APPENDIX F
MIDDOUR CONSUTLING LLC GROUNDWATER CONTROL DESIGN

INTERIM ACTION WORK PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

Groundwater Control Plan
Block 38
Seattle, Washington

October 17, 2018

Prepared for

GLY Construction

200 112th Avenue NE, Ste. 300

Bellevue, WA 98004

MIDDOUR CONSULTING LLC

14241 NE Woodinville Duvall Rd, PMB 226
Woodinville, WA 98072
(425) 864-2719

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INTRODUCTION

This report presents our Groundwater Control Plan and recommendations for the Block 38 project in Seattle Washington. GLY Construction (GLY) is the general contractor for the project and we understand the shoring, and dewatering services will be performed by subcontractors. We understand that temporary construction dewatering will be required to successfully install the shoring system and complete foundation construction. Our understanding of the excavation and shoring methods is based on conversations with GLY.

SITE AND PROJECT DESCRIPTION

The project site is located south of Lake Union on city block 38 which is bound by Mercer Street to the north, an alley to the east, Republican Street to the south, and Westlake Avenue North to the west. Buildings previously occupied portions of the site but will be demolished prior to construction. As with most urban projects, buried utilities are located in the streets that border the project site. The existing ground surface of the site slopes from about elevation 40 feet in the south end to about elevation 31 feet in the north end.

The Block 38 project consists of a multi-story building over a four level below-grade parking structure. The excavation for the parking structure will extend about 39 to 49 feet below existing grade and will be retained using solider pile and lagging shoring methods in conjunction with four rows of tiebacks. The bottom of footing for the majority of the foundation is elevation -8.0 feet though the elevator cores will likely extend a few feet below the mass excavation subgrade.

The geotechnical and hydrogeological information for the project was provided in the October 17, 2018 Geotechnical Engineering Services report prepared by GeoEngineers. Temporary shoring plans for the excavation were prepared by Ground Support LLC. We understand the excavation is scheduled to begin in the 2018/2019 winter and continuous construction dewatering will be required until sufficient structural weight of the building is constructed.

SOIL AND GROUNDWATER CONDITIONS

The geotechnical report provides a discussion of the site soil and groundwater conditions as determined from thirteen soil borings advanced 10 to 63 feet below existing grade and several soil borings from other surrounding geotechnical investigations. The soils at the site generally consist of fill, wood

waste, peat/organic silt, recent granular and fine-grained deposits, and glacially consolidated granular soils.

The fill soils are about 5 to 20 feet thick which includes the wood waste deposits. The fill soils consist of loose to very dense silty sand that contains gravel, cobbles and boulders and the wood waste contains wood debris to wood chips. The peat and organic silt deposits are up to 8 feet thick and typically occur below the fill soils and wood waste except for discrete locations where they are absent. The recent deposits are 3 to 17 feet thick and consist of loose to dense sand with varying silt content and soft to medium stiff silt. Underlying the recent deposits, glacially consolidated soils were encountered and consisted predominately of cohesionless sand with varying amounts of gravel and silt though layers of silt were encountered in some of the soil borings. The silt content of the cohesionless sand varies across the site but general consists of silty sand (SM) and sand with silt (SP-SM) to the explored depths. The glacially consolidated silt layers were not encountered in all of the soil borings as such the layers are discontinuous but typically were encountered between elevation 0 and -15 feet.

Groundwater levels measured in observation wells with screen intervals constructed in the recent deposits indicate the groundwater elevation was about 18 to 19 feet in August 2018 whereas observation wells with screen intervals constructed in the glacially consolidated soils indicate the groundwater elevation was 16 feet in August 2018. Based on the soils encountered in the soil borings, the deeper glacially consolidated soils may be partially confined by the overlying fine-grained soils and/or the higher water level in the fine-grained soils may be due to a greater capillary fringe. GeoEngineers estimates the static water level in the area to be about elevation 20 feet prior to significant construction dewatering in the South Lake Union area. GeoEngineers recommends a design groundwater elevation of 20 feet should be used for design of the permanent below-grade walls and mat foundations.

The geotechnical investigation did not perform any on site testing to characterize the hydraulic properties of the aquifer underlying the site nor were any gradation tests performed to estimate the hydraulic conductivity. Middour Consulting performed a pumping test for the Block 44 project which was located on the west side of Westlake Avenue North. The pumping test was performed in dewatering well located on the south side of the site on the sidewalk along Republican Street; the dewatering well was screened in the glacially consolidated granular soils. Analysis of the drawdown data using the Jacobs Method estimates the transmissivity to be 2.1 ft^2/min and $1.6x10^{-5}$ for storativity which is unitless. The storativity value derived from the pumping test is reflective of a confined aquifer response. Analysis of the recovery data using the Theis Recovery Method estimates the transmissivity to be 1.8 ft^2/min.

CONCEPTUAL GROUNDWATER CONTROL APPROACH

As described in the geotechnical report and briefly summarized above, the proposed excavation will encounter saturated soils at about elevation 18 to 19 feet. The majority of the saturated soils above elevation 0 feet on the east side of the site and above elevation 5 feet on the west side are fine-grained silt/clay, peat, organic silt, and wood waste. These soil types do not readily yield groundwater and generally the cost associated with implementing active groundwater control measures doesn't justify the minimal decrease in moisture content; the "dewatered" soils which are nearly saturated still require additional costs to excavate and haul off site. Unless the project team would like to explore groundwater control options for these soils, the GWCP assumes these soils will be excavated at the natural moisture content though some drainage may occur by dewatering the aquifer beneath these soils.

Based on the relatively coarse nature and thickness of the glacially consolidated aquifer as well as the successful performance of several dewatering systems in the area, groundwater control can be accomplished by a system of large diameter dewatering wells installed around the perimeter of the excavation. However, some of the soil borings encountered silt layers between elevation 0 and -15 feet which will remain saturated and/or perch groundwater above these soils. If the fine-grained soil layers are laterally continuous or encompass a significant area, additional wells and/or sump pumping may be required to control the perched groundwater if the layers are laterally extensive and exist above subgrade.

DEWATERING SYSTEM DESIGN CALCULATIONS

Dewatering system design calculations were performed to estimate potential discharge rates, the number of wells, and the spacing between wells required to lower the groundwater level two feet below subgrade. Dewatering calculations were performed using a computer spreadsheet model that accounts for well interference among multiple pumping wells and aquifer boundary conditions using the principle of superposition and image well theory. The spreadsheet model calculates the net drawdown from all pumping and image wells through a predetermined section of the aquifer by solving the Theis non-equilibrium equation for drawdown using the radius associated with each pumping and image well.

Soil and groundwater parameters used in the dewatering design calculations were derived from the project geotechnical report or were estimated from previous experience if not contained in the geotechnical report and are listed below:

- The aquifer is unconfined but locally it may be semi-confined to confined.
- Groundwater elevation is 16 feet for the glacially consolidated aquifer
- Aquifer thickness 40 feet
- Aquifer Transmissivity range 0.5 to 2.0 ft^2/min
- Target dewatering elevation -10.0 feet; 2 feet below subgrade
- Specific yield is 0.15 (unitless)

Based on the transmissivity range, the spacing between wells could be up to 75 feet on-center but due to the presence of silt layers below elevation 0 feet, the well spacing was reduced to about 60 feet on-center. Design calculations using the soil and groundwater parameters listed above indicate eighteen dewatering wells installed at the locations shown on Figure 1 will lower groundwater levels down to the target dewatering elevation for the main excavation though additional groundwater control measures may be required to dewater perched water if the silt layers above subgrade are laterally extensive.

Based on the average transmissivity value of 1.5 ft^2/min, the total discharge from the system of wells is estimated to be about 800 gpm after one week of operation and 540 gpm after one month of operation. The drawdown or cone of depression derived from the spreadsheet model is shown on Figure 2 which displays drawdown profiles parallel and perpendicular to the excavation.

DRAWDOWN ANALYSIS

Operation of the dewatering system will lower the piezometric level of the glacially consolidated aquifer and the drawdown may extend beneath subsurface and above ground structures and/or mobilize existing groundwater contaminate plumes. The drawdown profile shown on Figure 3 shows the lateral extent of drawdown projected from the west side of the excavation after one month of operation, assuming uniform aquifer conditions and properties. The spreadsheet model assumes homogeneous and isotropic subsurface conditions as such, the actual drawdown cone may deviate from our estimate depending on the actual subsurface properties. The cone of depression will continue to expand after one month of operation however, predicting the distance and amount of drawdown becomes increasingly difficult as the cone of depression encounters undocumented soils and aquifer conditions. Middour Consulting has not assessed the potential for dewatering induced settlement or mobilization of groundwater contaminate plumes nor has Middour Consulting implemented any engineering controls to

limit the amount of drawdown. Middour Consulting's scope of work did not include these evaluations and Middour Consulting assumes no liability for impacts due to lowering of groundwater levels. We recommend geotechnical engineering and environmental disciplines review this plan to evaluate potential adverse effects due to lowering of groundwater levels.

DEWATERING SYSTEM CONSTRUCTION RECOMMENDATIONS

We recommend the dewatering/shoring subcontractor and/or GLY monitor the soldier pile installation to determine the presence/absence of silt layers elevation 0 and -8 feet and report this information to Middour Consulting. Should significant areas encounter a silt layer at a specific elevation, a vacuum wellpoint system or sump pumping will be required to remove perched groundwater that seeps through the shoring wall.

Dewatering Wells: Boreholes should be drilled using bucket auger drilling methods and should be 30- to 36-inch-diameter. ***Drilling additives and/or slurry to maintain borehole wall stability shall not be used; maintaining a water head and/or casing the borehole are appropriate methods.*** Well casings and screen should be 12-inch diameter Schedule 40 PVC. Based on the visual soil descriptions from the soil borings and previous experience in the area, well screens should consist of 30-slot screen size. For well screen lengths and bottom completion elevations refer to Table 1 and well construction details are provided on Figure 4.

We recommend that Middour Consulting monitor the initial drilling, well construction, and well development to verify site conditions. Subsequent wells should be logged and sampled by the driller. GLY or the dewatering subcontractor should notify Middour Consulting if subsurface conditions differ from those described in this report and/or those observed during drilling the first dewatering well. General locations of the dewatering wells are provided on Figure 1; more detailed locations are provided in Table 1.

Sand Pack: The available data indicate a dewatering well sand pack consisting of Cal Portland 8700 or equivalent should optimize retention of the formation and well yield. The gradation of the proposed sand pack is listed on the table in Figure 4. Well and seal construction should be consistent with WAC 173-160.

Development: Development is important to improve the hydraulic connection with the aquifer and provide a clean dewatering effluent with time. We recommend that each dewatering well be developed immediately upon completion. Development methods should utilize flow-surging and over-

pumping until the discharge requirement is achieved. Development data should be documented to demonstrate that additional development would produce limited improvement.

Pumps: Pumps that are capable of operating in dry well conditions should be provided in each well. Initially pumps should be capable of providing up to 100 gpm under 70 feet of total dynamic head (TDH).

Header and Conveyance Piping: The main header and conveyance piping should be constructed using 12-inch-diameter PVC or HDPE pipe. The piping configuration should be located on the behind the dewater wells (i.e. away from the excavation) to minimize the potential for damage during excavation.

GENERAL SYSTEM REQUIREMENTS

Power Supply: A continuous main power supply from portable generators or line power is required for all dewatering systems. We recommend that a backup power source is available on site in the event of a power failure from the main power supply.

Observation Wells: GeoEngineers will provide the number and locations of the observation wells. We recommend the boreholes be drilled using air rotary or rotary wash drilling methods and should be a minimum 8-inch-diameter. Well casings and screen should be 2-inch diameter flush threaded Schedule 40 PVC. The well screen should be 20-slot with the screen interval from elevation -10 to -20 feet. The sand pack should consist of Cal Portland 8720 or equivalent.

System Performance and Water Level Monitoring: We recommend measuring water levels in the observation wells daily for a week prior to operating the dewatering system to establish baseline water levels. Groundwater levels in the dewatering wells and observation wells should be measured daily for the first week of operation and reported to Middour Consulting to assess the system performance. Drop tubes in the dewatering wells may be required to obtain accurate water levels if there is water cascading down the well screen.

Operation: The dewatering system should operate a minimum of two weeks prior to excavation below the static groundwater level. Visual observations of the discharge should be made several times a day during excavation, to monitor for increased turbidity levels. Middour Consulting should be contacted if the performance of the dewatering system changes significantly. This may include pumping rates that differ significantly from rates presented in this report, the occurrence of a sudden change in pumping rates or groundwater levels, or the occurrence of turbidity levels that exceed discharge limits.

The dewatering system should be operated continuously until sufficient structural weight, as determined by the resident structural engineer, is constructed to counteract groundwater lateral and uplift forces.

Discharge Water Quality: Dewatering discharge will be routed to an onsite water quality treatment system; refer to the WaterTectonics submittal for more details.

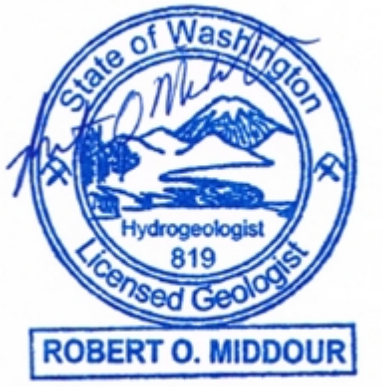
Well Decommissioning: The dewatering wells should be decommissioned in accordance with WAC 173-160 upon completion of dewatering activities.

