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T E C H N I C A L M E M O R A N D U M

TO: Michael Merlone – MGP XI Town Center Lake Forest, LLC

FROM: Russell Luiten, P.E., Associate Engineer
Emerald Erickson-Mulanax, L.G., Senior Geologist
Jeffery Kaspar, L.G., L.H.G., Principal Geologist

DATE: November 19, 2021

RE: **ENVIRONMENTAL INVESTIGATION SUMMARY**
LAKE FOREST PARK CLEANERS
17171 BOTHELL WAY NORTHEAST
LAKE FOREST PARK, WASHINGTON
FARALLON PN: 1993-007

Farallon Consulting, L.L.C. (Farallon) has prepared this Technical Memorandum (Tech Memo) to present a summary of the environmental investigation activities performed at 17171 Bothell Way Northeast in Lake Forest Park, Washington (herein referred to as the Site) (Figure 1). This Technical Memorandum presents a brief description of the Site background with details regarding the two former dry cleaner sites subject to past remediation efforts, and the results of more recent environmental investigation activities conducted at the Site consisting of groundwater monitoring and sampling events, aquifer testing, and a soil vapor extraction (SVE) pilot test.

The purpose of the environmental investigation work was to assess current conditions and the potential for applying soil and/or groundwater cleanup technologies to accelerate groundwater cleanup and reduce, or eliminate, current restrictions associated with an Environmental Covenant recorded with the Washington State Department of Ecology (Ecology) in 2006 for the former Magic Cleaners site. The 2006 Environmental Covenant currently restricts uses of groundwater where a plume of the dry cleaning solvent tetrachloroethene (PCE) exists (PCE plume), and requires vapor intrusion mitigation measures at the current Rite Aid drugstore (Rite Aid tenant space).

BACKGROUND

The Site is a retail shopping center where two dry cleaner facilities historically were present, both of which have had documented releases of dry cleaning solvents. The two dry cleaner facilities include the former Forest Park Cleaners and the former Magic Cleaners site, located on the southwestern and northeastern portions, respectively, of the main Lake Forest Park Retail Center building (Figure 2).

Farallon understands that Ecology issued a no further action (NFA) determination at the former Forest Park Cleaners location in 2004 following a thermally enhanced in-situ chemical oxidation cleanup action. An Environmental Covenant was enacted at that this location on the Site restricting groundwater use and included other standard restrictions on future development and use. Farallon understands the Environmental Covenant is still in-effect and that no further actions have been conducted at this location on the Site since 2005.

The former Magic Cleaners site initially was reported to Ecology in 1998. Former owner-operators conducted investigation and cleanup work that was communicated to Ecology under the Voluntary Cleanup Program. Remediation efforts included excavation of impacted soils, installation and operation of a Density Driven Convection (DDC) system, and installation and operation of a Subslab Depressurization system (SSDS). In 2006 former owner-operators recorded an Environmental Covenant on the property, with Ecology, citing conditions regarding ongoing groundwater treatment, monitoring, and continued operation of the SSDS. The Environmental Covenant also included other routine restrictions and conditions on affected media and land use at the locations where PCE-impacted media persisted, pending demonstration that the MTCA cleanup levels have been achieved in all affected media throughout the former Magic Cleaners site. The former owner-operators ceased operations of the DDC system by 2009, but continued to monitor groundwater and maintain the SSDS.

According to MGP XI Town Center Lake Forest, LLC, the Site was purchased in 2014. Limited work conducted by others between 2014 and 2018 regarding the former Magic Cleaners site included operation of the SSDS, groundwater monitoring, and a limited groundwater investigation in 2018 to better understand groundwater conditions and the PCE plume geometry.

ENVIRONMENTAL INVESTIGATIONS AND RESULTS

Below is a summary of the environmental investigations that have been conducted at the former Magic Cleaners site consisting of a groundwater monitoring and sampling events, aquifer testing, and an SVE pilot test.

GROUNDWATER MONITORING AND SAMPLING EVENTS

Numerous groundwater monitoring events have been conducted by various consultants at the former Magic Cleaners site since 1995. Recent groundwater monitoring has been conducted at the

former Magic Cleaners site by Associated Earth Sciences, Inc. (AESI), TOR Environmental, Inc. (TOR), and Farallon between 2016 and 2021.

AESI 2017

AESI conducted quarterly groundwater monitoring at on-site groundwater monitoring wells MW-1 to MW-3, MW-4R, MW-5, and/or MW-6 from to 2016 to 2017. The purpose of the groundwater sampling was to evaluate current conditions, PCE plume stability, and natural attenuation status.

TOR 2018

A groundwater sampling event was conducted at the former Magic Cleaners site by TOR on August 28 and 31, 2018. The TOR groundwater sampling event consisted of collecting a groundwater sample from existing monitoring wells MW-2, MW-4R, and MW-6 and advancing borings B-1 through B-13 for the purpose of collecting reconnaissance groundwater samples from each boring at the first-encountered groundwater-bearing zone. The purpose of this work was to evaluate current conditions and refine the understanding of the current PCE plume geometry. Figure 2 shows the boring and monitoring well sample locations. The monitoring well and reconnaissance groundwater samples were submitted for laboratory analysis by OnSite Environmental Inc. (Onsite) for halogenated volatile organic compounds (HVOCs) by U.S. Environmental Protection Agency (EPA) Method 8260C.

Farallon 2021

A groundwater monitoring and sampling event was conducted at the former Magic Cleaners site by Farallon on March 30 and April 16, 2021 to evaluate PCE plume stability and groundwater geochemistry to assess whether HVOCs in groundwater were naturally attenuating via biodegradation processes, which potentially could be enhanced to reduce and/or eliminate the restrictions in-place under the 2006 Environmental Covenant. A summary of the groundwater monitoring and sampling activities is provided below.

The groundwater monitoring and sampling activities conducted on March 30, 2021 consisted of measuring the depth to groundwater at monitoring wells MW-1 through MW-3, MW-4R, MW-5, and MW-6 and collecting groundwater samples from monitoring wells MW-1, MW-4R, MW-5, and MW-6 (Figure 2). It was determined that monitoring wells MW-2 and MW-3 required rehabilitation and redevelopment due to roots intruding the well screens. On April 16, 2016, Farallon rehabilitated and redeveloped monitoring wells MW-2 and MW-3 and collected groundwater samples from each. It was determined the roots likely did not impact the depth to groundwater measurements collected on March 30, 2021.

Groundwater samples were collected from the monitoring wells in accordance with the EPA (2010) *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* guidance dated January 19, 2010, following the procedures described below:

- The locking well cap was removed from each monitoring well, and the groundwater level was allowed to equilibrate to atmospheric pressure for at least 15 minutes before the depth to groundwater was measured.

- The depth to groundwater at each monitoring well was measured to the nearest 0.01 foot using an electronic water-level measuring device from the surveyed location on the north side of the top of each well casing. The groundwater level measurements for the monitoring wells were taken within a 1-hour period. The depth to the bottom of the monitoring well also was measured to evaluate siltation of the monitoring wells. Reusable equipment was decontaminated between uses.
- Each monitoring well was purged at a low-flow rate of 120 to 200 milliliters per minute using a peristaltic pump. The pump intake was placed 2-feet from the bottom of the monitoring well. During purging, the groundwater geochemical parameters temperature, specific conductance, pH, dissolved oxygen, oxidation-reduction potential, and/or turbidity were recorded approximately every 3 minutes using a multiparameter meter equipped with a flow-through cell to determine when stabilization of these parameters had occurred.
- Groundwater samples were collected directly from the pump outlet following stabilization of the temperature, pH, conductivity, and dissolved-oxygen parameters.
- Groundwater samples were placed directly into laboratory-supplied sample containers, with care taken to minimize turbulence and prevent handling of the seal and/or lid of the container when the samples were placed into the containers. The containers were filled completely to eliminate headspace, and the seal and/or lid was secured.
- The sample container was labeled with the date and time sampled, well identification number, project number, and preservative used, if any. The sample identification included the well identification number as the prefix, and the date sampled as the suffix.
- Sampling information was documented on a Chain of Custody form, and the groundwater sample was placed into a cooler with ice and maintained at approximately 4 degrees Celsius for transport to the laboratory. Chain-of-custody protocols were maintained during sample transport and submittal to the laboratory.
- Groundwater generated from the purging of the monitoring wells was placed into labeled 30-gallon steel drums that were sealed and placed on the Site. Following waste profiling and identification of an appropriate disposal alternative, the 30-gallon steel drums were removed from the Site and disposed of at a Subtitle C Landfill under existing Resource Conservation and Recovery Act (RCRA) Site Identification Number WAH000059015.

Groundwater samples collected from the monitoring wells MW-1 through MW-3, MW-4R, MW-5, and MW-6 were submitted to OnSite for analysis for HVOCs by EPA Method 8260B.

Groundwater samples collected from monitoring wells MW-2, MW-3, MW-5, and MW-6 were also submitted to OnSite for analysis for other geochemical parameters to assess potential future application of groundwater cleanup technologies. The additional analyses included the following:

- Total organic carbon by Standard Method (SM) 5310B/EPA Method 9060A;
- Total dissolved solids by SM 2540C;
- Nitrate by EPA Method 353.2;

- Sulfate by ASTM Method D516-11;
- Methane, ethane, and ethene by RSK 175; and
- Alkalinity by EPA Method 310.2/SM 2330B.

Ferrous iron content in groundwater was measured in the field using Hach Test Kit IR-18C.

Groundwater Levels, Gradient, and Flow Direction

Groundwater conditions at the former Magic Cleaners site described below are based on information collected during historical subsurface investigation activities conducted by others from 1997 to 2014, AESI from 2016 to 2017, TOR in 2018, and Farallon in 2021. Static groundwater levels in the monitoring wells screened in the groundwater-bearing zone ranged from approximately 3 to 13 feet below the top of well casing during groundwater monitoring activities conducted from 1997 to 2021 (Table 1). Based on groundwater monitoring data collected by Farallon and others, the groundwater elevation fluctuates seasonally by approximately 0.5 to 2 feet, with higher groundwater elevations in the winter/spring and lower groundwater elevations in the summer/fall.

Groundwater elevations were contoured using groundwater levels measured by Farallon during the March 30, 2021 groundwater monitoring event. Table 1 presents a summary of the depth to groundwater measurements for groundwater monitoring events conducted by AESI on May 5, 2017 and August 7, 2017 and by Farallon on March 30 and April 16, 2021. Groundwater level data was not available from TOR. Based on the groundwater measurements collected by AESI in May and August 2017, groundwater elevation contours prepared by Farallon are shown on Figures 3 and 4, respectively. Groundwater elevation contours for the March 30, 2021 groundwater monitoring event are shown on Figure 5. The groundwater elevation contours for March 30, 2021 indicate a groundwater flow direction that is generally south and southeast, with an average gradient of approximately 0.018 foot per foot (Figure 5; Table 1) The groundwater elevation contours for March 2021 are consistent with previous groundwater elevation measurements collected by AESI in May and August 2017 (Figures 3 and 4; Table 1) and groundwater monitoring data collected by others. The groundwater flow direction does not change seasonally.

HVOC Results

Table 2 and Figure 5 provide a summary of the groundwater analytical results. The laboratory analytical reports for the groundwater monitoring events are provided in Attachment A.

The groundwater analytical results from the March/April 2021 groundwater monitoring event are as follows:

- Vinyl chloride was detected at concentrations of 0.21 and 1.6 micrograms per liter (µg/l) in the groundwater samples collected from monitoring wells MW-3 and MW-6, respectively, which exceed the MTCA Method A cleanup level of 0.2 µg/l;

- PCE, trichloroethene (TCE), andcis-1,2-dichloroethene, and trans-1,2-dichloroethene (collected referred to as DCE isomers) were either not detected at concentrations exceeding laboratory reporting limits or were detected at concentrations less than the MTCA cleanup levels.

Geochemical Parameter Results

The geochemical data for the laboratory analysis and field parameter measurements at monitoring wells MW-2, MW-3, MW-5, and MW-6 are presented in Table 3 and include:

- Primary electron receptors that are potential energy sources for native bacteria capable of biodegrading PCE, and indicators of groundwater geochemistry, which include dissolved oxygen, nitrate, and sulfate;
- Metabolic by-products of PCE biodegradation and indicators of groundwater geochemistry, which include total alkalinity as carbon dioxide, ferrous iron (Fe^{2+}) manganese (II), methane, ethane, and ethene; and
- Additional geochemical indicators of whether the subsurface environment is amenable to biodegradation of PCE, which include oxidation-reduction potential, temperature, total organic carbon, total dissolved solids, and pH.

The geochemical parameters indicate that groundwater conditions at the former Magic Cleaners site are moderately anaerobic. Geochemical indicators of anaerobic conditions in groundwater at the former Magic Cleaners site include:

- Low concentrations of dissolved oxygen and nitrate;
- The presence of a reduced form of iron, Fe^{2+}; and
- The presence of methane.

Biodegradation of PCE to TCE, DCE isomers, vinyl chloride, and ethene is possible under the anaerobic conditions at the former Magic Cleaners site area. Further, pH and temperature conditions are within a range conducive to biodegradation processes. Alkalinity values can be used to assess microbial activity as an indication of carbon dioxide production by microbes within a plume area versus outside the plume area. The alkalinity values are consistently higher at the monitoring wells inside the PCE plume area at monitoring wells MW-3 and MW-6 compared to monitoring wells MW-1 (upgradient) and MW-5 (cross gradient).

Concentrations of TCE, DCE isomers, and/or vinyl chloride have been detected in groundwater for samples collected from monitoring wells MW-3 and MW-6 where PCE has been detected, suggesting that anaerobic biodegradation is occurring in areas proximate to these monitoring wells. The HVOC and geochemical parameter data show a positive correlation regarding ongoing biodegradation processes that could be enhanced to accelerate groundwater restoration.

AQUIFER TESTING

Farallon conducted slug tests at monitoring wells MW-2, MW-3, and MW-6 to obtain data to estimate the hydraulic conductivity of the groundwater water-bearing zone at the former Magic Cleaners site PCE plume area to better assess the potential design parameters for an injection-based cleanup technology application. Hydraulic conductivity values were estimated using AQTESOLV modeling software. The slug test/hydraulic conductivity evaluation results are summarized on Table 4 and charts of the AQTESOLV aquifer testing results are provided in Attachment B. One falling head test and one rising head slug test was conducted at each of the three monitoring wells using a combination pressure transducer/data logger to record water levels following insertion and removal of a 3-foot-long slug testing tool.

The geometric mean of the average hydraulic conductivity values estimated from the rising and falling head tests at each test well is 1.41×10^{-3} centimeters per second, which is consistent with the soil types encountered at the former Magic Cleaners site.

The estimated groundwater seepage velocity based on the geometric mean of the hydraulic conductivity values for the tests is 105.2 feet per year assuming an average hydraulic gradient of 0.018 foot per foot, based on the previous groundwater monitoring event conducted on March 30, 2021, and an effective porosity of 0.25 (Table 4). These results can be used to assess application of an injection-based cleanup technology such as enhanced biodegradation, in-situ chemical reduction, in situ chemical oxidation, or other groundwater cleanup technologies.

SVE PILOT TESTING

A soil vapor extraction (SVE) pilot test was performed on October 3 through October 4, 2021 to evaluate the potential for modifying the existing SSDS at the Rite Aid tenant space to increase the HVOC mass removal rates from soil and soil gas beneath the Rite Aid tenant space and to reduce potential desorption of HVOCs to groundwater and accelerate groundwater cleanup. The testing was conducted based on evaluation of the SSDS, which indicated that HVOCs continue to be present in the system effluent.

The existing SSDS consists of a blower that applies a vacuum to two extraction trenches at the Rite Aid tenant space. A northern trench extends from the blower equipment area toward the Rite Aid tenant space break room and a southern trench extends under the retail section of Rite Aid tenant space. Each extraction trench consists of a 3-inch-diameter perforated pipe placed approximately 8 inches below the building's concrete slab in a trench backfilled with clean pea gravel. Figure 6 illustrates the SSDS blower location, and overhead and subsurface extraction piping (trenches). Collected soil gas passes through a moisture separator and series of in-line instrumentation prior to the blower and discharge outside the building. The effluent from the SSDS system was historically captured using two 500-pound granular activated carbon filters, plumbed in-line. SSDS effluent sampling conducted on April 2, 2021 indicated that effluent discharge rates for PCE and related degradation products contributing to the total air contaminants were less than the Puget Sound Clean Air Agency exemption for emission treatment at soil and groundwater

remediation sites; therefore, the granular activated carbon filters were disconnected. The SSDS effluent analytical data is included as Attachment A and are summarized in Table 6.

The SVE pilot test utilized the existing SSDS extraction trenches to apply additional vacuum using a separate pilot test blower connected to the SSDS manifold after disconnecting the existing blower. Vapor Pins were installed directly beneath the building floor slab to provide monitoring points to evaluate the effectiveness of the applied vacuum at each of the SSDS extraction trenches (Figure 6). The SSDS pilot test consisted of a step test to apply variable vacuums to the SSDS extraction trenches using the 5-horsepower pilot test blower.

