11 feet bgs.	
						12		Boring backfilled with hydrated bentonite and capped with concrete. * sample submitted for laboratory analysis.
						14		
						16		
					18			
					20			
					22			
					24			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 11 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/16/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe






Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	3.4				0	Asphalt (5 inches)	Asphalt (5 inches)
	2.1				2		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to medium, little fine to coarse gravel up to 2-inch diameter, little fines
	4.8		18		4		at 2 feet: gray at 2.5 feet: brown
	6.0	SB-13-5*			4.5		at 4.5 feet: tree root
	6.0				6		LIGHT BROWN SAND (SP), moist, fine, few fines, frequent orange staining, increasing moisture content with depth
	7.5		25		8		GRAY-BROWN SAND WITH SILT (SP), moist, fine to medium, few fines
	3.9	SB-13-10*			10		at 10 feet: occasional horizons of orange staining up to 1/4-inch thick, grain size variation in horizons up to 2 inches thick
	5.0				12		
	5.2		37		14		
Bentonite	8.2				16		
	7.8		48		18		
	7.8				20		at 20 feet: fining upward sequences up to 1 foot thick
	14.5	SB-13-20*			22		
	10.9		53		24		
	11.6						
	13.3						GRAY-BROWN SAND WITH GRAVEL (SP), moist, fine to medium, some fine to coarse subrounded to rounded gravel up to 2-inch diameter, few fines, orange staining

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 29 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/16/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	18.4	SB-13-29*	48		26		BROWN SAND (SP), moist, fine to medium, few fines
	14.9				28		at 28.5 feet: little fine to coarse gravel
	8.6						
	24.1						Bottom of boring at 29 feet bgs. (Refusal)
							Boring backfilled with hydrated bentonite and capped with concrete. * sample submitted for laboratory analysis.
					30		
					32		
					34		
					36		
					38		
					40		
					42		
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 29 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/16/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	0.0				0		Asphalt (5 inches)
	0.0				2		LIGHT BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to medium, little fine to coarse subrounded gravel up to 1-inch diameter, little fines, (soil hand cleared to 3 feet)
	0.3		12		4		
	0.9				6		LIGHT-BROWN SAND (SP), moist, fine, few fines
	0.5		45		8		
	0.7				10		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines
	0.5				10		BROWN SAND WITH SILT (SP), moist, fine few fines, bedding visible
	0.4		39		12		BROWN SAND (SP), moist, fine to medium, few fines
	0.3				14		
	0.3		53		16		
Bentonite	0.3				18		
	0.2				20		at 20 feet: occasional horizons of finer sand up to 1/2-inch thick
	0.4				22		
	0.7		48		24		at 23.4 feet: interval 4 inches thick with some fine to coarse subangular gravel up to 1-inch diameter
					24		BROWN SAND (SP), moist, fine to medium, few fines

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 33 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/25/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	1.1				26		
	1.2		60		28		
	0.8				30		BROWN SAND WITH SILT AND GRAVEL (SP), moist, fine to medium, little fine subangular gravel, few fines
	0.5		36		32		
	0.3				33		Bottom of boring at 33 feet bgs. (Refusal)
					34		Boring backfilled with hydrated bentonite and capped with concrete. * sample submitted for laboratory analysis.
					36		
					38		
					40		
					42		
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 33 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/25/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete					0		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to medium, little fine subangular gravel, little fines, (soil hand cleared to 3 feet)
	2.2				2		
	7.7		28		4		LIGHT BROWN SILT WITH SAND (ML), moist, some fine to medium sand, trace fine subrounded gravel, low plasticity, abundant orange staining, (soil hand cleared to 3 feet)
	8.1				6		BROWN SILTY SAND (SM), wet, fine, some fines, frequent orange staining
	8.5				8		BROWN SAND WITH SILT (SP), moist, fine, few fines, occasional orange staining
	9.4		46		10		at 10 feet: occasional horizons of silty sand 2 inches thick, bedding visible, occasional orange staining
	9.2				12		
	7.0		43		14		
	7.6				16		
	8.4				18		
	4.7		48		20		at 20 feet: no staining
	7.6				22		
	8.6				24		
Bentonite	13.4				22		at 22.5 feet: 4-inch thick interval with some coarse subrounded gravel up to 1.5-inch diameter
	13.1		50		24		at 24.5 feet: little coarse subrounded gravel up to 1-inch diameter
	11.5						
	10.4						

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/25/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	13.5		60		26		BROWN SAND (SP), moist, medium, few fines, trace fine subangular gravel, coarsens downward
	14.4				28		
	12.8				30		
	14.6		60		32		BROWN SILTY SAND (SM), moist, fine, little fines, few coarse subangular gravel
	13.2				34		
	12.9				36		
	13.2		60		38		BROWN SAND (SP), moist, medium to coarse, few fine to coarse subangular to subrounded gravel up to 2-inch diameter, some gravel in upper 6 inches of unit, few fines
	9.8				40		
	13.5				42		
	12.4	SB-13b-36*		60		44	
11.1			46				
6.1			48				
5.3	SB-13b-40*			50		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.	

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/25/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe

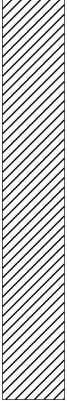




Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	1.1				0		Asphalt (5 inches)
	5.1				2		DARK BROWN SILTY SAND (SM), moist to wet, fine to medium, some fines, (soil hand cleared to 3 feet)
	4.3				4		
	7.6		24		6		at 5 feet: dark red-brown, black staining
	8.1	SB-14-5*			8		LIGHT BROWN SAND WITH SILT (SP), moist to wet, very loose, fine, few fines
	18.3				10		
	17.6				12		
	16.9		36		14		
	18.0	SB-14-10*			16		GRAY-BROWN SAND (SP), moist, fine to medium, few fines, grain size variation in horizons up to 2.5 inches thick, occasional horizons of orange staining up to 1/8-inch thick
	8.3				18		
	9.1		36		20		
	5.5				22		
Bentonite	11.9				24		
	18.1		48		26		at 18 feet: finer sand
	17.3				28		
	22.3	SB-14-20*			30		
	4.4				32		
	20.6		60		34		at 23.3 feet: layer of silty sand with gravel 4 inches thick
	16.0				36		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