LIMITATIONS

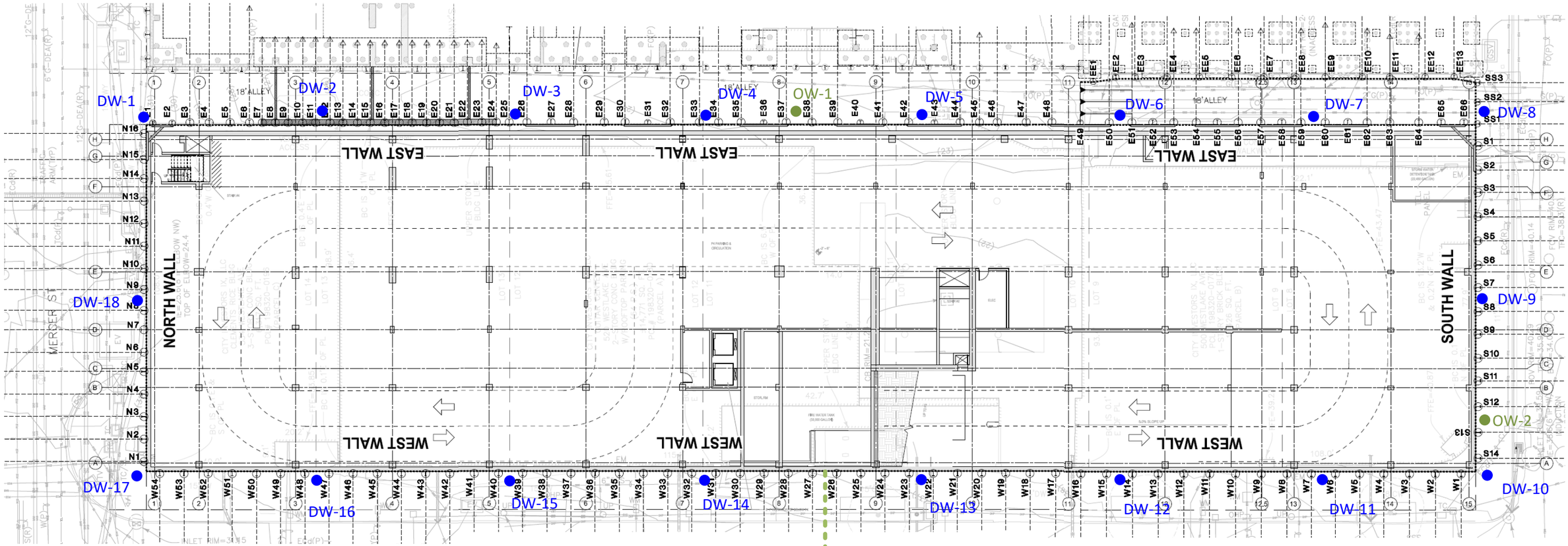
This Groundwater Control Plan has been prepared for the exclusive use of GLY Construction for their proposed work on the Block 38 project in Seattle Washington. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Middour Consulting LLC. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Middour Consulting, shall be at the user's sole risk. Middour Consulting warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

MIDDOUR CONSULTING LLC

Robert O. Middour, L.HG.
Principal Hydrogeologist



Well ID	Approximate Pile Location	Ground Surface Elevation (ft)	Bottom Well Elevation (ft)	Well Depth (ft)	Screen Length (ft)
DW-1	N16 / E1	31	-30	61	40
DW-2	E11 / E12	28	-30	58	40
DW-3	E25 / E26	25	-30	55	40
DW-4	E33 / E34	25	-30	55	40
DW-5	E42 / E43	25	-30	55	40
DW-6	E50 / E51	25	-30	55	40
DW-7	E59 / E60	25	-30	55	40
DW-8	SS1 / SS2	41	-30	71	40
DW-9	S7 / S8	41	-30	71	40
DW-10	S14 / W1	40	-30	70	40
DW-11	W6 / W7	40	-30	70	40
DW-12	W14 / W15	39	-30	69	40
DW-13	W22 / W23	38	-30	68	40
DW-14	W31 / W32	37	-30	67	40
DW-15	W39 / W40	36	-30	66	40
DW-16	W47 / W48	34	-30	64	40
DW-17	W54 / N1	32	-30	62	40
DW-18	N8 / N9	31	-30	61	40



NOTES:

1) Locations of the dewatering wells are approximate, see Table 1 for exact locations (i.e. pile numbers). Locations can be moved to avoid conflicts with construction methods and/or utilities; new locations should be reviewed by Middour Consulting.

2) GeoEngineers to determine number and location of observation wells.

3) See Figure 4 for dewatering well construction details.

See Figure 3
For Drawdown Profile

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groundwater control for underground construction

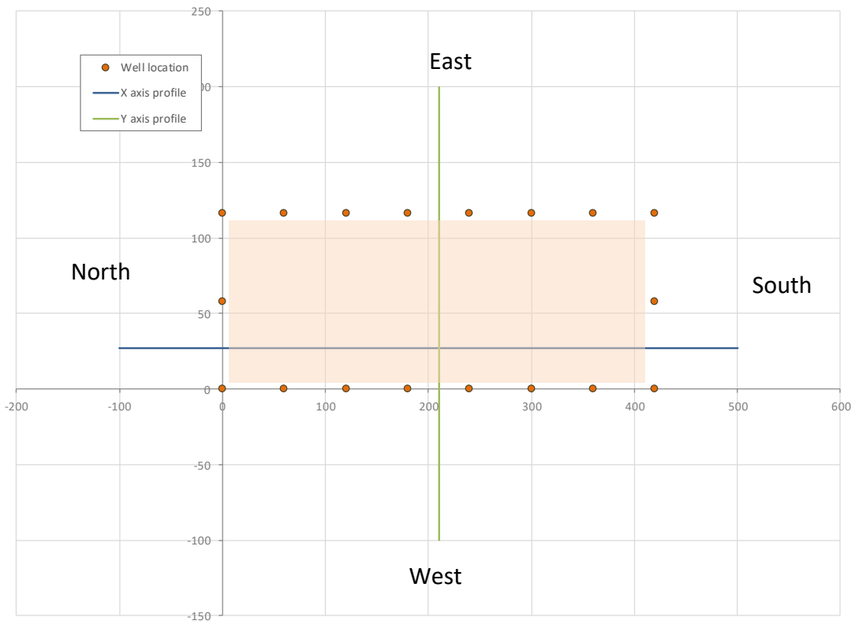
● DEWATERING WELL LOCATIONS

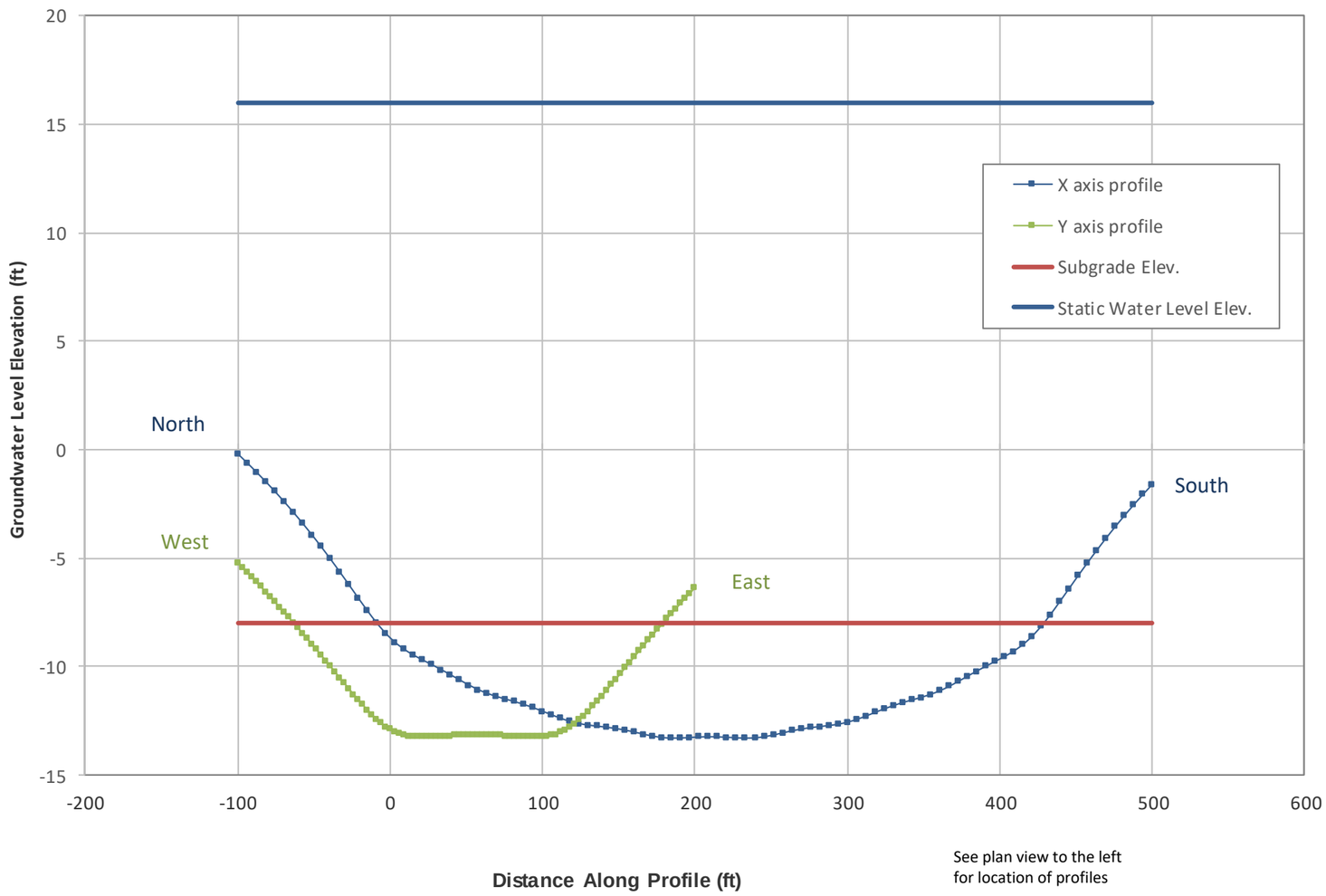
● OBSERVATION WELL LOCATIONS

FIGURE 1
Dewatering System Layout Plan

BLOCK 38 GWCP | Seattle, WA
Project No. 18046002.01 | October 16, 2018

Plan View





See plan view to the left for location of profiles

NOTES

1) Drawdown profiles representative of a transmissivity value of 1.5 ft^2/min and a pumping duration of 2 weeks.

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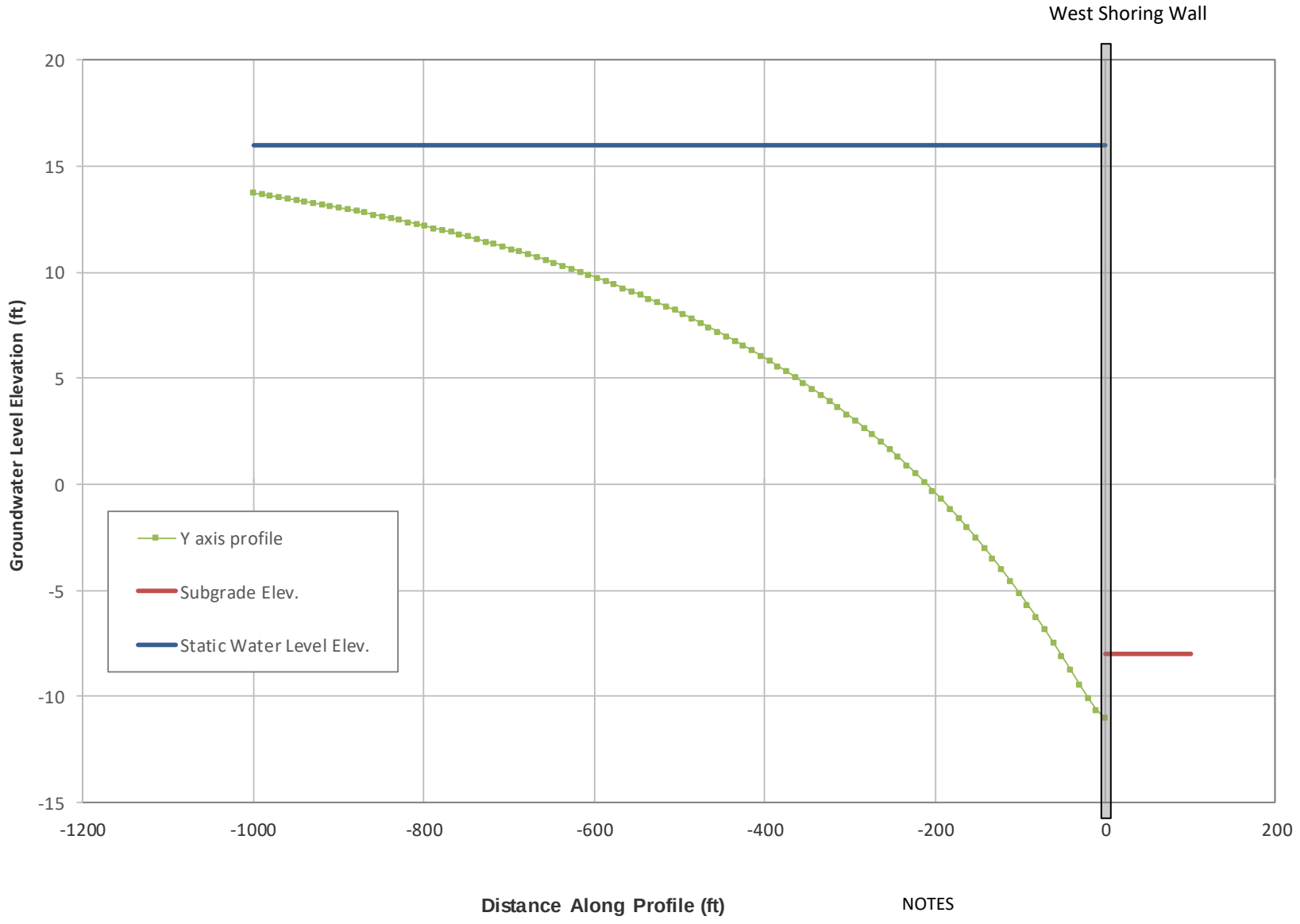
FIGURE 2
Excavation Drawdown Profiles
BLOCK 38 GWCP | Seattle, WA
Project No. 18046002.01 | October 16, 2018



NOTES

1) Drawdown profile representative of a transmissivity value of 1.5 ft^2/min and a pumping duration of 1 month.

