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January 9, 2020

City Investors XI LLC
c/o Mr. Jim Broadlick
Vulcan Inc.
505 5th Avenue South, Suite 900
Seattle, Washington 98104

RE: BLOCK 37 SUBSURFACE INVESTIGATION
SOUTH LAKE UNION BLOCK 37 PROPERTY
SEATTLE, WASHINGTON
FARALLON PN: 397-065

Dear Mr. Broadlick:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter report to document the subsurface investigation conducted on behalf of City Investors XI LLC (City Investors) to evaluate whether a release of tetrachloroethene (PCE) to soil or shallow groundwater occurred at the Block 37 Property located at 630 Westlake Avenue in Seattle, Washington (Block 37) (Figure 1).

PCE was reported to have been detected at a concentration of 210 micrograms per liter (µg/l), in a shallow reconnaissance groundwater sample collected from boring B-1 during an investigation by Hart Crowser, Inc. on the southeastern portion of Block 37 in 2000 (Figure 2) (Attachment A). This PCE concentration exceeds the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A cleanup level of 5 µg/l. As a result of the reported detection of PCE in shallow groundwater and presence of degradation products of PCE such as cis-1,2-dichloroethene and vinyl chloride (collectively chlorinated volatile organic compounds or CVOCs) in a deeper groundwater-bearing zone, the Washington State Department of Ecology (Ecology) requested that additional site characterization be performed to further evaluate the nature and extent of CVOCs in soil and shallow groundwater on Block 37[1].

To address Ecology's request, Farallon performed a scope of work that included multiple sampling events at six existing shallow monitoring wells, advancing two additional borings proximate to boring B-1, and installing and sampling one new shallow monitoring well at the location of boring B-1. CVOCs, including PCE, trichloroethene, cis- and trans-1,2-dichloroethene, and vinyl chloride, were reported non-detect at the laboratory practical quantitation limit (PQL) in all soil and shallow groundwater samples analyzed from Block 37.

[1] Letter regarding Opinion on Proposed Cleanup of the Following Site: TOSCO 25535330857, 600 Westlake N, Seattle, WA 98109 dated August 21, 2018, from Mr. Jing Song of Ecology to Mr. Ed Ralston of Phillips 66 Company.

This letter report provides a summary of the relevant background, geology, and hydrogeology for Block 37, a description of the work performed by Farallon as part of the subsurface investigation, soil and shallow groundwater analytical results, and Farallon's conclusions.

BLOCK 37 BACKGROUND

Block 37 is a rectangular city block that comprises King County Parcel Nos. 408880323501, 408880323600, 4088803240, 4088803345, 4088803355, and 1987200015, totaling approximately 1.6 acres of land. Block 37 is bordered by Mercer Street to the south, Valley Street to the north, Terry Avenue North to the east, and Westlake Avenue North to the west, in a commercial and light industrial area of Seattle, Washington (Figure 2).

Prior uses of Block 37 include a lumber mill in the late 1800s, retail gasoline and automobile service stations, a creamery, and a brewery[2]. The southeastern portion of Block 37 (Parcel No. 1987200015) was formerly occupied by a Denny's restaurant and associated parking. The neighboring parcel to the west (Parcel No. 4088803355) was previously occupied by Westlake 76 service station (later known as ConocoPhillips 255353 station) with confirmed historical releases of petroleum hydrocarbons to soil and groundwater. No permanent structures are currently present on Block 37. The southern portion of Block 37 is predominantly gravel and used for temporary site offices and equipment staging for nearby construction projects. The northern portion of Block 37 is paved and used as a parking lot. Block 37 historically extended approximately 60 feet to the south of the current parcel boundary; this portion of the property was purchased by the City of Seattle in 2009 and incorporated into the Mercer Street right-of-way as part of the Mercer Corridor Project.

GEOLOGY AND HYDROGEOLOGY

The Puget Sound region is underlain by Quaternary sediments deposited by a number of glacial episodes. Deposition occurred during glacial advances and retreats, which created the existing subsurface conditions. The regional sediments consist primarily of interlayered and/or sequential deposits of alluvial clays, silts, and sands that typically are situated over deposits of glacial till that consist of silty sand to sandy silt with gravel. Outwash sediments consisting of sands, silts, clays, and gravels were deposited by rivers, streams, and post-glacial lakes during the glacial advances and retreats and have been largely over-consolidated by the overriding ice sheets[3].

Block 37 is located approximately 200 feet south of Lake Union. Based on Farallon's review of Sanborn fire insurance maps[4] and other available documents, the original southern shoreline of Lake Union extended south from its present location to the current alignment of Mercer Street. The southern end of Lake Union was filled in the late 1800s and early 1900s as a result of

[2] *Draft Cleanup Action Plan, Westlake/Mercer Cleanup Project, 600 Westlake Avenue North, Seattle, Washington* dated April 9, 2008, prepared by Delta Environmental Consultants (Draft CAP).

[3] Pages 235-302 of "Geology of Seattle, Washington, United States of America" by Richard W. Galster and William T. Laprade, published in *Bulletin of the Association of Engineering Geologists*, issue 28 (no. 3), dated 1991.

[4] *Certified Sanborn Map Report, 1000 Mercer Street, Seattle, WA 98109* dated September 30, 2014, prepared by Environmental Data Resources, Inc.

depositing sawdust and wood waste generated by lumber mill operations and other filling activities.

Based on Farallon's observations during the subsurface investigation and review of the boring logs completed by Delta Environmental Consultants[5] and GeoEngineers[6], the general Block 37 stratigraphy in areas that were not previously remediated comprises silty sand fill, wood debris, silt, and sandy silt with varying amounts of gravel to depths ranging from 12 to 24 feet below ground surface (bgs). The fill is underlain by glacially consolidated deposits consisting of silty sand, silt, and gravel extending to depths ranging from 49 to 55 feet bgs. Underlying the glacially consolidated deposits are silty sand and sand outwash sediments to the total depth explored of approximately 91 feet bgs. Previously remediated portions of Block 37 comprise fill down to approximately 15 to 25 feet bgs underlain by glacial deposits. The ground surface elevation at Block 37 is approximately 29 feet North American Vertical Datum of 1988 (NAVD88).

Previous investigations on Block 37 and surrounding properties have identified three water-bearing zones. The water-bearing zones are primarily identified by the lithologic unit in which they are encountered and include:

- The uppermost water-bearing zone encountered at Block 37 is the Shallow Water-Bearing Zone[7]. The Shallow Water-Bearing Zone comprises surficial fill materials and underlying recent deposits. The Shallow Water-Bearing Zone is present down to elevations of approximately 5 feet NAVD88.
- The Intermediate Water-Bearing Zone is groundwater encountered in consolidated glacial deposits. The Intermediate Water-Bearing Zone is present between elevations of approximately 5 and -30 feet NAVD88.
- The Deep Outwash Aquifer is groundwater encountered in the deep outwash sands with minor silt content below the consolidated glacial deposits. The Deep Outwash Aquifer is present at elevations below approximately -30 feet NAVD88.

Farallon first encountered groundwater at depths ranging from approximately 5 to 7 feet bgs (approximately 24 to 22 feet NAVD88) (Table 1) in shallow fill material during the April 4, 2019 subsurface investigation. Farallon evaluated shallow groundwater flow on the southeastern portion of Block 37 using elevation data collected during the March, May, July, and September 2019 groundwater monitoring events from shallow groundwater monitoring wells. The depth-to-water ranged from 8.40 to 11.01 feet bgs; corresponding groundwater elevations ranged from 18.11 to 18.72 feet NAVD88 (Table 1).

[5] Draft CAP.
[6] GeoEngineers. 2014. Preliminary Geotechnical Engineering Services, Block 37 – South Lake Union Development, Seattle, Washington. Prepared for City Investors XI, LLC. August 1.
[7] For simplicity, groundwater in the Shallow Water-Bearing Zone is referred to in this letter report as "shallow groundwater."

Based on the reported groundwater elevations, groundwater flow was north to northeast during the March, July, and September 2019 monitoring events. Groundwater contours for the March 2019 monitoring event are presented in Figure 3; the average gradient for the area measured was 0.015 feet per foot. Groundwater flow was south to southwest during the May 6, 2019 monitoring event with an approximate gradient of 0.005 feet per foot (Figure 4). In recent years, groundwater on Block 37 has periodically been affected by construction dewatering activities in the South Lake Union area that may have temporarily changed shallow groundwater flow direction or gradient from those reported based on the monitoring performed by Farallon in 2019.

PREVIOUS CHARACTERIZATION AND REMEDIATION

A limited soil and shallow groundwater subsurface assessment[8] was conducted by Hart Crowser, Inc. in 2000 in the vicinity of the former Denny's restaurant to assess potential impacts to soil and shallow groundwater associated with the west-adjacent Phillips 66 gasoline service station (Attachment A). The assessment included advancement of nine direct-push borings (B-1 and B-3 through B-10) to depths of 12 to 20 feet bgs (Figure 2). Reconnaissance shallow groundwater samples were collected by Hart Crowser, Inc. from the Shallow Water-Bearing Zone in borings B-1, B-3, B-5, B-7, and B-10 and analyzed by U.S. Environmental Protection Agency (EPA) Method 8021B, an analytical method not typically used for analysis of CVOCs that quantitates analytes based on gas-chromatography retention time.

PCE was reported to be detected at a concentration of 210 µg/l in the reconnaissance shallow groundwater sample collected from boring B-1, which exceeds the MTCA cleanup level of 5 µg/l. High concentrations of benzene, toluene, ethylbenzene, and xylenes; high concentrations of naphthalene; and high concentrations of petroleum hydrocarbons as gasoline-range organics were also detected in the reconnaissance shallow groundwater sample collected from boring B-1. PCE was reported non-detect at the laboratory PQL in reconnaissance shallow groundwater samples collected from borings B-3, B-5, B-7, and B-10. Soil samples collected from borings B-1, B-3, B-5, and B-7 were not analyzed for CVOCs.

Subsequent remediation associated with the Phillips 66 gasoline service station removed petroleum hydrocarbon-impacted soil from the southwestern, central, and northern portions of Block 37[9]. The majority of the excavation extended approximately 15 feet bgs (14 feet NAVD88); however, select portions of the excavation extended more than 25 feet bgs (4 feet NAVD88). The maximum depth of excavation was 28.5 feet bgs (0.5 feet NAVD88) (Attachment A). Soil on the southeastern portion of Block 37 remained in situ, and was supported during excavation with a slurry-wall shoring system that extended to a maximum depth of 25 feet bgs (Figure 2). The slurry wall now

[8] Letter regarding Limited Soil and Groundwater Subsurface Assessment and Preliminary Remediation Cost Estimate, Denny's Property, 966 Mercer Street, Seattle, Washington dated September 25, 2000, from Mr. Jeremy Porter and Ms. Julie K.W. Wukelic of Hart Crowser, Inc. to Mr. Joe Delaney of City Investors XIII, L.L.C. (Attachment A).

[9] *Westlake/Mercer Cleanup Project, Seattle, Washington, Phase 2 Soil Sampling Report* dated December 2009, prepared by URS Corporation.

acts as a hydraulic barrier for shallow groundwater between the southeastern portion of Block 37 and previously excavated areas.