The SVE pilot test consisted of applying vacuum in three steps, starting with a low initial applied vacuum, and systematically increasing the vacuum to the maximum vacuum that could be applied using the pilot test blower. The applied vacuum to the SSDS manifold was controlled by adjusting the air dilution valve on the instrument train between the SSDS manifold and the pilot test blower. The vacuum applied to the SSDS manifold ranged from 8 to 32 inches of water column during the pilot test. Air flow rates and vacuum at each SSDS trench were monitored during the pilot test. The Vapor Pins were installed to monitor induced subslab vacuums at varied distances from each extraction trench (Figure 6). Applied vacuum and flow rates, and response vacuums at the Vapor Pin locations are summarized in Table 5.

The measured vacuum at a Vapor Pin location was considered significant if at least 1 percent of the applied vacuum from the trench was observed at the Vapor Pin location. A significant vacuum was observed at Vapor Pin locations VP-1 through VP-5 with a maximum distance from an SSDS trench of 34 feet. An applied vacuum to the south extraction trench of 18 inches of water column corresponds to a vacuum of 0.2 inches of water column at Vapor Pin location VP-1, approximately 34 feet from the south extraction trench. For each vacuum step of the pilot test, the ratio of observed vacuum at a Vapor Pin location to the applied vacuum at the extraction test did not significantly change, indicating that the maximum influence zone for SVE is approximately 34 feet from either extraction trench regardless of the applied vacuum.

Vapor Pin locations VP-5 and VP-6 did not exhibit an increased influence from the various stages if increased vacuum applied regardless of a closer proximity to the north extraction trench than VP-1. The variability in the observed vacuum responses at the Vapor Pin locations may be associated with factors such as variability in concrete slab thickness and subbase materials, variations in soil lithology beneath the Rite Aid tenant space, unknown subsurface building features such as utility conduits/trenches, or cracks/breaks in the concrete slab beneath the flooring materials.

Prior to completing the SVE pilot test, a soil gas sample was collected from each extraction trench at the highest applied vacuum. The soil gas samples were collected from each leg of the SSDS manifold located before entry to the SVE pilot test blower. Each soil gas sample was collected into a 1-liter Summa canister and submitted to Friedman and Bruya, Inc. of Seattle, Washington for analysis by EPA Method TO-15. Table 6 presents a summary of soil gas analytical results for the

samples collected during the SVE pilot test and the laboratory analytical report is included in Attachment A.

Extracted soil gas concentrations and the measured flow rate derived from the SVE pilot test were used to calculate HVOC mass removal rates for each extraction trench for both the SVE pilot test and the prior April 2, 2021 SSDS sampling event and compared. In response to the increased extraction flow rate during the SVE pilot test, the HVOC mass removal rates increased by 125 percent for the north extraction trench and 180 percent for the south extraction trench. Anticipated emission rates for the regulated HVOCs generated from operation of the existing SSDS or a potential expansion to an SVE system would be less than the Puget Sound Clean Air Agency exemption for effluent treatment for soil and groundwater remediation sites.

CONCLUSIONS

Based on evaluation of the SVE Pilot Test data, increasing flow rate and vacuum of the existing SSDS by upgrading the system to a higher capacity blower likely would result in only a minor extension of the existing capture zone. The rate of HVOC mass removal also would not increase significantly. Based on the short duration of the SVE pilot test (e.g., less than 1 day), HVOC mass removal rate trends could not be fully evaluated. However, HVOC mass removal rates would likely decrease to a steady state within a relatively short operational time frame based on the low HVOC concentrations detected in the effluent samples for the SVE pilot test. The anticipated HVOC removal rates resulting from modifying the existing SSDS would likely be less than 0.2 pounds of HVOC per year, resulting in a higher overall operational cost with minimal increase in overall HVOC mass removal relative to operating the existing SSDS as its maximum capacity.

The cost for upgrading the SSDS and increased operation and maintenance is disproportionate to the benefit for achieving Site cleanup goals. However, operating the existing SSDS will continue to remove HVOC mass over time while also preventing vapor intrusion. Also, the SVE pilot test results indicate that the prior soil cleanup activities were successful and the residual HVOC mass beneath the Rite Aid tenant space appears to be low. The groundwater analytical data for the monitoring wells closest to the Rite Aid tenant space support this since overall HVOC concentrations at monitoring wells MW-2 and MW-6 (Figure 5) have remained non-detect (MW-2) or have continued to decrease since between 2017 and 2021 (MW-6).

The groundwater monitoring results from May and August 2017, August 2018, and March and April 2021 indicate that groundwater is flowing south-southeast at the former Magic Cleaners site (Figure 5). Groundwater data indicate that concentrations of PCE and/or vinyl chloride are still present in groundwater at concentrations exceeding MTCA Method A cleanup levels at monitoring wells MW-3 and MW-6 but are less than the MTCA cleanup levels in the remaining wells. The PCE plume extends downgradient from the former release(s) at the Rite Aid tenant space to the south across the parking lot to monitoring well MW-3, located approximately 100 feet from Bothell Way Northeast. The PCE plume appears to be decreasing over time in comparison with prior monitoring results and the PCE plume area as represented on the 2005 Environmental Covenant.

The geochemical parameters indicate that groundwater conditions at the former Magic Cleaners site are moderately anaerobic. Biodegradation of PCE to TCE, DCE isomers, vinyl chloride, and ethene is possible under these anaerobic conditions and appears to be occurring as evident at monitoring wells MW-3 and MW-6.Based on this evidence and decreasing groundwater concentrations over time, natural attenuation via biodegradation appears to be a viable path to achieving MTCA Method A cleanup levels at the former Magic Cleaners site.

The historical soil cleanup data, SVE pilot test results, and groundwater monitoring results indicate that the source area beneath the former Magic Cleaners site has been successfully remediated in a manner that should result in Ecology eliminating soil as a media of concern. The SVE pilot test results further indicated that additional remediation work in this area is unlikely to accelerate the timeline for achieving groundwater cleanup levels for the PCE plume area. Natural attenuation will continue to occur at the former Magic Cleaners site and will likely eventually reduce PCE and related compounds in groundwater to concentrations that are less than the MTCA cleanup levels.

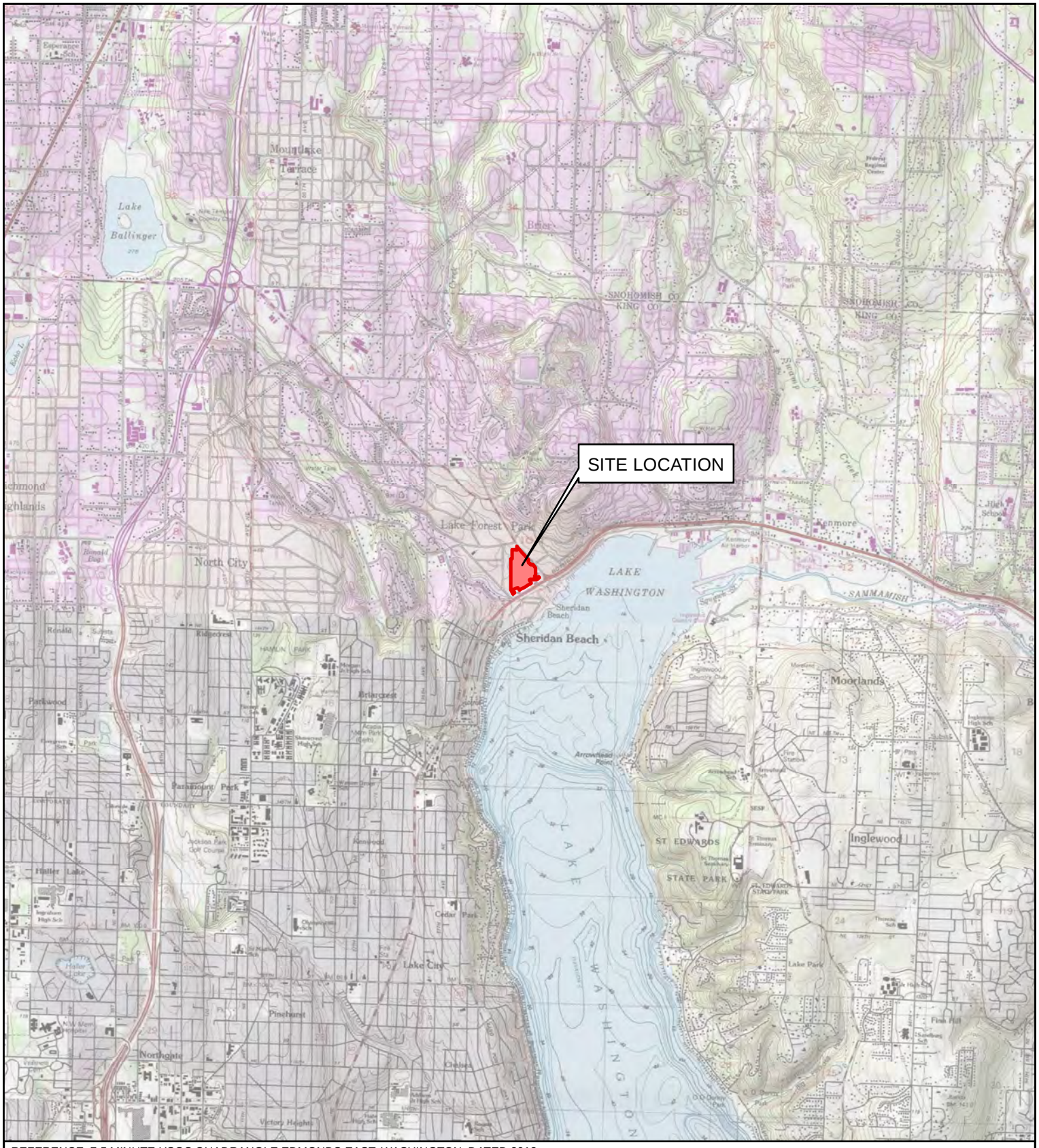
Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Plan*
Figure 3, *Groundwater Elevation Contours – May 5, 2017*
Figure 4, *Groundwater Elevation Contours – August 9, 2017*
Figure 5, *Groundwater Contours – March 30, 2021 and Groundwater Results for HVOCs*
Figure 6, *SVE Pilot Test Features*
Table 1, *Groundwater Elevations*
Table 2, *Groundwater Analytical Results for Halogenated VOCs*
Table 3, *Natural Attenuation and Water Quality Parameters*
Table 4, *Aquifer Testing Results*
Table 5, *Soil Vapor Extraction Pilot Test Data*
Table 6, *Soil Gas Analytical Results and Removal Rates*
Attachment A, Laboratory Reports
Attachment B, AQTESOLV Aquifer Testing Results

EEM/JK:cm

FIGURES

ENVIRONMENTAL INVESTIGATION SUMMARY
Lake Forest Park Cleaners
17171 Bothell Way Northeast
Lake Forest Park, Washington

Farallon PN: 1993-007



REFERENCE: 7.5 MINUTE USGS QUADRANGLE EDMONDS EAST, WASHINGTON, DATED 2013

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SCALE IN FEET

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FIGURE 1

SITE VICINITY MAP
LAKE FOREST PARK TOWN CENTER
LAKE FOREST PARK, WASHINGTON

FARALLON PN: 1993-007

Drawn By: TPerrin Checked By: EEM Date: 5/10/2021 Disc Reference:

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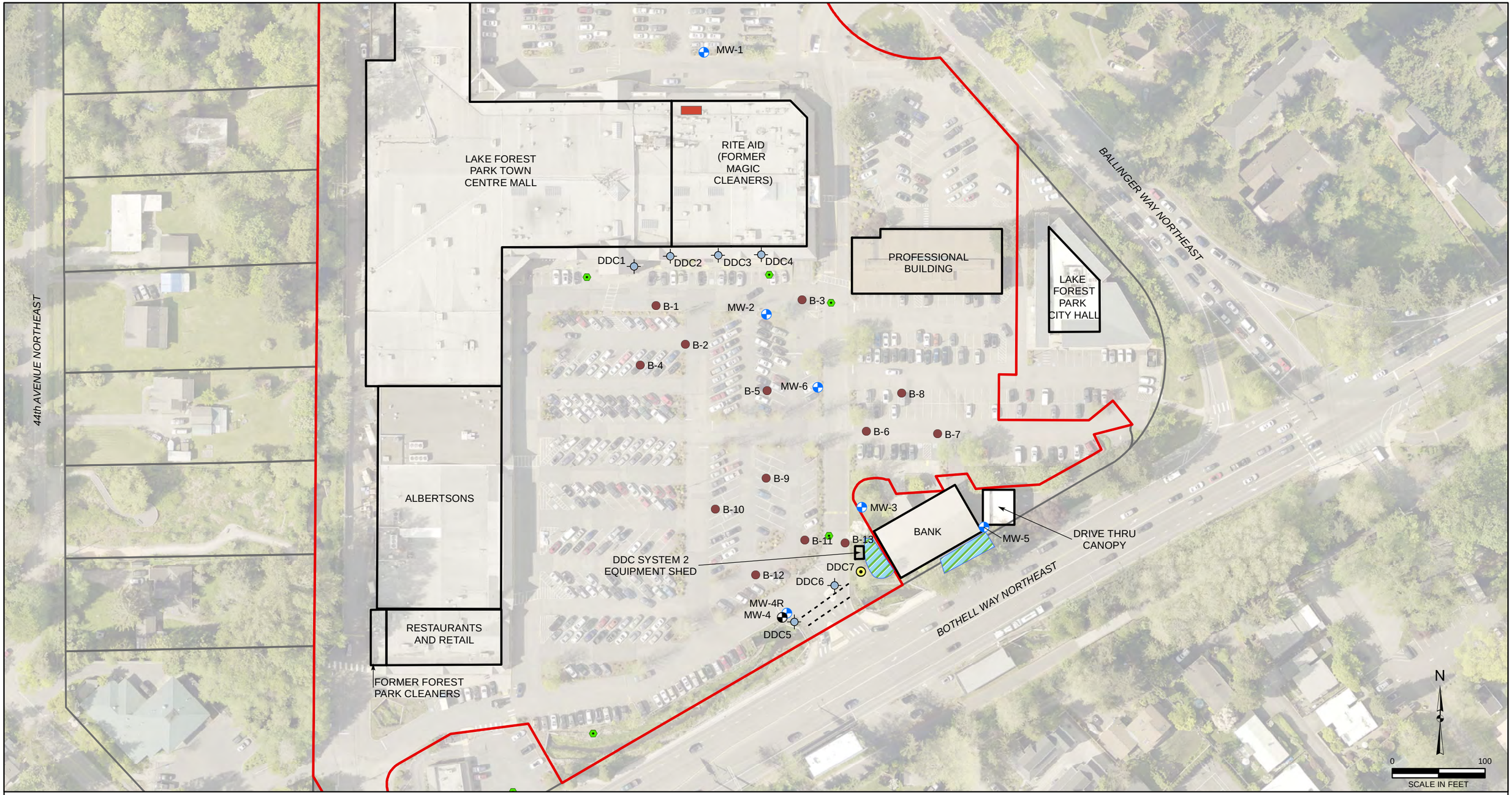

LEGEND

- BORING AND GROUNDWATER SAMPLE
- EXISTING DENSITY DRIVEN CONVECTION (DDC) WELL LOCATION
- FORMER DENSITY DRIVEN CONVECTION WELL LOCATION
- MONITORING WELL LOCATION
- FORMER MONITORING WELL
- MANHOLE
- CULVERT
- BUILDING
- FORMER MAGIC CLEANERS COIN-OPERATED DRY CLEANER REMEDIATION AREA
- STORMWATER RETENTION POND
- SITE BOUNDARY
- KING COUNTY PARCEL BOUNDARY