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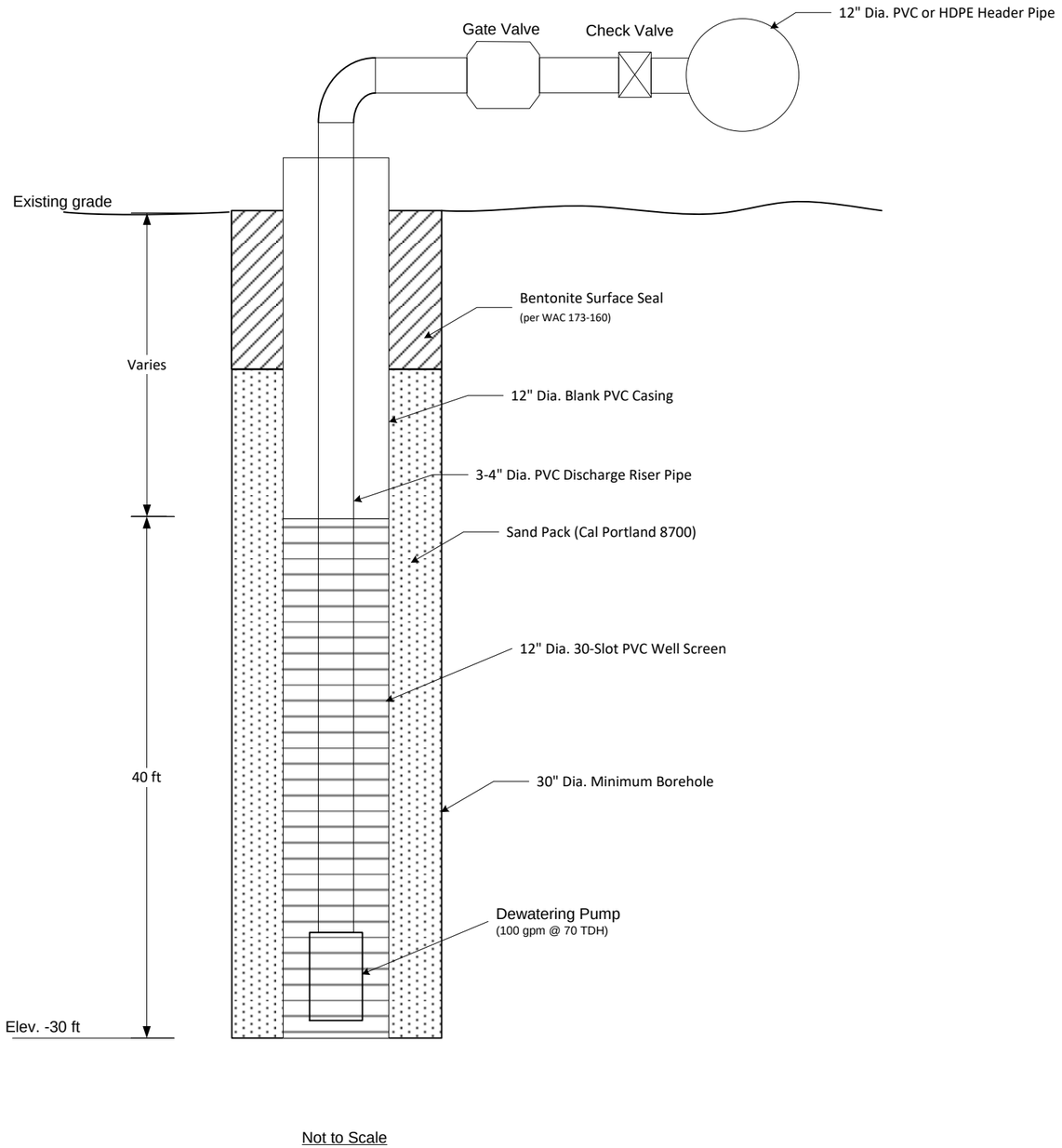
FIGURE 3

Drawdown vs Distance Profile

BLOCK 38 GWCP | Seattle, WA

Project No. 18046002.01 | October 16, 2018



Not to Scale

NOTES:

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Sand Pack: The available data indicate a dewatering well gravel pack consisting of Cal Portland 8700 or equivalent shall optimize retention of the formation and well yield. The gradation of the proposed gravel pack is listed on the table below. Well and seal construction shall be consistent with WAC 173-160.

Development: Development is important to improve the hydraulic connection with the aquifer and provide a clean dewatering effluent with time. Each dewatering well shall be developed immediately upon completion. Development methods shall utilize flow-surging and over-pumping until the discharge requirement is achieved. Development data shall be documented to demonstrate that additional development would produce limited improvement.

Pumps: Pumps that are capable of operating in dry well conditions shall be provided in each well. Initially pumps shall be capable of providing up to 100 gpm under 70 feet of total dynamic head (TDH).

Header and Conveyance Piping: The main header and conveyance piping shall be constructed using 12-inch-diameter PVC or HDPE pipe. The piping configuration shall be located on the behind the dewater wells (i.e. away from the excavation) to minimize the potential for damage during excavation.

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The dewatering system should be operated continuously until sufficient structural weight, as determined by the resident structural engineer, is constructed to counteract groundwater lateral and uplift forces.

Well Decommissioning: The dewatering wells should be decommissioned in accordance with WAC 173-160 upon completion of dewatering activities.

Sand Pack Gradations

Sive Size	Grain Size		Cal Portland (8700)		Cal Portland (8720)	
No.	(mm)	(thousandths)	% Finer	% Retained	% Finer	% Retained
3/8	9.51	374.4	100	0	100	0
No. 4	4.75	187.0	65	35	99	1
No. 8	2.38	93.7	4	96	79	21
No. 16	1.19	46.9	3	97	49	51
No. 30	0.595	23.4	1	99	23	77
No. 50	0.297	11.7	0.6	99.4	5	95
No. 100	0.149	5.9	0.4	99.6	0.8	99.2
No. 200	0.074	2.9	0.2	99.8	0.3	99.7

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FIGURE 4
Dewatering System Construction Details
BLOCK 38 GWCP | Seattle, WA
Project No. 18046002.01 | October 16, 2018

APPENDIX G
ENVIRONMENTAL MEDIA MANAGEMENT PLAN

INTERIM ACTION WORK PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Bend | Baker City
California
Oakland | Folsom | Irvine

SUBSURFACE INVESTIGATION REPORT AND ENVIRONMENTAL MEDIA MANAGEMENT PLAN

BLOCK 38 WEST PROPERTY
500 THROUGH 536 WESTLAKE AVENUE NORTH
SEATTLE, WASHINGTON

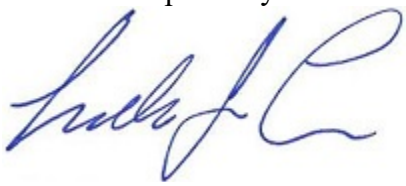
Submitted By:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 397-019

For:
City Investors IX LLC
505 5th Avenue South, Suite 900
Seattle, Washington 98104

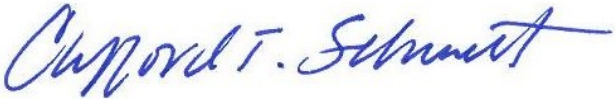
December 28, 2018

Prepared by:



Thaddeus Cline, P.E., L.G., L.H.G.
Principal Civil Engineer/Hydrogeologist

Reviewed by:



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

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FIGURES

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

1998 EA Report	*Level I Environmental Site Assessment, Westlake Avenue Building, 534 Westlake Avenue North, Seattle, Washington* dated March 25, 1998, prepared by Terra Associates, Inc.
1999 EA Report	letter regarding Preliminary Environmental Assessment Update, Westlake Avenue Property (428, 500, 510, and 520 Westlake Avenue North), Seattle, Washington dated April 5, 1999, from Mr. Rob Roberts and Ms. Julie K.W. Wukelic of HartCrowser, Inc. to City Investors VII LLC c/o Mr. Joe Delaney of Foster Pepper & Shefelman
2014 Subsurface Investigation	subsurface investigation conducted at Block 38 West that commenced on July 21, 2014
2018 Subsurface Investigation	subsurface investigation conducted at Block 38 West that commenced on August 20, 2018
bgs	below ground surface
Block 38 East	the eastern half of the block between Mercer Street to the north, Westlake Avenue North to the west, Republican Street to the South, and a north-south–trending alley bisecting the block to the east
Block 38 West	the western half of the block between Mercer Street to the north, Westlake Avenue North to the west, Republican Street to the South, and a north-south–trending alley bisecting the block to the east
BTEX	benzene, toluene, ethylbenzene, and xylenes
Building	the new multi-story mixed-use building to be constructed on Block 38 West
City Investors	City Investor IX LLC
Cleanup Action	construction mass excavation with construction dewatering and disposal of contaminated soil off Block 38 West
COCs	constituents of concern
COPCs	constituents of potential concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CVOCs	chlorinated volatile organic compounds
DRO	total petroleum hydrocarbons as diesel-range organics

Ecology	Washington State Department of Ecology
Ecology Guidance	*Guidance for Remediation of Petroleum Contaminated Sites* dated June 2016, prepared by the Washington State Department of Ecology
EMMP	*Subsurface Investigation Report and Environmental Media Management Plan, Block 38 West Property, 500 through 536 Westlake Avenue North, Seattle, Washington* dated December 28, 2018, prepared by Farallon Consulting, L.L.C. (this document)
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
GRO	total petroleum hydrocarbons as gasoline-range organics
Lift Maps	Environmental Media Management Plan Figures 7 through 13
mg/kg	milligrams per kilogram
µg/l	micrograms per liter
msl	mean sea level
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
ORO	total petroleum hydrocarbons as oil-range organics
PAHs	polycyclic aromatic hydrocarbons
Republican Street Drain	the 72-inch-diameter King County sewer main line in the Republican Street right-of-way and its backfill
Subsurface Investigations	the 2014 and 2018 Subsurface Investigations conducted at Block 38 West
SVOCs	semivolatile organic compounds
total cPAHs TEC	a toxic equivalent concentration using a method prescribed by MTCA (WAC 173-340-708[e])
VOCs	volatile organic compounds
WAC	Washington Administrative Code

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Subsurface Investigation Report and Environmental Media Management Plan (EMMP) on behalf of City Investors IX LLC (City Investors) to support planning for redevelopment of the property at 500 through 536 Westlake Avenue North in the South Lake Union area of Seattle, Washington comprising the western half of the block between Mercer Street to the north, Westlake Avenue North to the west, Republican Street to the South, and a north-south–trending alley bisecting the block to the east, which is herein referred to as Block 38 West (Figures 1 and 2). The eastern half of the same block is referred to as Block 38 East; the whole block, including Blocks 38 West and 38 East, is referred to as Block 38. This EMMP summarizes results of subsurface investigations conducted to date at Block 38 West and presents a general plan for remediation of soil and groundwater impacted by prior releases of hazardous substances during planned redevelopment mass excavation at Block 38 West.

Redevelopment of Block 38 West is scheduled to begin in mid- to late 2019 and will entail construction of a multi-story mixed-use building (the Building) with a preliminary design for five stories above street level and four levels of parking below street level. The planned finish floor elevation of the lowest level of parking is 3.25 feet below mean sea level (North American Vertical Datum of 1988) (msl). Construction of the Building will require mass excavation across the entirety of Block 38 West. The excavation sidewalls will be retained using soldier pile and lagging shoring methods in conjunction with four rows of tiebacks. The bottom of footing elevation for the majority of the foundation will be about 8 feet below msl, or approximately 39 to 49 feet below existing grade throughout Block 38 West. Excavation for elevator cores likely will extend below the mass excavation subgrade (GeoEngineers, Inc. 2018; Middour Consulting LLC 2018).

Hazardous substances were detected in soil and groundwater samples collected from some locations at Block 38 West during subsurface investigations. Construction of the Building will require managing soil and groundwater impacted with hazardous substances. At some locations sampled during subsurface investigations at Block 38 West, hazardous substances were detected in soil or groundwater samples at concentrations exceeding Method A cleanup levels specified in the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340). Cleanup of contaminated soil and groundwater will be conducted in conjunction with construction of the Building as an independent action in accordance with MTCA without direct oversight or approval by the Washington State Department of Ecology (Ecology).

1.1 PURPOSE AND OBJECTIVES

The purpose of this EMMP is to document results of subsurface investigations conducted to date at Block 38 West, and to provide general methodologies for testing, excavation, handling, and disposal of impacted soil (including soil exceeding applicable cleanup levels) as required by MTCA during redevelopment construction excavation.

1.2 REPORT ORGANIZATION

This EMMP has been organized into the following sections:

- **Section 2, Background,** provides a description of the property comprising Block 38 West, a summary of land uses and prior environmental assessments of Block 38 West and vicinity, and a description of constituents and media of potential concern at Block 38 West.
- **Section 3, Subsurface Investigations,** presents a summary of the methods and results of two subsurface investigations conducted by Farallon at Block 38 West.
- **Section 4, Construction Excavation,** provides a summary of the selected cleanup action, including remedial action objectives, schedule, and restoration time frame; describes how the cleanup action will be managed; and describes how the cleanup action will be documented.
- **Section 5**, **References,** provides a list of the source materials used in preparing this EMMP.
- **Section 6**, **Limitations,** provides Farallon's limitations associated with this EMMP.