SUBSURFACE INVESTIGATION

Farallon performed this subsurface investigation to address Ecology's request to further evaluate the nature and extent of CVOCs in soil and the shallow groundwater proximate to the reported historical detection in reconnaissance shallow groundwater at boring B-1. The subsurface investigation included:

- Conducting shallow groundwater monitoring and sampling at monitoring wells MWR-5, MWR-6, MW-45, MW-50, and MW-54 on March 26 and 28, 2019;
- Advancing and collecting soil samples from new borings FB-1 and FB-2, and installing and collecting soil samples from new monitoring well FMW-139 on April 4, 2019 (Figure 5);
- Conducting shallow groundwater monitoring and sampling at new monitoring well FMW-139 on April 9, 2019;
- Conducting shallow groundwater monitoring and sampling at monitoring wells MWR-5, MWR-6, MW-50, MW-54, and FMW-139 on May 6, 2019;
- Conducting shallow groundwater monitoring and sampling at monitoring well MW-50 on June 4, 2019;
- Conducting shallow groundwater monitoring and sampling at monitoring wells MWR-5, MWR-6, MW-45, MW-50, MW-54, and FMW-139 on July 8 and 9, 2019; and
- Conducting shallow groundwater monitoring and sampling at monitoring wells MWR-5, MWR-6, MW-50, MW-54, and FMW-139 on September 9, 2019 (Figure 6).

Borings FB-1 and FB-2 were installed at their respective locations to further evaluate potential CVOC impacts to shallow soil proximate to boring B-1 (Figure 2). Monitoring well FMW-139 was installed to collect shallow groundwater samples from a permanent monitoring well that would be considered representative of shallow groundwater water-quality conditions (Figure 2), in the same area where PCE was previously reported to be present in a reconnaissance shallow groundwater sample. Prior to conducting the field work, Farallon prepared a site-specific Health and Safety Plan as required by Part 1910 of Title 29 of the Code of Federal Regulations and Section 810 of Chapter 173-340 of the Washington Administrative Code.

SOIL SAMPLING

Borings FB-1 and FB-2 and monitoring well FMW-139 were advanced to a maximum depth of 20 feet bgs by Cascade Drilling, Inc. of Woodinville, Washington under the supervision of a Farallon geologist. Soil samples were collected in continuous 5-foot sampling intervals using a macrocore sampler advanced by a direct-push drilling rig. Farallon observed and logged subsurface conditions

and retained soil samples from selected intervals based on field indications of potential contamination for laboratory analysis.

The information recorded for each boring log included soil types encountered, visual and olfactory observations (e.g., staining, odor), and volatile organic vapor concentrations as measured using a photoionization detector. The completed boring logs are provided in Attachment B. The soil samples were collected in accordance with EPA Method 5035 and transferred directly into laboratory-prepared glass sample containers fitted with a Teflon-lined lid in accordance with Farallon's standard sampling procedures. Filled sample containers were placed on ice in a cooler and transported under standard chain-of-custody protocols to OnSite Environmental Inc. of Redmond, Washington for analysis.

MONITORING WELL INSTALLATION

Monitoring well FMW-139 was installed by Cascade Drilling, Inc. at or immediately adjacent to the reported location of boring B-1 location (Figure 2) using a direct-push drill rig. The monitoring well was constructed using 2-inch diameter Schedule 40 polyvinyl chloride casing and 0.010-inch slotted screen with a pre-packed 10/20 Monterey sand filter pack set from 7 to 17 feet bgs. 10/20 sand was placed in the annulus surrounding the monitoring well to approximately 1 foot above the pre-packed screen. A hydrated bentonite seal was placed from 2 to 6 feet bgs, followed by a surface seal of concrete from the ground surface to 2 feet bgs. Monitoring well FMW-139 was completed with a flush-mounted monument at the ground surface.

Monitoring well FMW-139 was developed using a submersible pump following well completion. The well was developed until purge water was observed to be visually clear (approximately 15 gallons) and the majority of fine-grained sediment was removed from the sand filter pack surrounding the pre-packed screen. Monitoring well construction details are provided in Table 1. A completed boring log with well construction details is provided in Attachment B.

SHALLOW GROUNDWATER SAMPLING

Shallow groundwater samples were collected from existing monitoring wells MW-5, MW-6, MW-45, MW-50, and MW-54 and new monitoring well FMW-139 in March, May, July, and September of 2019. All of the monitoring wells sampled are screened in the Shallow Water-Bearing Zone (Table 1). Shallow monitoring wells MW-209, MW-210, MW-213, and MW-214 were sampled in June 2019. Prior to monitoring well sampling, groundwater was purged from each monitoring well in accordance with EPA low-flow sampling protocols. Monitoring well purging and sampling were performed using a peristaltic pump and dedicated polyethylene tubing at flow rates ranging from 100 to 300 milliliters per minute. The pump intake was placed in the upper third of each monitoring well screen. Water quality was monitored during purging using a YSI 300 multimeter water-quality system equipped with a flow-through cell.

The water-quality parameters monitored and recorded included temperature, pH, specific conductance, oxidation-reduction potential, and dissolved oxygen. The wells were purged until all parameters stabilized. Following purging, shallow groundwater samples were collected directly

from the tubing outlet of the flow-through cell and placed into laboratory-prepared sample containers. Filled sample containers were placed on ice in a cooler and transported under standard chain-of-custody protocols to OnSite Environmental Inc. for analysis.

LABORATORY ANALYSIS

Soil and shallow groundwater samples were submitted under standard chain-of-custody procedures to OnSite Environmental Inc. for analysis for CVOCs by EPA Method 8260C.

INVESTIGATION-DERIVED WASTE

Soil cuttings, decontamination water, and other wastewater generated during the subsurface investigation were temporarily stored on Block 37 in labeled 55-gallon steel drums. The analytical results of the soil samples were used to develop waste profiles and permanently dispose of investigation-derived waste off Block 37 at a licensed disposal facility.

RESULTS

A summary of the results for soil and shallow groundwater sampling conducted by Farallon is presented below. Summary tables for soil and shallow groundwater analytical results are provided in Tables 2 and 3, respectively. Soil analytical results for CVOCs are presented on Figure 5. Shallow groundwater analytical results for CVOCs are presented on Figure 6. The complete laboratory analytical reports for soil and shallow groundwater samples are provided in Attachment C.

SOIL ANALYTICAL RESULTS

Farallon analyzed the soil samples collected at depths of 5 feet and 7 feet bgs (approximately 24 to 22 feet NAVD88) to further evaluate the potential for a shallow release of CVOCs to vadose zone soil that could potentially act as a source to groundwater. Farallon did not observe any field indications of contamination – including odor, staining, or elevated photoionization detector readings – in the recovered soil cores or samples retained for analysis (Attachment B). The highest photoionization detector reading reported was 23 parts per million for the soil sample collected from boring FB-2 at a depth of 7 feet bgs (approximately 22 feet NAVD88); the sample was analyzed for CVOCs. CVOCs were reported non-detect at the laboratory PQL for all soil samples collected from borings FB-1 and FB-2 and monitoring well FMW-139 at depths between 5 and 7 feet bgs (approximately 24 to 22 feet NAVD88) (Table 2; Figure 5).

SHALLOW GROUNDWATER ANALYTICAL RESULTS

Shallow groundwater samples were collected from existing monitoring wells MW-5, MW-6, MW-45, MW-50, and MW-54 and from newly installed monitoring well FMW-139 at an approximate elevation of 14 feet NAVD88 in four separate monitoring events between July and September 2019 (Table 3). Shallow groundwater samples were collected from shallow monitoring wells MW-209 through MW-214, north of Block 37, on June 4, 2019. CVOCs were reported non-detect at the laboratory PQL for all groundwater samples collected and analyzed (Table 3; Figure 6).

CONCLUSIONS

PCE was reported to have been detected at a concentration exceeding the MTCA Method A cleanup level in a reconnaissance shallow groundwater sample collected from boring B-1 by Hart Crowser, Inc. on Block 37 in September 2000. To further evaluate whether Hart Crowser, Inc.'s reported detection was evidence of a release of PCE to the subsurface, additional subsurface assessment was conducted by Farallon that used sampling and analytical methods currently recommended and approved by Ecology[10,11] to evaluate potential CVOC impacts to soil and the Shallow Water-Bearing Zone on Block 37. Farallon advanced two additional borings proximate to historical boring B-1; installed one new shallow groundwater monitoring well at the location of boring B-1; and sampled six existing shallow groundwater monitoring wells and the new monitoring well FMW-139 four times over a period of 5 months (Figure 2). CVOCs were reported non-detect at the laboratory PQL in all soil and groundwater samples analyzed (Tables 2 and 3; Figures 5 and 6).

The soil and shallow groundwater analytical data collected by Farallon during the subsurface investigation are representative of current soil and shallow groundwater conditions at Block 37. CVOCs were reported non-detect in soil samples collected from borings FB-1 and FB-2, and do not indicate the potential for a shallow or surficial release of CVOCs proximate to boring B-1. CVOCs were also reported non-detect at the laboratory PQL in the shallow groundwater samples collected from monitoring well FMW-139, located at or immediately adjacent to the reported location of boring B-1. CVOCs were also reported non-detect in shallow groundwater samples collected from monitoring wells MW-5, MW-6, MW-45, MW-50, and MW-54, which surround monitoring well FMW-139 to the south, west, and east. Based on shallow groundwater elevation measurements performed by Farallon, groundwater in the southeastern portion of Block 37 was observed to flow north to northeast in March, July, and September 2019; and south to southeast in May 2019.

The four shallow groundwater samples collected from monitoring well FMW-139, a permanent monitoring well constructed in accordance with Ecology standards for well construction (Chapter 173-160 of the Washington Administrative Code), are considered representative of shallow groundwater water quality. The shallow groundwater samples collected from monitoring well FMW-139 were collected and preserved in accordance with EPA Method 8260, which incorporates the use of both gas-chromatography and mass spectrometry retention time measurements compared against known standards for target compounds. EPA Method 8260 includes specific calibration and quality control steps that supersede the general requirements provided in Method 8000, and specifically includes PCE as an analyte for which adequate recovery and precision can be obtained. The analytical results for groundwater collected from monitoring well FMW-139 therefore supersede (and call into question the reliability of) the reconnaissance shallow groundwater sample analytical result for boring B-1 reported by Hart Crowser, Inc. in 2000.

[10] *Guidance for Remediation of Petroleum Contaminated Sites* revised June 2016, prepared by Ecology.
[11] Implementation Memorandum #5 regarding Collecting and Preparing Soil Samples for VOC Analysis dated June 17, 2004, from Mr. Tim Nord of Ecology to Interested Parties.

Farallon's subsurface investigation data for soil and shallow groundwater confirm that there is no evidence of either a shallow release of CVOCs to the subsurface that may constitute a source to shallow groundwater, or associated CVOC impacts to shallow groundwater on Block 37. Based on the analytical results presented in this letter report, the result reported by Hart Crowser, Inc. should be considered both unreliable and more likely than not a false positive associated with analytical method interference, and not representative of shallow groundwater conditions on Block 37.

LIMITATIONS

GENERAL LIMITATIONS

The conclusions contained in this report/assessment are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location. The conclusions contained herein are subject to the following inherent limitations:

- **Accuracy of Information.** Farallon obtained, reviewed, and evaluated certain information used in this report/assessment from sources that were believed to be reliable. Farallon's conclusions, opinions, and recommendations are based in part on such information. Farallon's services did not include verification of its accuracy or authenticity. Should the information upon which Farallon relied prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.
- **Reconnaissance and/or Characterization.** Farallon performed a reconnaissance and/or characterization of Block 37 that is the subject of this report/assessment to document current conditions. Farallon focused on areas deemed more likely to exhibit hazardous materials conditions. Contamination may exist in other areas of Block 37 that were not investigated or were inaccessible. Site activities beyond Farallon's control could change at any time after the completion of this report/assessment.