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 2

SITE PLAN
LAKE FOREST PARK TOWN CENTER
LAKE FOREST PARK, WASHINGTON

FARALLON PN: 1993-007

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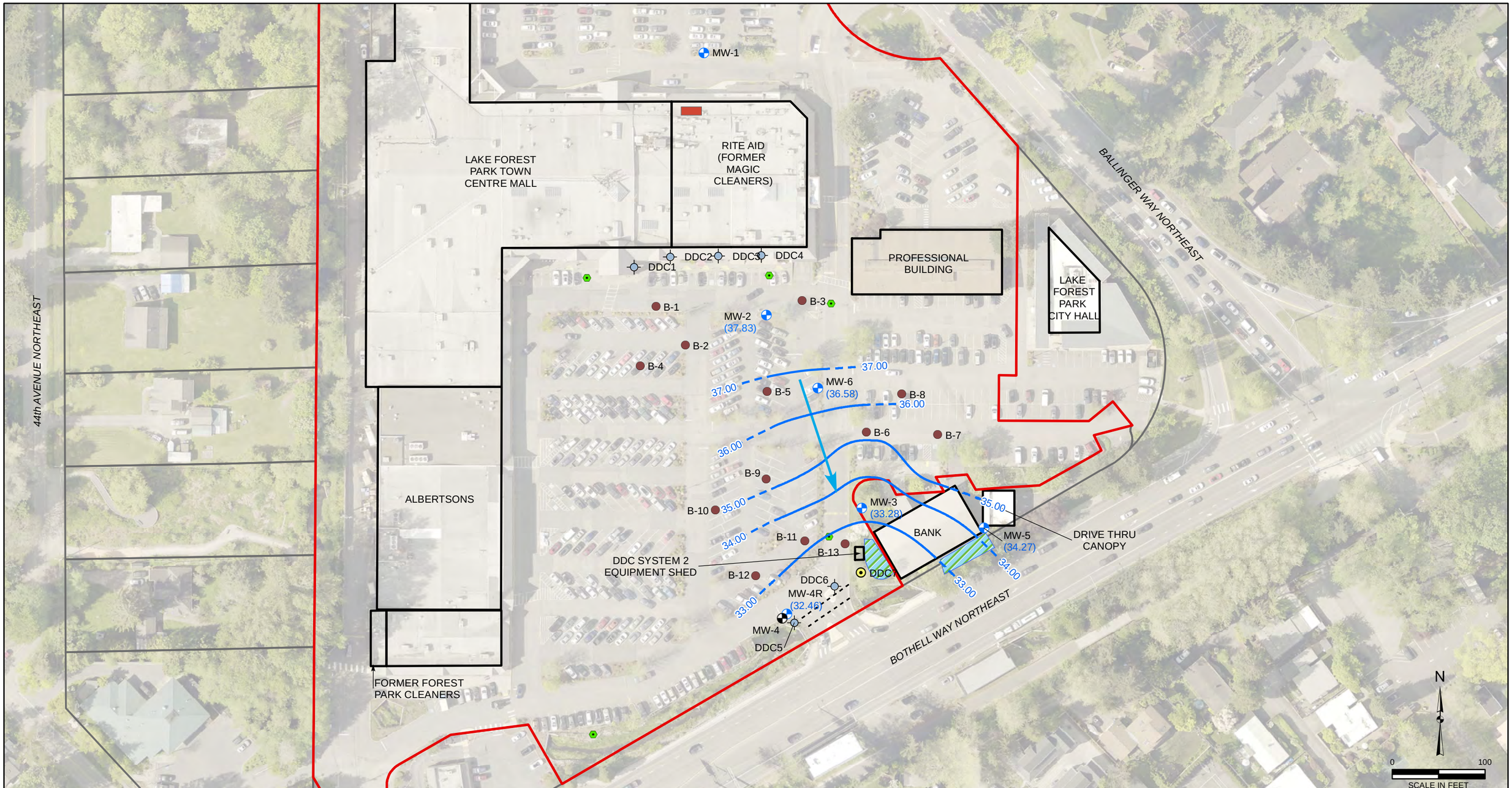

LEGEND

- BORING AND GROUNDWATER
- EXISTING DENSITY DRIVEN CONVECTION (DDC) WELL LOCATION
- FORMER DENSITY DRIVEN CONVECTION WELL LOCATION
- MONITORING WELL LOCATION
- FORMER MONITORING WELL
- MANHOLE
- CULVERT
- BUILDING
- FORMER MAGIC CLEANERS COIN-OPERATED DRY CLEANER REMEDIATION AREA
- STORMWATER RETENTION POND
- SITE BOUNDARY
- KING COUNTY PARCEL BOUNDARY

(34.27) GROUNDWATER ELEVATION IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 MAY 5, 2017

34.00 GROUNDWATER ELEVATION CONTOUR IN FEET (DASHED WHERE INFERRED)

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

MW-4R (32.24) ESTIMATED GROUNDWATER ELEVATION. TOP OF CASING ELEVATION FROM FORMER MONITORING WELL MW-4 USED TO ESTIMATE GROUNDWATER ELEVATION FOR REPLACEMENT WELL MW-4R.

NOTES:
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FIGURE 3

GROUNDWATER ELEVATION CONTOURS - MAY 5, 2017
LAKE FOREST PARK TOWN CENTER
LAKE FOREST PARK, WASHINGTON

FARALLON PN: 1993-007

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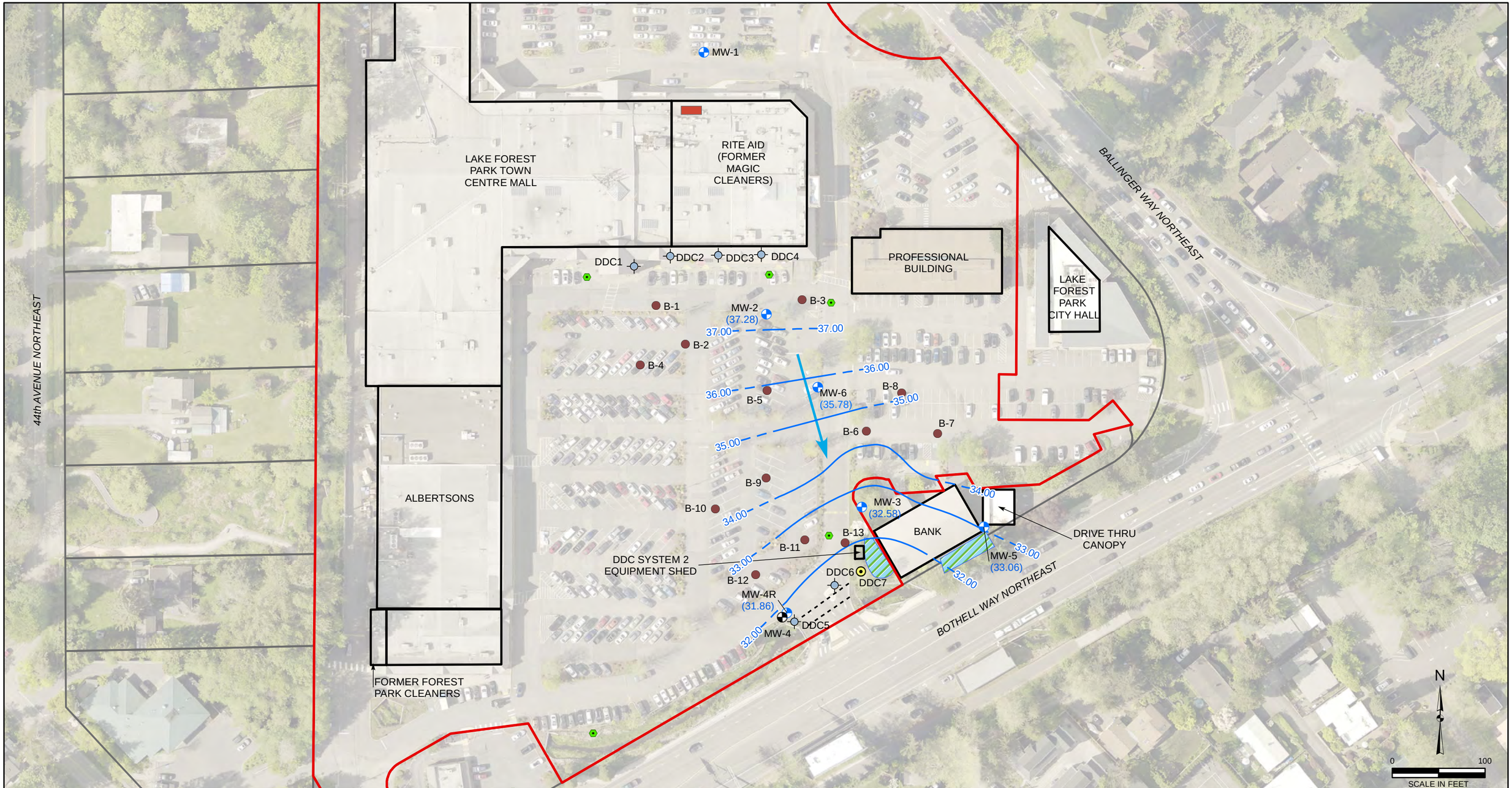

LEGEND

- BORING AND GROUNDWATER
- EXISTING DENSITY DRIVEN CONVECTION (DDC) WELL LOCATION
- FORMER DENSITY DRIVEN CONVECTION WELL LOCATION
- MONITORING WELL LOCATION
- FORMER MONITORING WELL
- MANHOLE
- CULVERT
- BUILDING
- FORMER MAGIC CLEANERS COIN-OPERATED DRY CLEANER REMEDIATION AREA
- STORMWATER RETENTION POND
- SITE BOUNDARY
- KING COUNTY PARCEL BOUNDARY

(33.06) GROUNDWATER ELEVATION IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 AUGUST 9, 2017

32.00 GROUNDWATER ELEVATION CONTOUR IN FEET (DASHED WHERE INFERRED)

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

MW-4R (31.86) ESTIMATED GROUNDWATER ELEVATION. TOP OF CASING ELEVATION FROM FORMER MONITORING WELL MW-4 USED TO ESTIMATE GROUNDWATER ELEVATION FOR REPLACEMENT WELL MW-4R.

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FIGURE 4

GROUNDWATER ELEVATION CONTOURS - AUGUST 9, 2017
LAKE FOREST PARK TOWN CENTER
LAKE FOREST PARK, WASHINGTON

FARALLON PN: 1993-007

Drawn By: vpehlivan | Checked By: EEM | Date: 11/17/2021 | Disc Reference:

Path: Q:\Projects\1993 Merlone Geier Partners\007 LakeForestPark\Mapfiles\Site 2021-05\Figure-04_GW_Contour_Aug2017.mxd

MW-1
03/30/2021|<0.20|<0.20|<0.20|<0.20

MW-1
(42.61)

42.00

42.00

LAKE FOREST PARK TOWN CENTRE MALL

RITE AID (FORMER MAGIC CLEANERS)

41.00

41.00

40.00

MW-2
05/16/2017|<1|<1|<1|<0.2
08/09/2017|<1|<1|<1|<0.2
08/31/2018|<0.20|<0.20|<0.20|<0.20
04/16/2021|<0.20|<0.20|<0.20|<0.20

40.00

DDC2

DDC3

DDC4

DDC1

39.00

PROFESSIONAL BUILDING

B-3
08/31/2018|2.5|<0.20|<0.20|<0.20

LAKE FOREST PARK CITY HALL

B-1
08/31/2018|**6.0**|<0.20|<0.20|<0.20

39.00

MW-2
(38.27)

38.00

B-2
08/31/2018|**7.7**|<0.20|<0.20|<0.20

38.00

MW-6
05/16/2017|3.6|1.1|1.6|**0.38**
08/09/2017|2.0|1.1|2.1|**0.65**
08/28/2018|5.0|0.61|0.84|**0.39**
03/30/2021|<0.20|<0.20|1.3|**1.6**

37.00

B-4
08/31/2018|<0.20|<0.20|<0.20|<0.20

37.00

MW-6
(36.52)

B-5
08/31/2018|**7.6**|0.66|0.66|<0.20

36.00

36.00

B-8
08/31/2018|0.45|<0.20|<0.20|<0.20

B-6
08/31/2018|3.4|0.34|0.22|<0.20

35.00

B-7
08/31/2018|1.4|<0.20|<0.20|<0.20

B-9
08/31/2018|1.3|0.49|0.48|**0.67**

35.00

MW-3
(33.27)

B-10
08/31/2018|<0.20|<0.20|<0.20|<0.20

BANK

DRIVE THRU CANOPY

B-11
08/31/2018|<0.20|<0.20|0.29|<0.20

34.00

MW-5
(33.91)

34.00

DDC SYSTEM 2 EQUIPMENT SHED

DDC7

DDC6

33.00

MW-5
05/16/2017|<1|<1|<1|<0.2
08/09/2017|<1|<1|<1|<0.2
03/30/2021|<0.20|<0.20|<0.20|<0.20

B-13
08/31/2018|<0.20|<0.20|2.3|**0.98**

MW-4R
(32.24)

33.00

MW-4

DDC5

B-12
08/31/2018|<0.20|<0.20|<0.20|<0.20

MW-4R
05/16/2017|<1|<1|<1|<0.2
08/09/2017|<1|<1|<1|<0.2
08/28/2018|<0.20|<0.20|<0.20|<0.20
03/30/2021|<0.20|<0.20|<0.20|<0.20

BOTHELL WAY NORTHEAST

MW-3
05/16/2017|**6.8**|<1|<1|<0.2
08/09/2017|**7.3**|1.2|<1|<0.2
04/16/2021|2.5|0.60|1.0|**0.21**

BALLINGER WAY NORTHEAST

44th AVENUE NORTHEAST

ALBERTSONS

FORMER FOREST PARK CLEANERS

N

0 100

SCALE IN FEET

NOTES:
GROUNDWATER CONCENTRATIONS REPORTED AS:
SAMPLE DATE | PCE | TCE | cis-1,2-DCE | VC
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION (MTCA) CLEANUP LEVEL
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED.
DCE = DICHLOROETHENE
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- BORING AND RECONNAISSANCE GROUNDWATER SAMPLE
- EXISTING DENSITY DRIVEN CONVECTION (DDC) WELL
- FORMER DENSITY DRIVEN CONVECTION WELL
- MONITORING WELL
- FORMER MONITORING WELL
- MANHOLE
- CULVERT
- BUILDING
- FORMER MAGIC CLEANERS COIN-OPERATED DRY CLEANER REMEDIATION AREA
- STORMWATER RETENTION POND
- SITE BOUNDARY
- KING COUNTY PARCEL BOUNDARY

(33.91) GROUNDWATER ELEVATION IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 MARCH 30, 2021

33.00 GROUNDWATER ELEVATION CONTOUR IN FEET (DASHED WHERE INFERRED)

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

MW-4R (32.24) ESTIMATED GROUNDWATER ELEVATION. TOP OF CASING ELEVATION FROM FORMER MONITORING WELL MW-4 USED TO ESTIMATE GROUNDWATER ELEVATION FOR REPLACEMENT WELL MW-4R.

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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Oregon
Portland | Baker City