2.0 BACKGROUND

This section provides a description of Block 38 West and a summary of current and historical uses of Block 38 West and near vicinity.

2.1 BLOCK 38 WEST DESCRIPTION

Block 38 West is in a commercial and light industrial area zoned as mixed residential/commercial in the South Lake Union Area (SM-SLU 175/85-280) approximately 1 mile north of downtown Seattle. According to King County (2013), Block 38 West comprises King County Parcel Nos. 1983200196 on the northern portion of Block 38 West (534 and 536 Westlake Avenue North), 1983200180 in the central portion of Block 38 West (520 Westlake Avenue North), and 1983200170 on the southern portion of Block 38 West (500 and 510 Westlake Avenue North).

Block 38 West totals approximately 0.34 acre of land developed with structures currently used for retail, temporary offices, storage, and automobile parking. Adjacent street elevations vary from about 41 feet above msl on Republican Street adjoining the southern portion of Block 38 West to about 31 feet above msl on Mercer Street adjoining the northern portion of Block 38 West. The alley bisecting Block 38 and along the eastern boundary of Block 38 West is accessed from Mercer Street and descends from street level to an elevation of about 23 feet above msl, and is used for vehicle access to a parking garage on Block 38 East and access to garage parking and a loading dock on Block 38 West. A historical timber framed trestle extends north from Republican Street into the Block 38 alley approximately 120 feet, to a point approximately 18 feet above the fenced-off southern portion of the alley.

A 72-inch-diameter King County sewer main line is present in the Republican Street right-of-way approximately 20 feet south of the southern boundary of Block 38 West. This sewer line and its backfill (Republican Street Drain) receive inflows from Seattle Public Utilities combined mains and flows westward toward Elliott Bay. The Republican Street Drain is known to draw shallow groundwater flow in the South Lake Union area, which then drains through the backfill material toward the west. The invert elevation of the reinforced concrete pipe of the Republican Street Drain at a manhole immediately southwest of Block 38 West is approximately 14.2 feet above msl and approximately 27 feet below ground surface (bgs).

2.2 BLOCK 38 WEST AND VICINITY LAND USES AND PRIOR ENVIRONMENTAL ASSESSMENTS

According to the *Level I Environmental Site Assessment, Westlake Avenue Building, 534 Westlake Avenue North, Seattle, Washington* dated March 25, 1998, prepared by Terra Associates, Inc. (1998) (1998 EA Report), a Level I Environmental Site Assessment was conducted in 1998 for the Westlake Avenue Building on the northernmost parcel of Block 38 West at 534 Westlake Avenue North. The 1998 EA Report concluded that the potential for contamination due to past or current practices at 534 Westlake Avenue North is low. The 1998 EA Report provided the following

information regarding the potential for past or current practices at other properties to affect conditions at 534 Westlake Avenue North:

- Six sites with active petroleum underground storage tanks were identified within a 1/8-mile radius of 534 Westlake Avenue North.
- Forty-four sites with leaking underground storage tanks were identified within a 0.5-mile radius of 534 Westlake Avenue North. Former operation of underground storage tanks at the north-adjacent Unocal property (Unocal station #5353 at 600 Westlake Avenue North, north of Block 38 West across Mercer Street; now also known as Block 37), at the Rosen property on Block 38 East (960 Republican Street), and at 500 Terry Avenue North (also referred to in prior documents as the Ivars Commissary) resulted in confirmed petroleum releases. The 1998 EA Report indicated cleanup actions had occurred at these properties, and acknowledged the potential for properties with leaking underground storage tanks to affect subsurface media at 534 Westlake Avenue North.
- Fifteen confirmed and suspected contaminated sites were identified within a 1-mile radius of 534 Westlake Avenue North. The 1998 EA Report concluded these properties posed minimal threat to 534 Westlake Avenue North.
- A coal gas facility (likely used for storage of gas manufactured at the coal gas plant 2 miles north, according to the 1998 EA Report) formerly was located at 815 Mercer Street, two blocks west of Block 38 West (the property known as Block 50). No documentation was available to the authors of the 1998 EA Report indicating that soil or groundwater contamination associated with the coal gas facility was present, and the 1998 EA Report considered the risk to 534 Westlake Avenue North from releases or operations at the former coal gas facility on Block 50 to be low.

HartCrowser, Inc. (1999) issued a letter regarding Preliminary Environmental Assessment Update, Westlake Avenue Property (428, 500, 510, and 520 Westlake Avenue North), Seattle, Washington dated April 5, 1999, from Mr. Rob Roberts and Ms. Julie K.W. Wukelic to City Investors VII LLC c/o Mr. Joe Delaney of Foster Pepper & Shefelman (1999 EA Report) pertaining to the two southern parcels of Block 38 West at 500, 510, and 520 Westlake Avenue North and a parcel at 428 Westlake Avenue North on the south-adjacent block (the property known as Block 39). The 1999 EA Report indicated a moderate potential for subsurface contamination at these properties based on field reconnaissance and environmental records review. The properties were not identified on agency environmental lists reviewed. Information presented in the 1999 EA Report pertaining to the two southern parcels of Block 38 West, in addition to information provided in the 1998 EA Report, is summarized below.

- Two blacksmith shops formerly present on the two southern parcels of Block 38 West, at 500 Westlake Avenue North from at least 1905 until 1919 and at 524 Westlake Avenue North, represented some potential for petroleum, solvent, or metals contamination to Block 38 West.
- A heating oil underground storage tank formerly present beneath the Republican Street sidewalk south of 500 Westlake Avenue North represented a low potential for petroleum

contamination. The underground storage tank was decommissioned in 1989 with documentation indicating that no petroleum-affected soil was observed.

- Hazardous building materials, including asbestos, lead-based paint, and polychlorinated biphenyls, potentially are present in the structures on the two southern parcels of Block 38 West.
- Former uses of the southern parcel of Block 38 West at 500 and 510 Westlake Avenue North since the 1890s include lumber storage, the blacksmith shop at 500 Westlake Avenue North, and retail/commercial (i.e., auto parts, appliances, school/office supply, furniture storage, clothing, outdoor equipment).
- Former uses of the middle parcel of Block 38 West at 520 Westlake Avenue North since the 1890s include lumber storage, a horse stable and wagon house, a blacksmith wagon shop at 524 Westlake Avenue North, auto repair, a veterinary hospital, parking, and retail operations.

2.3 GEOLOGY AND HYDROGEOLOGY

The Puget Sound region is underlain by Quaternary sediments deposited by a number of glacial episodes. Deposition occurred prior to, during, and following glacial advances and retreats, creating the existing subsurface conditions. The naturally occurring sediments in the South Lake Union area 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 glacial advances and recessions. Advance outwash sediments have been largely over-consolidated by the overriding ice sheets. These advance outwash sediments are overlain by a till-like layer and/or recessional outwash sediments that are less consolidated (Galster and Laprade 1991).

Block 38 West is approximately 600 feet south of Lake Union. According to a U.S. Geological Survey (1909) Seattle Special quadrangle map, the original shoreline of Lake Union extended farther south from its current location, to as far as the current location of Mercer Street. In the late 1800s and the early 1900s, the southern end of Lake Union was filled with sawdust and wood waste generated by lumber mill operations and with other fill materials.

A cross-section depicting the general lithology and hydrogeology of Block 38 West is presented on Figure 3, which is based on field observations made during the Subsurface Investigations as documented in boring logs (Appendix A). The location of the cross-section is shown on Figure 2. According to Farallon observations made during subsurface investigations conducted on adjacent properties and at Block 38 West and a review of boring logs from geotechnical drilling (GeoEngineers, Inc. 2018), three general stratigraphic units are present at Block 38 West:

- The shallowest unit consists of fill material with recent deposits, including lacustrine sediments, and comprises silt, sandy silt, and sand with variable gravel content. In some

areas, this shallowest unit includes wood waste, peat, and organic silt. The shallowest unit is present across Block 38 West.

- The shallowest unit is underlain by a dense stratum of heterogeneous and anisotropic native glacially consolidated deposits comprising dense sand and variable silt and gravel content and very stiff to hard silt with variable sand and gravel content. According to GeoEngineers, Inc. (2018), the contact elevation to glacially consolidated soils typically slopes down to the north toward Lake Union, and at Block 38 West occurs between approximately 11 feet above msl and 6 feet below msl and represents competent bearing soils.
- Although not encountered to the maximum depth explored during the Subsurface Investigations (about 34 feet below msl at monitoring well FMW-130), glacially consolidated advance outwash deposits underlie the intermediate unit and comprise very dense sand with minor silt. This unit was encountered between about 20 and 30 feet below msl on the north-adjacent properties (Block 31 and Block 37).

Three general water-bearing zones are present at Block 38 West:

- The uppermost water-bearing zone encountered in the fill and underlying recent deposits is referred to in documents for other properties in the South Lake Union area as the Shallow Water-Bearing Zone. The Shallow Water-Bearing Zone at Block 38 West varies in thickness from approximately 5 to 15 feet and was encountered at depths ranging from approximately 5 to 8 feet bgs. Monitoring wells at Block 38 West are screened within the Shallow Water-Bearing Zone, with the exception of monitoring wells FMW-130 and FMW-136, which are screened in glacially consolidated deposits comprising the Intermediate Water-Bearing Zone described below.
- A deeper water-bearing zone below the Shallow Water-Bearing Zone, referred to as the Intermediate Water-Bearing Zone, is present in the glacially consolidated soil at Block 38 West encountered at approximate elevations between 5 and 10 feet above msl (approximately 15 to 20 feet bgs). The Intermediate Water-Bearing Zone is continuous across Block 38 West. Farallon has concluded based on the Subsurface Investigations that the Shallow Water-Bearing Zone at Block 38 West is in direct communication with the Intermediate Water-Bearing Zone (i.e., there is no aquitard separating these groundwater-bearing zones).
- Although not encountered to the maximum depth explored the during the Subsurface Investigations (about 34 feet below msl at monitoring well FMW-130), based on other subsurface investigations conducted in the vicinity, a third water-bearing zone, referred to as the Deep Outwash Aquifer, is presumed to be present at an approximate elevation of 35 feet below msl (approximately 60 feet bgs) in dense advance outwash sand deposits consisting of sand with minor silt. The Deep Outwash Aquifer was encountered at elevations between about 20 to 30 feet below msl at properties north of Mercer Street (Block 31 and Block 37). The thickness of the Deep Outwash Aquifer is not known. The occurrence of the Deep Outwash Aquifer and groundwater quality will be assessed during an upcoming investigation that will be reported separate from the EMMP.

2.4 CONSTITUENTS AND MEDIA OF POTENTIAL CONCERN

Constituents of potential concern (COPCs) at Block 38 West were selected based on the known historical uses of Block 38 West and vicinity summarized above, historical land fill known to have been placed in this area, and the potential for releases of contaminants at concentrations exceeding MTCA cleanup levels. The COPCs for soil and groundwater at Block 38 West are:

- Total petroleum hydrocarbons as gasoline-range organics (GRO);
- Total petroleum hydrocarbons as diesel-range organics and oil-range organics (DRO and ORO, respectively);
- Benzene, toluene, ethylbenzene, and xylenes (BTEX);
- Volatile organic compounds (VOCs), including chlorinated volatile organic compounds (CVOCs);
- Polycyclic aromatic hydrocarbons (PAHs) and other semivolatile organic compounds (SVOCs), including carcinogenic polycyclic aromatic hydrocarbons (cPAHs);
- Naphthalenes; and
- Metals (i.e., arsenic, cadmium, chromium, mercury, and lead).

3.0 SUBSURFACE INVESTIGATIONS

Results of the subsurface investigations conducted by Farallon at Block 38 West are summarized below. GeoEngineers, Inc. (2018) has separately presented results from its geotechnical engineering evaluation conducted in support of Block 38 West redevelopment.

Farallon conducted two subsurface investigations at Block 38 West. The first subsurface investigation commenced on July 21, 2014 and entailed installing and collecting samples from a 55-foot-deep monitoring well outside the existing building in the loading dock area, and collecting soil, reconnaissance groundwater, and groundwater samples (2014 Subsurface Investigation). The second subsurface investigation commenced on August 20, 2018 and entailed drilling at 11 locations within Block 38 West to depths of up to 50 feet bgs, collecting soil and reconnaissance groundwater samples, installing and collecting samples from five new monitoring wells, and collecting samples from the monitoring well installed during the 2014 Subsurface Investigation (2018 Subsurface Investigation). The objective of the 2014 Subsurface Investigation and the 2018 Subsurface Investigation (collectively, the Subsurface Investigations) was to obtain lithologic, hydrologic, and analytical data to characterize environmental conditions at Block 38 and inform the selection of remedial actions as set forth in this EMMP. Additionally, some of the data are to be used for geotechnical engineering design by others.

3.1 2014 SUBSURFACE INVESTIGATION

The 2014 Subsurface Investigation entailed the installation of monitoring well FMW-130 in the loading dock area outside the existing building (Figure 2). Methodology employed and results of the 2014 Subsurface Investigation are summarized below.

Soil samples were collected continuously during drilling of the boring for monitoring well FMW-130 to a depth of 60 feet bgs using sonic drilling methods on July 21 and 22, 2014 for lithologic logging. Soil samples also were obtained at 5-foot sampling intervals from a split-spoon sampler driven by a 140-pound hammer 18 inches into the soil formation for collection of blow counts (a metric for evaluating soil density required for geotechnical engineering analysis).

A Farallon Geologist observed subsurface conditions and prepared a boring log and well completion diagram for monitoring well FMW-130 (Appendix A). The information recorded on the boring log included soil types encountered, visual and olfactory evidence of contamination, and volatile organic vapor concentrations as measured using a photoionization detector. Soil samples were collected and transferred directly into laboratory-prepared glass sample containers fitted with Teflon-lined lids in accordance with Farallon's standard sampling procedures.