For the foregoing reasons, Farallon cannot and does not warrant or guarantee that Block 37 is free of hazardous or potentially hazardous substances or conditions, or that latent or undiscovered conditions will not become evident in the future. Farallon's observations, findings, and opinions can be considered valid only as of the date of the report hereof.

This report/assessment has been prepared in accordance with the contract for services between Farallon and City Investors, and currently accepted industry standards. No other warranties, representations, or certifications are made.

LIMITATION ON RELIANCE BY THIRD PARTIES

Reliance by third parties is prohibited. This report/assessment has been prepared for the exclusive use of City Investors to address the unique needs of City Investors at Block 37 at a specific point in time.

This is not a general grant of reliance. No one other than City Investors may rely on this report unless Farallon agrees in advance to such reliance in writing. Any unauthorized use, interpretation, or reliance on this report/assessment is at the sole risk of that party and Farallon will have no liability for such unauthorized use, interpretation, or reliance.

CLOSING

Farallon appreciates the opportunity to provide environmental consulting services for this project. Please contact either of the undersigned at (425) 295-0800 if you have questions or need additional information.

Sincerely,

Farallon Consulting, L.L.C.

Eric Buer, L.G., L.H.G., P.G.
Senior Hydrogeologist

Clifford T. Schmitt, L.G., L.H.G.
Principal Hydrogeologist

Attachments: Figure 1, *Vicinity Map*
Figure 2, *Property Plan*
Figure 3, *Groundwater Elevation Contours for March 26, 2019*
Figure 4, *Groundwater Elevation Contours for May 6, 2019*
Figure 5, *Soil Analytical Results for CVOCs*
Figure 6, *Groundwater Analytical Results for CVOCs*
Table 1, *Summary of Groundwater Elevations*
Table 2, *Summary Soil Analytical Results for CVOCs*
Table 3, *Summary of Groundwater Analytical Results for CVOCs*
Attachment A, Hart Crowser Limited Subsurface Assessment
Attachment B, Boring Logs
Attachment C, Laboratory Analytical Results

cc: Barry Ziker, Joyce Ziker Parkinson, PLLC
Lisa Lui, Vulcan Inc.

EB/CS:mm

FIGURES

BLOCK 37 SUBSURFACE INVESTIGATION
South Lake Union Block 37 Property
Seattle, Washington

Farallon PN: 397-065

REFERENCE: 7.5 MINUTE USGS QUADRANGLE SEATTLE NORTH, WASHINGTON, DATED 2013

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SCALE IN FEET

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FIGURE 1

VICINITY MAP
SOUTH LAKE UNION BLOCK 37 PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-065

Drawn By: tperrin Checked By: EB Date: 4/16/2019 Disc Reference:
Document Path: Q:\Projects\397 VULCAN\065 Block 37\003 SSI\Figure-01 Bl37.mxd

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL (CITY INVESTORS)
- DEEP OUTWASH AQUIFER WELL (CITY INVESTORS)
- SOIL BORING (FARALLON, 2019)
- SOIL BORING (HART CROWSER, AUGUST 2000)
- INTERIM ACTION INTERCEPTION WELL
- SUBSURFACE SLURRY WALL (URS, 2009)
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY

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FIGURE 2

PROPERTY PLAN
SOUTH LAKE UNION BLOCK 37 PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-065

Drawn By: tperrin
Checked By: EB
Date: 5/2/2019
Disc Reference:
Document Path: Q:\Projects\397 VULCAN\065 Block 37\003_SSI\Figure-02_PropertyPlan.mxd

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL (CITY INVESTORS)
- DEEP OUTWASH AQUIFER WELL (CITY INVESTORS)
- SOIL BORING (FARALLON, 2019)
- SOIL BORING (HART CROWSER, AUGUST 2000)
- INTERIM ACTION INTERCEPTION WELL

- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY
- (18.23) GROUNDWATER ELEVATION (03/26/19) MEASURED IN FEET RELATIVE TO NAVD 88
- (NM) NOT MEASURED
- 18.20 APPROXIMATE GROUNDWATER ELEVATION CONTOUR IN FEET NAVD88 (INFERRED WHERE DASHED)
- INFERRED GROUNDWATER FLOW DIRECTION

N

0 50

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FIGURE 3

GROUNDWATER ELEVATION CONTOURS
FOR MARCH 26, 2019
SOUTH LAKE UNION BLOCK 37 PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-065

Drawn By: jjones | Checked By: JR | Date: 1/7/2020 | Disc Reference:

Document Path: Q:\Projects\397 VULCAN\065 Block 37\003_SSI\Figure-05_GWCnt_20190326.mxd

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL (CITY INVESTORS)
- DEEP OUTWASH AQUIFER WELL (CITY INVESTORS)
- SOIL BORING (FARALLON, 2019)
- SOIL BORING (HART CROWSER, AUGUST 2000)
- INTERIM ACTION INTERCEPTION WELL

- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY
- (18.39) GROUNDWATER ELEVATION (05/06/19) MEASURED IN FEET RELATIVE TO NAVD 88
- (NM) NOT MEASURED
- 18.80 APPROXIMATE GROUNDWATER ELEVATION CONTOUR IN FEET NAVD88 (INFERRED WHERE DASHED)
- INFERRED GROUNDWATER FLOW DIRECTION

N

0 50

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FIGURE 4

GROUNDWATER ELEVATION CONTOURS
FOR MAY 6, 2019
SOUTH LAKE UNION BLOCK 37 PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-065

Drawn By: jjones
Checked By: JR
Date: 1/7/2020
Disc Reference:
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LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL (CITY INVESTORS)
- DEEP OUTWASH AQUIFER WELL (CITY INVESTORS)
- SOIL BORING (FARALLON, 2019)
- SOIL BORING (HART CROWSER, AUGUST 2000)
- INTERIM ACTION INTERCEPTION WELL
- SUBSURFACE SLURRY WALL (URS, 2009)
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY

NOTES:
SOIL RESULTS REPORTED AS:
SAMPLE DEPTH IN FEET BGS | PCE | TCE | cis-1,2-DCE | trans-1,2-DCE | VC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

< = ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUNDS
DCE = DICHLOROETHENE
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
VC = VINYL CHLORIDE

N

0 50
SCALE IN FEET

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

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Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

FIGURE 5

SOIL ANALYTICAL RESULTS FOR CVOCs
SOUTH LAKE UNION BLOCK 37 PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-065

Drawn By: tperrin
Checked By: EB
Date: 5/2/2019
Disc Reference:
Document Path: Q:\Projects\397 VULCAN\065 Block 37\003_SSI\Figure-03_SoilCVOC.mxd

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL (CITY INVESTORS)
- DEEP OUTWASH AQUIFER WELL (CITY INVESTORS)
- SOIL BORING (FARALLON, 2019)
- SOIL BORING (HART CROWSER, AUGUST 2000)
- INTERIM ACTION INTERCEPTION WELL
- SUBSURFACE SLURRY WALL (URS, 2009)
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY

NOTES:
GROUNDWATER RESULTS REPORTED AS:
SAMPLE DATE | PCE | TCE | cis-1,2-DCE | trans-1,2-DCE | VC
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

< = ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
NS = NOT SAMPLED. MONITORING WELLS WERE UNABLE TO BE LOCATED DUE TO REGRADING ACTIVITIES COMPLETED AT THE SITE.
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUNDS
DCE = DICHLOROETHENE
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
VC = VINYL CHLORIDE

N

0 60
SCALE IN FEET

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

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Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 6

GROUNDWATER ANALYTICAL RESULTS
FOR CVOCs
SOUTH LAKE UNION BLOCK 37 PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-065

Drawn By: sgaynier
Checked By: EB
Date: 12/26/2019
Disc Reference:
Document Path: Q:\Projects\397 VULCAN\065 Block 37\004_Reporting\Figure-04_GW_CVOCs.mxd

TABLES

BLOCK 37 SUBSURFACE INVESTIGATION
South Lake Union Block 37 Property
Seattle, Washington

Farallon PN: 397-065

Table 1
Summary of Groundwater Elevations
South Lake Union Block 37 Property
Seattle, Washington
Farallon PN: 397-065

Location	Top of Casing Elevation (feet NAVD88)[2]	Total Well Depth (feet bgs)[1]	Screened Interval (feet bgs)[1]	Screened Interval (feet NAVD88)[2]	Monitoring Date	Depth to Water (feet)[3]	Water Level Elevation (feet NAVD88)[2]
FMW-139	27.81	17.11	7 - 17	NA	4/9/2019	9.01	18.80
					5/6/2019	9.05	18.76
					7/8/2019	9.32	18.49
					9/20/2019	9.6	18.21
MW-45	27.52	19.34	3- 19	24.52 - 8.52	3/26/2019	9.46	18.06
					5/6/2019	NM	NA
					7/8/2019	9.5	18.02
					9/20/2019	9.57	17.95
MW-50	29.32	19.60	5 - 17.5	24.32 - 11.82	3/26/2019	9.96	19.36
					5/6/2019	10.69	18.63
					7/8/2019	10.92	18.40
					9/20/2019	10.18	19.14
MW-54	28.00	19.35	5 - 20	23.00 - 8.00	3/28/2019	9.72	18.28
					5/6/2019	9.15	18.85
					7/8/2019	9.93	18.07
					9/20/2019	9.8	18.20

Table 1
Summary of Groundwater Elevations
South Lake Union Block 37 Property
Seattle, Washington
Farallon PN: 397-065

Location	Top of Casing Elevation (feet NAVD88)[2]	Total Well Depth (feet bgs)[1]	Screened Interval (feet bgs)[1]	Screened Interval (feet NAVD88)[2]	Monitoring Date	Depth to Water (feet)[3]	Water Level Elevation (feet NAVD88)[2]
MWR-5	27.12	16.44	7 - 17	20.12 - 10.12	3/26/2019	8.55	18.57
					5/6/2019	8.40	18.72
					7/8/2019	8.7	18.42
					9/20/2019	8.73	18.39
MWR-6	29.12	17.91	8 - 18	21.12 - 11.12	3/26/2019	10.89	18.23
					5/6/2019	10.73	18.39
					7/8/2019	10.93	18.19
					9/20/2019	11.01	18.11

NOTES:

[1] In feet below ground surface.

[2] In feet above mean sea level.

[3] In feet below top of well casing.

bgs = below ground surface

NAVD88 = North American Vertical Datum of 1988

NA = not available

NM = not measured

Table 2
Soil Analytical Results for Halogenated VOCs
Block 37
Seattle, Washington
Farallon PN: 397-065

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]				
				PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
FB-1	FB-1-5.0	5.0	4/4/2019	< 0.00069	< 0.00069	< 0.00069	< 0.00069	< 0.00069
FB-2	FB-2-5.5	5.5	4/4/2019	< 0.00092	< 0.00092	< 0.00092	< 0.00092	< 0.00092
FMW-139	FMW-139-5.0	5.0	4/4/2019	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076
	FMW-139-7.0	7.0	4/4/2019	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074
MTCA Cleanup Levels for Soil[3]				**0.05**	**0.03**	**160[4]**	**1,600[4]**	**0.67[4]**

NOTES:

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

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8260C.

[3]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013, unless otherwise noted.