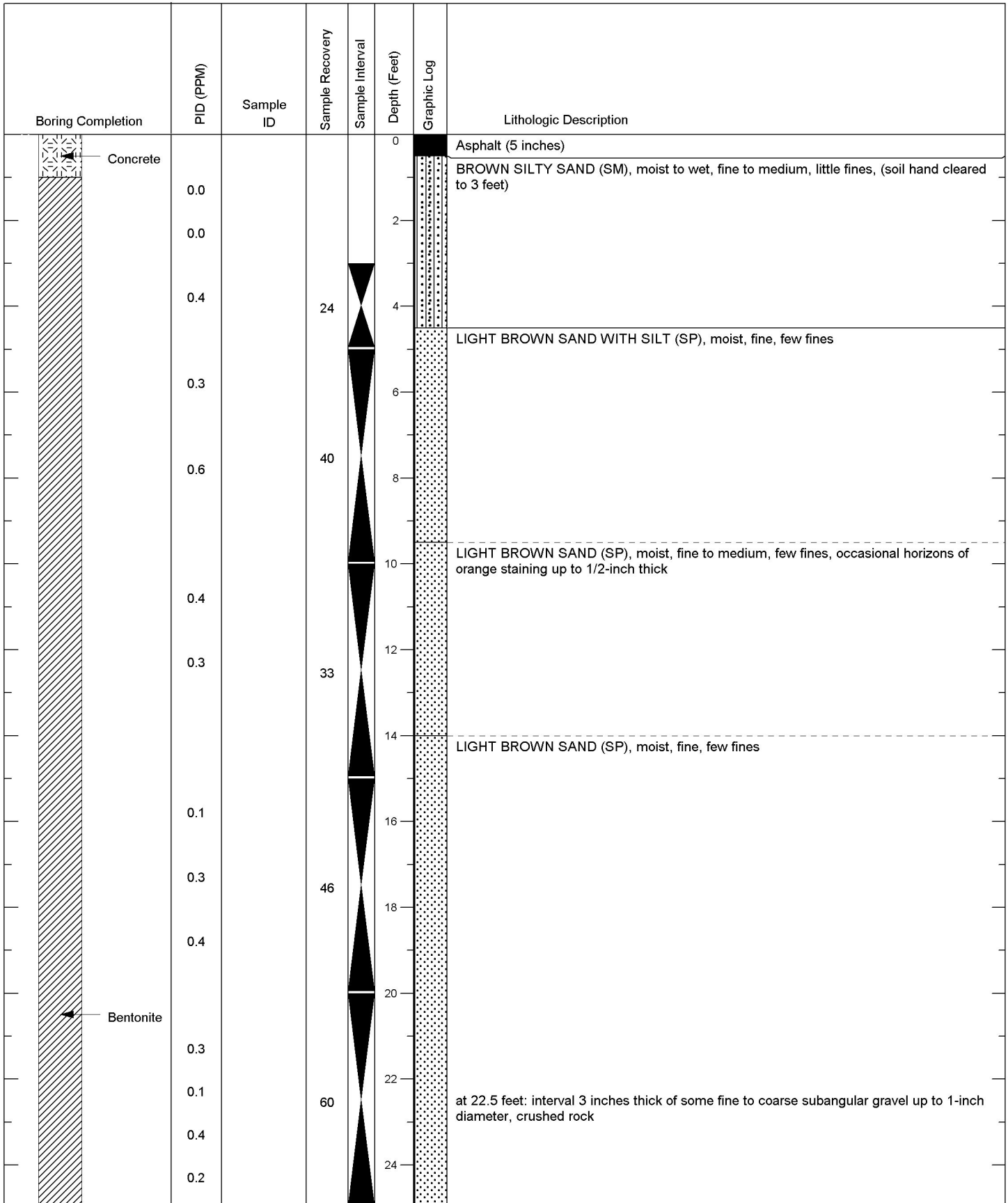
Total Drilled Depth: 31.5 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/16/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	10.8	SB-14-30	60		26		at 29 feet: little fine to coarse gravel
	14.1				28		
	14.6				30		
	20.9				32		
	18.8				31.5		
					32		Bottom of boring at 31.5 feet bgs. (Refusal)
					34		Boring backfilled with hydrated bentonite and capped with concrete. * sample submitted for laboratory analysis.
					36		
					38		
					40		
					42		
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 31.5 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/16/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geprobe



Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/25/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	0.1	SB-14a-40	60		26		
	0.3						
	0.4						
	0.2						
	0.2						
	0.1						
	0.0						
	0.1						
	0.1						
	0.1						
					at 28.6 feet: few fine subrounded gravel		
					30		BROWN SAND WITH SILT AND GRAVEL (SP), moist, medium, little fine to coarse subangular gravel up to 1.5-inch diameter, few fines, crushed rock, rare orange staining, some gravel at top of unit
					32		
					34		
					36		
					38		
					40		at 39.5 feet: wet
					40		Bottom of boring at 40 feet bgs.
					42		Boring backfilled with hydrated bentonite and capped with concrete. * sample submitted for laboratory analysis.
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/25/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete					0		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to medium, little fine subangular gravel, little fines, (soil hand cleared to 3 feet)
	4.3				2		LIGHT BROWN SILT WITH SAND (ML), moist, some fine to medium sand, trace fine subrounded gravel, low plasticity, abundant orange staining, (soil hand cleared to 3 feet)
	9.4		24		4		
	10.2				6		BROWN SILTY SAND (SM), wet, fine, some fines, frequent orange staining
	10.2				8		BROWN SAND WITH SILT (SP), moist, fine, few fines, occasional orange staining
	11.5		42		10		at 10 feet: occasional horizons of silty sand 2 inches thick, bedding visible
	10.9	SB-15-10*			12		
	9.1		42		14		at 15 feet: rare faint orange staining
	9.3				16		
	10.5				18		
	6.8				20		at 20 feet: finer sand
	9.7		48		22		at 22 feet: 4-inch thick interval with some coarse subrounded gravel up to 1.5-inch diameter
	10.3				24		
Bentonite	15.5	SB-15-20*					at 24.5 feet: little coarse subrounded gravel up to 1-inch diameter
	14.8						
	13.8		54				
	12.1						