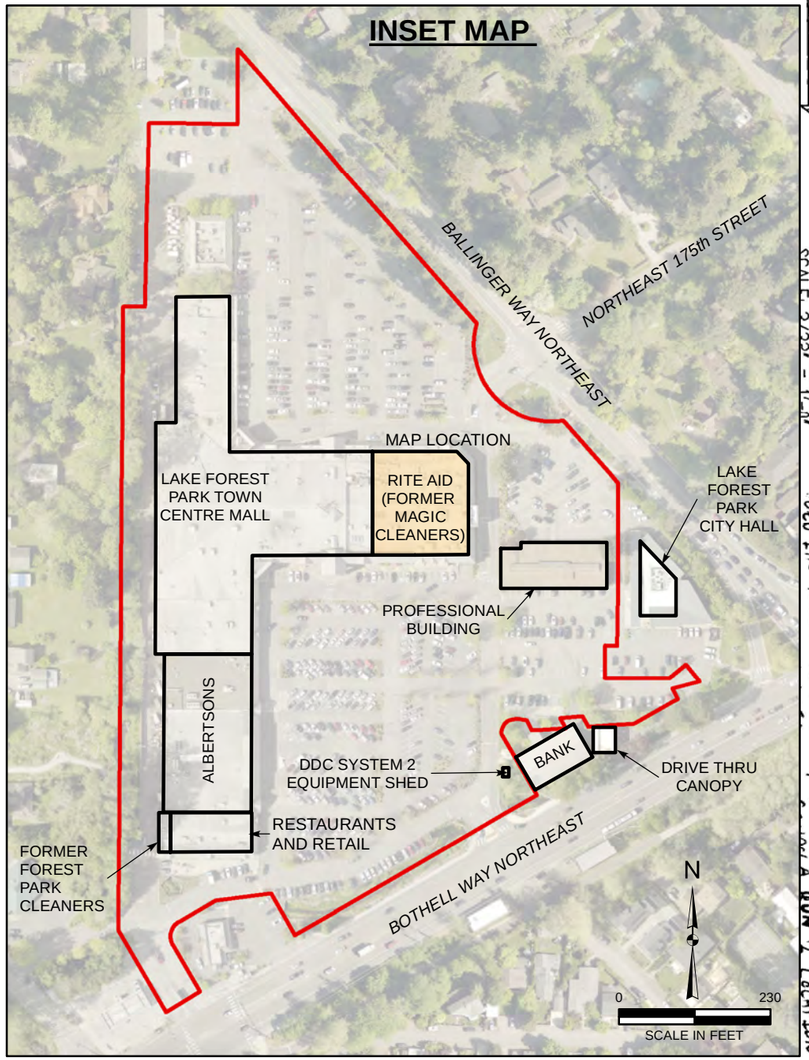
California
Oakland | Irvine

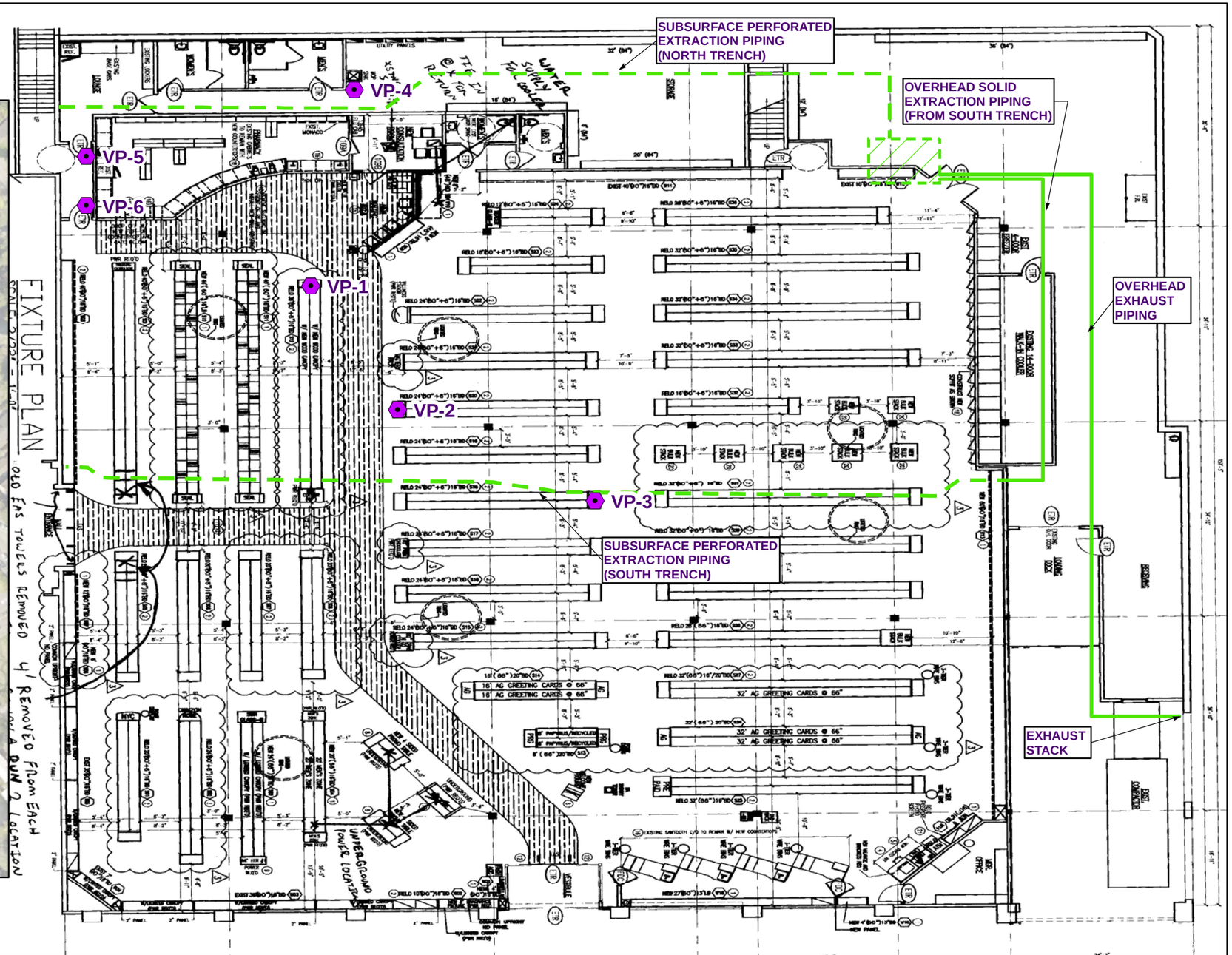
FIGURE 5

GROUNDWATER CONTOURS-MARCH 30, 2021 AND GROUNDWATER RESULTS FOR HVOCs
LAKE FOREST PARK TOWN CENTER
LAKE FOREST PARK, WASHINGTON

FARALLON PN: 1993-007

Drawn By: vpehlivan Checked By: EEM Date: 11/17/2021 Disc Reference:
Path: Q:\Projects\1993 Merlone Geier Partners\007 LakeForestPark\Mapfiles\Site 2021-05\Figure-05_GW_Contour_Mar2021.mxd





LEGEND

- VAPOR PIN (VP)
- BURIED SUBSLAB DEPRESSURIZATION SYSTEM EXTRACTION PIPING
- SUBSLAB DEPRESSURIZATION SYSTEM EXTRACTION PIPING
- EXISTING SUBSLAB DEPRESSURIZATION SYSTEM AREA
- SITE BOUNDARY
- SVE = SOIL VAPOR EXTRACTION

N

0 20

SCALE IN FEET

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 6

SVE PILOT TEST FEATURES
LAKE FOREST PARK TOWN CENTER
LAKE FOREST PARK, WASHINGTON

FARALLON PN: 1993-007

Drawn By: vpehlivan Checked By: RL Date: 11/17/2021 Disc Reference:
Path: Q:\Projects\1993 Merlone Geier Partners\007 LakeForestPark\Mapfiles\Site 2021-05\Figure-06_SVE_Pilot_Test_Features.mxd

TABLES

ENVIRONMENTAL INVESTIGATION SUMMARY
Lake Forest Park Cleaners
17171 Bothell Way Northeast
Lake Forest Park, Washington

Farallon PN: 1993-007

Table 1
Groundwater Elevations
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Location	Screened Interval (feet bgs)[1]	Top of Casing Elevation (feet MSL)[2]	Monitoring Date	Depth to Water (feet)[3]	Water Level Elevation (feet MSL)[2]
MW-1	10 to 25	55.4	1/30/1997	12.63	42.77
			3/25/1997	12.59	42.81
			5/30/1997	12.68	42.72
			9/12/1997	13.13	42.27
			12/10/1997	13.27	42.13
			3/30/2021	12.79	42.61
MW-2	3 to 15	43.28	1/30/1997	4.90	38.38
			3/25/1997	4.95	38.33
			5/30/1997	5.10	38.18
			9/12/1997	5.26	38.02
			12/10/1997	5.35	37.93
			1/3/2003	6.08	37.20
			9/20/2004	8.20	35.08
			1/26/2005	5.34	37.94
			10/6/2005	5.07	38.21
			2/10/2006	5.11	38.17
			3/1/2007	5.15	38.13
			9/14/2007	5.61	37.67
			3/28/2008	5.24	38.04
			9/18/2008	5.67	37.61
			6/10/2009	5.35	37.93
			9/9/2009	5.45	37.83
			3/13/2014	5.01	38.27
			5/16/2017	5.45	37.83
			8/9/2017	6.00	37.28
			3/30/2021	5.01	38.27
			4/16/2021	5.07	38.21
MW-3	3 to 15	40.67	1/30/1997	6.29	34.38
			3/25/1997	6.25	34.42
			5/30/1997	5.57	35.10
			9/12/1997	6.51	34.16
			12/10/1997	7.11	33.56
			1/23/2002	6.92	33.75
			5/2/2002	3.00	37.67
			9/20/2002	7.28	33.39
			1/3/2003	8.91	31.76
			6/11/2003	9.23	31.44
			9/12/2003	8.85	31.82
			2/13/2004	8.23	32.44

Table 1
Groundwater Elevations
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Location	Screened Interval (feet bgs)[1]	Top of Casing Elevation (feet MSL)[2]	Monitoring Date	Depth to Water (feet)[3]	Water Level Elevation (feet MSL)[2]
MW-3 (continued)	3 to 15	40.67	8/11/2004	7.34	33.33
			1/26/2005	7.09	33.58
			10/6/2005	7.28	33.39
			2/10/2006	6.98	33.69
			3/1/2007	6.72	33.95
			9/14/2007	7.39	33.28
			3/28/2008	7.10	33.57
			9/18/2008	7.38	33.29
			6/10/2009	7.13	33.54
			9/9/2009	7.32	33.35
			3/13/2014	6.95	33.72
			5/16/2017	7.39	33.28
			8/9/2017	8.09	32.58
			3/30/2021	7.40	33.27
			4/16/2021	7.32	33.35
MW-4	2.5 to 15	36.55	1/30/1997	2.73	33.82
			3/25/1997	2.82	33.73
			5/30/1997	3.35	33.20
			9/12/1997	3.64	32.91
			12/10/1997	3.42	33.13
			1/23/2002	3.28	33.27
			5/2/2002	3.27	33.28
			9/20/2002	3.77	32.78
			1/3/2003	3.99	32.56
			6/11/2003	4.61	31.94
			9/12/2003	4.52	32.03
			2/13/2004	4.03	32.52
			8/11/2004	3.53	33.02
			1/26/2005	3.41	33.14
			10/6/2005	3.67	32.88
			2/10/2006	3.08	33.47
			3/1/2007	3.10	33.45
			9/14/2007	3.79	32.76
			3/28/2008	3.20	33.35
			9/18/2008	3.89	32.66
			6/10/2009	3.42	33.13
			9/9/2009	4.00	32.55
			3/13/2014	3.01	33.54

Table 1
Groundwater Elevations
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Location	Screened Interval (feet bgs)[1]	Top of Casing Elevation (feet MSL)[2]	Monitoring Date	Depth to Water (feet)[3]	Water Level Elevation (feet MSL)[2]
MW-4R	2.5 to 15[4]	36.55[4]	5/16/2017	4.09	32.46
			8/9/2017	4.69	31.86
			3/30/2021	4.31	32.24
MW-5	3 to 15	40.46	1/30/1997	5.73	34.73
			3/25/1997	5.76	34.70
			5/30/1997	5.98	34.48
			9/12/1997	6.41	34.05
			12/10/1997	6.57	33.89
			10/6/2005	6.55	33.91
			2/10/2006	6.14	34.32
			3/1/2007	6.14	34.32
			9/14/2007	7.20	33.26
			3/28/2008	6.41	34.05
			9/18/2008	7.20	33.26
			6/10/2009	6.78	33.68
			9/9/2009	6.95	33.51
			3/13/2014	9.31	31.15
			5/16/2017	6.19	34.27
			8/9/2017	7.40	33.06
			3/30/2021	6.55	33.91
MW-6	4.5 to 14.5	40.04	1/23/2002	3.43	36.61
			5/2/2002	3.36	36.68
			9/20/2002	4.30	35.74
			1/3/2003	4.73	35.31
			6/11/2003	4.99	35.05
			9/12/2003	5.10	34.94
			2/13/2004	4.35	35.69
			8/11/2004	4.04	36.00
			1/26/2005	3.84	36.20
			10/6/2005	4.15	35.89
			2/10/2006	3.37	36.67
			3/1/2007	3.39	36.65
			9/14/2007	4.23	35.81
			3/28/2008	3.45	36.59
			9/18/2008	4.15	35.89
			6/10/2009	3.89	36.15
			9/9/2009	4.00	36.04
			3/13/2014	3.40	36.64

Table 1
Groundwater Elevations
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Location	Screened Interval (feet bgs)[1]	Top of Casing Elevation (feet MSL)[2]	Monitoring Date	Depth to Water (feet)[3]	Water Level Elevation (feet MSL)[2]
MW-6 (continued)	4.5 to 14.5	40.04	5/16/2017	3.46	36.58
			8/9/2017	4.26	35.78
			3/30/2021	3.52	36.52
			4/16/2021	3.67	36.37

Notes:

[1] In feet below ground surface.

[2] In feet above mean sea level.

[3] In feet below top of well casing.

[4] Top of casing elevation and screened interval for MW-4R are estimates as the values were set to those of MW-4 as survey and well log information is not available for MW-4R.

bgs = below ground surface
MSL = mean sea level

Table 2
Groundwater Analytical Results for Halogenated VOCs
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]				
				PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Reconnaissance Boring Groundwater Samples								
B-1	TOR	8/31/2018	---	**6.0**	< 0.20	< 0.20	< 0.20	< 0.20
B-2	TOR	8/31/2018	---	**7.7**	< 0.20	< 0.20	< 0.20	< 0.20
B-3	TOR	8/31/2018	---	2.5	< 0.20	< 0.20	< 0.20	< 0.20
B-4	TOR	8/31/2018	---	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
B-5	TOR	8/31/2018	---	**7.6**	0.66	0.66	< 0.20	< 0.20
B-6	TOR	8/31/2018	---	3.4	0.34	0.22	< 0.20	< 0.20
B-7	TOR	8/31/2018	---	1.4	< 0.20	< 0.20	< 0.20	< 0.20
B-8	TOR	8/31/2018	---	0.45	< 0.20	< 0.20	< 0.20	< 0.20
B-9	TOR	8/31/2018	---	1.3	0.49	0.48	< 0.20	**0.67**
B-10	TOR	8/31/2018	---	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
B-11	TOR	8/31/2018	---	< 0.20	< 0.20	0.29	< 0.20	< 0.20
B-12	TOR	8/31/2018	---	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
B-13	TOR	8/31/2018	---	< 0.20	< 0.20	2.3	< 0.20	**0.98**
Monitoring Well Groundwater Samples								
MW-1	Farallon	3/30/2021	MW-1-033021	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-2	AESI	11/8/2016	MW-2-161108	< 1	< 1	< 1	< 1	< 0.2
	AESI	2/9/2017	MW-2-20170209	< 1	< 1	< 1	< 1	< 0.2
	AESI	5/16/2017	MW-2:170516	< 1	< 1	< 1	< 1	< 0.2
	AESI	8/9/2017	MW-2-170809	< 1	< 1	< 1	< 1	< 0.2
	TOR	8/31/2018	---	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	Farallon	4/16/2021	MW-2-041621	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-3	AESI	11/8/2016	MW-3-161108	**8.9**	1.0	< 1	< 1	< 0.2
	AESI	2/9/2017	MW-3-20170209	**6.1**	< 1	< 1	< 1	< 0.2
	AESI	5/16/2017	MW-3:170516	**6.8**	< 1	< 1	< 1	< 0.2
	AESI	8/9/2017	MW-3-170809	**7.3**	1.2	< 1	< 1	< 0.2
	Farallon	4/16/2021	MW-3-041621	2.5	0.60	1.0	< 0.20	**0.21**
MTCA Cleanup Levels for Groundwater[2]				**5**	**5**	**16[3]**	**160[3]**	**0.2**

Table 2
Groundwater Analytical Results for Halogenated VOCs
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]				
				PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
MW-4R	AESI	11/8/2016	MW-4R-161108	< 1	< 1	< 1	< 1	< 0.2
	AESI	2/9/2017	MW-4R-20170209	< 1	< 1	< 1	< 1	< 0.2
	AESI	5/16/2017	MW-4R:170516	< 1	< 1	< 1	< 1	< 0.2
	AESI	8/9/2017	MW-4R-170809	< 1	< 1	< 1	< 1	< 0.2
	TOR	8/28/2018	---	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	Farallon	3/30/2021	MW-4R-033021	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-5	AESI	11/8/2016	MW-5-161108	< 1	< 1	< 1	< 1	< 0.2
	AESI	2/9/2017	MW-5-20170209	< 1	< 1	< 1	< 1	< 0.2
	AESI	5/16/2017	MW-5:170516	< 1	< 1	< 1	< 1	< 0.2
	AESI	8/9/2017	MW-5-170809	< 1	< 1	< 1	< 1	< 0.2
	Farallon	3/30/2021	MW-5-033021	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-6	AESI	11/8/2016	MW-6-161108	2.8	< 1	1.3	< 1	**0.65**
	AESI	2/9/2017	MW-6-20170209	1.3	< 1	1.8	< 1	**0.61**
	AESI	5/16/2017	MW-6:170516	3.6	1.1	1.6	< 1	**0.38**
	AESI	8/9/2017	MW-6-170809	2.0	1.1	2.1	< 1	**0.65**
	TOR	8/28/2018	---	5.0	0.61	0.84	< 0.20	**0.39**
	Farallon	3/30/2021	MW-6-033021	< 0.20	< 0.20	1.3	< 0.20	**1.6**
MTCA Cleanup Levels for Groundwater[2]				**5**	**5**	**16[3]**	**160[3]**	**0.2**

NOTES:

Results in **bold** and highlighted yellow denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

— denotes sample not analyzed or information unknown.

[1]Analyzed by U.S. Environmental Protection Agency Method 8260C/8260D.

[2]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013, unless otherwise noted.

[3]Washington State Model Toxics Control Act Cleanup Regulation Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Contamination-clean-up-tools/CLARC

AESI = Associated Earth Sciences, Inc.

Farallon = Farallon Consulting, L.L.C.

ND = analyte not detected and reporting limit is unknown

PCE = tetrachloroethene

TCE = trichloroethene

TOR = TŌR Environmental, Inc.