One reconnaissance groundwater sample was collected during drilling for a temporary monitoring well screened from 15 to 20 feet bgs on July 21, 2014. The reconnaissance groundwater sample was collected in general accordance with standard U.S. Environmental Protection Agency (EPA) (1996) low-flow groundwater sampling procedures. A 0.25-inch-diameter tube was inserted to near the center of the screened interval of the temporary monitoring well. Groundwater was

extracted using a peristaltic pump with a flow rate of less than 300 milliliters per minute until a steady flow was established and extracted groundwater cleared, after which the reconnaissance groundwater sample was collected in a laboratory supplied sample container.

Monitoring well FMW-130 was constructed on July 22, 2014 in accordance with the Minimum Standards for Construction and Maintenance of Wells, as established in WAC 173-160. The monitoring well was constructed using 2 inch-diameter Schedule 40 polyvinyl chloride casing and 0.010-inch slotted screen set from 45 to 55 feet bgs (22.8 to 32.8 feet below msl). This interval was selected for placement of the well screen due to the presence of permeable silty sand and well-graded gravel with silt and sand, and elevated photoionization detector readings that suggested the potential presence of VOCs. The monitoring well was completed at grade in a flush-mounted steel monument. The filter pack surrounding the well screen consisted of 10/20 Monterey filter sand from the bottom of the well screen to approximately 2 feet above the well screen. A 2-foot-thick hydrated bentonite pellet seal was emplaced on the top of the filter pack and a grout consisting of a cement and bentonite mix extended from a depth of about 40 feet bgs to about 1.5 feet bgs, where a flush mounted monument was installed at the ground surface. Monitoring well construction details are provided in Appendix A.

The monitoring well was developed by surging and purging with a submersible pump shortly after well construction was completed. Monitoring well FMW-130 was developed until the majority of fine-grained sediment was removed from the well screen and adjacent sand pack. Monitoring well FMW-130 was sampled during three groundwater monitoring events: July 24, 2014; July 3, 2017; and August 30, 2018. Prior to collecting groundwater samples, groundwater was purged with a submersible pump and routed through a flow-through water quality parameter meter. Water quality parameters, including temperature, pH, specific conductance, turbidity, oxidation-reduction potential, and dissolved oxygen, were monitored and recorded. Monitoring well FMW-130 was purged until parameters stabilized prior to collection of a groundwater sample.

Soil, reconnaissance groundwater, and groundwater samples were placed on ice in a cooler under standard chain-of-custody procedures, and delivered to OnSite Environmental Inc. of Redmond, Washington for laboratory analysis. One soil sample collected from the boring advanced for construction of monitoring well FMW-130 at a depth of 20 feet bgs was submitted for laboratory analysis. The soil sample was analyzed for the following constituents:

- GRO by Northwest Method NWTPH-Gx;
- DRO and ORO by Northwest Method NWTPH-Dx;
- BTEX by EPA Method 8021; and
- PAHs and other SVOCs by EPA Method 8270D.

The reconnaissance groundwater sample (collected in July 2014) and two groundwater samples (one sample collected in July 2014 and one collected in July 2017) were analyzed for the following constituents:

- GRO by Northwest Method NWTPH-Gx;

- BTEX by EPA Method 8021 (July 2014 reconnaissance groundwater sample only);
- VOCs, including BTEX and CVOCs, by EPA Method 8260C (July 2014 reconnaissance groundwater sample and groundwater sample collected during the July 2017 groundwater monitoring event); and
- CVOCs only by EPA Method 8260C (reconnaissance groundwater sample and groundwater samples collected during the July 2014 and July 2017 groundwater monitoring events).

3.2 2018 SUBSURFACE INVESTIGATION

The 2018 Subsurface Investigation entailed drilling on Block 38 West at eight locations within the existing building and three locations adjacent to the existing building (Figure 2). Five of the borings were completed as monitoring wells. Methodology and results of the 2018 Subsurface Investigation are summarized below.

Drilling was conducted using a limited access hollow-stem auger drilling rig between August 20 and 24, 2018 to advance 11 soil borings. Four of the borings within the existing building were completed as monitoring wells FMW-132 and FMW-134 through FMW-136, and one boring adjacent to the existing building was completed as monitoring well FMW-133 (Figure 4). Monitoring well screened intervals varied and were generally shallow, between 20.7 feet above msl and 14.9 feet below msl. Soil samples were collected from each boring generally at 5-foot sampling intervals from an 18-inch-long split-spoon sampler driven by a 140-pound hammer in advance of the lead auger into the soil formation for collection of blow counts. A Farallon Geologist observed subsurface conditions and prepared boring logs and well completion diagrams (Appendix A). The information recorded on the boring logs included soil types encountered, visual and olfactory evidence of contamination, and volatile organic vapor concentrations as measured using a photoionization detector. Soil samples were collected and transferred directly into laboratory-prepared glass sample containers fitted with Teflon-lined lids in accordance with Farallon's standard sampling procedures.

One reconnaissance groundwater sample was collected from each of borings FB-1, FB-3, and FB-5 during drilling for temporary monitoring wells. The reconnaissance groundwater samples were collected in general accordance with standard EPA (1996) low-flow groundwater sampling procedures. A 0.25-inch-diameter tube was inserted to near the center of the screened interval of each temporary monitoring well. Groundwater was extracted using a peristaltic pump with a flow rate of less than 300 milliliters per minute until a steady flow was established and extracted groundwater cleared, after which the reconnaissance groundwater sample was collected.

Monitoring wells FMW-132 through FMW-136 were constructed in accordance with the Minimum Standards for Construction and Maintenance of Wells, as established in WAC 173-160. The monitoring well was constructed using 1-inch-diameter Schedule 40 polyvinyl chloride casing and 0.010-inch slotted screen prepacks with Monterey filter sand. The monitoring wells were completed at grade in flush-mounted steel monument. A hydrated bentonite pellet seal was emplaced from the top of the filter pack to a depth of approximately 1 foot bgs. A 0.5-foot-thick

concrete surface seal was placed around the wells from the top of the bentonite to approximately 1 foot bgs and surrounding the flush-mounted monument up to the ground surface. Monitoring well construction details are provided in Appendix A.

The monitoring wells were developed using surging and purging with a peristaltic pump shortly after well construction was completed. Monitoring wells were developed until the majority of fine-grained sediment was removed from the well screen prepack assemblies. Monitoring wells FMW-132 through FMW-136, and monitoring well FMW-130 installed during the 2014 Subsurface Investigation, were sampled on August 30, 2018. Prior to collecting groundwater samples, groundwater was purged with a peristaltic pump and routed through a flow-through water quality parameter meter. Water quality parameters, including temperature, pH, specific conductance, turbidity, oxidation-reduction potential, and dissolved oxygen, were monitored and recorded. Monitoring wells were purged until parameters stabilized prior to collection of groundwater samples.

Soil, reconnaissance groundwater, and groundwater samples were placed on ice in a cooler under standard chain-of-custody procedures, and delivered to OnSite Environmental Inc. of Redmond, Washington for laboratory analysis. Select soil samples were analyzed for the following constituents:

- GRO by Northwest Method NWTPH-Gx;
- DRO and ORO by Northwest Method NWTPH-Dx;
- BTEX by EPA Method 8021;
- CVOCs by EPA Method 8260C;
- PAHs and other SVOCs by EPA Method 8270D; and
- Arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver by EPA Series Methods 200/6000/7000.

Reconnaissance groundwater samples were analyzed for the following constituents:

- GRO by Northwest Method NWTPH-Gx;
- DRO and ORO by Northwest Method NWTPH-Dx;
- BTEX by EPA Method 8021; and
- VOCs, including CVOCs and BTEX, by EPA Method 8260C.

Groundwater samples were analyzed for the following constituents:

- GRO by Northwest Method NWTPH-Gx;
- DRO and ORO by Northwest Method NWTPH-Dx;
- CVOCs and BTEX by EPA Method 8260C; and
- PAHs by EPA Method 8270D.

3.3 ANALYTICAL RESULTS

A summary of the analytical results for soil and groundwater samples collected by Farallon during Subsurface Investigations is presented below.

3.3.1 Soil

COPCs detected in soil samples are summarized in Figure 2. Analytical results for soil samples are presented in Tables 1 through 4 and described below. Laboratory analytical reports are provided in Appendix B.

3.3.1.1 Petroleum Hydrocarbons

A total of 28 soil samples, collected at depths up to 35 feet bgs, were analyzed for petroleum hydrocarbons.

DRO was detected in 7 of the 28 soil samples at concentrations ranging from 97 to 730 milligrams per kilogram (mg/kg), less than the MTCA Method A cleanup level of 2,000 mg/kg. These samples were collected from 7 of the 11 borings at depths ranging from 2.5 to 15 feet bgs. The laboratory report indicated that the DRO results may be impacted by hydrocarbons detected in the oil range (i.e., ORO) in two of the soil samples analyzed.

ORO was detected in 10 of the 28 soil samples at concentrations ranging from 250 to 3,700 mg/kg. These samples were collected from 8 of the 11 borings at depths ranging from 2.5 to 15 feet bgs. ORO was detected at concentrations exceeding the MTCA Method A cleanup level of 2,000 mg/kg at two locations: in a sample collected from boring FB-1 at a depth of 5 feet bgs, and in the boring for monitoring well FMW-132 in the existing building and within about 20 feet west of boring FB-1 at a depth of 5 feet bgs.

Two soil samples collected from boring FB-1, including the soil sample collected at a depth of 5 feet bgs, were re-analyzed for DRO and ORO after using the silica gel cleanup process intended to remove interference in analytical results presented by natural organic material in the sample aliquot, which could contribute to reported petroleum hydrocarbon concentrations using the standard analytical method without cleanup. DRO and ORO analyzed using silica gel cleanup were detected at lower concentrations than detected in the two soil samples analyzed without cleanup, suggesting some interference from natural organic material in these soil samples.

GRO was detected in one soil sample collected from boring FB-6 at a depth of 2.5 feet bgs at a concentration less than the MTCA Method A cleanup level of 100 mg/kg. The laboratory report indicated that the chromatogram for the GRO detected in the soil sample from boring FB-6 was not a typical gasoline.

3.3.1.2 Polycyclic Aromatic Hydrocarbons, Other Semivolatile Organic Compounds and Chlorinated Volatile Organic Compounds

Total cPAHs were calculated as a toxic equivalent concentration using a method prescribed by MTCA (WAC 173-340-708[e]): total cPAHs TEC. The calculation is based on a toxicity equivalency factor-weighted sum of concentrations of individual cPAHs.[1]

A total of 20 soil samples, collected at depths up to 35 feet bgs, were analyzed for cPAHs, naphthalenes, other SVOCs, and 10 soil samples for CVOCs.

Total cPAHs TEC was detected in 6 of the 20 soil samples submitted for laboratory analysis at concentrations ranging from 0.036 to 12.5 mg/kg. These samples were collected from 5 of the 11 borings at depths ranging from 2.5 to 15 feet bgs. Total cPAHs TEC was detected at concentrations exceeding the MTCA Method A cleanup level of 0.1 mg/kg in 5 of the 6 soil samples where total cPAHs TEC was detected. The following five locations where total cPAHs TEC exceeded the MTCA Method A cleanup level are described below:

- A concentration of 3.4 mg/kg in the soil sample collected from boring FB-1 at 5 feet bgs;
- A concentration of 15 mg/kg in the soil sample collected from boring FB-2 at 5 feet bgs;
- A concentration of 0.52 mg/kg in the soil sample collected from boring FB-4 at 10 feet bgs;
- A concentration of 0.65 mg/kg in the soil sample collected from boring FB-6 at 2.5 feet bgs; and
- A concentration of 12.5 mg/kg in the soil sample collected from the boring for monitoring well FMW-132 at 5 feet bgs.

A total naphthalene concentration was calculated using the method prescribed by MTCA. The calculation is a sum of concentrations of three individual naphthalenes.[2] Total naphthalenes were detected in 13 of the 20 soil samples submitted for laboratory analysis at concentrations ranging from 0.029 to 6.6 mg/kg. The samples were collected from 9 of the 11 borings at depths ranging from 2.5 to 30 feet bgs. Total naphthalenes were detected at concentrations exceeding the MTCA Method A cleanup level of 5 mg/kg at one location, the boring for monitoring well FMW-132 at a depth of 5 feet bgs.

Some non-carcinogenic PAHs and other SVOCs[3] were detected at concentrations exceeding laboratory reporting limits in 13 of the 20 soil samples submitted for laboratory

[1] Benzo(a)Pyrene, benzo(a)Anthracene, benzo(b)Fluoranthene, benzo(j,k)Fluoranthene, chrysene, dibenzo(a,h)Anthracene, and indeno(1,2,3-cd)Pyrene.
[2] Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene.
[3] Acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)Perylene, fluoranthene, fluorene, phenanthrene, pyrene, 2,4-dimethylphenol, carbazole, and dibenzofuran.

analysis, collected from 9 of the 11 borings at depths ranging from 2.5 to 35 feet bgs. Non-carcinogenic PAHs and other SVOCs were not detected at concentrations exceeding MTCA Method A cleanup levels or other MTCA cleanup criteria. Non-carcinogenic PAHs and other SVOCs were not detected at concentrations exceeding laboratory reporting limits in 7 of the 20 soil samples submitted for laboratory analysis, collected at depths of up to 30 feet bgs.

A total of seven soil samples, collected at depths up to 50 feet bgs, were analyzed for CVOCs. CVOCs were not detected at concentrations exceeding laboratory reporting limits in the soil samples collected from borings FB-02, FB-04, and FB-05 and monitoring wells FMW-135 and FMW-136 (Table 4).