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/17/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	15.6	SB-15-30*	60		26		at 26.7 feet: crushed rock
	16.1				BROWN SAND (SP), moist, medium, few fines, trace fine subangular gravel, coarsens downward		
	14.9				28		
	16.3						
	15.6				30		
	14.6				BROWN SILTY SAND (SM), moist, fine, little fines, few coarse subangular gravel		
	15.3	SB-15-40*	60		32		BROWN SAND (SP), moist, medium to coarse, few fine to coarse subangular to subrounded gravel up to 2-inch diameter, some gravel in upper 6 inches of unit, few fines
	11.5						
	15.6						
	14.1				BROWN SAND WITH SILT (SP), moist, fine, few fines		
13.2			38		BROWN SAND (SP), moist to wet, medium, little fine subangular to subrounded gravel, few fines at 38 feet: wet		
10.1			40		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.		
10.1					42		
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
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Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	0.0				0		GRAVEL WITH SILT AND SAND (GP), wet, coarse subangular gravel up to 1-inch diameter, little fine to coarse sand, few fines, (FILL, soil hand cleared to 3 feet)
	8.0				2		BROWN SILTY SAND WITH GRAVEL (SM), moist to wet, fine to coarse, little fine to coarse subangular gravel up to 1.5-inch diameter, little fines, (soil hand cleared to 3 feet)
	10.9		18		4		BROWN SILTY SAND (SM), wet, fine to medium, little fines, few fine subrounded gravel
	14.6				6		BROWN SILT WITH SAND (ML), moist, little fine sand, low plasticity
	11.3		34		8		LIGHT BROWN SILTY SAND (SM), moist to wet, fine, some fines, few fine subrounded gravel, rare orange staining
	12.4				10		GRAY SAND WITH SILT (SP), moist, fine, few fines, bedding visible
	10.3				12		
	8.6		37		14		
	16.6				16		
	14.7		26		18		BROWN SILTY SAND (SM), moist to wet, fine, some fines, trace fine subrounded gravel
	12.1	SB-16-20*			20		at 20 feet: moist to wet, trace fine gravel
Bentonite	13.2				22		
	11.0		60		24		at 22.8 feet: crushed rock, denser at 23.5 feet: little fine to coarse subrounded gravel
	10.8				24		BROWN SAND (SP), moist, medium, few coarse subangular gravel up to 2-inch diameter, few fines

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 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/17/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description	
					26		BROWN SILTY SAND (SM), moist, fine, some fines	
	13.2						BROWN SAND WITH GRAVEL (SP), moist, fine to coarse, some fine subangular gravel, few fines	
	4.6		60		28		BROWN SAND (SP), moist, fine to coarse, few fine subangular gravel, few fines	
	10.3							
	10.5							
		SB-16-30*						
	13.6				30		BROWN SILTY SAND (SM), moist to wet, fine to medium, little fines, few fine to coarse subangular gravel up to 1-inch diameter	
	10.1				32		at 32 feet: some fines	
	14.3		60		34		BROWN SAND (SP), wet, medium, few fine to coarse subangular gravel up to 2-inch diameter, few fines, frequent horizons with some gravel	
	15.1							
18.9								
	10.6				36		BROWN SILTY SAND (SM), wet, fine, little fines	
	13.3		60		38		BROWN SAND (SP), wet, medium, few fine to coarse subangular gravel up to 2-inch diameter, few fines	
	14.0	SB-16-40*			40		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.	
					42			
					44			
					46			
					48			
					50			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/17/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	10.6				0		DARK BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little fine to coarse subangular to subrounded gravel, little fines, rare cobbles, abundant roots, (soil hand cleared to 3 feet)
	4.1				2		YELLOW-BROWN SANDY SILT (ML), moist, some fine to medium sand, low plasticity, (soil hand cleared to 3 feet)
	10.3				4		YELLOW-BROWN SILTY SAND (SM), wet, fine, some fines, occasional cobbles, orange staining, (soil hand cleared to 3 feet)
	12.9		24		4		
	13.7				5		at 5 feet: brown, finer sand than above, little fines, horizon of orange staining 2 inches thick
	17.2				6		
	16.4		44		8		
	15.3				10		BROWN SAND WITH SILT (SP), moist to wet, fine to medium, few fines
	11.1				12		
	12.5		48		12		
	10.6				14		at 15 feet: bedding visible
	16.3				16		at 17 feet: horizon of silt 2 inches thick
	9.6		34		18		
					20		BROWN SAND WITH GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel up to 1-inch diameter, few fines
	10.3	SB-17-20*			20		
Bentonite	12.1		42		22		
	10.3				24		BROWN SILTY SAND (SM), moist, fine, little fines

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Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/18/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	5.0	SB-17-30*	28	28	26		BROWN SAND WITH GRAVEL (SP), moist, fine to medium, little fine to coarse subangular to subrounded gravel up to 2-inch diameter, few fines, crushed rock
	3.3				28		BROWN SAND WITH SILT AND GRAVEL (SP), moist, medium to coarse, little fine to coarse subangular to subrounded gravel up to 2-inch diameter, few fines
	3.0				30		
	2.6				32		
	2.9				34		
	3.1	SB-17-40*	60	60	36		BROWN SAND WITH GRAVEL (SP), moist, fine to medium, some fine subangular to subrounded gravel, few fines
	5.1				38		
	2.9				40		
	2.3				40		
					40		
					40		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.
					42		
					44		
					46		
					48		
					50		

Project: MVSC
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 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/18/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe








Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
<p>Concrete</p> <p>Bentonite</p>	13.6				0		DARK BROWN SILTY SAND (SM), moist, fine to medium, little fines, abundant roots, (soil hand cleared to 3 feet)
	28.1				2		YELLOW-BROWN SANDY SILT (ML), moist to wet, some fine to medium sand, trace fine subangular gravel, rare cobbles, abundant roots, (soil hand cleared to 3 feet)
	39.2		24		4		YELLOW-BROWN SILTY SAND (SM), wet, fine, some fines, (soil hand cleared to 3 feet)
	38.6				6		at 6 feet: grades to little fines
	44.9		48		8		LIGHT BROWN SAND WITH SILT (SP), moist, fine to medium, few fines, occasional horizons of orange staining up to 1/4-inch thick
	27.3				10		
	13.9		36		12		
	24.8				14		
	28.1				16		
	28.4		52		18		
	30.1				20		
	27.6				22		
	22.4		60		24		
	22.6						
29.1							
23.4							

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 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/18/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	21.8	SB-18-30*	60		26		at 30 feet: occasional horizons with some fine subrounded to subangular gravel up to 4 inches thick
	25.1				28		
	24.1				30		
	22.1				32		
	18.3				34		
	23.7	SB-18-40*	60		36		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.
	19.5				38		
	10.3				40		
	10.8				42		
	19.1				44		
					46		
					48		
					50		

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 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/18/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete					0		DARK BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to medium, little fine to coarse subrounded gravel up to 1.5-inch diameter, little fines, abundant roots, organic odor, (soil hand cleared to 3 feet) at 1 foot: light brown
	14.3				2		
	15.6				4		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines, abundant horizons of orange staining up to 1/4-inch thick
	16.3		24		6		
	10.3				8		
	14.2		37		10		GRAY-BROWN SAND WITH SILT (SP), moist, fine, few fines, bedding visible
	10.8				12		
	11.3		40		14		
	14.6				16		
	13.3		46		18		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines
	15.2				20		
Bentonite	13.3				22		GRAY-BROWN SAND (SP), moist, fine to medium, few fines, coarsens downward
	12.7		60		24		
	10.4						
	11.6						