VOC = volatile organic compound

Table 3
Natural Attenuation and Water Quality Parameters
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

				Electron Receptors			Metals		Metabolic Byproducts			Water Quality Parameters							
Sample Location	Sampled/ Measured By	Sample Date	Sample Identification	Dissolved Oxygen [1] (mg/l)	Nitrate[2] (mg/l)	Sulfate[3] (mg/l)	Ferrous Iron[4] (mg/l)	Manganese (II)[4] (mg/l)	Methane [5] (µg/l)	Ethane [5] (µg/l)	Ethene [5] (µg/l)	TOC [6] (mg/l)	Alkalinity [7] (mg/l CaCO3)	Total Dissolved Solids [8] (mg/l)	pH[1]	Temperature[1] (°Celsius)	Conductivity[1] (mS/cm)	ORP[1] (mV)	Turbidity[1] (NTU)
MW-1	Farallon	3/30/2021	MW-1-033021	1.83	---	---	0.0	0.0	---	---	---	---	---	---	6.34	13.4	0.299	167.5	6.85
MW-2	AESI	5/16/2017	MW-2:170516	0.14	---	---	---	---	---	---	---	---	---	---	6.43	13.5	0.180	-16.9	4.2
	AESI	8/9/2017	MW-2-170809	-0.08 (IE)	---	---	---	---	---	---	---	---	---	---	6.59	18.9	0.1601	36.7	10.5
	Farallon	4/16/2021	MW-2-041621	0.49	0.17	7.5	0.0	0.0	1.4	< 0.22	< 0.29	< 1.0	84	110	6.86	13.4	0.184	136.9	1.01
MW-3	AESI	5/16/2017	MW-3:170516	0.15	---	---	---	---	---	---	---	---	---	---	6.15	12.1	0.3327	73.1	5.3
	AESI	8/9/2017	MW-3-170809	-0.15 (IE)	---	---	---	---	---	---	---	---	---	---	6.21	17.1	0.2823	84.4	7.9
	Farallon	4/16/2021	MW-3-041621	0.30	0.13	12	1.0 to 1.5	0.3	88	< 0.22	< 0.29	4.7	140	230	6.43	12.7	0.412	41.4	1.08
MW-4R	AESI	5/16/2017	MW-4R:1705016	0.19	---	---	---	---	---	---	---	---	---	---	6.71	13.3	0.1952	-61.7	214.7
	AESI	8/9/2017	MW-4R-170809	-0.13 (IE)	---	---	---	---	---	---	---	---	---	---	6.45	18.6	0.2306	-49.6	2.2
	Farallon	3/30/2021	MW-4R-033021	0.32	---	---	0.5	0.3	---	---	---	---	---	---	6.78	13.8	0.291	24.1	5.29
MW-5	AESI	5/16/2017	MW-5:170516	0.17	---	---	---	---	---	---	---	---	---	---	6.36	12.3	0.2727	58.5	3
	AESI	8/9/2017	MW-5-170809	0.0	---	---	---	---	---	---	---	---	---	---	6.09	15.6	0.2205	87.4	2.1
	Farallon	3/30/2021	MW-5-033021	0.37	< 0.050	13	0.0	0.0	2.0	< 0.22	< 0.29	< 1.0	110	200	6.34	11.6	0.463	183.0	6.24
MW-6	AESI	5/16/2017	MW-6:170516	0.14	---	---	---	---	---	---	---	---	---	---	6.1	12.4	0.3797	-75.7	4.5
	AESI	8/9/2017	MW-6-170809	0.01	---	---	---	---	---	---	---	---	---	---	6.25	20.4	0.4078	-57.6	13.9
	Farallon	3/30/2021	MW-6-033021	0.35	0.18	< 5.0	3.5	0.0	1,400	< 0.22	< 0.29	13	140	380	6.23	11.4	0.775	-33.6	17.48

NOTES:

< denotes analyte not detected at or above the reporting limit listed.

— denotes sample not analyzed, parameter not measured, or information unknown.

[1]Collected using a field instrument.

[2]Analyzed by U.S. Environmental Protection Agency (EPA) Method 353.2.

[3]Analyzed by ASTM Method D516-11.

[4]Measured in the field using Hach field test kits.

[5]Analyzed by Method RSK-175.

[6]Analyzed by Standard Method 5310B.

[7]Analyzed by EPA Method 310.2 or Standard Method 2320B.

[8]Analyzed by Standard Method 2540C.

AESI = Associated Earth Sciences, Inc.

electron receptors = compounds that gain electrons and are sources of energy during biodegradation

° = degrees

Farallon = Farallon Consulting, L.L.C.

IE = instrument error

mg/l = milligrams per liter

mg/l CaCO3 = milligrams per liter as calcium carbonate equivalents

mS/cm = milliSiemens per centimeter specific conductance units

mV = millivolt units for measurement of oxidation-reduction potential (ORP)

metabolic byproducts = compounds that result from biodegradation processes

NTU = Nephelometric Turbidity Units

TOC = total organic carbon

µg/l = micrograms per liter

Table 4
Aquifer Testing Results
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Monitoring Well Tested	Date Tested	Test Conducted	Estimated Hydraulic Conductivity (centimeters/second)	Average Hydraulic Conductivity (centimeters/second)	Hydraulic Conductivity Geometric Mean (centimeters/second)	Hydraulic Conductivity Geometric Mean (feet/day)	Groundwater Seepage Velocity (feet per year)
MW-2	4/16/2021	Rising Head	2.60E-04	3.15E-04	1.41E-03	4.00E+00	105.2
	4/16/2021	Falling Head	3.71E-04				
MW-3	4/16/2021	Rising Head	7.51E-03	4.97E-03			
	4/16/2021	Falling Head	2.44E-03				
MW-6	4/16/2021	Rising Head	2.78E-03	1.80E-03			
	4/16/2021	Falling Head	8.12E-04				

NOTES:
Groundwater seepage velocity (V) = Kι/n
K = hydraulic conductivity
ι = hydraulic gradient of 0.018 feet per foot
η = effective porosity of 0.25 (unitless) for silty sands and gravels

Table 5
Soil Vapor Extraction Pilot Test Data
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

								VP-4	VP-3	VP-5	VP-2	VP-6	VP-1
							Radial Distance From nearest Extraction Trench (FT)	2	4	9	12	19	34
Pilot Study Phase	Date	Time	System Vacuum	North Extraction Trench Vacuum (IOW)	North Extraction Trench Flowrate (SCFM)	South Extraction Trench Vacuum (IOW)	South ExtractionTrench Flowrate (SCFM)	VP-4	VP-3	VP-5	VP-2	VP-6	VP-1
Baseline	1/22/2020	20:40	-	-	-	-	-	-0.004	0.000	0.000	0.000	0.000	-0.004
Step 1	10/3/2021	22:50	-8.8	-3.9	34.0	-5.9	32.0	-0.198	-2.210	-0.016	-0.730	-0.024	-0.072
	10/3/2021	23:05	-8.8	-3.4	34.0	-5.4	33.0	-0.186	-1.912	-0.021	-0.842	-0.030	-0.080
	10/3/2021	23:20	-8.8	-3.4	34.0	-5.3	33.0	-0.172	-1.912	-0.022	-0.835	-0.029	-0.079
Step 2	10/3/2021	23:40	-21.2	-7.0	47.6	-12.3	53.1	-0.346	-3.485	-0.040	-1.554	-0.052	-0.143
	10/3/2021	23:55	-21.2	-7.0	50.0	-12.4	53.1	-0.346	-3.957	-0.041	-1.557	-0.053	-0.148
	10/4/2021	0:10	-21.2	-7.0	49.3	-12.4	53.0	-0.346	-3.471	-0.041	-1.550	-0.054	-0.150
	10/4/2021	0:25	-21.2	-7.1	48.5	-12.4	53.1	-0.344	-3.540	-0.041	-1.546	-0.054	-0.144
Step 3	10/4/2021	0:45	-32.3	-10.1	61.0	-18.2	67.0	-0.389	-5.255	-0.047	-1.788	-0.070	-0.188
	10/4/2021	1:00	-32.2	-10.1	59.0	-18.3	70.0	-0.458	-4.535	-0.054	-2.079	-0.070	-0.207
	10/4/2021	1:15	-32.2	-10.1	63.0	-18.3	65.0	-0.459	-5.214	-0.055	-2.084	-0.071	-0.207
	10/4/2021	1:30	-32.4	-10.2	63.0	-18.2	70.0	-0.463	-5.332	-0.052	-2.110	-0.066	-0.209

NOTES:
FT = feet
IOW = inches of water
PID = photoionization detector
ppm = parts per million as measure by isobutylene by PID
SCFM = standard cubic feet per minute
SVE = soil vapor extraction

Table 6
Soil Gas Analytical Results and Removal Rates
Lake Forest Park Cleaners
Lake Forest Park, Washington
Farallon PN: 1993-007

Sample Location	Sample Identification	Sample Methodology	Sample Date	Analytical Results (micrograms per cubic meter)					Extraction Flowrate (scfm)	HVOCs	
				PCE[1]	TCE[1]	cis-1,2-Dichloroethene[1]	trans-1,2-Dichloroethene[1]	Vinyl Chloride[1]		Removal Rate (mg/min)[2]	Estimated Annual Removal Rate (lbs/year)
North Extraction Trench	SSDS-WAREHOUSE-040221	EPA TO-15	4/2/2021	140	<0.91	<3.4	<3.4	<2.2	16.00	0.06	0.07
	SSDS-WAREHOUSE-100421	EPA TO-15	10/4/2021	45	<0.63	<2.3	<2.3	<1.5	63.00	0.08	0.09
South Extraction Trench	SSDS-STORE-040221	EPA TO-15	4/2/2021	68	4	<2.3	<2.3	<1.5	30.00	0.06	0.07
	SSDS-STORE-100421	EPA TO-15	10/4/2021	53	2.6	<2.3	<2.3	<1.5	70.00	0.11	0.13

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1] Analyzed by U.S. Environmental Protection Agency (EPA) Method 8260C.

[2] Removal Rate calculation: Rate = Discharge flowrate*Sum of HVOCs*(mg/1000 ug)*(m3/ 35.3147 ft3)

[3] Amount Removed Between Events calculation: lbs = (# of days between events)*(day/24 hrs)*(hr/60 min)*(Avg Removal Rate)*(1 lb/453592 mg)

HVOCs = halogenated volatile organic compounds

PCE = tetrachloroethene

TCE = trichloroethene

ATTACHMENT A
LABORATORY REPORTS

ENVIRONMENTAL INVESTIGATION SUMMARY
Lake Forest Park Cleaners
17171 Bothell Way Northeast
Lake Forest Park, Washington

Farallon PN: 1993-007

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

September 11, 2018

Jeff Borum
TOR Environmental, Inc.
P.O. Box 73626
San Clemente, CA 92673

Re: Analytical Data for Project Lake Forest Park Town Center
Laboratory Reference No. 1808-379

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on August 31, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

Case Narrative

Samples were collected on August 28 and 31, 2018 and received by the laboratory on August 31, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-1**					
Laboratory ID:	08-379-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.4	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-1**					
Laboratory ID:	08-379-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	6.0	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***120***	***75-127***				
Toluene-d8	***109***	***80-127***				
4-Bromofluorobenzene	***90***	***78-125***				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-2**					
Laboratory ID:	08-379-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.9	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-2**					
Laboratory ID:	08-379-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	7.7	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***117***	***75-127***				
Toluene-d8	***108***	***80-127***				
4-Bromofluorobenzene	***86***	***78-125***				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-3**					
Laboratory ID:	08-379-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	2.2	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-3**					
Laboratory ID:	08-379-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	2.5	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***117***	***75-127***				
Toluene-d8	***107***	***80-127***				
4-Bromofluorobenzene	***87***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-4**					
Laboratory ID:	08-379-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.5	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-4**					
Laboratory ID:	08-379-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***116***	***75-127***				
Toluene-d8	***107***	***80-127***				
4-Bromofluorobenzene	***85***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-5**					
Laboratory ID:	08-379-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	2.0	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	0.66	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	0.66	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-5**					
Laboratory ID:	08-379-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	7.6	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***118***	***75-127***				
Toluene-d8	***109***	***80-127***				
4-Bromofluorobenzene	***86***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-6**					
Laboratory ID:	08-379-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.2	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	0.22	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	0.34	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-6**					
Laboratory ID:	08-379-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	3.4	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***116***	***75-127***				
Toluene-d8	***108***	***80-127***				
4-Bromofluorobenzene	***86***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-7**					
Laboratory ID:	08-379-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.2	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-7**					
Laboratory ID:	08-379-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	1.4	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***117***	***75-127***				
Toluene-d8	***110***	***80-127***				
4-Bromofluorobenzene	***88***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-8**					
Laboratory ID:	08-379-08					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.7	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-8**					
Laboratory ID:	08-379-08					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	0.45	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***116***	***75-127***				
Toluene-d8	***107***	***80-127***				
4-Bromofluorobenzene	***86***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-9**					
Laboratory ID:	08-379-09					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.1	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	0.67	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	0.48	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	0.49	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-9**					
Laboratory ID:	08-379-09					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	1.3	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***114***	***75-127***				
Toluene-d8	***108***	***80-127***				
4-Bromofluorobenzene	***85***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-10**					
Laboratory ID:	08-379-10					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.5	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-10**					
Laboratory ID:	08-379-10					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***115***	***75-127***				
Toluene-d8	***110***	***80-127***				
4-Bromofluorobenzene	***84***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11**					
Laboratory ID:	08-379-11					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	0.29	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11**					
Laboratory ID:	08-379-11					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***111***	***75-127***				
Toluene-d8	***108***	***80-127***				
4-Bromofluorobenzene	***85***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	08-379-12					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	1.3	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12**					
Laboratory ID:	08-379-12					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***112***	***75-127***				
Toluene-d8	***106***	***80-127***				
4-Bromofluorobenzene	***83***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13**					
Laboratory ID:	08-379-13					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloromethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Vinyl Chloride	0.98	0.20	EPA 8260C	9-10-18	9-10-18	
Bromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Iodomethane	ND	1.5	EPA 8260C	9-10-18	9-10-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(cis) 1,2-Dichloroethene	2.3	0.20	EPA 8260C	9-10-18	9-10-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroform	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Trichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13**					
Laboratory ID:	08-379-13					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***116***	***75-127***				
Toluene-d8	***107***	***80-127***				
4-Bromofluorobenzene	***84***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2**					
Laboratory ID:	08-379-14					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloromethane	1.1	1.0	EPA 8260C	9-10-18	9-10-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Iodomethane	ND	1.5	EPA 8260C	9-10-18	9-10-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroform	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Trichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2**					
Laboratory ID:	08-379-14					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***120***	***75-127***				
Toluene-d8	***106***	***80-127***				
4-Bromofluorobenzene	***83***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4R**					
Laboratory ID:	08-379-15					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloromethane	1.3	1.0	EPA 8260C	9-10-18	9-10-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Iodomethane	ND	1.5	EPA 8260C	9-10-18	9-10-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroform	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Trichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4R**					
Laboratory ID:	08-379-15					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***119***	***75-127***				
Toluene-d8	***106***	***80-127***				
4-Bromofluorobenzene	***85***	***78-125***				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6**					
Laboratory ID:	08-379-16					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloromethane	1.5	1.0	EPA 8260C	9-10-18	9-10-18	
Vinyl Chloride	0.39	0.20	EPA 8260C	9-10-18	9-10-18	
Bromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Iodomethane	ND	1.5	EPA 8260C	9-10-18	9-10-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(cis) 1,2-Dichloroethene	0.84	0.20	EPA 8260C	9-10-18	9-10-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroform	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Trichloroethene	0.61	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
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Project: Lake Forest Park Town Center

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6**					
Laboratory ID:	08-379-16					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	5.0	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***121***	***75-127***				
Toluene-d8	***110***	***80-127***				
4-Bromofluorobenzene	***85***	***78-125***				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0907W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloromethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroethane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Iodomethane	ND	1.3	EPA 8260C	9-7-18	9-7-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chloroform	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Trichloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromomethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-7-18	9-7-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-7-18	9-7-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0907W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Bromoform	ND	1.0	EPA 8260C	9-7-18	9-7-18	
Bromobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-7-18	9-7-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-7-18	9-7-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-7-18	9-7-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***114***	***75-127***				
Toluene-d8	***107***	***80-127***				
4-Bromofluorobenzene	***86***	***78-125***				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0910W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloromethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Iodomethane	ND	1.5	EPA 8260C	9-10-18	9-10-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroform	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Trichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0910W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***111***	***75-127***				
Toluene-d8	***106***	***80-127***				
4-Bromofluorobenzene	***83***	***78-125***				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

VOLATILE ORGANICS EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0907W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.65**	**9.57**	10.0	10.0	97	96	62-129	1	15	
Benzene	**9.43**	**9.44**	10.0	10.0	94	94	77-127	0	15	
Trichloroethene	**9.42**	**9.05**	10.0	10.0	94	91	70-120	4	15	
Toluene	**9.65**	**9.48**	10.0	10.0	97	95	82-123	2	15	
Chlorobenzene	**9.37**	**8.94**	10.0	10.0	94	89	79-120	5	15	
Surrogate:										
Dibromofluoromethane					***106***	***111***	***75-127***			
Toluene-d8					***104***	***105***	***80-127***			
4-Bromofluorobenzene					***83***	***84***	***78-125***			

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-379
Project: Lake Forest Park Town Center

VOLATILE ORGANICS EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0910W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.2**	**9.81**	10.0	10.0	102	98	62-129	4	15	
Benzene	**9.94**	**9.63**	10.0	10.0	99	96	77-127	3	15	
Trichloroethene	**9.86**	**9.35**	10.0	10.0	99	94	70-120	5	15	
Toluene	**10.2**	**9.78**	10.0	10.0	102	98	82-123	4	15	
Chlorobenzene	**9.76**	**9.14**	10.0	10.0	98	91	79-120	7	15	
Surrogate:										
Dibromofluoromethane					***109***	***111***	***75-127***			
Toluene-d8					***107***	***107***	***80-127***			
4-Bromofluorobenzene					***86***	***85***	***78-125***			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