3.3.1.3 Metals

Barium, chromium, lead, and/or mercury were detected at concentrations exceeding laboratory reporting limits, but less than MTCA Method A cleanup levels, in all 15 soil samples submitted for laboratory analysis, collected from 9 of the 11 borings at depths ranging from 5 to 35 feet bgs. The other metals tested were not detected at concentrations exceeding MTCA Method A cleanup levels or other MTCA criteria. No Toxicity Characteristic Leaching Procedure laboratory analysis was conducted for disposal characterization, as total metals concentrations were considerably less than 20 times the Toxicity Characteristic Leaching Procedure criteria for metals concentrations in soil acceptable for disposal at Subtitle D permitted facilities.

3.3.2 Groundwater

COPCs detected in groundwater samples are summarized in Figure 4. Stabilized groundwater field parameters measured during groundwater sampling are presented in Table 5. Analytical results for groundwater samples are presented in Tables 6 through 8 and described below. Laboratory analytical reports are provided in Appendix B.

3.3.2.1 Petroleum Hydrocarbons

DRO and/or ORO were detected at concentrations ranging from 260 to 1,000 micrograms per liter (µg/l) in a reconnaissance groundwater sample collected in one boring, and in groundwater samples collected from three monitoring wells. DRO was detected at concentrations exceeding the MTCA Method A cleanup level of 500 µg/l in groundwater samples collected from two locations: at a concentration of 660 µg/l in the reconnaissance groundwater sample collected from borings FB-3; and at a concentration of 1,000 µg/l[4] in the groundwater sample collected from monitoring well FMW-134.

[4] The laboratory report indicated that the concentration of petroleum hydrocarbons characterized as DRO in this groundwater sample was impacted by the hydrocarbons characterized as GRO.

GRO was detected in a reconnaissance groundwater sample collected from one boring and in a groundwater sample collected from one monitoring well at concentrations exceeding the MTCA Method A cleanup level of 800 µg/l:

- GRO was detected at a concentration of 2,100 µg/l in a reconnaissance groundwater sample collected at a depth of 15 to 20 feet bgs (7.2 to 2.2 feet above msl) in the boring for monitoring well FMW-130[5] in July 2014. BTEX also was detected in this reconnaissance groundwater sample, and benzene was detected at a concentration of 5.1 µg/l, slightly exceeding the 5 µg/l MTCA Method A cleanup level. Toluene, ethylbenzene, and xylenes were not detected at concentrations exceeding MTCA Method A cleanup levels.
- GRO was detected at a concentration of 1,100 µg/l[6], exceeding the MTCA Method A cleanup level, in a groundwater sample collected from monitoring well FMW-134.

GRO and BTEX were not detected at concentrations exceeding laboratory reporting limits in the other groundwater samples collected at Block 38 West.

3.3.2.2 Polycyclic Aromatic Hydrocarbons

Total cPAHs TEC was not detected at concentrations exceeding laboratory reporting limits in the six groundwater samples submitted for laboratory analysis.

Total naphthalenes were detected at concentrations ranging from 0.39 to 312 µg/l in three of the seven groundwater samples submitted for laboratory analysis. Total naphthalenes were detected at concentrations exceeding the MTCA Method A cleanup level of 160 µg/l at one location, monitoring well FMW-134.

Some non-carcinogenic PAHs were detected at concentrations exceeding laboratory reporting limits in four of the six groundwater samples submitted for laboratory analysis. The detected concentrations of non-carcinogenic PAHs were less than the MTCA Method A cleanup levels or other applicable MTCA cleanup criteria.

3.3.2.3 Volatile Organic Compounds

BTEX VOCs were discussed above in Section 3.3.2.1, Petroleum Hydrocarbons. Remaining VOCs were not detected at concentrations exceeding their respective MTCA Method A cleanup level for the groundwater samples noted below.

- 1,1,1-Trichloroethane, cis-1,2-Dichloroethene, and chloroform were detected in a groundwater sample collected from monitoring well FMW-130 on July 24, 2014 at concentrations less than their respective MTCA cleanup criteria. These VOC

[5] The screen for monitoring well FMW-130 subsequently was set between elevations of 22.8 to 32.8 feet below msl.

[6] The laboratory report indicated that the concentration of petroleum hydrocarbons characterized as GRO in this groundwater sample was attributed to a single peak on the chromatogram, which was in the range of naphthalene. Naphthalene was quantified at a concentration of 160 µg/l in this groundwater sample.

constituents were not detected in the groundwater sample collected from monitoring well FMW-130 on July 3, 2017. Cis-1,2-Dichloroethene was detected again in a groundwater sample collected from monitoring well FMW-130 on August 30, 2018 at a concentration less than its MTCA cleanup level.

- Acetone was detected in a reconnaissance groundwater sample collected from boring FB-3 on August 23, 2018 at a concentration less than its MTCA cleanup level.
- Chloroform was detected in a groundwater sample collected from monitoring well FMW-135 on August 30, 2018 at a concentration less than its MTCA cleanup level.
- Chloroform was detected in a groundwater sample collected from monitoring well FMW-136 on August 30, 2018 at a concentration exceeding the MTCA cleanup level.

VOCs otherwise were not detected at concentrations exceeding the laboratory reporting limit or their respective MTCA Method A cleanup level in the remaining groundwater samples collected from Block 38 West.

3.4 SUSPECTED SOURCES OF CONTAMINATION

No specific uses or features have been confirmed as the source of soil and groundwater contamination at Block 38 West. Suspected sources of contamination include:

- Adjacent properties with documented petroleum releases referred to in Section 2.2, Block 38 West and Vicinity Land Uses and Prior Environmental Assessments, and migration to Block 38 West via groundwater transport from properties including the following:
  - Rosen property on Block 38 East (960 Republican Street);
  - Ivars Commissary (500 Terry Avenue North); and
  - Former Unocal station (600 Westlake Avenue North, Block 37).
- Waste constituents, including naphthalenes and PAH constituents, migrating to Block 38 West via groundwater transport from the former coal gas facility (815 Mercer Street, Block 50).
- Possible spills and leaks of petroleum constituents associated with former equipment or auto parking/repair operations, blacksmith shops, and/or heating oil storage at Block 38 West.
- Possible placement of contaminated fill material at Block 38 West prior to construction of the existing building.
- Other possible unidentified sources beyond the boundaries of Block 38 West.

3.5 CONSTITUENTS AND MEDIA OF CONCERN

The results of the Subsurface Investigations indicate constituents of concern (COCs) and media of concern as summarized below.

3.5.1 Constituents of Concern

COCs identified for cleanup at Block 38 West consist of those COPCs detected in soil or groundwater samples collected from Block 38 West at concentrations exceeding MTCA Method A cleanup levels or other applicable MTCA cleanup criteria.

The COCs for soil are:

- ORO;
- Total naphthalenes; and
- Total cPAHs TEC.

The COCs for groundwater are:

- GRO;
- Benzene;
- DRO; and
- Total naphthalenes.

Chloroform was detected at a concentration exceeding the MTCA Method A cleanup level in a groundwater sample collected from monitoring well FMW-136 on August 30, 2018. Chloroform was detected in two other groundwater samples and in the water sample collected from the potable water supply, which was used during drilling. Chloroform is a byproduct of the treatment of municipal water supplies and also is a common contaminant in analytical laboratories and so was not retained as a COC for groundwater. Potable water was introduced to the subsurface during drilling to help control heaving sands and was subsequently recovered during well development. Potable water also can be introduced to the subsurface from leaking water supply and/or sewer piping in the vicinity.

3.5.2 Media of Concern

The media of concern at Block 38 West are soil and groundwater.

3.6 BLOCK 38 HYDROGEOLOGY

Groundwater levels were measured during the August 30, 2018 groundwater sampling event. Depth to water in monitoring wells FMW-130 and FMW-132 through FMW-136 ranged from 5.14 to 8.66 feet bgs (Table 9). Based on the depth-to-water measurements, groundwater elevations ranged from 16.32 to 18.15 feet msl at Block 38 West (Table 9). Based on groundwater levels measured in wells screened in the Shallow Water-Bearing Zone during the August 30, 2018

groundwater monitoring event (Table 9), the inferred groundwater flow direction for this zone is southerly, with a horizontal hydraulic gradient of approximately 0.006 feet/foot, and is inferred to steepen to the south toward the Republican Street Drain. The groundwater flow direction was not estimated for the Intermediate Water-Bearing Zone or the Deep Outwash Aquifer due to the insufficient number of wells screened in those water-bearing zones. A groundwater elevation contour map for the Shallow Water-Bearing Zone at Block 38 West is provided as Figure 5.

Groundwater flow direction in the vicinity of Block 38 West has been affected in recent years by transient conditions related to construction dewatering activities in the South Lake Union are and the presumed effects of groundwater infiltration into the Republican Street Drain structure or backfill. Other factors affecting groundwater flow direction in the Shallow Water-Bearing Zone at Block 38 West include groundwater recharge at higher elevations on Queen Anne Hill and Capitol Hill flowing eastward and westward, respectively, down toward the South Lake Union area and Lake Union itself; and variable characteristics of water-bearing fill. The groundwater flow direction at Block 38 West likely is variable over time.

3.7 NATURE AND EXTENT OF CONTAMINATION

Based on the results of the Subsurface Investigations, the nature and extent of contamination at Block 38 West is shown on Figure 6 for soil and Figure 4 for groundwater. Figure 3 shows the nature and extent of contamination at Block 38 West in vertical cross-section. Tables 1 through 8 present analytical results for COCs detected in soil and groundwater samples collected at Block 38 West. Figures 7 through 13 show the estimated lateral and vertical extents of impacted soil at Block 38 West in 5-foot-thick lifts for purposes of soil disposal planning during construction excavation.

3.7.1 Soil

COCs for soil were detected at concentrations exceeding their respective MTCA Method A cleanup levels in shallow soil samples collected from the following locations on the eastern portion of Block 38 West:

- Boring FB-1 – ORO and total cPAHs TEC in a soil sample collected from 5 feet bgs;
- Boring FB-2 – total cPAHs TEC in a soil sample collected from 5 feet bgs;
- Boring FB-4 – total cPAHs TEC in a soil sample collected from 10 feet bgs;
- Boring FB-6 – total cPAHs TEC in a soil sample collected from 2.5 feet bgs; and
- The boring for monitoring well FMW-132 – ORO, total naphthalenes, and total cPAHs TEC in a soil sample collected from 5 feet bgs.

COCs detected in soil at concentrations exceeding their respective MTCA Method A cleanup levels at Block 38 West are bounded vertically by soil samples collected from boring FB-1 at a depth of 15 feet bgs, boring FB-2 at a depth of 25 feet bgs, boring FB-4 at a depth of 15 feet bgs, boring FB-6 at a depth of 10 feet bgs, and the boring for monitoring well FMW-133 at a depth of 10 feet bgs.

COCs detected in soil at concentrations exceeding their respective MTCA Method A cleanup levels at Block 38 West are bounded laterally to the west by soil samples collected from the boring for monitoring well FMW-135 and from borings FB-3 and FB-5, and bounded laterally to the south by soil samples collected from the borings for monitoring wells FMW-134 and FMW-136. The lateral extent of COCs detected in soil at concentrations exceeding MTCA Method A cleanup levels is not bounded to the north or to the east, as soil samples could not be collected during the Subsurface Investigations because of access limitations. In advance of or during redevelopment of Block 38 West, soil samples will be collected along the northern portion of the alley to define the eastern extent of shallow soil contamination encountered at Block 38 West.

3.7.2 Groundwater

COCs for groundwater were detected at concentrations exceeding their MTCA Method A cleanup levels in reconnaissance groundwater samples collected from the following locations:

- Boring FB-3 – DRO in a reconnaissance groundwater sample collected from between 17 and 22 feet bgs; and
- The boring for monitoring well FMW-130 in July 2014 – GRO, benzene, and total naphthalenes in a reconnaissance groundwater sample collected from 15 to 20 feet bgs.

COCs for groundwater were detected at concentration exceeding their respective MTCA Method A cleanup levels in groundwater samples collected from the following locations:

- Monitoring well FMW-134 – GRO, DRO, and total naphthalenes; and
- Monitoring well FMW-136 – chloroform.

The lateral extent of COCs in the Shallow Water-Bearing Zone at concentrations exceeding their respective MTCA Method A cleanup levels is not bounded off Block 38 West to the west, south, and east. Monitoring wells were not installed outside the Block 38 West property during the Subsurface Investigations. An assessment of deeper groundwater quality will be conducted in advance of redevelopment and will be reported in a later report. There are no data generated to date that suggest soil or groundwater contamination at Block 38 West currently extends to deeper water-bearing zones.

4.0 CONSTRUCTION EXCAVATION

This section describes the cleanup action selected for Block 38 West (Cleanup Action) and a plan for managing impacted soil during construction. The Cleanup Action will not foreclose future remedial action in the rights-of-way bounding Block 38 West.

For purposes of this document, the terms Contaminated Soil and Contaminated Groundwater refer to soil or groundwater containing COCs at concentrations exceeding MTCA Method A cleanup levels. The terms Impacted Soil and Impacted Groundwater, used in the context of materials management during construction, refer to soil and groundwater containing concentrations of constituents exceeding analytical laboratory reporting limits and criteria for off-site reuse, disposal, or discharge of clean soil or groundwater. Impacted Soil and Impacted Groundwater may, or may not, be considered as Contaminated Soil and Contaminated Groundwater depending on whether COCs were detected at concentrations exceeding MTCA cleanup levels. Management of Impacted Soil necessitates special handling considerations during construction. Impacted Groundwater requires special handling, and may require treatment, to comply with discharge protocols or authorizations. Impacted Soil or Impacted Groundwater may be distinguished from clean media with sample laboratory analysis and/or visual, olfactory, or field screening indications of elevated petroleum concentrations (e.g., staining, petroleum odors, volatile vapors measured with a photoionization detector).