PCE = tetrachloroethene
TCE = trichloroethene
VOC = volatile organic compound

Table 3
Groundwater Analytical Results for CVOCs
Block 37
Seattle, Washington
Farallon PN: 397-065

Sample Location	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]				
			PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
FMW-139	4/9/2019	FMW-139-040919	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	5/6/2019	FMW-139-050619	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	7/9/2019	FMW-139-070919	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	9/20/2019	FMW-139-092019	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-45	3/26/2019	MW-45-032619	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	7/8/2019	MW-45-070819	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	9/20/2019	MW-45-092019	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-50	3/26/2019	MW-50-032619	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	5/6/2019	MW-50-050619	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	7/8/2019	MW-50-070819	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	9/20/2019	MW-50-092019	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-54	3/28/2019	MW-54-032819	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	5/6/2019	MW-54-050619	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	7/9/2019	MW-54-070919	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	9/20/2019	MW-54-092019	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MWR-5	3/26/2019	MWR-5-032619	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	5/6/2019	MWR-5-050619	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
	7/9/2019	MWR-5-070919	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	9/20/2019	MWR-5-092019	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MWR-6	3/26/2019	MWR-6-032619	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	5/6/2019	MWR-6-050619	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	7/8/2019	MWR-6-070819	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
	9/20/2019	MWR-6-092019	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-209	6/4/2019	MW-209	< 0.17	< 0.15	< 0.15	< 0.24	< 0.092
MW-210	6/4/2019	MW-210	< 0.17	< 0.15	< 0.15	< 0.24	< 0.092
MW-213	6/4/2019	MW-213	< 0.17	< 0.15	< 0.15	< 0.24	< 0.092
MW-214	6/4/2019	MW-214	< 0.17	< 0.15	< 0.15	< 0.24	< 0.092
MTCA Cleanup Levels for Groundwater[2]			**5**	**5**	**16[3]**	**160[3]**	**0.2**

NOTES:

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

[1]Analyzed by U.S. Environmental Protection Agency Method 8260C or 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://fortress.wa.gov/ecy/clarc/

PCE = tetrachloroethene
TCE = trichloroethene
CVOCs = chlorinated volatile organic compounds

ATTACHMENT A
HART CROWSER LIMITED SUBSURFACE ASSESSMENT

BLOCK 37 SUBSURFACE INVESTIGATION
South Lake Union Block 37 Property
Seattle, Washington

Farallon PN: 397-065

HARTCROWSER
Delivering smarter solutions

September 25, 2000

Anchorage

City Investors XIII, L.L.C.
c/o Joe Delaney
Foster Pepper Shefleman
1111 Third Avenue, Suite 3400
Seattle, WA 98101

Boston

Re: Limited Soil and Groundwater Subsurface Assessment and Preliminary Remediation Cost Estimate
Denny's Property
966 Mercer Street
Seattle, Washington
J-7436

Chicago

Denver

Dear Joe:

Fairbanks

This letter report presents the results of our Limited Soil and Groundwater Subsurface Assessment and Preliminary Remediation Cost Estimate for the Denny's property located at 966 Mercer Street on the north side of Mercer Street in the South Lake Union area of Seattle, Washington. This report has been prepared in accordance with our contract order dated July 25, 2000. We understand that City Investors XIII, L.L.C., is in the process of purchasing the property for future redevelopment.

Jersey City

BACKGROUND AND REPORT ORGANIZATION

Juneau

This Limited Soil and Groundwater Subsurface Assessment focused on the soil and groundwater on the subject property, to assess whether they have been adversely affected by past on-site and/or off-site uses. In particular, the service station (Unocal Station) located directly adjacent to the west had a known significant gasoline release in the early 1980s. Following this section our report begins with **FIELD ACTIVITIES, CHEMICAL RESULTS**, and **PRELIMINARY REMEDIATION COST ESTIMATE** sections followed by the **LIMITATIONS** section.

Long Beach

Portland

Figure 1 presents a Vicinity Map and Figure 2 a Site and Exploration Plan showing prominent subject property features and boring locations. Figure 3 illustrates the occurrence of TPH-G in the subsurface. Chemical results for site soil and groundwater samples are presented in Tables 1 and 2. Table 3 includes the Preliminary Cost Estimate for

Seattle

1910 Fairview Avenue East
Seattle, Washington 98102-3699
Fax 206.328.5581
Tel 206.324.9530

Remediation at the subject property. Appendix A presents the strataprobe boring logs for the field explorations. Appendix B contains the chemical data quality review and the Transglobal Environmental Geosciences Northwest, Inc. (TEG) chemistry laboratory reports.

The observed environmental impacts will likely result in additional costs during redevelopment of the property. Following the summary of results we present a remedial cost estimate based on preliminary development plans.

FIELD ACTIVITIES

On August 29, 2000, nine Strataprobe borings, labeled B-1 and B-3 through B-10, were advanced by TEG, NW at locations shown on Figure 2. The borings were advanced to depths of 12 to 20 feet. Groundwater was encountered at depths between 10 and 13 feet. Boring logs are presented in Appendix A. The Hart Crowser field representative collected soil samples at continuous 4-foot-depth intervals and placed the samples in pre-cleaned headspace-free jars. Groundwater samples were collected from borings B-1, B-3, B-5, B-7, and B-10. Selected soil and groundwater samples were analyzed for the following constituents:

- Total petroleum hydrocarbons (TPH) by Ecology Method NWTPH-HCID;
- Gasoline-range petroleum (TPH-G) and BTEX by Ecology Method NWTPH-Gx/BTEX;
- Diesel-range petroleum (TPH-D) and oil-range petroleum (TPH-O) by Ecology Method NWTPH-Dx;
- Volatile organic compounds (VOCs) by EPA Method 8021B;
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8100; and
- Metals by EPA Method 7000 series.

The chemical analyses for soil and groundwater samples are summarized in Tables 1 and 2, respectively. Each soil sample was also screened for volatile organics using a photoionization detector (PID). PID readings are indicated on the boring logs. Low PID readings (less than 10) were observed in vadose-zone samples (0- to 4- and 4- to 8-foot-depth intervals) in the borings. PID readings above 10 were observed in borings B-1, B-3, B-4, B-6, and B-10 near water table.

Geology

The downtown Seattle area is typically underlain by glacial till. Due to the close proximity to Lake Union, the subject property probable contains fill material overlying glacial till as describe below.

Based on materials encountered in our soil borings, subsurface conditions at the subject property generally consist of a surficial fill layer of gray silty sand and sandy gravel with trace of fill debris (brick, wood, glass) to depths of 12 to 18 feet. In the northern corner of the subject property an 8-inch peat zone was encountered in soil borings B-7, B-9, and B-10. Groundwater was generally encountered at depths of 10 to 13 feet below grade in the explorations and the inferred groundwater flow direction is to the north toward Lake Union.

CHEMICAL RESULTS

Summaries of chemical results are presented in Table 1 for soil samples and in Table 2 for groundwater samples. The chemical data quality review and TEG laboratory certificates of analysis are provided in Appendix B.

Gasoline-range petroleum (TPH-G) was detected above Method A cleanup levels in groundwater and in saturated-zone soil under most of the property, as shown on Figure 3. The highest concentrations of TPH-G in soil (3,700 mg/kg) and groundwater (80 mg/L) occur along the northern property boundary. High TPH-G concentrations were also detected along the western property boundary (bordering the Unocal station). BTEX concentrations in soil and groundwater generally mirror TPH-G occurrences. The highest concentrations of BTEX were detected in B3-S3 for soil and B1 for groundwater samples, although benzene concentrations at B-1 in soil (not detected) and groundwater (0.29 mg/L) were proportionately less than other gasoline constituents compared to borings closer to the Unocal property.

Diesel-range petroleum was not detected in any of the soil or groundwater samples analyzed. Oil-range petroleum was detected in shallow soil in B-5 (280 mg/kg) above MTCA Method A cleanup levels.

Low concentrations of PAHs were detected in several soil and water samples; however, no carcinogenic PAHs were detected in the soil samples analyzed. The only VOC detection in a groundwater sample not associated with gasoline was of tetrachloroethene (210 ug/L) in boring B-1. This concentration is above the MTCA Method A cleanup level of 5 ug/L.

Low concentrations of chromium and lead were detected in the soil samples analyzed. However, none of the samples were above the MTCA Method cleanup levels. Arsenic, cadmium, chromium, lead, and mercury were detected above the MTCA Method A cleanup levels in groundwater samples B-1, B-3, B-7, and B-10. Since the samples were not filtered prior to analysis and groundwater samples collected from strataprobe borings typically

contain high concentrations of suspended solids, the reported concentrations are total metal concentrations and do not represent true dissolved metal concentrations.

PRELIMINARY REMEDIATION COST ESTIMATE

The observed gasoline impacts on the Denny's property are likely due to the adjacent Unocal station to the west. The highest concentrations of gasoline are associated with groundwater or soil within the groundwater smear zone, suggesting groundwater transport of gasoline to the property. Isolated occurrences of oil-range petroleum in surface soils are likely the result of past site use. Field screening indicated that vadose zone soils may contain low concentrations of gasoline due to contaminant transport from the saturated zone or the adjacent site.

A preliminary cost estimate for remediation of the site is provided in Table 3. We estimate remediation of TPH-impacted soils will likely involve excavation and off-site disposal. Since redevelopment of the site will likely include excavating the site, we have included only the additional costs for handling and disposing of contaminated soils. Soils in the vadose zone that are impacted and possibly below MTCA cleanup levels will likely require more costly disposal than clean fill and an additional disposal charge for these soils is also included. Since future site use may include a subsurface parking garage, groundwater surrounding the parking garage will likely require continued remediation. The costs for treating and disposing of contaminated groundwater is included as capital and O&M costs for a groundwater pump and treat system.

LIMITATIONS

Work for this project was performed, and this letter report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed, in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of City Investors XIII, L.L.C., for specific application to the subject property. Use of this report by City Investors XIII, L.L.C. is with the understanding that the limitations and terms and conditions of the contract between Hart Crowser and City Investors XIII, L.L.C. apply. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made. These cost estimates do not represent a bid to conduct this work and are provided for budget planning purposes only.

All MTCA cleanup levels included in this report are provided for comparison purposes only and are based on our understanding of cleanup levels required by Ecology for similar

projects. They do not represent MTCA interpretations. By using them for comparison purposes, we are not implying that remedial actions at this site are required under MTCA. Specific MTCA interpretations may involve separate calculations and determinations upon which a range of cleanup standards may be established by Ecology.

Any questions regarding our work and this letter report, the presentation of the information and the interpretation of the data are welcome and should be referred the undersigned.

We trust that this report meets your needs.

Sincerely,

HART CROWSER, INC.

Jeremy Porter

JEREMY PORTER
Senior Staff Engineer

Julie K. W. Wukelic

JULIE K. W. WUKELIC
Principal

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Attachments:
Table 1 - Soil Chemical Analysis Summary
Table 2 - Groundwater Chemical Analysis Summary
Table 3 - Preliminary Cost Estimate for Remediation
Figure 1 - Vicinity Map
Figure 2 - Site and Exploration Plan
Figure 3 - TPH-G Occurrence in the Subsurface
Appendix A - Strataprobe Boring Logs

Appendix B - Chemical Data Quality Review
and Certificates of Analysis
Transglobal Environmental Geosciences Northwest, Inc.
and Sound Analytical Services, Inc.