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OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: (DOES FOR) TAR ENVIRONMENTAL
Project Number:
Project Name: LAKE FOREST PARK TOWN CTR
Project Manager: JEFF BORUM
Sampled by: DAN LEHTMAN

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-379

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	B-1	8-31		WATER	3						X																
2	B-2																										
3	B-3																										
4	B-4																										
5	B-5																										
6	B-6																										
7	B-7																										
8	B-8																										
9	B-9																										
10	B-10																										

	Signature	Company	Date	Time
Relinquished			8-31-18	1:22
Received		OSE	8/31/18	1322
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
ANY QUESTIONS CALL
JEFF BORUM
949-370-2046

Data Package: Standard ☒ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: OES FOR: TOR ENVIRONMENTAL
Project Number:
Project Name: LK. FOREST PARK TOWN CTR
Project Manager: JEFF BARUM
Sampled by: DAN WHITMAN

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-379

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
11	B-11	8-31		WATER	3
12	B-12				
13	B-13				
14	MW-2				
15	MW-4R	8-28			
16	MW-6	"		"	

NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture

	Signature	Company	Date	Time
Relinquished		OES/TOR	8/3/18	1:22
Received		OSE	8/3/18	1322
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☒ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 8, 2021

Emerald Erickson-Mulanax
Farallon Consulting
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 1993-007
Laboratory Reference No. 2103-375

Dear Emerald:

Enclosed are the analytical results and associated quality control data for samples submitted on March 31, 2021.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
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Project: 1993-007

Case Narrative

Samples were collected on March 30, 2021 and received by the laboratory on March 31, 2021. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1-033021**					
Laboratory ID:	03-375-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloromethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Vinyl Chloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroform	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Trichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1-033021**					
Laboratory ID:	03-375-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Tetrachloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloromethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Vinyl Chloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroform	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Trichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Tetrachloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4R-033021**					
Laboratory ID:	03-375-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloromethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Vinyl Chloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroform	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Trichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4R-033021**					
Laboratory ID:	03-375-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Tetrachloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloromethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Vinyl Chloride	1.6	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(cis) 1,2-Dichloroethene	1.3	0.20	EPA 8260D	4-2-21	4-2-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroform	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Trichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	

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Laboratory Reference: 2103-375
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Tetrachloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0402W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloromethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Vinyl Chloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroethane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chloroform	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Trichloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-2-21	4-2-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-2-21	4-2-21	

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QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0402W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Tetrachloroethene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-2-21	4-2-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-2-21	4-2-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	4-2-21	4-2-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0402W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.2**	**10.3**	10.0	10.0	102	103	65-126	1	19	
Benzene	**9.98**	**10.1**	10.0	10.0	100	101	71-119	1	16	
Trichloroethene	**10.0**	**9.91**	10.0	10.0	100	99	82-123	1	18	
Toluene	**9.97**	**9.85**	10.0	10.0	100	99	77-119	1	18	
Chlorobenzene	**10.1**	**10.2**	10.0	10.0	101	102	80-120	1	17	
Surrogate:										
Dibromofluoromethane					*98*	*100*	*75-127*			
Toluene-d8					*101*	*100*	*80-127*			
4-Bromofluorobenzene					*99*	*100*	*78-125*			

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
Methane	**2.0**	0.55	RSK 175	4-7-21	4-7-21	
Ethane	**ND**	0.22	RSK 175	4-7-21	4-7-21	
Ethene	**ND**	0.29	RSK 175	4-7-21	4-7-21	
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
Methane	**1400**	11	RSK 175	4-7-21	4-7-21	
Ethane	**ND**	0.22	RSK 175	4-7-21	4-7-21	
Ethene	**ND**	0.29	RSK 175	4-7-21	4-7-21	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0407W1					
Methane	**ND**	0.55	RSK 175	4-7-21	4-7-21	
Ethane	**ND**	0.22	RSK 175	4-7-21	4-7-21	
Ethene	**ND**	0.29	RSK 175	4-7-21	4-7-21	

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0407W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**17.6**	**17.9**	22.1	22.1	80	81	75-125	2	25	
Ethane	**33.1**	**34.0**	41.6	41.6	80	82	75-125	3	25	
Ethene	**37.9**	**37.6**	38.8	38.8	98	97	75-125	1	25	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

TOTAL ALKALINITY
EPA 310.2

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
Alkalinity	**110**	75	EPA 310.2	4-1-21	4-1-21	
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
Alkalinity	**140**	75	EPA 310.2	4-1-21	4-1-21	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

TOTAL ALKALINITY
EPA 310.2
QUALITY CONTROL

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0401W1					
Alkalinity	**ND**	15	EPA 310.2	4-1-21	4-1-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	03-375-02								
	ORIG	DUP							
Alkalinity	**105**	**124**	NA	NA	NA	NA	17	28	
MATRIX SPIKE									
Laboratory ID:	03-375-02								
	MS		MS		MS				
Alkalinity	**330**		250	105	90	65-126	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0401W1								
	SB		SB		SB				
Alkalinity	**52.0**		50.0	NA	104	77-116	NA	NA	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

TOTAL DISSOLVED SOLIDS
SM 2540C

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
Total Dissolved Solids	**200**	13	SM 2540C	4-1-21	4-2-21	
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
Total Dissolved Solids	**380**	13	SM 2540C	4-1-21	4-2-21	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

TOTAL DISSOLVED SOLIDS
SM 2540C
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0401W1					
Total Dissolved Solids	**ND**	13	SM 2540C	4-1-21	4-2-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	03-375-02								
	ORIG	DUP							
Total Dissolved Solids	**199**	**199**	NA	NA	NA	NA	0	21	
SPIKE BLANK									
Laboratory ID:	SB0401W1								
	SB		SB		SB				
Total Dissolved Solids	**479**		500	NA	96	84-110	NA	NA	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-2-21	4-2-21	
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
Total Organic Carbon	**13**	1.0	SM 5310B	4-2-21	4-2-21	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0402W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-2-21	4-2-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	03-375-02								
	ORIG	DUP							
Total Organic Carbon	**ND**	**ND**	NA	NA	NA	NA	NA	12	
MATRIX SPIKE									
Laboratory ID:	03-375-02								
	MS		MS		MS				
Total Organic Carbon	**10.9**		10.0	ND	109	80-124	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0402W1								
	SB		SB		SB				
Total Organic Carbon	**10.4**		10.0	NA	104	80-124	NA	NA	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
Nitrate	**ND**	0.050	EPA 353.2	3-31-21	3-31-21	
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
Nitrate	**0.18**	0.050	EPA 353.2	3-31-21	3-31-21	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0331W1					
Nitrate	**ND**	0.050	EPA 353.2	3-31-21	3-31-21	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	03-353-01							
	ORIG DUP							
Nitrate	**ND** **ND**	NA	NA	NA	NA	NA	15	
MATRIX SPIKE								
Laboratory ID:	03-353-01							
	MS	MS		MS				
Nitrate	**2.21**	2.00	ND	111	89-123	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0331W1							
	SB	SB		SB				
Nitrate	**2.08**	2.00	NA	104	90-119	NA	NA	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-033021**					
Laboratory ID:	03-375-02					
Sulfate	**13**	5.0	ASTM D516-11	4-1-21	4-1-21	
Client ID:	**MW-6-033021**					
Laboratory ID:	03-375-04					
Sulfate	**ND**	5.0	ASTM D516-11	4-1-21	4-1-21	

Date of Report: April 8, 2021
Samples Submitted: March 31, 2021
Laboratory Reference: 2103-375
Project: 1993-007

SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0401W1					
Sulfate	**ND**	5.0	ASTM D516-11	4-1-21	4-1-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	03-375-02								
	ORIG	DUP							
Sulfate	**12.5**	**12.7**	NA	NA	NA	NA	2	11	
MATRIX SPIKE									
Laboratory ID:	03-375-02								
	MS		MS		MS				
Sulfate	**21.8**		10.0	12.5	93	61-148	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0401W1								
	SB		SB		SB				
Sulfate	**9.61**		10.0	NA	96	86-116	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Farallon
Project Number: 1993-007
Project Name: Lake Forest Park Cleaners
Project Manager: Emerald Erickson-Mulanax
Sampled by: Courtney van Stolk

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 03-375

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D CVOCs	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	~~TCLP Metals~~ RSK175 Methane, ethane, ethene	~~HEM (oil and grease) 1664A~~ Alkalinity EPA310.2	TDS SM 2540C	TOC SM5310B / EPA 9060A	Nitrate EPA 353.2	Sulfate ASTM D516-11	% Moisture
1	MW-1-033021	3/30/21	1300	groundwater	7					X																	
2	MW-5-033021	↓	1500	↓	↓					X											X	X	X	X	X	X	
3	MW-4R-033021		1625							X																	
4	MW-6-033021	↓	1810	↓	↓					X											X	X	X	X	X	X	

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished	Courtney Graffius	Farallon	3/30/21	2007	
Received	Bob Bordo	Speedy	3-31-21	0850	
Relinquished	Bob Bordo	Speedy	3-31-21	1037	
Received		CORE	3/31/21	1037	
Relinquished					
Received					Data Package: Standard ☐ Level III ☐ Level IV ☐
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 8, 2021

Emerald Erickson, Project Manager
Farallon Consulting, LLC
975 5th Avenue Northwest
Issaquah, WA 98027

Dear Ms Erickson:

Included are the results from the testing of material submitted on April 2, 2021 from the Lake Forest Park Cleaners 1993-007, F&BI 104048 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Farallon Data
FLN0408R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 2, 2021 by Friedman & Bruya, Inc. from the Farallon Consulting, LLC Lake Forest Park Cleaners 1993-007, F&BI 104048 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Farallon Consulting, LLC
104048 -01	SSDS-WAREHOUSE-040221
104048 -02	SSDS-STORE-040221
104048 -03	SSDS-EFFLUENT-040221

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSDS-WAREHOUSE-040221	Client:	Farallon Consulting, LLC
Date Received:	04/02/21	Project:	Lake Forest Park Cleaners 1993-007
Date Collected:	04/02/21	Lab ID:	104048-01 1/8.5
Date Analyzed:	04/05/21	Data File:	040521.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<2.2	<0.85
trans-1,2-Dichloroethene	<3.4	<0.85
cis-1,2-Dichloroethene	<3.4	<0.85
Trichloroethene	<0.91	<0.17
Tetrachloroethene	140	20

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSDS-STORE-040221	Client:	Farallon Consulting, LLC
Date Received:	04/02/21	Project:	Lake Forest Park Cleaners 1993-007
Date Collected:	04/02/21	Lab ID:	104048-02 1/5.7
Date Analyzed:	04/05/21	Data File:	040520.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.5	<0.57
trans-1,2-Dichloroethene	<2.3	<0.57
cis-1,2-Dichloroethene	<2.3	<0.57
Trichloroethene	4.0	0.75
Tetrachloroethene	68	10

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Farallon Consulting, LLC
Date Received:	Not Applicable	Project:	Lake Forest Park Cleaners 1993-007
Date Collected:	Not Applicable	Lab ID:	01-760 MB
Date Analyzed:	04/05/21	Data File:	040515.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	<0.11	<0.02
Tetrachloroethene	<6.8	<1

Date of Report: 04/08/21
Date Received: 04/02/21
Project: Lake Forest Park Cleaners 1993-007, F&BI 104048

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 104042-02 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.4	<1.4	nm
trans-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
cis-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
Trichloroethene	ug/m3	<0.59	<0.59	nm
Tetrachloroethene	ug/m3	<37	<37	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	90	70-130
trans-1,2-Dichloroethene	ug/m3	54	86	70-130
cis-1,2-Dichloroethene	ug/m3	54	85	70-130
Trichloroethene	ug/m3	73	96	70-130
Tetrachloroethene	ug/m3	92	99	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

104048

Report To Emerald Erickson

Company Farallon Consulting

Address

City, State, ZIP

Phone Email EErickson@FarallonConsulting.com

SAMPLERS (signature) ME 04/02/21

Page # 1 of 1

PROJECT NAME & ADDRESS: Lake Forest Park Cleaners 1993-007

PO # 1993-007

NOTES:

INVOICE TO: AP

TURNAROUND TIME
- ☑ Standard
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Default: Clean after 3 days
- ☐ Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		★ ONLY Notes
SSDS-WAREHOUSE-040221		3476	224	IA / (SG)	4/2/21	-30	1145	-5	1150			X				PCE; TCE; cis-1,2-DCE;
SSDS-STORE-040221		3674	299	IA / (SG)	4/2/21	-30	1155	-5	1200			X				trans-1,2-DCE; vinyl chloride
SSDS-EFFLUENT-040221		2300	206	IA / (SG)	4/2/21	-30	1208	-4	1214							HOLD
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Samples received at 20 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Matt Bruya	Farallon	4/2/21	1327
Received by:		Nhan Phan	FedEx	4/2/21	1327
Relinquished by:					
Received by:					

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 26, 2021

Emerald Erickson-Mulanax
Farallon Consulting
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 1993-007
Laboratory Reference No. 2104-150

Dear Emerald:

Enclosed are the analytical results and associated quality control data for samples submitted on April 16, 2021.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

Case Narrative

Samples were collected on April 16, 2021 and received by the laboratory on April 16, 2021. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Chloromethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Vinyl Chloride	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Acetone	ND	5.0	EPA 8260D	4-19-21	4-19-21	
Iodomethane	ND	1.4	EPA 8260D	4-19-21	4-19-21	
Carbon Disulfide	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Vinyl Acetate	ND	1.0	EPA 8260D	4-19-21	4-19-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Butanone	ND	5.0	EPA 8260D	4-19-21	4-19-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroform	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Benzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Trichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Dibromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-19-21	4-19-21	
Toluene	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Tetrachloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Hexanone	ND	2.0	EPA 8260D	4-19-21	4-19-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Ethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
m,p-Xylene	ND	0.40	EPA 8260D	4-19-21	4-19-21	
o-Xylene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Styrene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromoform	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Isopropylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
n-Propylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
sec-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
n-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Naphthalene	ND	1.3	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Chloromethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Vinyl Chloride	0.21	0.20	EPA 8260D	4-19-21	4-19-21	
Bromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Acetone	ND	5.0	EPA 8260D	4-19-21	4-19-21	
Iodomethane	ND	1.4	EPA 8260D	4-19-21	4-19-21	
Carbon Disulfide	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Vinyl Acetate	ND	1.0	EPA 8260D	4-19-21	4-19-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
(cis) 1,2-Dichloroethene	1.0	0.20	EPA 8260D	4-19-21	4-19-21	
2-Butanone	ND	5.0	EPA 8260D	4-19-21	4-19-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroform	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Benzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Trichloroethene	0.60	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Dibromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-19-21	4-19-21	
Toluene	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Tetrachloroethene	2.5	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Hexanone	ND	2.0	EPA 8260D	4-19-21	4-19-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Ethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
m,p-Xylene	ND	0.40	EPA 8260D	4-19-21	4-19-21	
o-Xylene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Styrene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromoform	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Isopropylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
n-Propylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
sec-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
n-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Naphthalene	ND	1.3	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Drum-1-041621**					
Laboratory ID:	04-150-03					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Chloromethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Vinyl Chloride	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Iodomethane	ND	1.4	EPA 8260D	4-19-21	4-19-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
(cis) 1,2-Dichloroethene	0.55	0.20	EPA 8260D	4-19-21	4-19-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroform	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Trichloroethene	0.39	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Dibromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Drum-1-041621**					
Laboratory ID:	04-150-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Tetrachloroethene	1.3	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromoform	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Bromobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0419W1					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Chloromethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Vinyl Chloride	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroethane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Acetone	ND	5.0	EPA 8260D	4-19-21	4-19-21	
Iodomethane	ND	1.4	EPA 8260D	4-19-21	4-19-21	
Carbon Disulfide	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methylene Chloride	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Vinyl Acetate	ND	1.0	EPA 8260D	4-19-21	4-19-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Butanone	ND	5.0	EPA 8260D	4-19-21	4-19-21	
Bromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chloroform	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Benzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Trichloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Dibromomethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromodichloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	4-19-21	4-19-21	
Toluene	ND	1.0	EPA 8260D	4-19-21	4-19-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	4-19-21	4-19-21	

Date of Report: April 26, 2021
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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0419W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Tetrachloroethene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Hexanone	ND	2.0	EPA 8260D	4-19-21	4-19-21	
Dibromochloromethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Chlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Ethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
m,p-Xylene	ND	0.40	EPA 8260D	4-19-21	4-19-21	
o-Xylene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Styrene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromoform	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Isopropylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Bromobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	4-19-21	4-19-21	
n-Propylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
tert-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
sec-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
p-Isopropyltoluene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
n-Butylbenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	4-19-21	4-19-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	4-19-21	4-19-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	4-19-21	4-19-21	
Naphthalene	ND	1.3	EPA 8260D	4-19-21	4-19-21	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260D	4-19-21	4-19-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0419W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**11.3**	**11.5**	10.0	10.0	113	115	65-126	2	19	
Benzene	**11.0**	**11.3**	10.0	10.0	110	113	71-119	3	16	
Trichloroethene	**10.8**	**11.0**	10.0	10.0	108	110	82-123	2	18	
Toluene	**10.7**	**10.8**	10.0	10.0	107	108	77-119	1	18	
Chlorobenzene	**10.1**	**10.3**	10.0	10.0	101	103	80-120	2	17	
Surrogate:										
Dibromofluoromethane					*104*	*104*	*75-127*			
Toluene-d8					*102*	*103*	*80-127*			
4-Bromofluorobenzene					*98*	*100*	*78-125*			