4.1 CLEANUP ACTION OBJECTIVES

The objective of the Cleanup Action is to protect human health and the environment by meeting the requirements of MTCA for the Block 38 West property or the "site" as defined under MTCA.[7]

4.2 SCHEDULE AND RESTORATION TIME FRAME

The Cleanup Action will meet the requirements for cleanup actions under MTCA within an approximately 10-month period of construction, scheduled to begin in mid- to late 2019. Removal and off-site disposal of Contaminated Soil will result in achievement of cleanup standards for soil at Block 38 West over the course of a 2- to 3-month excavation period. Removal and treatment of Contaminated Groundwater will result in achievement of cleanup standards for groundwater at Block 38 West over the course of an estimated 8- to 10-month groundwater withdrawal and treatment period.

4.3 CONSTRUCTION MANAGEMENT

All construction work, including implementation of the Cleanup Action, will be managed by a general contractor selected by City Investors (General Contractor). Numerous specialty subcontractors will provide a range of services during construction of the Building and implementation of the Cleanup Action. Subcontractors most involved with implementation of the

[7] Per WAC 173-340-200, the term "site" is used for the area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise came to be located.

Cleanup Action will perform soil excavation (Excavation Subcontractor) and drilling services (Drilling Subcontractor) for installation of shoring components. Both the Excavation Subcontractor and the Drilling Subcontractor will generate Impacted Soil, which will require disposal at facilities permitted to receive the applicable type of soil. A dewatering consultant and a Contaminated Groundwater treatment consultant (collectively Wastewater Consultants) will provide City Investors with services related to operating the dewatering system and extracting and treating Impacted Groundwater (including Contaminated Groundwater) prior to discharge per a temporary discharge permit. An environmental consultant will provide City Investors with services related to implementation of the Cleanup Action (Environmental Consultant). Farallon has been selected by City Investors as the Environmental Consultant for the Cleanup Action. Implementation of the Cleanup Action will require the Environmental Consultant to consult with City Investors, the General Contractor, the Excavation Subcontractor, the Drilling Subcontractor, and the Wastewater Consultants regarding design and implementation of the Cleanup Action.

4.4 ELEMENTS OF CLEANUP ACTION

The Cleanup Action includes the following general elements that will be conducted during construction of the Building, detailed in the sections that follow. During construction, the contaminated Shallow Water-Bearing Zone and the upper portion of the Intermediate Water-Bearing Zone will be dewatered and contaminated soil removed as part of the excavation activities. After construction, these portions of the Shallow and Intermediate Water-Bearing Zones will no longer exist on the Block 38 West property. A waterproofing and vapor barrier will be installed along the exterior subsurface walls and the subsurface floor of the Building to prevent the Block 38 West property from being re-contaminated by hazardous substances that may remain in the adjoining rights-of-way. Following completion of the construction activities, compliance groundwater monitoring will not be conducted as the Shallow Water-Bearing Zone and upper portion of the Intermediate Water-Bearing Zone will no longer be present on the Block 38 West property.

- **Site preparation** includes decommissioning monitoring wells within the boundaries of Block 38 West, installing erosion-control measures prior to beginning excavation, and installing shoring piles and lagging for the excavation shoring system along the perimeter of Block 38 West.
- **Dewatering and wastewater treatment and discharge** includes installing a dewatering system to achieve sufficient groundwater drawdown to enable excavation to a desired depth, and installing a wastewater treatment system to treat COCs in groundwater extracted from the Shallow and Intermediate Water-Bearing Zones and the Deep Outwash Aquifer to achieve MTCA cleanup standards and the authorized discharge criteria. Discharged groundwater will be monitored to confirm that the authorized discharge limits are met.
- **Contaminated soil management** includes excavation, handling, transportation, and disposal of Contaminated Soil generated during mass excavation across the entirety of Block 38 West to approximately 10 feet below msl, and installation of shoring. Contaminated soil removed from Block 38 West will be managed and disposed of per

Ecology (2016) (Ecology Guidance), the disposal criteria of the disposal facilities selected by City Investors, and applicable hazardous waste regulations.

- **Compliance soil monitoring** includes performance and confirmation soil sampling and analysis to guide the excavation and handling of Contaminated Soil and to document compliance with MTCA Method A cleanup levels.
- **Waterproof concrete and vapor barrier installation** includes current construction plans that specify that the exterior walls and floor slab of the underground portion of the Building will be constructed of waterproof concrete below the water table and a vapor barrier will be installed above the water table. No provisions for drainage are planned or needed. The exterior walls and floor slab of the underground portion of the Building and the additional protective measures of the waterproof concrete and vapor barrier will prevent future migration of and potential exposure to contaminated groundwater, if present, emanating from sources at properties adjacent to or in the vicinity of Block 38 West.

4.4.1 Site Preparation

Preparation for implementation of the Cleanup Action and for construction of the Building includes installation of security and erosion controls per permitted construction plans. Work related to re-routing underground utilities out of the construction area or decommissioning them will be completed before construction excavation. Current construction plans specify that a system of soldier piles and lagging be installed around the outside perimeter of Block 38 West, which will be installed concurrently with implementation of the Cleanup Action.

Prior to construction excavation, the monitoring wells at Block 38 West will require decommissioning in accordance with the *Minimum Standards for Construction and Maintenance of Wells* (WAC 173-160). Each monitoring well will be decommissioned by backfilling the well casing with bentonite chips from the total depth of the installation to surface grade, and hydrating the bentonite with water in accordance with WAC 173-160-381. The flush-mounted well monuments will be removed.

4.4.2 Dewatering and Wastewater Treatment and Discharge

Construction excavation requires installation of a dewatering system and a wastewater treatment system per plans and specifications of the Wastewater Consultants. The dewatering system will achieve drawdown to approximately 2 feet below final subgrade to a maximum depth of approximately 10 feet below msl across Block 38 West for a period of up to approximately 10 months. The wastewater treatment system will treat groundwater extracted from the Shallow and Intermediate Water-Bearing Zones and the Deep Outwash Aquifer sufficient to achieve permit requirements prior to discharge to Lake Union or, alternatively, to meet criteria for discharge to the municipal sanitary sewer.[8]

Middour Consulting LLC (2018) prepared a groundwater control plan and specifications for a dewatering system to draw groundwater below the maximum excavation depth required for the

[8] The wastewater treatment system will be designed to capture and treat stormwater on the construction site.

redevelopment design. Middour Consulting LLC (2018) indicates that eighteen 12-inch-diameter dewatering wells installed in 30- to 36-inch-diameter boreholes drilled around the perimeter of Block 38 West and screened from 10 feet above msl to 30 feet below msl will extract groundwater at a combined rate of about 800 gallons per minute after about 1 week of pumping, tapering to about 540 gallons per minute after a period of about 1 month of operation. Each well will have a pump capable of initially discharging up to 100 gallons per minute under 70 feet of total dynamic head. The dewatering system will be operated continuously until the excavation is complete, the exterior walls and the floor slab are constructed with waterproof concrete below the water table and a vapor barrier above, and sufficient structural weight of the Building is in place to counteract buoyancy. Dewatering system observation wells currently are being planned.

4.4.3 Contaminated Soil Management

Impacted Soil, including the Contaminated Soil generated during construction of the Building, will require special handling and disposal measures beyond those needed for handling and disposing of clean soil. Contaminated Soil will be excavated, segregated, stored temporarily, and disposed of off the site in accordance with Washington State Solid Waste Management Laws and Regulations (Chapter 70.95 of the Revised Code of Washington; WAC 173-351 and 173-304) and the Ecology Guidance. Based on data collected to date, approximately 76,000 tons of Impacted Soil is estimated to be present at Block 31 West, of which less than about 10 percent is estimated to be Contaminated Soil. Management of Impacted Soil, including Contaminated Soil, will be conducted concurrently with other construction activities such as shoring, dewatering, and excavation of Category 1 soil or clean soil that meets criteria for reuse as clean fill or meets acceptance criteria for disposal at a facility or site selected by the Excavation Subcontractor (Table 10). Appendix C includes soil data representative of Category 1 Soil at Block 38 West. Construction excavation will result in elimination of the Shallow Water-Bearing Zone and the upper portion of the Intermediate Water-Bearing Zone to the depth of final subgrade at Block 38 West.

Construction workers encountering Impacted Soil will have completed 40-Hour Hazardous Waste Operations and Emergency Response training in accordance with Part 1910.120 of Title 29 of the Code of Federal Regulations and will have completed Annual 8-Hour Hazardous Waste Operations and Emergency Response refresher training, as needed.

Figures 7 through 13 show the estimated extent of Impacted Soil at Block 38 West in 30-foot-square grid cells and 5-foot-thick lifts (Lift Maps). The estimated extent of Impacted Soil shown on the Lift Maps is based on results from field observations and screening and on laboratory analytical results from the Subsurface Investigation. Lift Maps will be continually updated by the Environmental Consultant as new field-screening results and analytical data become available from performance soil samples collected during the Cleanup Action.

Supplemental characterization of soil, possibly including collection of soil samples from test pits, will be conducted during the Cleanup Action to refine estimated extents of Impacted Soil, including Contaminated Soil. Test pit soil sampling also will serve the purposes of performance and confirmation soil sampling described in more detail in Section 4.4.4, Compliance Soil

Monitoring, and Appendix D, Sampling and Analysis Plan. Test-pit soil sampling and analysis will be conducted by the Environmental Consultant using equipment and an operator provided by the Excavation Subcontractor.

Excavated soil that will be transported off Block 38 West for reuse or disposal will be segregated by category according to Ecology Guidance and/or acceptance criteria of the disposal facility. Four general categories of soil are anticipated to be managed during construction excavation and implementation of the Cleanup Action:

- **Category 1 Soil** has no olfactory, visual, or other evidence of contamination (e.g., odor, staining, sheen, elevated photoionization detector readings) and meets criteria for reuse as clean fill or meets acceptance criteria for disposal at a facility or site selected by the Excavation Subcontractor. Category 1 Soil does not include Impacted Soil and is not a threat to human health or the environment as indicated by the Ecology Guidance and can be reused where allowed under other regulations. Category 1 Soil will be segregated from Impacted Soil to the maximum extent practicable and transported off Block 38 West to the selected destination. Category 1 Soil is indicated by blue-green hatching on the Lift Maps. Appendix C includes soil data representative of Category 1 Soil at Block 38 West.
- **Category 2 Soil** contains COCs or other constituents at concentrations meeting acceptance criteria for disposal at the Category 2 disposal facility selected by City Investors, or by the Excavation Subcontractor with approval from City Investors. Category 2 Soil includes soil that may not contain detected concentrations of petroleum hydrocarbons, but exhibits olfactory, visual, or other evidence of contamination. Category 2 Soil includes Impacted Soil (but not Contaminated Soil) containing COCs and other constituents at concentrations meeting acceptance criteria for the Category 2 Soil disposal facility, and not meeting the criteria for handling as Category 1 Soil. Category 2 Soil is indicated by yellow shading on the Lift Maps.
- **Category 3 Soil** is excavated Impacted Soil containing COCs or other constituents at concentrations not meeting acceptance criteria for disposal at the Category 2 Soil disposal facility, but meeting acceptance criteria for disposal at the Category 3 disposal facility selected by City Investors, or by the Excavation Subcontractor with approval from City Investors. Category 3 Soil may require pre-treatment by the selected disposal facility prior to disposal. Category 3 Soil includes Contaminated Soil and Impacted Soil from Block 38 West containing constituent concentrations not meeting the criteria for disposal as Category 2 Soil. Category 3 Soil is indicated by orange shading on the Lift Maps.
- **Category 3+ Soil** is excavated Impacted Soil containing COCs or other constituents (e.g., wood material) not meeting acceptance criteria for disposal at the Category 3 Soil disposal facility, but meeting acceptance criteria for disposal at the Category 3+ disposal facility selected by City Investors, or by the Excavation Subcontractor with approval from City Investors. Category 3+ Soil may require pre-treatment by the selected disposal facility prior to disposal. Category 3+ Soil includes Contaminated Soil and Impacted Soil from Block 38 West containing constituent concentrations not meeting the criteria for disposal as Category 3 Soil. Category 3+ Soil is indicated by red shading on the Lift Maps.

The Environmental Consultant will observe the construction excavation and drilling during installation of select shoring piles to depths where Impacted Soil or Contaminated Soil is no longer anticipated, as reflected on the Lift Maps. The Environmental Consultant will conduct field screening, following the procedures described in the Sampling and Analysis Plan (provided as Appendix D), in areas of confirmed or suspected Impacted Soil to classify the soil as Category 2 or Category 3 Soil. Field screening may consist of visual observation for evidence of soil staining or discoloration, and/or notation of noticeable odors, and may include use of field instrumentation such as a photoionization detector for detection of volatile vapors. The Environmental Consultant will perform performance and confirmation soil sampling per Section 4.4.4, Compliance Soil Monitoring, and the Sampling and Analysis Plan (Appendix D). The Environmental Consultant will consult with the Excavation Subcontractor and the Drilling Subcontractor as needed regarding management of Impacted Soil based on soil categorization.

If direct loading of excavated soil into trucks is not feasible, temporary stockpiles will be maintained by the Excavation Subcontractor as needed to segregate soil by disposal category until it can be loaded into trucks. The Excavation Subcontractor will use discretion on best means and methods to construct and maintain stockpiles and to prevent intermixing of soil segregated by disposal category to the maximum extent practicable given the constraints of the construction project. The Excavation Subcontractor may consider use of physical barriers such as traffic plates beneath stockpiles to protect clean underlying soil, and/or concrete blocks between stockpiles to prevent commingling of segregated soil. Plastic sheeting should be placed on top of inactive stockpiles to prevent wind or runoff transport of Impacted Soil, and to prevent stockpile cross-contamination pending load-out. Plastic sheeting is not suitable for use beneath stockpiles of Impacted Soil placed on clean soil.

The Environmental Consultant will assist City Investors with manifesting trucks loaded with Impacted Soil, and tracking quantities of soil delivered to disposal facilities. Documentation of soil disposal will be maintained in the project file and used for purposes of regulatory closure under MTCA.