Table 1 - Soil Chemical Analysis Summary

Sample Location	MTCA Method A Residential	MTCA Method B	B1-S1	B1-S2	B1-S3	B3-S1	B3-S2	B3-S3	B4-S2	B4-S3
NWTPH-HCID in mg/kg										
Gasoline	100	NA	20 U	20 U		20 U	20 U			20 U
Mineral Spirits/Stoddard Solvent	100	NA	20 U	20 U		20 U	20 U			20 U
Kensol	200	NA	20 U	20 U		20 U	20 U			20 U
Kerosene/Jet Fuel	200	NA	20 U	20 U		20 U	20 U			50 U
Diesel/Fuel Oil	200	NA	50 U	50 U		50 U	50 U			20 U
Bunker C	200	NA	50 U	50 U		50 U	50 U			50 U
Heavy Oil	200	NA	100 U	100 U		100 U	100 U			100 U
Unidentifiable Petroleum	200	NA	20 U	20 U		**>20**	20 U			20 U
NWTPH-Gx in mg/kg										
Gasoline	100	NA			**3700**			**3400**	12	
Stoddard Solvent/Mineral Spirits	100	NA			5 U			5 U	5 U	
NWTPH-Dx in mg/kg										
Kerosene/Jet Fuel	200	NA			20 U			20 U	20 U	
Diesel/Fuel Oil	200	NA			20 U			20 U	20 U	
Heavy Oil	200	NA			50 U			50 U	50 U	
Volatile Organics in mg/kg (detected constituents only)										
Benzene	0.5	34.5			50 U			2700	50 U	
Toluene	40	16000			1000			20000	250	
Ethylbenzene	20	8000			17000			59000	210	
Xylenes	20	160000			**99000**			**240000**	1100	
Polycyclic Aromatic Hydrocarbons (PAH) in mg/kg (detected constituents only)										
Fluoranthene	NA	3200		0.1 U	0.1 U	0.98		0.1 U	0.1 U	
Phenanthrene	NA	NA		0.1 U	0.1 U	1.5		0.1 U	0.1 U	
Pyrene	NA	2400		0.1 U	0.1 U	1.2		0.1 U	0.1 U	
Total Metals in mg/kg										
Arsenic	20	1.67			5 U			5 U		
Barium	NA	5600			50 U			50 U		
Cadmium	2	80			1 U			1 U		
Chromium	100	NA			51			29		
Lead	250	NA			12			25		
Mercury	1	24			0.1 U			0.1 U		
Selenium	NA	400			50 U			50 U		
Silver	NA	400			20 U			20 U		

Table 1 - Soil Chemical Analysis Summary

Sample Location	MTCA Method A Residential	MTCA Method B	B5-S1	B5-S2	B5-S3	B6-S1	B6-S2	B6-S3	B7-S1	B7-S2	B7-S3
NWTPH-HCID in mg/kg											
Gasoline	100	NA	20 U		20 U	20 U	20 U	20 U	20 U	20 U	
Mineral Spirits/Stoddard Solvent	100	NA	20 U		20 U	20 U	20 U	20 U	20 U	20 U	
Kensol	200	NA	20 U		20 U	20 U	20 U	20 U	20 U	20 U	
Kerosene/Jet Fuel	200	NA	20 U		20 U	20 U	20 U	20 U	20 U	20 U	
Diesel/Fuel Oil	200	NA	50 U		50 U	50 U	50 U	50 U	50 U	50 U	
Bunker C	200	NA	50 U		50 U	50 U	50 U	50 U	50 U	50 U	
Heavy Oil	200	NA	280		100 U	100 U	100 U	100 U	100 U	100 U	
Unidentifiable Petroleum	200	NA	20 U		20 U	20 U	20 U	20 U	20 U	20 U	
NWTPH-Gx in mg/kg											
Gasoline	100	NA		5 U				**6200**			**1500**
Stoddard Solvent/Mineral Spirits	100	NA		5 U				5 U			5 U
NWTPH-Dx in mg/kg											
Kerosene/Jet Fuel	200	NA		20 U							20 U
Diesel/Fuel Oil	200	NA		20 U							20 U
Heavy Oil	200	NA		50 U							50 U
Volatile Organics in mg/kg (detected constituents only)											
Benzene	0.5	34.5		50 U				2300			220
Toluene	40	16000		50 U				6900			260
Ethylbenzene	20	8000		50 U		50 U		21000			790
Xylenes	20	160000		50 U		50 U		400000			74000
Polycyclic Aromatic Hydrocarbons (PAH) in mg/kg (detected constituents only)											
Fluoranthene	NA	3200		0.1 U			0.1 U				0.1 U
Phenanthrene	NA	NA		0.1 U			0.1 U				0.1 U
Pyrene	NA	2400		0.1 U			0.1 U				0.1 U
Total Metals in mg/kg											
Arsenic	20	1.67						5 U			5 U
Barium	NA	5600						50 U			50 U
Cadmium	2	80						1 U			1 U
Chromium	100	NA						33			42
Lead	250	NA						14			5 U
Mercury	1	24						0.1 U			0.1 U
Selenium	NA	400						50 U			50 U
Silver	NA	400						20 U			20 U

Hart Crowser
J-7436

Table 1 - Soil Chemical Analysis Summary

Sample Location	MTCA Method A Residential	MTCA Method B	B7-S4	B8-S1	B8-S3	B9-S2	B9-S3	B10-S2	B10-S3	B10-S4	B10-S5
NWTPH-HCID in mg/kg											
Gasoline	100	NA	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Mineral Spirits/Stoddard Solvent	100	NA	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Kensol	200	NA	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Kerosene/Jet Fuel	200	NA	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Diesel/Fuel Oil	200	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Bunker C	200	NA	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Heavy Oil	200	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Unidentifiable Petroleum	200	NA	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
NWTPH-Gx in mg/kg											
Gasoline	100	NA			5 U						
Stoddard Solvent/Mineral Spirits	100	NA			5 U						
NWTPH-Dx in mg/kg											
Kerosene/Jet Fuel	200	NA									
Diesel/Fuel Oil	200	NA									
Heavy Oil	200	NA									
Volatile Organics in mg/kg (detected constituents only)											
Benzene	0.5	34.5			50 U						
Toluene	40	16000			50 U						
Ethylbenzene	20	8000			50 U						
Xylenes	20	160000			50 U						
Polycyclic Aromatic Hydrocarbons (PAH) in mg/kg (detected constituents only)											
Fluoranthene	NA	3200			0.1 U	0.1 U			0.1 U		0.1 U
Phenanthrene	NA	NA			0.1 U	0.1 U			0.1 U		0.1 U
Pyrene	NA	2400			0.1 U	0.1 U			0.1 U		0.1 U
Total Metals in mg/kg											
Arsenic	20	1.67						5 U			
Barium	NA	5600						50 U			
Cadmium	2	80						1 U			
Chromium	100	NA						42			
Lead	250	NA						36			
Mercury	1	24						0.1 U			
Selenium	NA	400						50 U			
Silver	NA	400						20 U			

U Not detected at detection limit indicated.
J Estimated value.

NA Not Applicable
Blank indicates sample not analyzed for analyte.

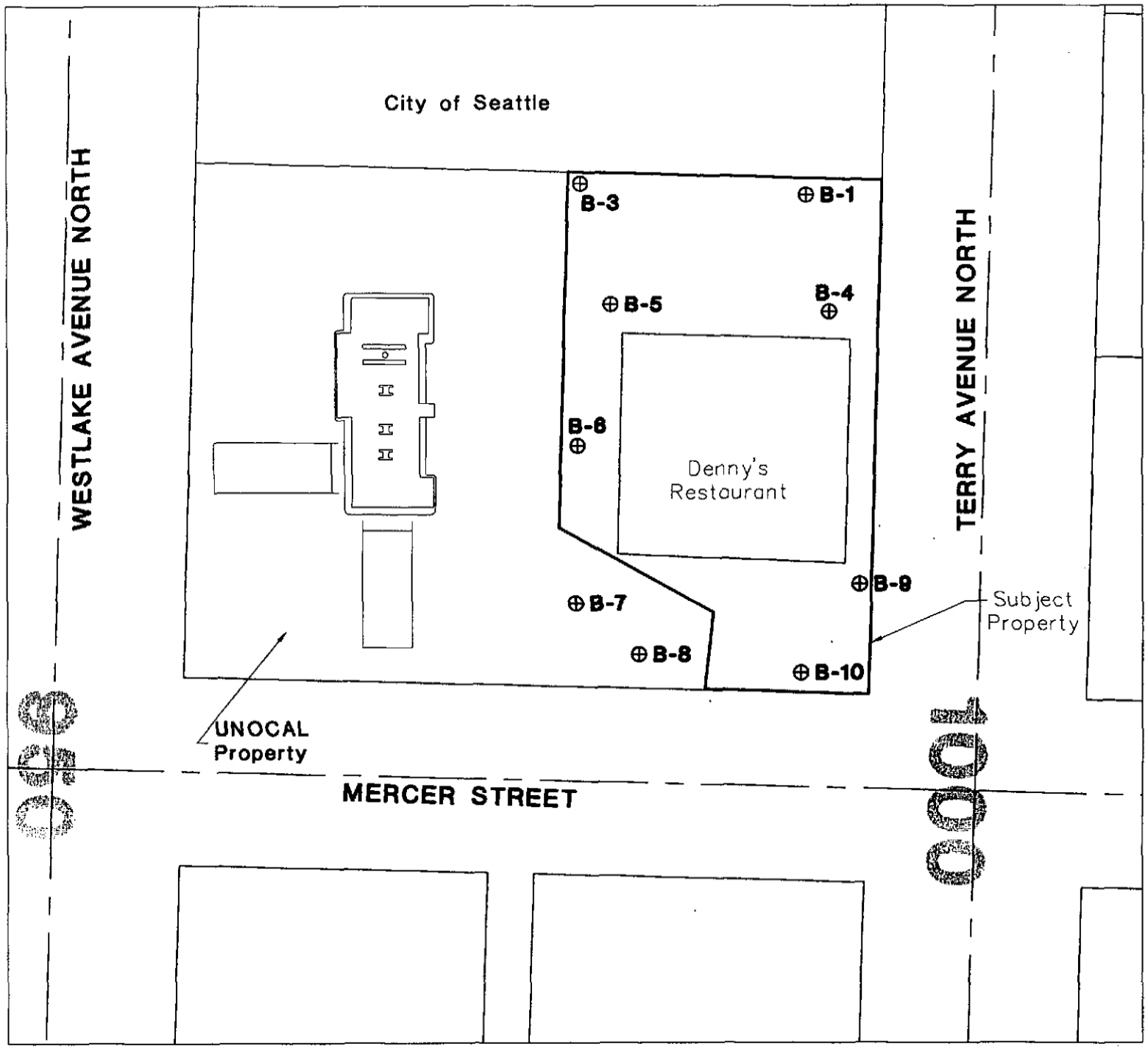
Hart Crowser
J-7436

Table 2 - Groundwater Chemical Analysis Summary

	MTCA Method A	MTCA Method B	B-1	B-3	B-5	B-7	B-10
Groundwater Depth in Feet			11	10	10	12	12
Date Sampled			8/29/2000	8/29/2000	8/29/2000	8/29/2000	8/29/2000
NWTPH-G in mg/L							
Mineral Spirits/Stoddard Solvent	1	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Gasoline	1	NA	**80**	**1.3**	**1.1**	**21**	0.92
NWTPH-Dx in mg/L							
Kerosene/Jet Fuel	1	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Diesel/Fuel Oil	1	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Heavy Oil	1	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Volatile Organics in µg/L							
Tetrachloroethene	5	0.858	**210**	1 U	1 U	1 U	1 U
Benzene	5	1.51	**290**	**47**	**11**	**1000**	1 U
Toluene	40	1600	**2400**	**45**	1 U	**520**	1 U
Ethylbenzene	30	800	**1700**	**37**	6.8	**630**	1 U
Xylenes	20	16000	**13000**	**170**	10	**2400**	**2.8**
Polycyclic Aromatic Hydrocarbons (PAH) in mg/L							
Naphthalene		320	490	2 U		2 U	2 U
Total Metals in mg/L							
Arsenic	0.005	0.0000053	**0.21**	**0.087**		**0.17**	**0.033**
Barium	NA	1.12	6.4	1.2		6.1	0.46
Cadmium	0.005	0.016	**0.028**	**0.0082**		**0.024**	0.003 U
Chromium	0.05	NA	**1.3**	**0.062**		**2**	**0.091**
Mercury	0.002	0.0048	0.0021 J	0.00065 J		0.0046 J	0.0003 J
Lead	0.005	NA	**3.8**	**2.7**		**1.7**	**0.13**
Selenium	NA	0.08	0.05 U	0.05 U		0.05	0.05 U
Silver	NA	0.08	0.011	0.0013		0.01	0.0011

U Not detected at detection limit indicated.
NA Not Analyzed
Blank indicates sample not analyzed for analyte.