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
Total Alkalinity	**84**	2.0	SM 2320B	4-16-21	4-16-21	
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
Total Alkalinity	**140**	2.0	SM 2320B	4-16-21	4-16-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

TOTAL ALKALINITY
SM 2320B
QUALITY CONTROL

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416W1					
Total Alkalinity	**ND**	2.0	SM 2320B	4-16-21	4-16-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-095-01								
	ORIG	DUP							
Total Alkalinity	**84.0**	**86.0**	NA	NA	NA	NA	2	10	
SPIKE BLANK									
Laboratory ID:	SB0416W1								
	SB		SB		SB				
Total Alkalinity	**96.0**		100	NA	96	89-110	NA	NA	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
Nitrate	**0.17**	0.050	EPA 353.2	4-16-21	4-16-21	
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
Nitrate	**0.13**	0.050	EPA 353.2	4-16-21	4-16-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416W1					
Nitrate	**ND**	0.050	EPA 353.2	4-16-21	4-16-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-150-01								
	ORIG	DUP							
Nitrate	**0.166**	**0.172**	NA	NA	NA	NA	4	15	
MATRIX SPIKE									
Laboratory ID:	04-150-01								
	MS		MS		MS				
Nitrate	**2.22**		2.00	0.166	103	89-123	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0416W1								
	SB		SB		SB				
Nitrate	**2.00**		2.00	NA	100	90-119	NA	NA	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
Methane	**1.4**	0.55	RSK 175	4-26-21	4-26-21	
Ethane	**ND**	0.22	RSK 175	4-26-21	4-26-21	
Ethene	**ND**	0.29	RSK 175	4-26-21	4-26-21	
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
Methane	**88**	0.55	RSK 175	4-26-21	4-26-21	
Ethane	**ND**	0.22	RSK 175	4-26-21	4-26-21	
Ethene	**ND**	0.29	RSK 175	4-26-21	4-26-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0426W1					
Methane	**ND**	0.55	RSK 175	4-26-21	4-26-21	
Ethane	**ND**	0.22	RSK 175	4-26-21	4-26-21	
Ethene	**ND**	0.29	RSK 175	4-26-21	4-26-21	

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0426W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**20.8**	**20.2**	22.1	22.1	94	91	75-125	3	25	
Ethane	**39.5**	**38.0**	41.6	41.6	95	91	75-125	4	25	
Ethene	**47.8**	**43.3**	38.8	38.8	123	112	75-125	10	25	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-20-21	4-20-21	
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
Total Organic Carbon	**4.7**	1.0	SM 5310B	4-20-21	4-20-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0420W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-20-21	4-20-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-150-01								
	ORIG	DUP							
Total Organic Carbon	**ND**	**ND**	NA	NA	NA	NA	NA	12	
MATRIX SPIKE									
Laboratory ID:	04-150-01								
	MS		MS		MS				
Total Organic Carbon	**10.0**		10.0	ND	100	80-124	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0420W1								
	SB		SB		SB				
Total Organic Carbon	**10.5**		10.0	NA	105	80-124	NA	NA	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

TOTAL DISSOLVED SOLIDS
SM 2540C

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
Total Dissolved Solids	**110**	13	SM 2540C	4-20-21	4-21-21	
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
Total Dissolved Solids	**230**	13	SM 2540C	4-20-21	4-21-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

TOTAL DISSOLVED SOLIDS
SM 2540C
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0420W1					
Total Dissolved Solids	**ND**	13	SM 2540C	4-20-21	4-21-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-150-02								
	ORIG	DUP							
Total Dissolved Solids	**231**	**236**	NA	NA	NA	NA	2	21	
SPIKE BLANK									
Laboratory ID:	SB0420W1								
	SB		SB		SB				
Total Dissolved Solids	**483**		500	NA	97	84-110	NA	NA	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2-041621**					
Laboratory ID:	04-150-01					
Sulfate	**7.5**	5.0	ASTM D516-11	4-19-21	4-19-21	
Client ID:	**MW-3-041621**					
Laboratory ID:	04-150-02					
Sulfate	**12**	5.0	ASTM D516-11	4-19-21	4-19-21	

Date of Report: April 26, 2021
Samples Submitted: April 16, 2021
Laboratory Reference: 2104-150
Project: 1993-007

SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0419W1					
Sulfate	**ND**	5.0	ASTM D516-11	4-19-21	4-19-21	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-150-01								
	ORIG	DUP							
Sulfate	**7.45**	**7.36**	NA	NA	NA	NA	1	11	
MATRIX SPIKE									
Laboratory ID:	04-150-01								
	MS		MS		MS				
Sulfate	**17.5**		10.0	7.45	101	61-148	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0419W1								
	SB		SB		SB				
Sulfate	**9.73**		10.0	NA	97	86-116	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Farallon
Project Number: 1993-007
Project Name: Lake Forest Park Cleaners
Project Manager: Emerald Erickson-Mulanax
Sampled by: Courtney Van Stolk

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 04-150

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	~~TCLP Metals~~ Alkalinity	~~HEM (oil and grease) 1664A~~ Nitrate	Dissolved Gases	Total Organic Carbon	TDS	Sulfate	% Moisture
1	MW-2-041621	4/16/21	940	W	8					X											X	X	X	X	X	X	
2	MW-3-041621	↓	1040	↓	8					X											X	X	X	X	X	X	
3	Drum-1-041621	↓	1125	↓	3						X																
						ES																					

	Signature	Company	Date	Time
Relinquished	Emi Smith	Farallon	4/16/21	1140
Received	[signature]	Speedy	4-16-21	1242
Relinquished	[signature]	Speedy	4-16-21	1310
Received	[signature]	OSE	4/16/21	1310
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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October 11, 2021

Emerald Erickson, Project Manager
Farallon Consulting, LLC
975 5th Avenue Northwest
Issaquah, WA 98027

Dear Ms Erickson:

Included are the results from the testing of material submitted on October 4, 2021 from the Lake Forest Park Cleaners 1993-007, F&BI 110056 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Farallon Data, EErickson@farallonconsulting.com, Russel Luiten
FLN1011R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on October 4, 2021 by Friedman & Bruya, Inc. from the Farallon Consulting, LLC Lake Forest Park Cleaners 1993-007, F&BI 110056 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Farallon Consulting, LLC
110056 -01	SSDS-Store-100421
110056 -02	SSDS-Warehouse-100421

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSDS-Store-100421	Client:	Farallon Consulting, LLC
Date Received:	10/04/21	Project:	1993-007, F&BI 110056
Date Collected:	10/04/21	Lab ID:	110056-01 1/5.9
Date Analyzed:	10/04/21	Data File:	100418.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.5	<0.59
trans-1,2-Dichloroethene	<2.3	<0.59
cis-1,2-Dichloroethene	<2.3	<0.59
Trichloroethene	2.6	0.49
Tetrachloroethene	53	7.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSDS-Warehouse-100421	Client:	Farallon Consulting, LLC
Date Received:	10/04/21	Project:	1993-007, F&BI 110056
Date Collected:	10/04/21	Lab ID:	110056-02 1/5.9
Date Analyzed:	10/04/21	Data File:	100419.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.5	<0.59
trans-1,2-Dichloroethene	<2.3	<0.59
cis-1,2-Dichloroethene	<2.3	<0.59
Trichloroethene	<0.63	<0.12
Tetrachloroethene	45	6.7

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Farallon Consulting, LLC
Date Received:	Not Applicable	Project:	1993-007, F&BI 110056
Date Collected:	Not Applicable	Lab ID:	01-2212 MB
Date Analyzed:	10/04/21	Data File:	100411a.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	<0.11	<0.02
Tetrachloroethene	<6.8	<1

Date of Report: 10/11/21
Date Received: 10/04/21
Project: Lake Forest Park Cleaners 1993-007, F&BI 110056

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 109556-01 1/5.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.3	<1.3	nm
trans-1,2-Dichloroethene	ug/m3	<2.1	<2.1	nm
cis-1,2-Dichloroethene	ug/m3	<2.1	<2.1	nm
Trichloroethene	ug/m3	<0.56	<0.56	nm
Tetrachloroethene	ug/m3	<35	<35	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	100	70-130
trans-1,2-Dichloroethene	ug/m3	54	101	70-130
cis-1,2-Dichloroethene	ug/m3	54	99	70-130
Trichloroethene	ug/m3	73	105	70-130
Tetrachloroethene	ug/m3	92	115	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

110056 ME 10/4/21

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Report To Emerald Erickson / Russell Luiten
Company Favallon
Address 975 5th Ave NW
City, State, ZIP Issaquah, WA 98027
Phone _____ Email eerickson@favallonconsulting.com

SAMPLERS (*signature*)

PROJECT NAME & ADDRESS: Lake Forest Park Cleaners, Lake Forest Park, WA

PO # 1993-007

NOTES: * PCE, TCE, cis-DCE, trans-DCE, Vinyl chloride

INVOICE TO: AP

TURNAROUND TIME
- [x] Standard
- [ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Default: Clean after 3 days
- [ ] Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
SSDS - Store - 100421	01	4184	31	IA / (SG)	10/4/21	30+	0125	6	0131			X				*
SSDS - Warehouse - 100421	02	8536	18	IA / (SG)	10/4/21	30+	0137	6	0144			X				*
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

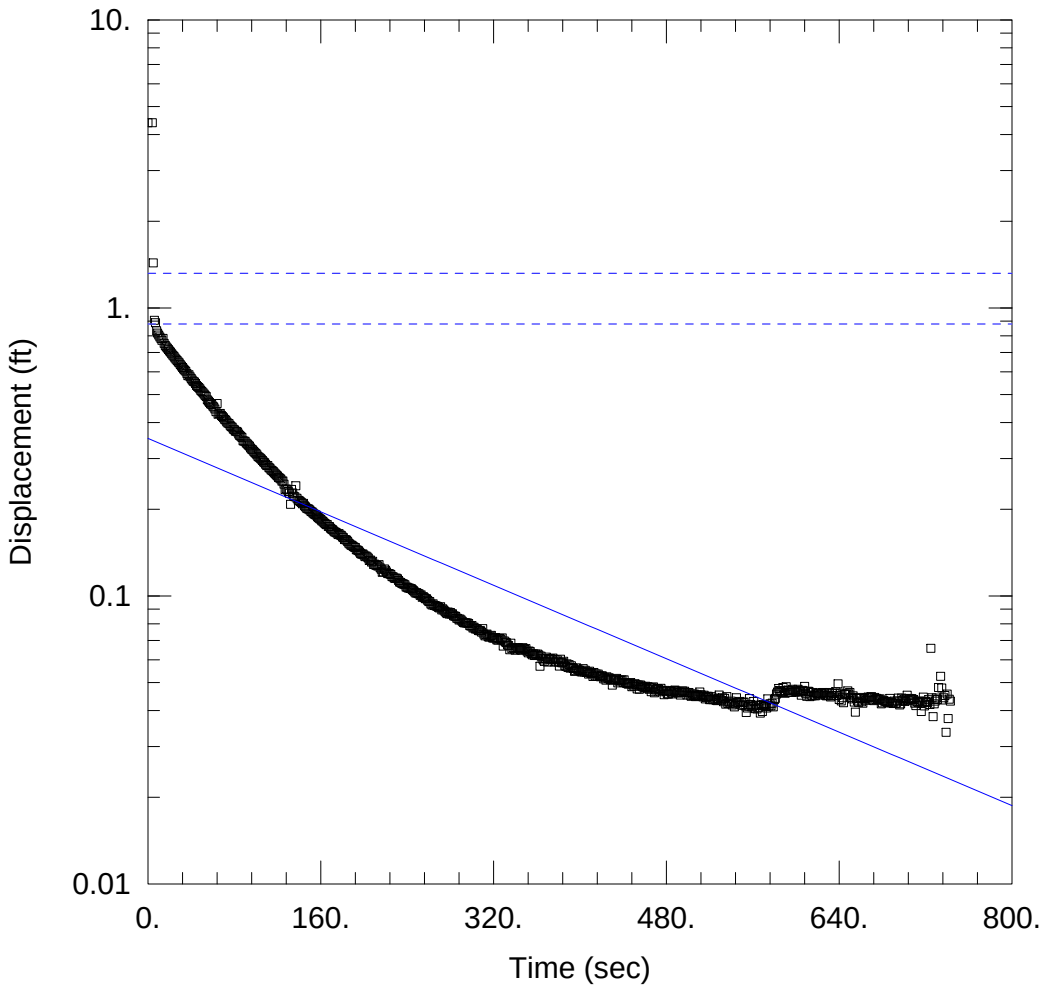
SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Lisa Thompson	Favallon	10/4/21	1230
Received by:	Nhan Phan	FCBI	10/4/21	12 30
Relinquished by:				
Received by:		Samples received at 19 °C		

FORMS\COC\COCTO-15.DOC

ATTACHMENT B
AQTESOLV AQUIFER TESTING RESULTS

ENVIRONMENTAL INVESTIGATION SUMMARY
Lake Forest Park Cleaners
17171 Bothell Way Northeast
Lake Forest Park, Washington

Farallon PN: 1993-007



FALLING HEAD TEST

Data Set: C:\...\MW-2 Falling Head Test.aqt
Date: 06/02/21 Time: 06:28:08

PROJECT INFORMATION

Company: Farallon
Client: Lake Forest Park Cleaners
Project: 1993-007
Location: Lake Forest Park
Test Well: MW-2
Test Date: 4/16/2021

AQUIFER DATA

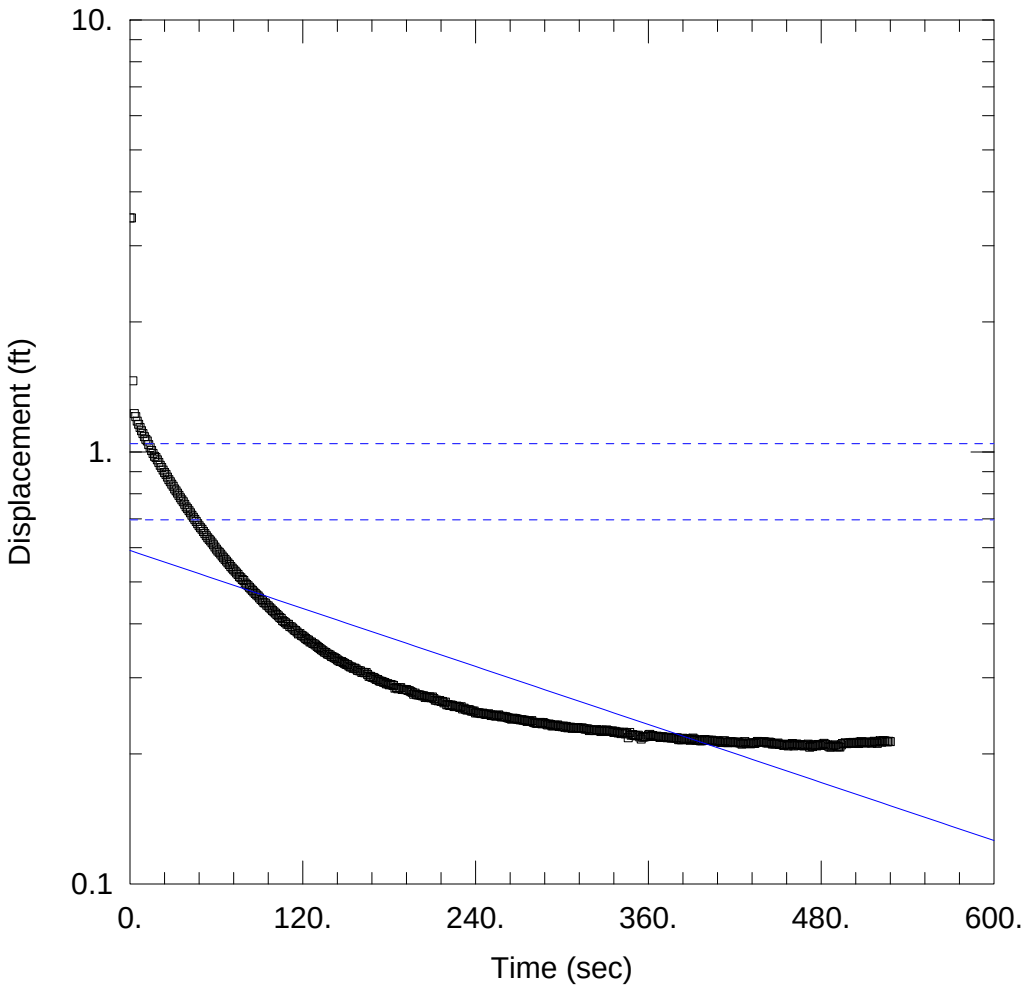
Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-2)