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 Ecology Well Tag: N/A

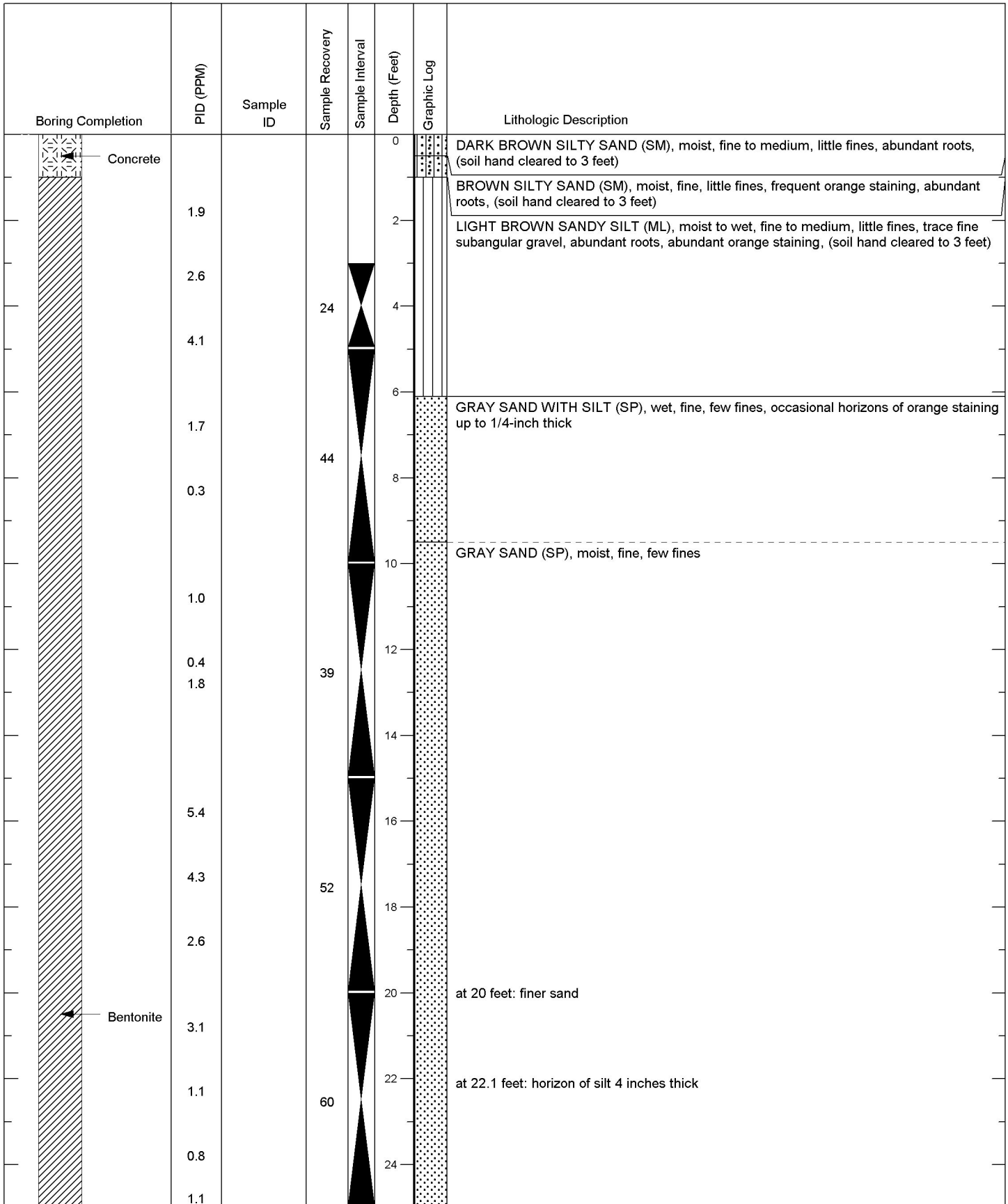
Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/19/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	14.6				26		
	13.3		60		28		GRAY-BROWN SAND WITH GRAVEL (SP), moist, fine to medium, little fines to coarse subangular gravel up to 1-inch diameter, few fines, crushed rock
	11.9				30		at 29 feet: medium sand, little fine subangular gravel, denser than above, fines percentage varies between SAND and SAND WITH SILT in 1-foot intervals
	13.4				32		
	15.0		60		34		LIGHT BROWN SAND WITH SILT AND GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel up to 1-inch diameter, few fines
	14.3				36		
	14.6				37.2		at 37.2 feet: wet
	20.1		60		38		
	11.8				40		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.
	16.3				42		
				44			
				46			
				48			
				50			

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 Ecology Well Tag: N/A



Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/19/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



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Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/19/18
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Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	1.3				26		
	4.1		60		28		GRAY-BROWN SAND WITH SILT AND GRAVEL (SP), moist, fine to coarse, little fine to coarse subangular to subrounded gravel up to 1-inch diameter, few fines, crushed rock, denser than above
	2.7				28		
	0.1				30		
	2.1				30		
	2.7		60		32		
	2.7				32		
	2.7				34		GRAY-BROWN SAND WITH SILT (SP), moist, medium, few fine subangular to subrounded gravel, few fines
	4.1				35		at 35 feet: fine to coarse gravel
	10.0		60		36		at 36 feet: wet
7.1				36			
					38		
					40		Bottom of boring at 40 feet bgs.
					42		Temporary well screen installed from 36 to 40 feet bgs. Water Sample: SB-20-GW
					44		Boring backfilled with hydrated bentonite.
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/19/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	3.1				0		DARK BROWN SILTY SAND (SM), moist, fine to medium, some fines, abundant organics and roots, (soil hand cleared to 3 feet)
	0.1				2		LIGHT BROWN SANDY SILT (ML), moist, some fine sand, low plasticity, occasional orange staining, (soil hand cleared to 3 feet)
	0.0		24		4		LIGHT BROWN SILTY SAND (SM), moist to wet, fine, little fines, bedding visible, occasional horizons of orange staining up to 1/4-inch thick, (soil hand cleared to 3 feet)
	0.0				6		
	0.1				8		
	0.2		36		10		GRAY BROWN SAND WITH SILT (SP), moist, fine, few fines, bedding visible
	0.2				12		
	0.3				14		
	0.1		36		16		
	4.6				18		
	10.3		43		20		
	5.7				22		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines, occasional horizons of silt up to 1/8-inch thick
	4.3				24		GRAY BROWN SAND WITH SILT (SP), moist, fine, few fines, bedding visible
	3.1						
	2.7		60				
	3.0						LIGHT BROWN SILTY SAND (SM), moist, fine, little fines
Bentonite							