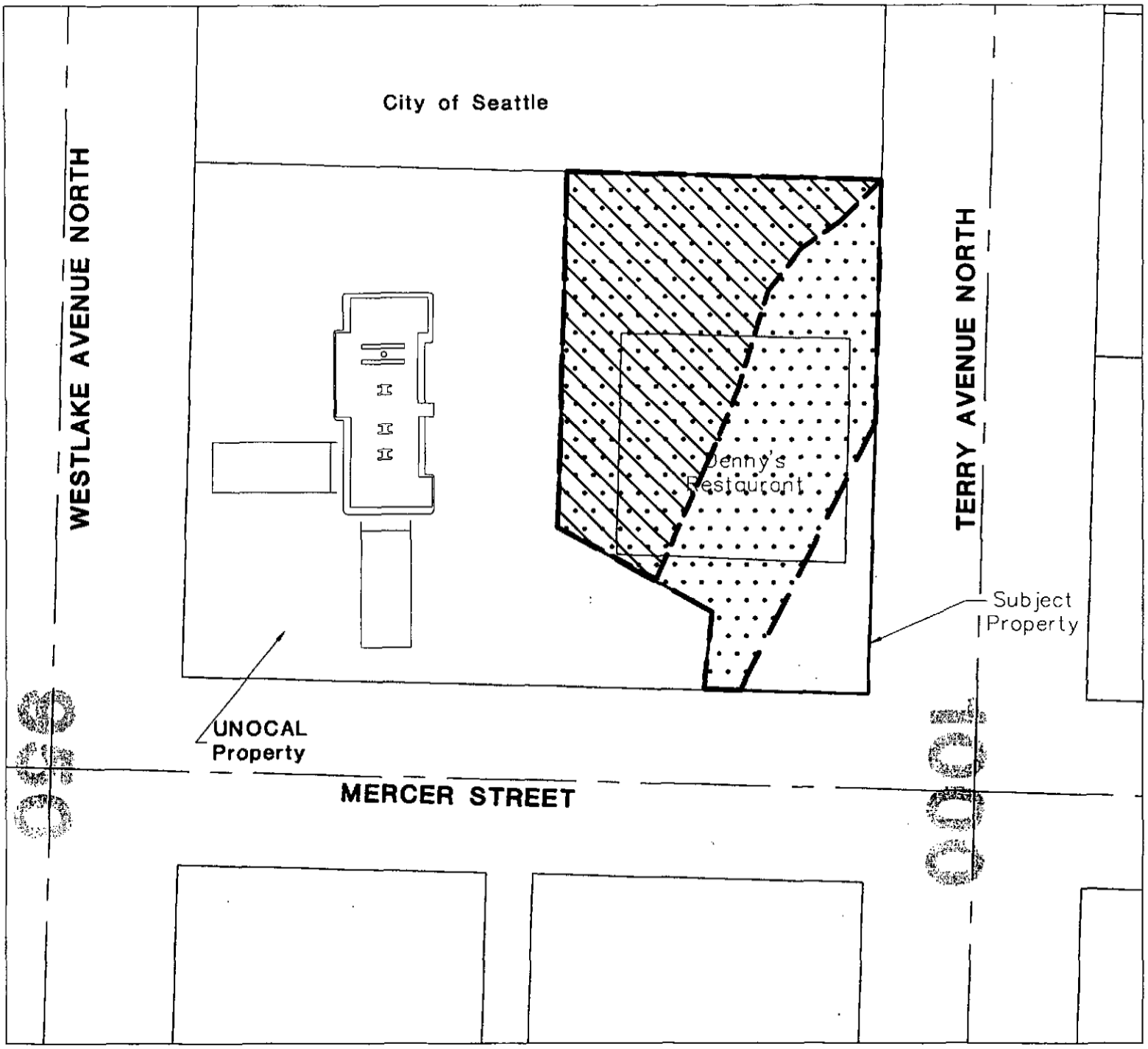
Site and Exploration Plan



DTN 9/25/00 1=100 charlie.pc2
74360102

HARTCROWSER
J-7436 9/00
Figure 2

TPH-G Occurrence in the Subsurface



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J-7436 9/00

Figure 3

D:\N 10/25/00 1=100 charlie.pc2
74360101

ATTACHMENT B
BORING LOGS

BLOCK 37 SUBSURFACE INVESTIGATION
South Lake Union Block 37 Property
Seattle, Washington

Farallon PN: 397-065

Log of Boring: FB-1

Client: City Investors XI
Project: Block 37
Location: Seattle, WA
Farallon PN: 397-065
Logged By: Y. Pehlivan

Date/Time Started:	4/4/19 0905	**Sampler Type:**	5' Macrocore
Date/Time Completed:	4/4/19 1100	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7822DT	**Depth of Water ATD (ft bgs):**	6.8
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-2.0': Silty GRAVEL with sand (60% gravel, 25% sand, 15% silt), fine to coarse sand and gravel, brown, dry, no odor. Air knife to 5.0' bgs for utility clearance.	GM						
	2.0-3.5': Controlled-density fill. Geotextile fabric encountered at 3.5' bgs.	FILL						
	3.5-5.0': Silty SAND with gravel (50% sand, 30% gravel, 20% silt), fine to coarse sand and gravel, brown, dry, no odor, some roots and brick.	SM						
5	5.0-5.3': Poorly-graded SAND (100% sand), fine to medium sand, brown, dry, no odor.	SP	54		0.6	FB-1-5.0	X	
	5.3-6.8': SILT with sand (80% silt, 20% sand), fine to medium sand, reddish brown, moist, no odor.	ML						
	6.8-7.7': Silty SAND (70% sand, 30% silt), fine to medium sand, grayish brown, wet, no odor.	SM			0.9	FB-1-7.0		Water Level
	7.7-10.0': No Recovery.							
10	10.0-10.6': Silty SAND (70% sand, 30% silt), fine to medium sand, grayish brown, wet, no odor.	SM	58					Bentonite
	10.6-11.0': Wood and mulch.	WD			1.5	FB-1-11.0		
	11.0-11.6': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM						
	11.6-12.9': Wood and mulch.	WD						
	12.9-15.0': No Recovery.							
15	15.0-15.6': Wood and mulch.	WD	58					
	15.6-16.5': Silty SAND (60% sand, 20% silt, 20% wood), fine to medium sand, gray, wet, no odor, some wood and mulch.	SM						
	16.5-17.9': Poorly-graded SAND (95% sand, 5% silt), fine to medium sand, dark gray, wet, no odor.	SP			2.0	FB-1-17.5		
	17.9-20.0': No Recovery.							
20								

Well Construction Information

Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	NA	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:** X: NA	Y: NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite	**Unique Well ID:**	NA

Log of Boring: FB-2

Client: City Investors XI
Project: Block 37
Location: Seattle, WA
Farallon PN: 397-065
Logged By: Y. Pehlivan

Date/Time Started:	4/4/19 1010	**Sampler Type:**	5' Macrocore
Date/Time Completed:	4/4/19 1245	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7822DT	**Depth of Water ATD (ft bgs):**	5.7
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.3': Asphalt. Air knife to 5.5' bgs for utility clearance.	AC						Concrete
	0.3-5.5': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, dry, no odor.	SP-SM						
5	5.5-5.7': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, dry, no odor.	SP-SM	64		3.6	FB-2-5.5	X	Water Level
	5.7-6.3': Silty SAND (70% sand, 30% silt), fine to medium sand, grayish brown, wet, no odor.	SM						
	6.3-6.8': SILT (90% silt, 10% sand), fine sand, estimated hard, gray, moist, slight hydrocarbon odor.	ML			23.0	FB-2-7.0		
	6.8-7.9': SILT (90% silt, 10% sand), fine sand, estimated firm, gray, moist, slight hydrocarbon odor.	ML						
	7.9-10.0': No Recovery.							
10	10.0-11.2': SILT (90% silt, 10% sand), fine sand, estimated firm, gray, wet, slight hydrocarbon odor.	ML	56		7.2	FB-2-10.0		Bentonite
	11.2-11.8': SILT with sand (80% silt, 20% sand), fine to medium sand, gray, wet, no odor.	ML						
	11.8-12.8': Wood and mulch debris, dark brown and black, wet, woody odor.	WD						
	12.8-15.0': No Recovery.							
15								

Well Construction Information

Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:** **X:** NA	**Y:** NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite	**Unique Well ID:** NA	

Log of Boring: FB-2

Client: City Investors XI
Project: Block 37
Location: Seattle, WA
Farallon PN: 397-065
Logged By: Y. Pehlivan

Date/Time Started:	4/4/19 1010	**Sampler Type:**	5' Macrocore
Date/Time Completed:	4/4/19 1245	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7822DT	**Depth of Water ATD (ft bgs):**	5.7
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
15		15.0-15.8': Wood and mulch debris, dark brown and black, wet, woody odor.	WD		100					
		15.8-17.2': Poorly-graded SAND (100% sand), fine to medium sand, gray, wet, no odor.	SP							Bentonite
		17.2-17.4': Silty SAND (80% sand, 20% silt), fine to medium sand, gray, wet, no odor.	SM							
		17.4-18.3': Poorly-graded SAND (100% sand), fine to medium sand, gray, wet, no odor.	SP							
		18.3-18.8': Silty SAND (80% sand, 20% silt), fine to medium sand, gray, wet, no odor.	SM							
20		18.8-19.4': Sandy SILT (60% silt, 40$ sand), fine to medium sand, gray, wet, no odor.	ML				2.1	FB-2-19.5		
		15.8-17.2': Poorly-graded SAND (100% sand), fine to medium sand, gray, wet, no odor.	SP							
25										
30										

Well Construction Information

Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:** **X:** NA	**Y:** NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite	**Unique Well ID:** NA	

Log of Boring: FMW-139

Client: City Investors XI
Project: Block 37
Location: Seattle, WA
Farallon PN: 397-065
Logged By: Y. Pehlivan