Initial Displacement: 4.397 ft
Total Well Penetration Depth: 14.09 ft
Casing Radius: 0.183 ft
Static Water Column Height: 10.75 ft
Screen Length: 12. ft
Well Radius: 0.385 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0003711 cm/sec
y0 = 0.3521 ft



RISING HEAD TEST

Data Set:
Date: 06/02/21 Time: 07:46:04

PROJECT INFORMATION

Company: Farallon
Client: Lake Forest Park Cleaners
Project: 1993-007
Location: Lake Forest Park
Test Well: MW-3
Test Date: 4/16/2021

AQUIFER DATA

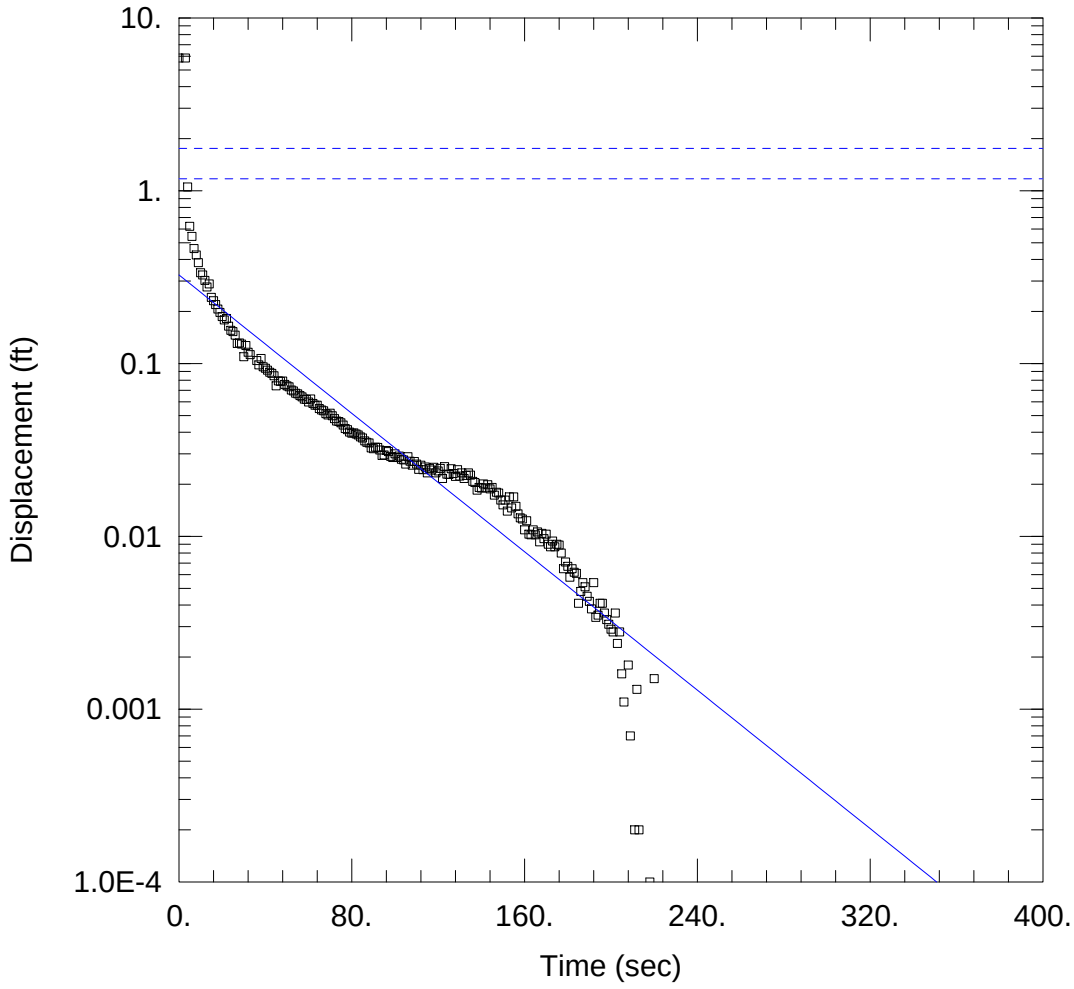
Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-3)

Initial Displacement: 3.482 ft
Total Well Penetration Depth: 13.91 ft
Casing Radius: 0.183 ft
Static Water Column Height: 10.75 ft
Screen Length: 12. ft
Well Radius: 0.385 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0002597 cm/sec
y0 = 0.5914 ft



FALLING HEAD TEST

Data Set: C:\...\MW-3 Falling Head Test.aqt
Date: 06/02/21 Time: 06:44:30

PROJECT INFORMATION

Company: Farallon
Client: Lake Forest Park Cleaners
Project: 1993-007
Location: Lake Forest Park
Test Well: MW-3
Test Date: 4/16/2021

AQUIFER DATA

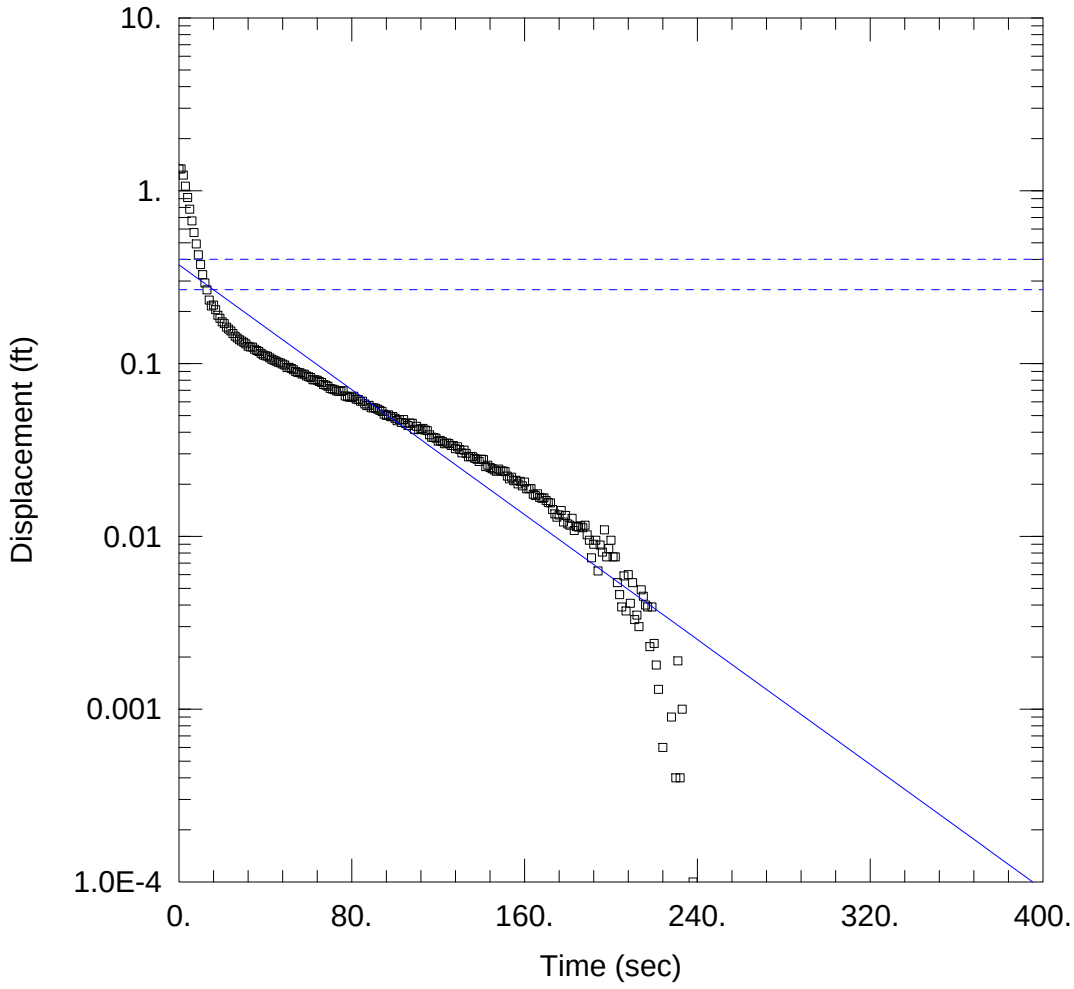
Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-3)

Initial Displacement: 5.857 ft
Total Well Penetration Depth: 16.32 ft
Casing Radius: 0.183 ft
Static Water Column Height: 7.36 ft
Screen Length: 12. ft
Well Radius: 0.385 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.002437 cm/sec
y0 = 0.3256 ft



RISING HEAD TEST

Data Set:
Date: 06/02/21 Time: 07:37:19

PROJECT INFORMATION

Company: Farallon
Client: Lake Forest Park Cleaners
Project: 1993-007
Location: Lake Forest Park
Test Well: MW-3
Test Date: 4/16/2021

AQUIFER DATA

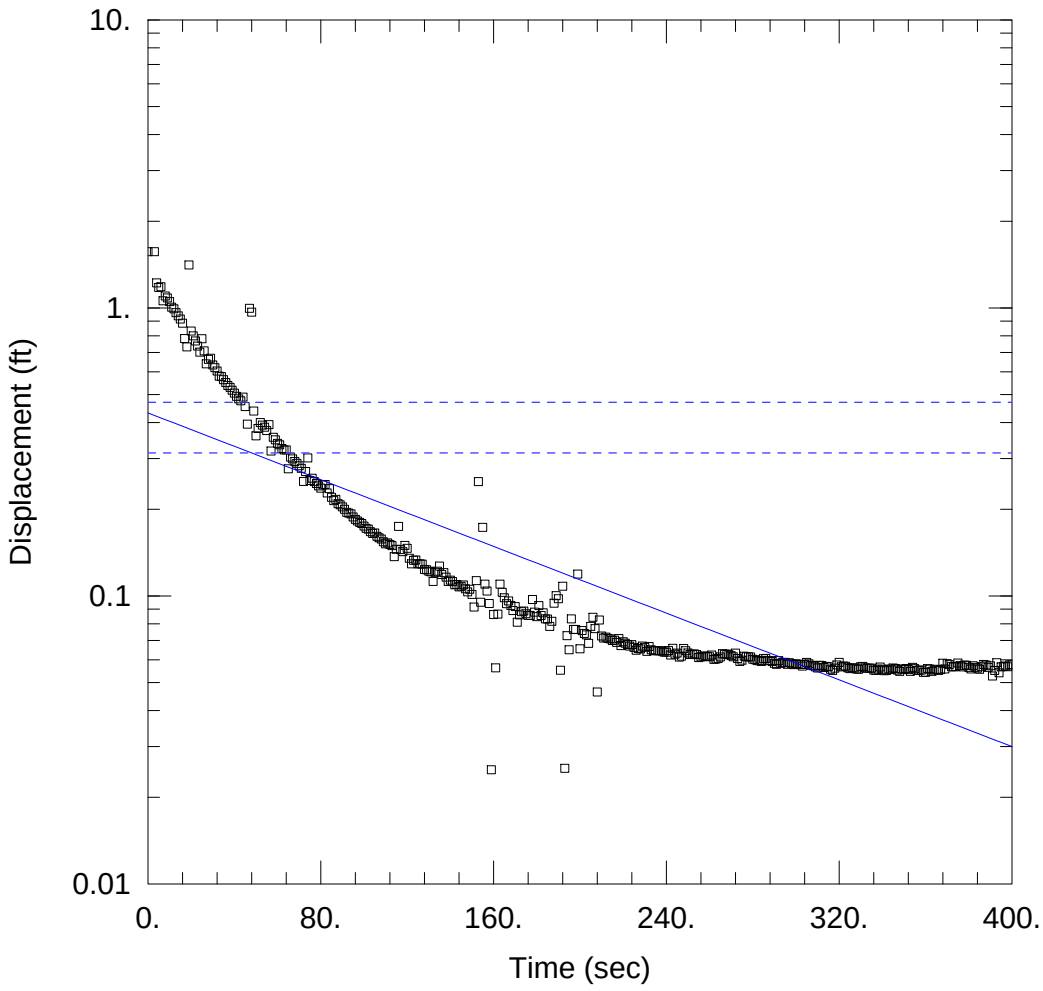
Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-3)

Initial Displacement: 1.338 ft
Total Well Penetration Depth: 5.27 ft
Casing Radius: 0.183 ft
Static Water Column Height: 7.36 ft
Screen Length: 1. ft
Well Radius: 0.385 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.007508 cm/sec
y0 = 0.3725 ft



FALLING HEAD TEST

Data Set: C:\...\MW-6 Falling Head Test.aqt
Date: 06/02/21 Time: 08:06:19

PROJECT INFORMATION

Company: Farallon
Client: Lake Forest Park Cleaners
Project: 1993-007
Location: Lake Forest Park
Test Well: MW-6
Test Date: 4/16/2021

AQUIFER DATA

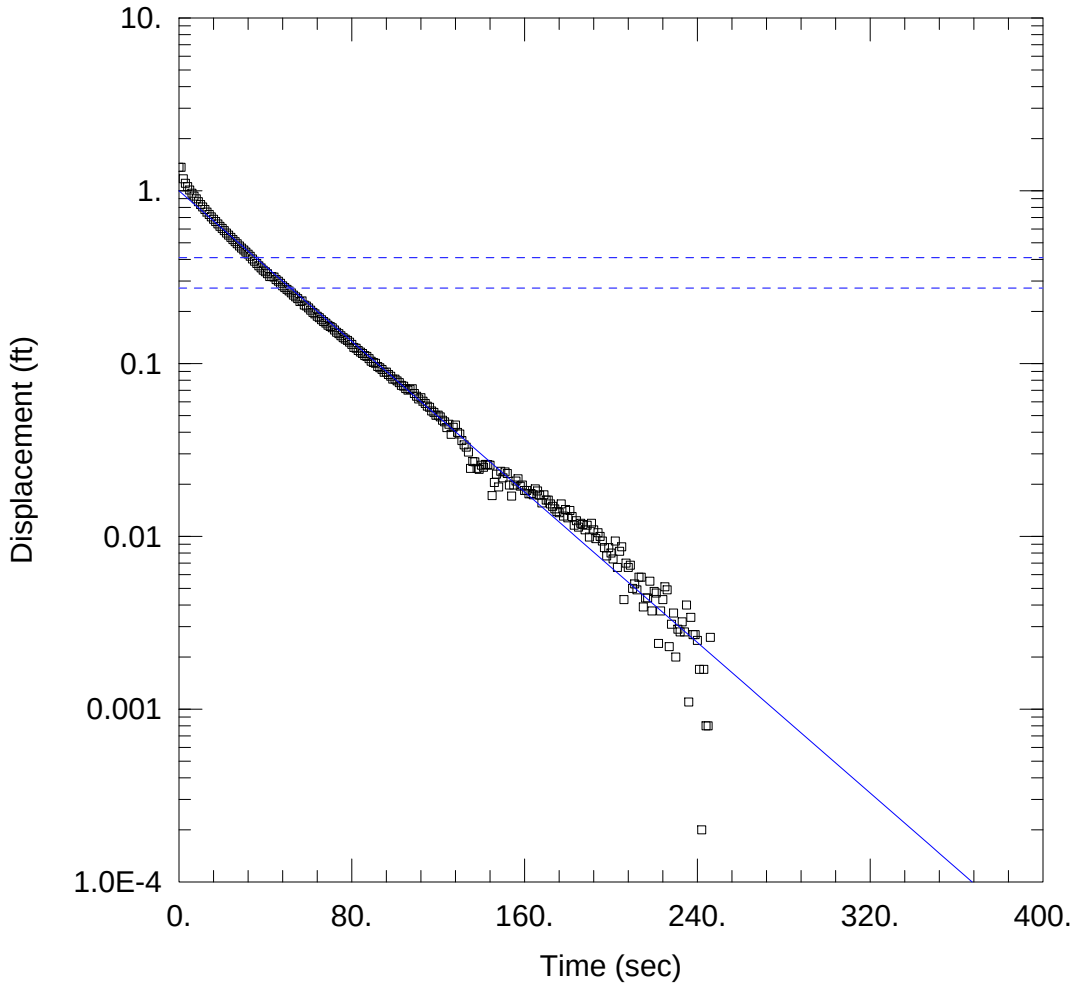
Saturated Thickness: 12. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6)

Initial Displacement: 1.568 ft
Total Well Penetration Depth: 10.82 ft
Casing Radius: 0.183 ft
Static Water Column Height: 12. ft
Screen Length: 10. ft
Well Radius: 0.345 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0008122 cm/sec
y0 = 0.4318 ft



RISING HEAD TEST

Data Set: C:\...\MW-6 Rising Head Test.aqt
Date: 06/02/21 Time: 08:10:25

PROJECT INFORMATION

Company: Farallon
Client: Lake Forest Park Cleaners
Project: 1993-007
Location: Lake Forest Park
Test Well: MW-6
Test Date: 4/16/2021

AQUIFER DATA

Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6)

Initial Displacement: 1.365 ft
Total Well Penetration Depth: 10.87 ft
Casing Radius: 0.183 ft
Static Water Column Height: 12. ft
Screen Length: 10. ft
Well Radius: 0.375 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.002783 cm/sec y0 = 0.9983 ft