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Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/19/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description	
	5.2		60		26		LIGHT BROWN SILT WITH SAND (ML), moist, little fine sand, fine sand inclusions	
							GRAY-BROWN SAND (SP), moist, fine, few fines	
					28		BROWN SILTY SAND (SM), moist, fine, little fines, few fine subangular gravel, 2-inch interval of sandy silt at base of unit	
							GRAY SAND (SP), moist, fine to medium, few fine subangular gravel, few fines	
					30		GRAY GRAVEL WITH SAND (GP), moist, fine to coarse subangular gravel, little fine to medium sand, few fines	
							GRAY-BROWN SAND WITH SILT (SP), moist, fine to medium, little fine subangular gravel, few fines	
					32			
					34			
					36			
					38			
	4.0		60		40		Bottom of boring at 40 feet bgs. Temporary well screen installed from 36 to 40 feet bgs. Water Sample: SB-21-GW	
					42		Boring backfilled with hydrated bentonite.	
					44			
					46			
					48			
					50			

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 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
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 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	0.6				0		DARK BROWN SILTY SAND (SM), moist, fine to medium little fines, abundant roots, (soil hand cleared to 3 feet)
	0.1				2		BROWN SILTY SAND (SM), moist, fine, little fines, trace fine subrounded gravel, (soil hand cleared to 3 feet)
	0.3				4		YELLOW-BROWN SANDY SILT (ML), moist to wet, some fine to medium sand, low to medium plasticity, (soil hand cleared to 3 feet)
	0.5	24			4		
	0.1				6		LIGHT BROWN SILTY SAND (SM), wet, fine, some fines
	0.3	36			8		at 7 feet: little fines, rare horizons of orange staining up to 1/4-inch thick
	1.0				10		
	1.4	38			12		GRAY-BROWN SAND WITH SILT (SP), moist, fine, few fines, bedding visible
	1.2				14		
	0.6	42			16		at 16.7 feet: horizon of silty sand 2 inches thick
	0.8				18		
Bentonite	1.0				20		at 20 feet: occasional horizons of fine to medium sand up to 4 inches thick, rare horizons of silt up to 1/8-inch thick, rare carbonized organics
	0.8				22		
	0.5	48			24		

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 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/20/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	1.1				26		at 25 feet: fine sand
	0.8		60		28		at 28.4 feet: grades to horizon of silty sand 4 inches thick
	1.0				30		GRAY-BROWN SAND WITH GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel, few fines
					32		
	0.9				34		GRAY-BROWN SAND WITH SILT AND GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel, few fines
	0.7		60		36		
	1.0				38		BROWN SAND WITH GRAVEL (SP), moist, fine to coarse, some fine to coarse subangular gravel up to 1-inch diameter, few fines
	0.3				40		at 37 feet: wet
	0.1		60		42		
	0.4				44		
				46			
				48			
				50			

Project: MVSC
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 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/20/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	1.0				0		DARK BROWN SILTY SAND (SM), moist, fine to coarse, little fines
	0.7				2		YELLOW-BROWN SANDY SILT (ML), moist, some fine to medium sand, abundant orange staining, (soil hand cleared to 3 feet)
	0.3		24		4		
	0.1				6		YELLOW-BROWN SILTY SAND (SM), wet, fine to medium, some fines
	0.3		48		8		GRAY-BROWN SAND WITH SILT (SP), moist, fine, few fines, rare orange staining
	0.5				10		
	1.0				12		
	0.6		36		14		at 15 feet: interbedded silty sand and sandy silt in 2-inch intervals
	0.8				16		at 16.5 feet: no silty sand interbeds
	0.8		42		18		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines
	1.1				20		
Bentonite	0.7				22		GRAY-BROWN SAND (SP), moist, fine to medium, few fines, grain size varies over 6-inch intervals
	1.0		60		24		at 24 feet: denser, few coarse subangular gravel
	0.6						
	0.5						

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 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/20/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	1.1				26		<p>LIGHT BROWN SAND WITH SILT AND GRAVEL (SP), moist, very dense, fine to coarse, some fine subangular to subrounded gravel, few fines</p> <p>at 31.4 feet: few gravel</p> <p>LIGHT BROWN SAND WITH SILT (SP), moist, very dense, fine to coarse, few fine subangular to subrounded gravel, few fines</p> <p>at 32 feet: horizon of bright orange staining 1.5 inches thick</p> <p>at 38 feet: wet</p> <p>Bottom of boring at 40 feet bgs. Temporary well screen installed from 36 to 40 feet bgs. Water Sample: SB-23-GW</p> <p>Boring backfilled with hydrated bentonite.</p>
	0.3		60		28		
	0.5				30		
	1.0				32		
	1.0		60		34		
	0.9				36		
	0.4				38		
	0.3		60		40		
	0.3				42		
					44		
				46			
				48			
				50			

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 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/20/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	0.2				0		DARK BROWN SILTY SAND (SM), moist, fine to medium, little fines, few fine subrounded gravel, (soil hand cleared to 3 feet)
	0.3				2		BROWN SILTY SAND (SM), moist, fine, some fines, (soil hand cleared to 3 feet)
	0.4		24		4		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines, abundant orange staining
	0.5				6		LIGHT BROWN SANDY SILT (ML), moist, some fine to medium sand, low plasticity, abundant orange staining
	0.5		48		8		LIGHT BROWN SILTY SAND (SM), wet, some fines, abundant orange staining
	0.3				10		LIGHT BROWN SAND WITH SILT (SP), moist, fine, few fines, rare horizons of orange staining up to 1/4-inch thick
	0.7				11		at 11 feet: fine to medium, frequent horizons of orange staining, occasional horizons of silty sand/sandy silt up to 1/2-inch thick
	0.8		37		12		LIGHT BROWN SAND (SP), moist, fine, few fines, rare horizons of orange staining up to 1/4-inch thick
	0.4				14		
	0.6		36		16		
	0.4				18		
	0.2				20		
Bentonite	0.4				22		LIGHT BROWN SAND WITH SILT (SP), wet, fine, few fines, interbedded with LIGHT BROWN SANDY SILT (ML), moist, some fine sand, non-plastic, in 4- to 6-inch intervals
	0.2		46		24		
	0.9				24		GRAY-BROWN SAND (SP), moist, fine to medium, few fines

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	1.0				26		at 25 feet: coarser than above
	1.1				27.2		at 27.2 feet: interval of GRAVEL WITH SAND 4 inches thick
	0.9		44		28		BROWN SAND (SP), moist, medium, few fine to coarse subangular gravel up to 1-inch diameter, few fines
	1.3				30		
	1.6				32		
	2.0		60		34		BROWN SAND WITH SILT AND GRAVEL (SP), moist, medium, little fine to coarse subangular gravel up to 1.5-inch diameter, few fines, crushed rock, rare orange staining
	2.1				36		
	2.4				38		
	1.6		60		40		BROWN SAND (SP), wet, medium, few fine subangular gravel, few fines
	1.9				40		
					40	Bottom of boring at 40 feet bgs.	
					42	Temporary well screen installed from 36 to 40 feet bgs. Water Sample: SB-24-GW	
					42	Boring backfilled with hydrated bentonite.	
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe





Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete					0		DARK BROWN SILTY SAND (SM), moist, fine to coarse, some fines, few fine subrounded gravel, (soil hand cleared to 3 feet)
	2.1				2		LIGHT BROWN SANDY SILT (ML), moist, some fine to medium sand, few fine to coarse subangular gravel up to 1.5-inch diameter, occasional orange staining, occasional roots, (soil hand cleared to 3 feet)
	0.1				4		LIGHT BROWN SILTY SAND (SM), wet, fine, little fines
	0.3		24		6		BROWN SAND WITH SILT (SP), moist, fine, few fines, frequent horizons of orange staining up to 1/4-inch thick
	0.1				8		BROWN SAND (SP), moist, fine, few fines, frequent horizons of orange staining up to 1/4-inch thick
	0.9				10		BROWN SAND (SP), moist, fine, few fines, frequent horizons of orange staining up to 1/4-inch thick
	0.5		39		12		BROWN SILTY SAND (SM), moist, fine, little fines
					14		BROWN SAND (SP), moist, fine, few fines, frequent horizons of orange staining up to 1/4-inch thick
	1.3				16		BROWN SAND WITH GRAVEL (SP), moist, fine, some fine to coarse subangular gravel up to 1.5-inch diameter, few fines
	1.0		45		18		BROWN SAND (SP), moist, fine, few fines, frequent horizons of orange staining up to 1/4-inch thick
	1.1				20		at 20 feet: trace fine gravel
	0.7				22		BROWN SAND WITH SILT (SP), moist, medium, few fine to coarse subangular gravel up to 1.5-inch diameter, few fines
Bentonite	3.2				24		
	3.1						
	3.0		60				
	2.7						

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	1.4				26		at 25 feet:
	1.6		60		28		BROWN SAND WITH SILT AND GRAVEL (SP), moist, medium, little fine to coarse subangular gravel up to 1.5-inch diameter, few fines
	2.1				30		BROWN SAND (SP), moist, medium, few fine subangular gravel, few fines
	1.5				30		at 30 feet: occasional intervals of medium to coarse sand
	2.5		60		32		
	2.1				34		
	2.3				34.5		at 34.5 feet: fine to medium
	1.9				36		
	1.8		60		37		at 37 feet: wet
	1.7				40		
					40	Bottom of boring at 40 feet bgs.	
					42	Temporary well screen installed from 36 to 40 feet bgs. Water Sample: SB-25-GW	
					42	Boring backfilled with hydrated bentonite.	
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete					0		Concrete (8 inches)
	0.4	SB-26-2*			2		DARK BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little fine to coarse subrounded gravel, little fines, (soil hand cleared to 3 feet)
	0.2						
	0.3	SB-26-4*	12		4		YELLOW-BROWN SAND WITH SILT (SP), moist, fine, few fines, trace fine subangular gravel, frequent orange staining
	2.4				6		
	1.9		25		8		
		SB-26-10*			10		GRAY-BROWN SAND (SP), moist, fine, few fines, occasional horizons of orange staining up to 1/4-inch thick
	1.9				12		
	1.4				14		
	1.7		36		16		at 15 feet: few fine subangular gravel
	2.1				18		
	2.3				20		
	2.0		36		22		at 17.4 feet: horizon of sand with silt 4 inches thick
		SB-26-20*			24		
	4.7				26		at 20 feet: brown
	4.6				28		
	3.1		60		30		
					32		
	2.4				34		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	4.1	SB-26-30*	60	26-30	26		BROWN SAND WITH SILT (SP), moist, medium, few fine to coarse subangular gravel, few fines
	4.5				28		
	3.5				30		
	3.0				32		
	2.1	SB-26-40*	60	32-36	32	at 32 feet: no coarse gravel	
	3.3				34		
	1.5	SB-26-40*	60	36-40	36	BROWN SAND (SP), moist, medium, few fine subangular gravel, few fines	
	2.1				38		
	1.3				40	Bottom of boring at 40 feet bgs.	
	1.0				42	Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.	
					44		
					46		
					48		
					50		

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete					0		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little fine to coarse subangular gravel up to 3-inch diameter, little fines, cobbles, (soil hand cleared to 3 feet)
	3.5	SB-27-2*			2		
	2.0				4		YELLOW-BROWN SAND WITH SILT (SP), moist, fine, few fines
	2.1	SB-27-4*	24		6		at 6 feet: gray
	6.3				8		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines, abundant horizons of orange staining up to 1/8-inch thick
	6.6				10		
	7.2	SB-27-8	36		12		GRAY-BROWN SAND WITH GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel up tot 1-inch diameter, few fines, frequent horizons of orange staining up to 1/8-inch thick, frequent horizons of silty sand/sandy silt up to 1/8-inch thick
		SB-27-10*			14		
	3.3				16		GRAY-BROWN SAND WITH SILT (SP), moist, fine to medium, few fine to coarse subangular gravel up to 1-inch diameter, few fines
	4.2				18		
	1.7		40		20		GRAY-BROWN SAND WITH SILT AND GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel up to 1.5-inch diameter, few fines, grain size varies over 4-inch intervals, rare orange staining
		SB-27-20*			22		
	2.5				24		
	2.5		60				
	2.8						
Bentonite	2.0						
	2.1						
	3.2		60				
	3.7						

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	2.8	SB-27-30*	60	[Sample Interval Diagram]	26		at 25 feet: no grain size variation or staining
	2.2				28		
	2.2				30		
	2.3				32		
	2.2				34		
	2.6				36		
	2.4	SB-27-40*	60	[Sample Interval Diagram]	34		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, some fine to coarse subangular gravel up to 1-inch diameter, little fines
	2.1				36		GRAY-BROWN SAND WITH SILT AND GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel up to 1.5-inch diameter, few fines, intervals of SAND up to 4 inches thick
	3.6				38		at 39.5 feet: wet
	3.2				40		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.
3.8				42			
				44			
				46			
				48			
				50			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/23/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	0.4				0		GRAY GRAVEL (GP), moist, coarse subangular gravel up to 1.5-inch diameter, trace fine to coarse sand, trace fines, (roadway paving, soil hand cleared to 3 feet)
	1.7				2		BROWN SILTY SAND WITH GRAVEL (SM), moist, fine to coarse, little fine to coarse subangular gravel, little fines, cobbles, (soil hand cleared to 3 feet)
	2.3				4		YELLOW-BROWN SANDY SILT (ML), moist, some fine to medium sand, non-plastic, abundant orange staining
	3.1		24		5		at 5 feet: interbeds of silty sand in 6-inch intervals
	4.1				6		
	3.6		50		8		
	3.7				10		BROWN SILTY SAND (SM), wet, fine, little fines
	1.3				12		
	1.9		50		14		GRAY-BROWN SAND WITH SILT (SP), moist, fine, few fines
	20.0				16		
	20.0				18		at 18.3 feet: coarsening upward sequence with 4 inches of silt below
	2.8				20		BROWN SAND WITH SILT AND GRAVEL (SP), moist, fine to medium, little fine to coarse subangular gravel up to 1-inch diameter, few fines, rare orange staining
	1.4		44		22		
	4.1	SB-28-20*			24		
	4.3						
Bentonite	3.7		60				