Date/Time Started:	4/4/19 0820	**Sampler Type:**	5' Macrocore
Date/Time Completed:	4/4/19 1300	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7822DT	**Depth of Water ATD (ft bgs):**	7.4
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	17.0
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-1.3': Silty GRAVEL with sand (60% gravel, 25% sand, 15% silt), fine to coarse sand, fine gravel, brown, dry, no odor. Air knife to 5.0' bgs for utility clearance.	GM							Well Monument in concrete
		1.3-2.2': Controlled-density fill. Geotextile fabric encountered at 2.2' bgs.	FILL				0.1			
		2.2-5.0': Silty SAND with gravel (50% sand, 30% gravel, 20% silt), fine to coarse sand and gravel, brown, dry, some brick fragments, wood, and roots, no odor.	SM							Bentonite
5		5.0-5.5': Sandy SILT (70% silt, 20% sand, 10% gravel), fine to medium sand, fine gravel, brown, moist, some wood and brick, no odor.	ML		60		0.5	FMW-139-5.0	X	Blank PVC Casing
		5.5-6.9': Sandy SILT (70% silt, 20% sand, 10% gravel), fine to medium sand, fine gravel, brown, moist, some wood, trace brick, no odor.	ML				0.3	FMW-139-7.0	X	Water Level
		6.9-7.4': Sandy SILT (60% silt, 30% sand, 10% gravel), fine to medium sand, fine gravel, grayish brown, moist, no odor.	SP-SM							
		7.4-8.0': Poorly-graded SAND with silt (80% sand, 10% gravel, 10% silt), fine to medium sand, brown, wet, no odor.								Sand Pack
10		8.0-10.0': No Recovery.	SP-SM		60		0.0	FMW-139-10.0		
		10.0-13.0': Poorly-graded SAND with silt (80% sand, 10% gravel, 10% silt), fine to medium sand, brown, wet, no odor.					0.0			
							0.1			PVC Screen
		13.0-15.0': No Recovery.								
15		15.0-16.0': Poorly-graded SAND with silt (80% sand, 10% gravel, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM		80		0.0			
		16.0-16.7': Wood debris and mulch.	WD				0.0			
		16.7-17.0': Sandy SILT (70% silt, 30% sand), fine to medium sand, grayish brown, wet, no odor.	ML				0.0			
		17.0-19.0': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, grayish brown, gray at 18.5', wet, no odor.	SP-SM				0.0			Sluff backfill
20		19.0-20.0': No Recovery.					0.8	FMW-139-19.0		

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	10x20 Sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	2.0	**Surface Seal:**	Concrete 0-2'	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite 2-6'	**Surveyed Location:** X: NA	Y: NA
Screened Interval (ft bgs):	7-17 Pre-pack	**Boring Abandonment:**	NA	**Unique Well ID:**	BLK-113

ATTACHMENT C
LABORATORY ANALYTICAL RESULTS

BLOCK 37 SUBSURFACE INVESTIGATION
South Lake Union Block 37 Property
Seattle, Washington

Farallon PN: 397-065

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

March 29, 2019

Javan Ruark
Farallon Consulting
1809 7th Avenue, Suite 1111
Seattle, WA 98101

Re: Analytical Data for Project 397-065
Laboratory Reference No. 1903-255

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on March 27, 2019.

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: March 29, 2019
Samples Submitted: March 27, 2019
Laboratory Reference: 1903-255
Project: 397-065

Case Narrative

Samples were collected on March 26, 2019 and received by the laboratory on March 27, 2019. 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.

Halogenated Volatiles EPA 8260C Analysis

Some MTCA Method A cleanup levels are non-achievable for sample MWR-5-032619 due to the necessary dilution of the sample.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: March 29, 2019
Samples Submitted: March 27, 2019
Laboratory Reference: 1903-255
Project: 397-065

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MWR-6-032619**					
Laboratory ID:	03-255-01					
Vinyl Chloride	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Trichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Tetrachloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*90*	*75-127*				
Toluene-d8	*87*	*80-127*				
4-Bromofluorobenzene	*90*	*78-125*				

Date of Report: March 29, 2019
Samples Submitted: March 27, 2019
Laboratory Reference: 1903-255
Project: 397-065

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-50-032619**					
Laboratory ID:	03-255-02					
Vinyl Chloride	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Trichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Tetrachloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*93*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				

Date of Report: March 29, 2019
Samples Submitted: March 27, 2019
Laboratory Reference: 1903-255
Project: 397-065

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MWR-5-032619**					
Laboratory ID:	03-255-03					
Vinyl Chloride	ND	2.0	EPA 8260C	3-29-19	3-29-19	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260C	3-29-19	3-29-19	
(cis) 1,2-Dichloroethene	ND	2.0	EPA 8260C	3-29-19	3-29-19	
Trichloroethene	ND	2.0	EPA 8260C	3-29-19	3-29-19	
Tetrachloroethene	ND	2.0	EPA 8260C	3-29-19	3-29-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*91*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

Date of Report: March 29, 2019
Samples Submitted: March 27, 2019
Laboratory Reference: 1903-255
Project: 397-065

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-45-032619**					
Laboratory ID:	03-255-04					
Vinyl Chloride	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Trichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Tetrachloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Date of Report: March 29, 2019
Samples Submitted: March 27, 2019
Laboratory Reference: 1903-255
Project: 397-065

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0329W1					
Vinyl Chloride	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Trichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Tetrachloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*75-127*				
Toluene-d8	*98*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Date of Report: March 29, 2019
Samples Submitted: March 27, 2019
Laboratory Reference: 1903-255
Project: 397-065

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:	SB0329W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**8.64**	**9.00**	10.0	10.0	86	90	62-129	4	15	
Benzene	**8.76**	**8.97**	10.0	10.0	88	90	77-127	2	15	
Trichloroethene	**10.1**	**10.4**	10.0	10.0	101	104	70-120	3	15	
Toluene	**9.68**	**9.86**	10.0	10.0	97	99	82-123	2	15	
Chlorobenzene	**10.0**	**10.3**	10.0	10.0	100	103	79-120	3	15	
Surrogate:										
Dibromofluoromethane					*93*	*92*	*75-127*			
Toluene-d8					*100*	*99*	*80-127*			
4-Bromofluorobenzene					*99*	*97*	*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

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

Laboratory Number: 03-255

Company: Farallon
Project Number: 397-065
Project Name: Block 37
Project Manager: ~~Be Rowe~~ Javan Ruark DS
Sampled by: Greg Peters

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☒ 2 Days ☐ 3 Days
☒ ~~Standard (7 Days)~~ (TPH analysis 5 Days) D3
☐ _____ (other)

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	MWR-6-032619	3/26/19	1830	W	3						X												
2	MW-50-032619	3/26/19	1548	W	3						X												
3	MWR-5-032619	3/26/19	1908	W	3						X												
4	MW-45-032619	3/26/19	1934	W	3						X												

	Signature	Company	Date	Time
Relinquished		Farallon	3/26/19	2045
Received		Speedy	3-27-19	0905
Relinquished		Speedy	3-27-19	1125
Received			3/27/19	1125
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Short list HVOCs 3 PCE, TCE, cis-1,2-DCE, trans-1,2-DCE and Vinyl Chloride.

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

#255

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

March 29, 2019

Javan Ruark
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 397-065
Laboratory Reference No. 1903-278

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on March 28, 2019.

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: March 29, 2019
Samples Submitted: March 28, 2019
Laboratory Reference: 1903-278
Project: 397-065

Case Narrative

Samples were collected on March 28, 2019 and received by the laboratory on March 28, 2019. 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: March 29, 2019
Samples Submitted: March 28, 2019
Laboratory Reference: 1903-278
Project: 397-065

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-54-032819**					
Laboratory ID:	03-278-01					
Vinyl Chloride	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Trichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Tetrachloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*75-127*				
Toluene-d8	*94*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Date of Report: March 29, 2019
Samples Submitted: March 28, 2019
Laboratory Reference: 1903-278
Project: 397-065

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0329W2					
Vinyl Chloride	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Trichloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Tetrachloroethene	ND	0.20	EPA 8260C	3-29-19	3-29-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*93*	*75-127*				
Toluene-d8	*94*	*80-127*				
4-Bromofluorobenzene	*105*	*78-125*				

Date of Report: March 29, 2019
Samples Submitted: March 28, 2019
Laboratory Reference: 1903-278
Project: 397-065

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:	SB0329W2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.73**	**10.0**	10.0	10.0	97	100	62-129	3	15	
Benzene	**9.71**	**10.2**	10.0	10.0	97	102	77-127	5	15	
Trichloroethene	**10.9**	**11.0**	10.0	10.0	109	110	70-120	1	15	
Toluene	**10.4**	**10.8**	10.0	10.0	104	108	82-123	4	15	
Chlorobenzene	**10.2**	**10.7**	10.0	10.0	102	107	79-120	5	15	
Surrogate:										
Dibromofluoromethane					*93*	*96*	*75-127*			
Toluene-d8					*95*	*96*	*80-127*			
4-Bromofluorobenzene					*100*	*104*	*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

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: 397-065
Project Name: Block 37
Project Manager: Javan Buark
Sampled by: Ryan Ostrom

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

Laboratory Number: 03-278

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	MW-54-032819	3/28/19	1049	W	3						X																

	Signature	Company	Date	Time
Relinquished	Ryan Ostrom	Farallon	3/28/19	1535
Received		CORE	3/28/19	1535
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Only Analyze For the Following: PCE, TCE, cis 1,2-DCE, trans 1,2-DCE, VC
• Please Provide Results By 11:00 am on 3/29/19

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 11, 2019

Joe Rounds
Farallon Consulting
1809 7th Avenue, Suite 1111
Seattle, WA 98101

Re: Analytical Data for Project 397-065
Laboratory Reference No. 1904-054

Dear Joe:

Enclosed are the analytical results and associated quality control data for samples submitted on April 4, 2019.

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 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

Case Narrative

Samples were collected on April 4, 2019 and received by the laboratory on April 4, 2019. 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 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-139-5.0**					
Laboratory ID:	04-054-01					
Dichlorodifluoromethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Chloromethane	ND	0.0038	EPA 8260C	4-9-19	4-9-19	
Vinyl Chloride	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Bromomethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Chloroethane	ND	0.0038	EPA 8260C	4-9-19	4-9-19	
Trichlorofluoromethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Iodomethane	ND	0.0038	EPA 8260C	4-9-19	4-9-19	
Methylene Chloride	ND	0.0038	EPA 8260C	4-9-19	4-9-19	
(trans) 1,2-Dichloroethene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
2,2-Dichloropropane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
(cis) 1,2-Dichloroethene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Bromochloromethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Chloroform	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,1,1-Trichloroethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Carbon Tetrachloride	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloropropene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloroethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Trichloroethene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloropropane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Dibromomethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Bromodichloromethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0053	EPA 8260C	4-9-19	4-9-19	
(cis) 1,3-Dichloropropene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
(trans) 1,3-Dichloropropene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-139-5.0**					
Laboratory ID:	04-054-01					
1,1,2-Trichloroethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Tetrachloroethene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,3-Dichloropropane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Dibromochloromethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromoethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Chlorobenzene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,1,1,2-Tetrachloroethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Bromoform	ND	0.0038	EPA 8260C	4-9-19	4-9-19	
Bromobenzene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,1,2,2-Tetrachloroethane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichloropropane	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
2-Chlorotoluene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
4-Chlorotoluene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,3-Dichlorobenzene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,4-Dichlorobenzene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,2-Dichlorobenzene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0038	EPA 8260C	4-9-19	4-9-19	
1,2,4-Trichlorobenzene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Hexachlorobutadiene	ND	0.0038	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichlorobenzene	ND	0.00076	EPA 8260C	4-9-19	4-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***114***	***68-139***				
Toluene-d8	***102***	***79-128***				
4-Bromofluorobenzene	***93***	***71-132***				

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-139-7.0**					
Laboratory ID:	04-054-02					
Dichlorodifluoromethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Chloromethane	ND	0.0037	EPA 8260C	4-9-19	4-9-19	
Vinyl Chloride	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Bromomethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Chloroethane	ND	0.0037	EPA 8260C	4-9-19	4-9-19	
Trichlorofluoromethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Iodomethane	ND	0.0037	EPA 8260C	4-9-19	4-9-19	
Methylene Chloride	ND	0.0037	EPA 8260C	4-9-19	4-9-19	
(trans) 1,2-Dichloroethene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
2,2-Dichloropropane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
(cis) 1,2-Dichloroethene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Bromochloromethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Chloroform	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,1,1-Trichloroethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Carbon Tetrachloride	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloropropene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloroethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Trichloroethene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloropropane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Dibromomethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Bromodichloromethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0052	EPA 8260C	4-9-19	4-9-19	
(cis) 1,3-Dichloropropene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
(trans) 1,3-Dichloropropene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-139-7.0**					
Laboratory ID:	04-054-02					
1,1,2-Trichloroethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Tetrachloroethene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,3-Dichloropropane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Dibromochloromethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromoethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Chlorobenzene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,1,1,2-Tetrachloroethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Bromoform	ND	0.0037	EPA 8260C	4-9-19	4-9-19	
Bromobenzene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,1,2,2-Tetrachloroethane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichloropropane	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
2-Chlorotoluene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
4-Chlorotoluene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,3-Dichlorobenzene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,4-Dichlorobenzene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,2-Dichlorobenzene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0037	EPA 8260C	4-9-19	4-9-19	
1,2,4-Trichlorobenzene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Hexachlorobutadiene	ND	0.0037	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichlorobenzene	ND	0.00074	EPA 8260C	4-9-19	4-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***108***	***68-139***				
Toluene-d8	***101***	***79-128***				
4-Bromofluorobenzene	***101***	***71-132***				

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-1-5.0**					
Laboratory ID:	04-054-05					
Dichlorodifluoromethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Chloromethane	ND	0.0034	EPA 8260C	4-9-19	4-9-19	
Vinyl Chloride	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Bromomethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Chloroethane	ND	0.0034	EPA 8260C	4-9-19	4-9-19	
Trichlorofluoromethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Iodomethane	ND	0.0034	EPA 8260C	4-9-19	4-9-19	
Methylene Chloride	ND	0.0034	EPA 8260C	4-9-19	4-9-19	
(trans) 1,2-Dichloroethene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
2,2-Dichloropropane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
(cis) 1,2-Dichloroethene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Bromochloromethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Chloroform	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,1,1-Trichloroethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Carbon Tetrachloride	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloropropene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloroethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Trichloroethene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloropropane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Dibromomethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Bromodichloromethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0048	EPA 8260C	4-9-19	4-9-19	
(cis) 1,3-Dichloropropene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
(trans) 1,3-Dichloropropene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-1-5.0**					
Laboratory ID:	04-054-05					
1,1,2-Trichloroethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Tetrachloroethene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,3-Dichloropropane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Dibromochloromethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromoethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Chlorobenzene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,1,1,2-Tetrachloroethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Bromoform	ND	0.0034	EPA 8260C	4-9-19	4-9-19	
Bromobenzene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,1,2,2-Tetrachloroethane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichloropropane	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
2-Chlorotoluene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
4-Chlorotoluene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,3-Dichlorobenzene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,4-Dichlorobenzene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,2-Dichlorobenzene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0034	EPA 8260C	4-9-19	4-9-19	
1,2,4-Trichlorobenzene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Hexachlorobutadiene	ND	0.0034	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichlorobenzene	ND	0.00069	EPA 8260C	4-9-19	4-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***107***	***68-139***				
Toluene-d8	***102***	***79-128***				
4-Bromofluorobenzene	***98***	***71-132***				

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-2-5.5**					
Laboratory ID:	04-054-09					
Dichlorodifluoromethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Chloromethane	ND	0.0046	EPA 8260C	4-9-19	4-9-19	
Vinyl Chloride	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Bromomethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Chloroethane	ND	0.0046	EPA 8260C	4-9-19	4-9-19	
Trichlorofluoromethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Iodomethane	ND	0.0046	EPA 8260C	4-9-19	4-9-19	
Methylene Chloride	ND	0.0046	EPA 8260C	4-9-19	4-9-19	
(trans) 1,2-Dichloroethene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
2,2-Dichloropropane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
(cis) 1,2-Dichloroethene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Bromochloromethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Chloroform	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,1,1-Trichloroethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Carbon Tetrachloride	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloropropene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloroethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Trichloroethene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloropropane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Dibromomethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Bromodichloromethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0064	EPA 8260C	4-9-19	4-9-19	
(cis) 1,3-Dichloropropene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
(trans) 1,3-Dichloropropene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-2-5.5**					
Laboratory ID:	04-054-09					
1,1,2-Trichloroethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Tetrachloroethene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,3-Dichloropropane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Dibromochloromethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromoethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Chlorobenzene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,1,1,2-Tetrachloroethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Bromoform	ND	0.0046	EPA 8260C	4-9-19	4-9-19	
Bromobenzene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,1,2,2-Tetrachloroethane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichloropropane	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
2-Chlorotoluene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
4-Chlorotoluene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,3-Dichlorobenzene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,4-Dichlorobenzene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,2-Dichlorobenzene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0046	EPA 8260C	4-9-19	4-9-19	
1,2,4-Trichlorobenzene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Hexachlorobutadiene	ND	0.0046	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichlorobenzene	ND	0.00092	EPA 8260C	4-9-19	4-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***110***	***68-139***				
Toluene-d8	***102***	***79-128***				
4-Bromofluorobenzene	***102***	***71-132***				

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0409S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Chloromethane	ND	0.0050	EPA 8260C	4-9-19	4-9-19	
Vinyl Chloride	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Bromomethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Chloroethane	ND	0.0050	EPA 8260C	4-9-19	4-9-19	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Iodomethane	ND	0.0050	EPA 8260C	4-9-19	4-9-19	
Methylene Chloride	ND	0.0050	EPA 8260C	4-9-19	4-9-19	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Bromochloromethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Chloroform	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Trichloroethene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Dibromomethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Bromodichloromethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
2-Chloroethyl Vinyl Ether	ND	0.0070	EPA 8260C	4-9-19	4-9-19	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0409S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Tetrachloroethene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Dibromochloromethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Chlorobenzene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Bromoform	ND	0.0050	EPA 8260C	4-9-19	4-9-19	
Bromobenzene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
2-Chlorotoluene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
4-Chlorotoluene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	4-9-19	4-9-19	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	4-9-19	4-9-19	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	4-9-19	4-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***109***	***68-139***				
Toluene-d8	***103***	***79-128***				
4-Bromofluorobenzene	***103***	***71-132***				

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

VOLATILE ORGANICS EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0409S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0389**	**0.0386**	0.0500	0.0500	78	77	53-141	1	17	
Benzene	**0.0500**	**0.0487**	0.0500	0.0500	100	97	70-130	3	15	
Trichloroethene	**0.0488**	**0.0490**	0.0500	0.0500	98	98	74-122	0	16	
Toluene	**0.0497**	**0.0494**	0.0500	0.0500	99	99	76-130	1	15	
Chlorobenzene	**0.0518**	**0.0523**	0.0500	0.0500	104	105	75-120	1	14	
Surrogate:										
Dibromofluoromethane					***108***	***104***	***68-139***			
Toluene-d8					***100***	***101***	***79-128***			
4-Bromofluorobenzene					***102***	***103***	***71-132***			

Date of Report: April 11, 2019
Samples Submitted: April 4, 2019
Laboratory Reference: 1904-054
Project: 397-065

% MOISTURE

Date Analyzed: 4-9-19

Client ID	Lab ID	% Moisture
FMW-139-5.0	04-054-01	16
FMW-139-7.0	04-054-02	14
FB-1-5.0	04-054-05	14
FB-2-5.5	04-054-09	16

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

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: 397-065
Project Name: 397-065
Project Manager: Joe Rounds
Sampled by: Y. Pehlivan

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 04-054

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	FMW-139-5.0	4/4/19	0920	S	4						X																X
2	FMW-139-7.0		0925								X																X
3	FMW-139-10.0		0935																								
4	FMW-139-19.0		~~0940~~ 0940																								
5	FB-1-5.0		1025								X																X
6	FB-1-7.0		1030																								
7	FB-1-11.0		1045																								
8	FB-1-17.5		1050																								
9	FB-2-5.5		1205								X																X
10	FB-2-7.0		1210																								

	Signature	Company	Date	Time
Relinquished		Farallon	4/4/19	1630
Received	Mike Cisel	OSE	4/4/19	1630
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

~~Hold all samples.~~
~~PM will contact for~~ analysis
X Added 418 hg.DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

Chain of Custody

Page 2 of 2

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: 397-065
Project Name: 397-065
Project Manager: Joe Rounds
Sampled by: Y. Pelliman

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 04-054

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
11	FB-2-10.0	4/4/19	1220	S	4																						
12	FB-2-19.5	4/4/19	1225	S	4																						

	Signature	Company	Date	Time
Relinquished		Farallon	4/4/19	1630
Received		GSE	4/4/19	1630
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Hold all samples. PM will contact for analysis

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 10, 2019

Joe Rounds
Farallon Consulting
1809 7th Avenue, Suite 1111
Seattle, WA 98101

Re: Analytical Data for Project 397-065
Laboratory Reference No. 1904-107

Dear Joe:

Enclosed are the analytical results and associated quality control data for samples submitted on April 9, 2019.

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 10, 2019
Samples Submitted: April 9, 2019
Laboratory Reference: 1904-107
Project: 397-065

Case Narrative

Samples were collected on April 9, 2019 and received by the laboratory on April 9, 2019. 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 10, 2019
Samples Submitted: April 9, 2019
Laboratory Reference: 1904-107
Project: 397-065

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-139-040919**					
Laboratory ID:	04-107-01					
Vinyl Chloride	ND	0.20	EPA 8260C	4-9-19	4-9-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
Trichloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
Tetrachloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***95***	***75-127***				
Toluene-d8	***99***	***80-127***				
4-Bromofluorobenzene	***97***	***78-125***				

Date of Report: April 10, 2019
Samples Submitted: April 9, 2019
Laboratory Reference: 1904-107
Project: 397-065

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0409W1					
Vinyl Chloride	ND	0.20	EPA 8260C	4-9-19	4-9-19	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
Trichloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
Tetrachloroethene	ND	0.20	EPA 8260C	4-9-19	4-9-19	
Surrogate:	***Percent Recovery***	***Control Limits***				
Dibromofluoromethane	***98***	***75-127***				
Toluene-d8	***100***	***80-127***				
4-Bromofluorobenzene	***99***	***78-125***				

Date of Report: April 10, 2019
Samples Submitted: April 9, 2019
Laboratory Reference: 1904-107
Project: 397-065

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:	SB0409W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**11.0**	**10.9**	10.0	10.0	110	109	62-129	1	15	
Benzene	**10.2**	**10.1**	10.0	10.0	102	101	77-127	1	15	
Trichloroethene	**11.2**	**11.2**	10.0	10.0	112	112	70-120	0	15	
Toluene	**10.6**	**10.6**	10.0	10.0	106	106	82-123	0	15	
Chlorobenzene	**11.0**	**10.9**	10.0	10.0	110	109	79-120	1	15	
Surrogate:										
Dibromofluoromethane					***97***	***99***	***75-127***			
Toluene-d8					***101***	***102***	***80-127***			
4-Bromofluorobenzene					***99***	***100***	***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

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

Laboratory Number: 04-107

Company: Farallon
Project Number: 397-065
Project Name: Block 57 CVOCs
Project Manager: Joe Rounds
Sampled by: Greg Retka

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

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 Short list	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	FMW-139-040919	4/9/19	1054	Water	3						X																

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished		Farallon	4/9/19	1524	* PCE, TCE, cis & trans DCE, V.C.
Received			4/9/19	1524	
Relinquished					
Received					
Relinquished					
Received					Data Package: Standard ☐ Level III ☐ Level IV ☐
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