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/24/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	4.1	SB-28-30*	60		26		at 26 feet: gravel content varies up to some gravel over 4- to 6-inch intervals
	3.0				28		at 29 feet: moist to wet
	2.8				30		at 30 feet: medium sand, little gravel, rare orange staining
	1.1				32		
	1.1				34		
	2.4	SB-28-40*	60		36		BROWN SAND (SP), moist, medium, few fines
	1.0				38		
	1.0				40		BROWN SAND WITH SILT AND GRAVEL (SP), wet, medium to coarse, fine to coarse subangular gravel up to 1-inch diameter, few fines
	1.0				42		Bottom of boring at 40 feet bgs.
					44		Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.
				46			
				48			
				50			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/24/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	0.3				0		DARK BROWN SILTY SAND (SM), moist, fine to medium, little fines, few fine subrounded gravel, (soil hand cleared to 3 feet)
	0.4				2		BROWN SILTY SAND (SM), moist, fine, some fines, (soil hand cleared to 3 feet)
	0.5		30		4		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines
	0.6				6		LIGHT BROWN SANDY SILT (ML), moist, some fine to medium sand, low plasticity, abundant orange staining
	0.6		48		8		LIGHT BROWN SILTY SAND (SM), wet, some fines, abundant orange staining
	0.4				10		LIGHT BROWN SAND WITH SILT (SP), moist, fine, few fines, rare horizons of orange staining up to 1/4-inch thick
	0.7				12		at 11 feet: fine to medium, frequent horizons of orange staining, occasional horizons of silty sand/sandy silt up to 1/2-inch thick
	0.9		40		14		LIGHT BROWN SAND (SP), moist, fine, few fines, rare horizons of orange staining up to 1/4-inch thick
	0.5				16		
	0.7		36		18		
	0.5				20		
Bentonite	0.3		46		22		LIGHT BROWN SAND WITH SILT (SP), wet, fine, few fines
	1.0				24		GRAY-BROWN SAND (SP), moist, fine to medium, few fines

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/24/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
	1.1				26		at 25 feet: coarser than above
	1.2				28		
	1.0		60		30		BROWN SAND (SP), moist, medium, few fine to coarse subangular gravel up to 1-inch diameter, few fines
	1.4				32		
	1.7		60		34		BROWN SAND WITH SILT AND GRAVEL (SP), moist, medium, little fine to coarse subangular gravel up to 1.5-inch diameter, few fines, crushed rock, rare orange staining
	2.0				36		
	2.0		60		38		
	2.3				40		
	1.7				42		Bottom of boring at 40 feet bgs. Temporary well screen installed from 36 to 40 feet bgs. Water Sample: SB-29-GW Boring backfilled with hydrated bentonite.
	2.0				44		
				46			
				48			
				50			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
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 Drill Date: 4/24/18
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 Drill Method: Track-Mounted Geprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description
Concrete	1.0				0		DARK BROWN SILTY SAND (SM), moist, fine to medium, little fines, few fine subrounded gravel, abundant roots, (soil hand cleared to 3 feet)
	0.1				1		BROWN SILTY SAND (SM), moist, fine to medium, some fines, rare large roots, (soil hand cleared to 3 feet)
	0.3				2		
			33		4		GRAY-BROWN SAND WITH SILT (SP), moist, fine, few fines, frequent faint orange staining
	0.4				6		
	0.2		37		8		at 7.5 feet: bedding visible
					10		
	0.3				12		LIGHT BROWN SILTY SAND (SM), moist, fine, little fines
	1.0		43		13		
	0.5				14		GRAY-BROWN SANDY SILT (ML), moist, some fine sand, non-plastic, dark red staining, medium sand inclusions
					16		GRAY-BROWN SAND (SP), moist, fine, few fines, bedding visible
	0.8				18		at 18 feet: grades finer
	0.3		43		20		at 20 feet: grain size varies from fine to fine to medium over 1-foot intervals, bedding visible
	0.4				22		
Bentonite	0.3				24		
	0.2						
	0.3		60				
	0.1						

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/24/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geprobe



Boring Completion	PID (PPM)	Sample ID	Sample Recovery	Sample Interval	Depth (Feet)	Graphic Log	Lithologic Description	
	0.1	SB-30-30*	60	26-28	26		BROWN SILTY SAND (SM), moist to wet, fine, little fines, few fine subangular gravel	
	0.0				28		BROWN SILT (ML), moist to wet, little fine sand, low-plasticity	
	0.1				30		BROWN SAND WITH SILT AND GRAVEL (SP), wet, fine to medium, little fine to coarse subangular gravel up to 1-inch diameter, few fines	
	1.0	SB-30-25*	60	32-34	32		BROWN SAND WITH SILT (SP), wet, fine to medium, few fine to coarse subangular gravel up to 1-inch diameter, few fines	
	0.5				34			
	0.9				36			
	1.0	SB-30-40*	60	38-40	38			
	0.8				40		Bottom of boring at 40 feet bgs. Boring backfilled with hydrated bentonite. * sample submitted for laboratory analysis.	
		1.0				42		
						44		
					46			
					48			
					50			

Project: MVSC
 Project Number: 1358.001.01.009
 Site Location: Normandy Park, WA
 Logged By: CJD
 Ecology Well Tag: N/A

Total Drilled Depth: 40 Feet
 Diameter of Boring: 2.25 inches
 Drill Date: 4/24/18
 Drilled By: Holt Services, LLC
 Drill Method: Track-Mounted Geoprobe

ATTACHMENT G
WASTE DISPOSAL INFORMATION

This Shipping Order

must be legibly filled in, in Ink indelible Pencil, or in Carbon, and retained by the agent

Shipper No. **07644**

Carrier No. _____

MARINE VACUUM SERVICE INC.

Date **12-28-17**

Page **1** of **4**

(Name of carrier)

(SCAC)

On Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1.

TO:
Consignee **MARINE VACUUM SERVICE INC.**
Street **1516 SOUTH GRAHAM STREET**
City **SEATTLE** State **WA** Zip Code **98108**

FROM:
Shipper **PES ENVIRONMENTAL**
Street **17821 1ST AVE S**
City **BURIEN** State **WA** Zip Code _____
CHEMTEL 1-800-255-3924
24 hr. Emergency Contact Tel. No. CONTRACT MIS3627926

Route _____ Vehicle Number **126**

No. of Units & Container Type	HM	BASIC DESCRIPTION UN or NA Number, Proper Shipping Name, Hazard Class, Packing Group	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGES (For Carrier Use Only)
1 TT	X	(DOT SPEC TANK REQUIRED) UN1863 FUEL, AVIATION, TURBIN ENGINE, CLASS 3, PG I				
1 TT	X	(DOT SPEC TANK REQUIRED) UN1203 GASOLINE, MIXTURE CLASS 3, PG II				
1 TT	X	(DOT SPEC TANK REQUIRED) UN1203 GASOLINE, CLASS 3, PG II				
1 TT	X	NA1993 DIESEL MIXTURE, CLASS 3, PG III				
1 TT	X	NA1993 DIESEL, CLASS 3, PG III				
1 TT	X	NA1270 PETROLEUM OIL, CLASS 3, PG I				
1 TT	X	NA1270 PETROLEUM OIL, MIXTURE, CLASS 3, PG I				
1 TT		OILY WASTE WATER NON REG BY DOT				
1 TT		WASTE WATER NON REG BY DOT	1200	gallons		
1 TT		MARINE VESSEL SEWAGE NON REG BY DOT				
1 TT		STREET WASTE STORM PIPE CLEANING NON REG BY DOT				

PLACARDS TENDERED: YES NO

Note — (1) Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property, as follows: "The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____."
(2) Where the applicable tariff provisions specify a limitation of the carrier's liability absent a release or a value declaration by the shipper and the shipper does not release the carrier's liability or declare a value, the carrier's liability shall be limited to the extent provided by such provisions. See NMFC Item 172.
(3) Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation. See Section 2(e) of item 360, Bills of Lading, Freight Bills and Statements of Charges and Section 1(a) of the Contract Terms and Conditions for a list of such articles.

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Signature _____

REMIT C.O.D. TO: ADDRESS

COD

Amt: \$ _____

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

C.O.D. FEE: PREPAID COLLECT \$ _____

TOTAL CHARGES \$ _____

FREIGHT CHARGES: FREIGHT PREPAID Check box if charges are to be collect

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to des-

ination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER **PES ENVIRONMENTAL**
PER **Karsten Sprinckmann**

CARRIER **Marine Vacuum Service**
PER **Khan Ploukhone**
DATE **12-28-17**

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number WA000028116	2. Page 1 of 2	3. Emergency Response Phone (800) 403-3718	4. Manifest Tracking Number 011770066 FLE			
5. Generator's Name and Mailing Address Harris Family LTD 1215 Fourth Avenue Suite 1380 Seattle, WA 98101 98101			Generator's Site Address (if different than mailing address) 17917 1st Avenue South Normandy Park, WA 98148					
6. Transporter 1 Company Name Clean Harbors Environmental Services, Inc.			U.S. EPA ID Number WA0039322250					
7. Transporter 2 Company Name Steve Forler Trucking			U.S. EPA ID Number UT0991301748					
8. Designated Facility Name and Site Address Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantville, UT 84029			U.S. EPA ID Number UT0991301748					
Facility's Phone: (435) 964-8900								
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
			No.	Type				
	x	1. HA3077 HAZARDOUS WASTE, SOLID, N.O.S., (TETRACHLOROETHYLENE), 9, PG III						F002
	x	2. HA3077 HAZARDOUS WASTE, LIQUID, N.O.S., (TETRACHLOROETHYLENE), 9, PG III CC						F002
x	3. HA6002 HAZARDOUS WASTE, LIQUID, N.O.S., (TETRACHLOROETHYLENE), 9, PG III CC						F002	
	4.							
14. Special Handling Instructions and Additional Information 1. CH1669365 ERG0171 1X55 2. CH1669365 ERG0171 1X55 3. CH1669365 ERG0171 1X55								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offorer's Printed/Typed Name SHANNON MCKERNAN					Signature 		Month Day Year 7 19 18	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name Charles Curtis					Signature 		Month Day Year 07 19 18	
Transporter 2 Printed/Typed Name Justin Frank					Signature 		Month Day Year 07 23 18	
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
18b. Alternate Facility (or Generator) 98101 Manifest Reference Number: _____ U.S. EPA ID Number: _____								
18c. Signature of Alternate Facility (or Generator) _____ Month Day Year _____								
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1. H132		2. H132		3. H132		4. _____		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name David Romikula					Signature 		Month Day Year 8 1 18	

TRK 165101 TRL 453109 0252260

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number WAH000028116	2. Page 1 of 1	3. Emergency Response Phone (800) 483-3718	4. Manifest Tracking Number 011770274 FLE		
5. Generator's Name and Mailing Address Harris Family LTD 1215 Fourth Avenue Suite 1350 Seattle, WA 98161			Generator's Site Address (if different than mailing address) 17817 1st Avenue South Normandy Park, WA 98148				
6. Transporter 1 Company Name Clean Harbors Environmental Services, Inc.			U.S. EPA ID Number MAD039322250				
7. Transporter 2 Company Name TSMT			U.S. EPA ID Number MO0095038998				
8. Designated Facility Name and Site Address Clean Harbors Grassy Mountain LLC 3 Miles East 7 Miles North of Knolls Grantsville, UT 84029			U.S. EPA ID Number UTD991301748				
Facility's Phone: (435) 994-9900							
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
			No.	Type			
	X	1. HA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (TETRACHLOROETHYLENE), 9, PG III	003	DM	1200	P	F002
		2.					
		3.					
	4.						
14. Special Handling Instructions and Additional Information 1. CH1689366 ERG0171 3X55							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offoror's Printed/Typed Name Kirsten Spickard		Signature <i>[Signature]</i>		Month 8	Day 17	Year 18	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name Yeung Kuo		Signature <i>[Signature]</i>		Month 8	Day 17	Year 18	
Transporter 2 Printed/Typed Name ROBERT MUIR		Signature <i>[Signature]</i>		Month 8	Day 24	Year 18	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
18b. Alternate Facility (or Generator) Manifest Reference Number: _____ U.S. EPA ID Number: _____							
18c. Signature of Alternate Facility (or Generator) Facility's Phone: _____ Month: _____ Day: _____ Year: _____							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.	2.	3.	4.				
H132							
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name [Signature]		Signature <i>[Signature]</i>		Month 8	Day 17	Year 18	