4.4.4 Compliance Soil Monitoring

Requirements for compliance monitoring during implementation of a cleanup action are specified in WAC 173-340-410. Three types of compliance monitoring are identified in MTCA: protection, performance, and confirmation monitoring. This section documents the compliance soil monitoring to be conducted by the Environmental Consultant as part of Cleanup Action.

Health and Safety Plans, including plans for protection monitoring, will be prepared for use by personnel working in the construction excavation. A site-specific Health and Safety Plan will be prepared for use by Farallon as the Environmental Consultant prior to construction excavation. The General Contractor and subcontractors are responsible for their own health and safety, and will follow their own Health and Safety Plans.

Performance and confirmation sampling to be implemented during the Cleanup Action is described in the following sections. Performance sampling includes collection of discrete soil samples to

identify Contaminated Soil for Cleanup Action excavation planning and regulatory purposes and to categorize Impacted Soil for disposal. Confirmation sampling includes collection of discrete soil samples to confirm the removal of Contaminated Soil from Block 38 West and to confirm achievement of soil cleanup standards. Compliance monitoring documentation requirements and the methodology for soil sampling by the Environmental Consultant are provided in the Sampling and Analysis Plan (Appendix D).

4.4.4.1 Performance Soil Sampling

Performance soil sampling includes collection of discrete in-situ soil samples for laboratory analysis to quantify the concentration of COCs (and other constituents required by the disposal facilities) in soil removed from an excavation area with known or suspected Impacted Soil. Results from performance soil sampling conducted to date are indicated on the Lift Maps (Figures 7 through 13) and were used to estimate the limits of Contaminated Soil. Results from future performance soil sampling will be used to refine the estimated lateral and vertical extent of Contaminated Soil and to categorize Impacted Soil for disposal. Key objectives of the performance soil sampling are to minimize the quantity of Impacted Soil requiring disposal as Category 2 or Category 3 Soil and to identify the limits of Contaminated Soil. Results from the performance soil sampling will be used to continually update the Lift Maps, and to track the progress of the Cleanup Action.

The locations and frequency of collection of performance soil samples will be at the discretion of the Environmental Consultant based on professional judgment, requirements for regulatory closure under MTCA, and requirements of the disposal facilities. The frequency of performance soil sampling will be dependent on existing soil analytical data and the results from field screening conducted by the Environmental Consultant, as described in Section 4.4.3, Contaminated Soil Management. If COCs or other constituents required for testing by the disposal facilities are detected in soil samples collected in a particular area, the area may be further divided by the Environmental Consultant into subareas, and additional performance samples may be collected to assess lateral extents. The frequency of performance soil sampling will be higher near the lateral and vertical limits of Contaminated Soil to provide sufficient samples for confirmation sampling. Confirmation soil sampling will be performed as described in Section 4.4.4.2, Confirmation Soil Sampling, to ensure that cleanup standards are met.

4.4.4.2 Confirmation Soil Sampling

Confirmation soil sampling will be conducted once performance soil sampling results indicate the excavation is approaching the lateral and vertical limits of Contaminated Soil. Confirmation soil sampling will consist of collecting and analyzing in-situ soil samples from the base and sidewalls of the excavation to confirm that no COCs are present at concentrations exceeding their respective MTCA cleanup levels. Performance soil sampling locations will be used as confirmation soil sampling points in cases where analytical results for the performance soil samples confirm that cleanup levels have been attained.

4.4.5 Waterproof Concrete and Vapor Barrier Installation

Current construction plans specify that the exterior walls and floor slab of the underground portion of the Building will be constructed along the boundaries of Block 38 West, and the floor will be constructed at approximately 8 feet below msl. The exterior walls and floor slab of the underground portion of the Building will be constructed of waterproof concrete below the water table and a vapor barrier will be installed above the water table. No provisions for drainage are planned or needed. The exterior walls and floor slab of the underground portion of the Building and the additional protective measures of the waterproof concrete and vapor barrier will prevent future migration of and potential exposure to contaminated groundwater, if present, emanating from sources at properties adjacent to or in the vicinity of Block 38 West.

4.5 CLEANUP ACTION COMPLETION REPORT

Following construction completion, the Environmental Consultant will prepare a Cleanup Action Completion Report documenting the Cleanup Action, per WAC 173-340-400(6)(b). The Cleanup Action Completion Report, in addition to reporting documenting the remedial investigation, feasibility study, and Cleanup Action Plan, will provide the technical basis to support a request for a No Further Action determination from Ecology, and a summary of the Cleanup Action, including the limits of the contaminated soil excavation, quantities of contaminated soil disposed of off the site, treatment of groundwater, and results from compliance monitoring.

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6.0 LIMITATIONS

6.1 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 the Site 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 the Site 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 the Site 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.

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

6.2 LIMITATION ON RELIANCE BY THIRD PARTIES

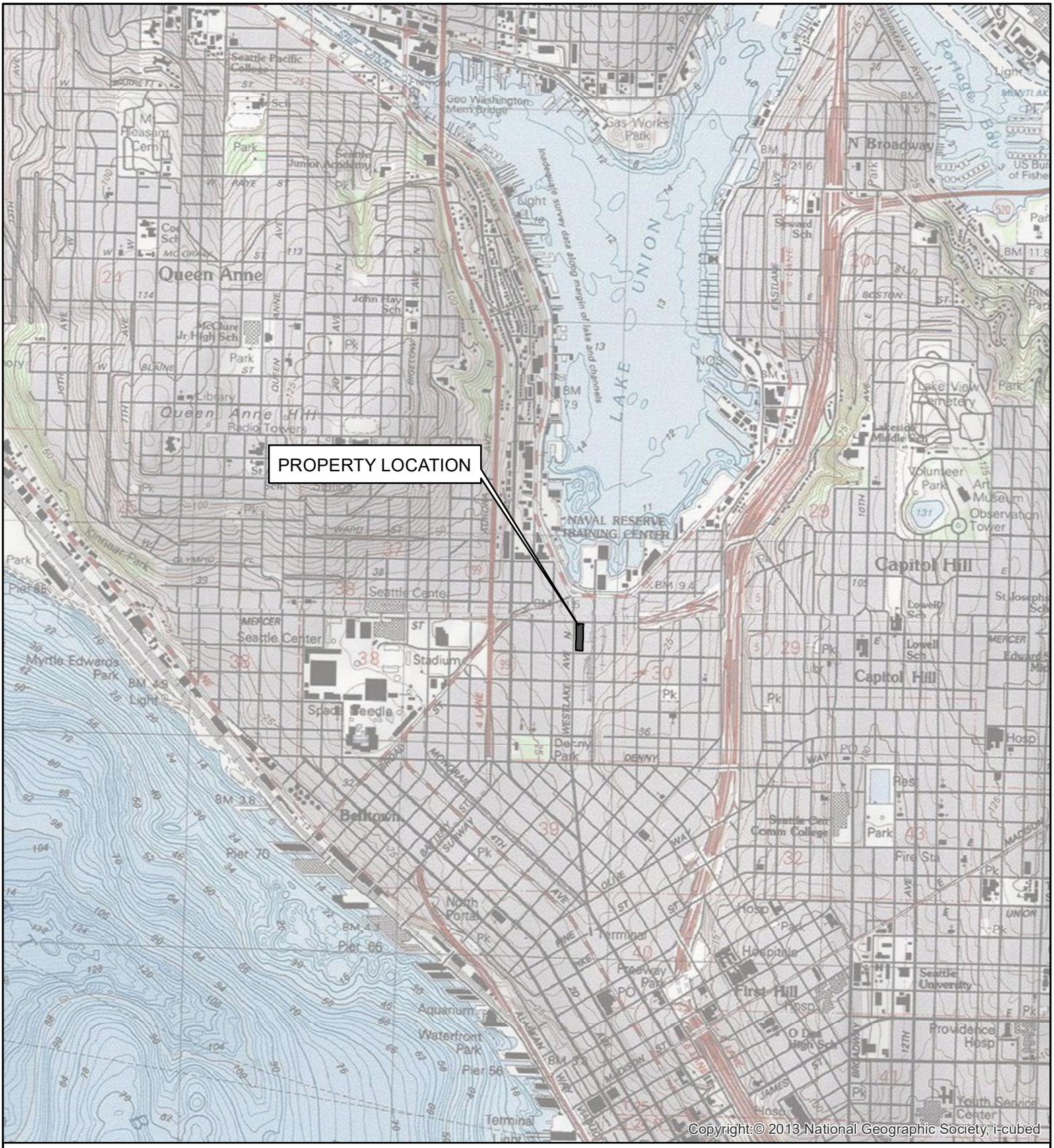
Reliance by third parties is prohibited. This report/assessment has been prepared for the exclusive use of City Investors IX LLC to address the unique needs of City Investors IX LLC at Block 38 West at a specific point in time.

This is not a general grant of reliance. No one other than City Investors IX LLC 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.

FIGURES

SUBSURFACE INVESTIGATION REPORT AND ENVIRONMENTAL MEDIA MANAGEMENT PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019



REFERENCE: 7.5 MINUTE USGS QUADRANGLE SEATTLE NORTH, WASHINGTON, DATED 1983

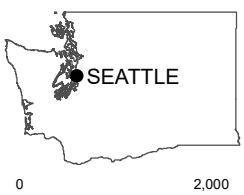


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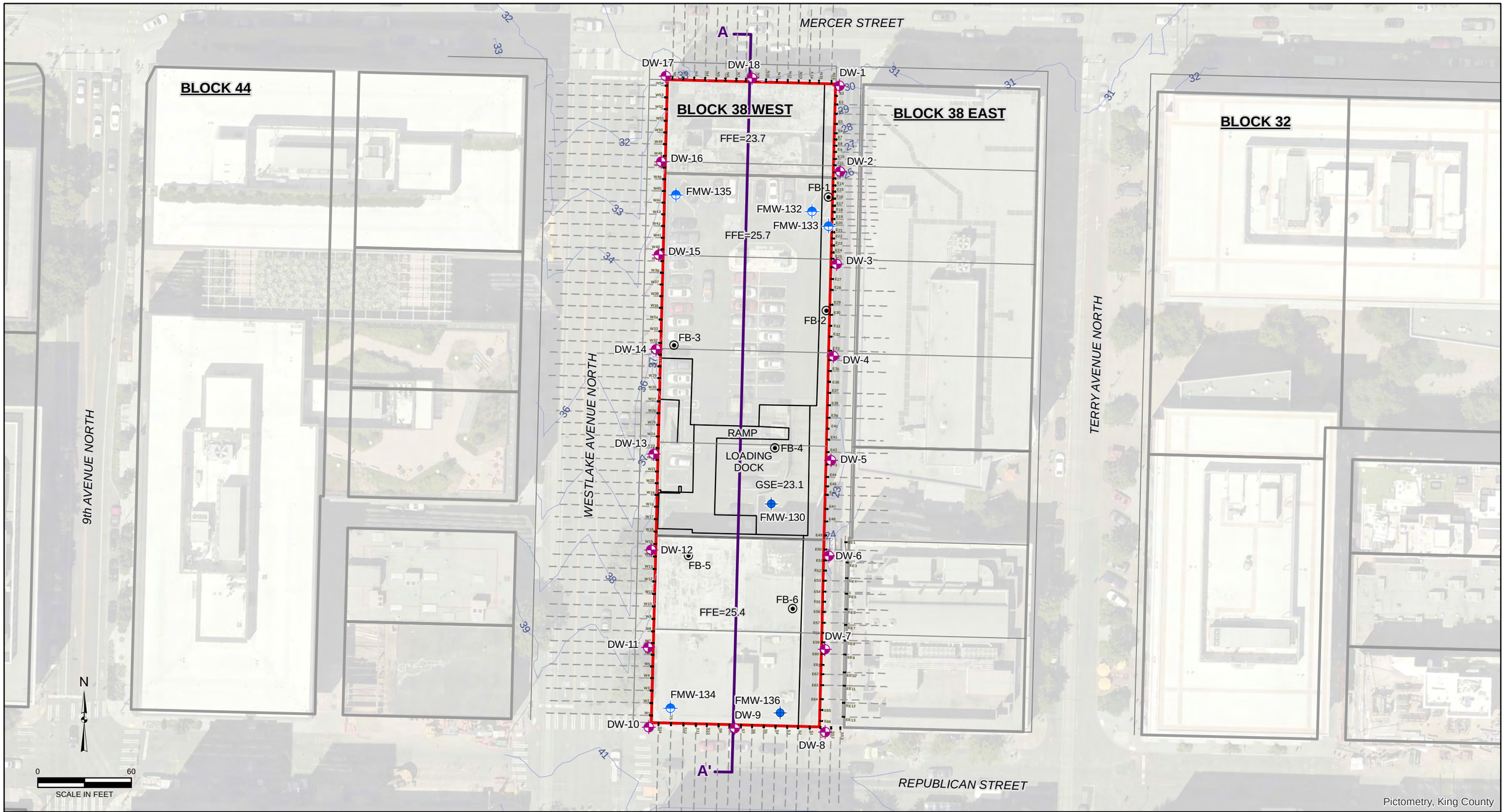
FIGURE 1

VICINITY MAP
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: jjones | Checked By: BJ | Date: 10/29/2018 | Disc Reference:

Document Path: Q:\Projects\397 VULCAN\019_Block38\Mapfiles\004_Reporting\Figure-01_SiteVicinity.mxd



LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- SOIL BORING
- DEWATERING WELL
- 38 ELEVATION CONTOUR
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY
- A A' LINE OF CROSS SECTION
- PILE
- TIEBACK

FFE = APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE = APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK AREA

NOTES:
LOADING DOCK HIGHER THAN GSE
ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MEAN SEA LEVEL IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

ALL LOCATIONS ARE APPROXIMATE.
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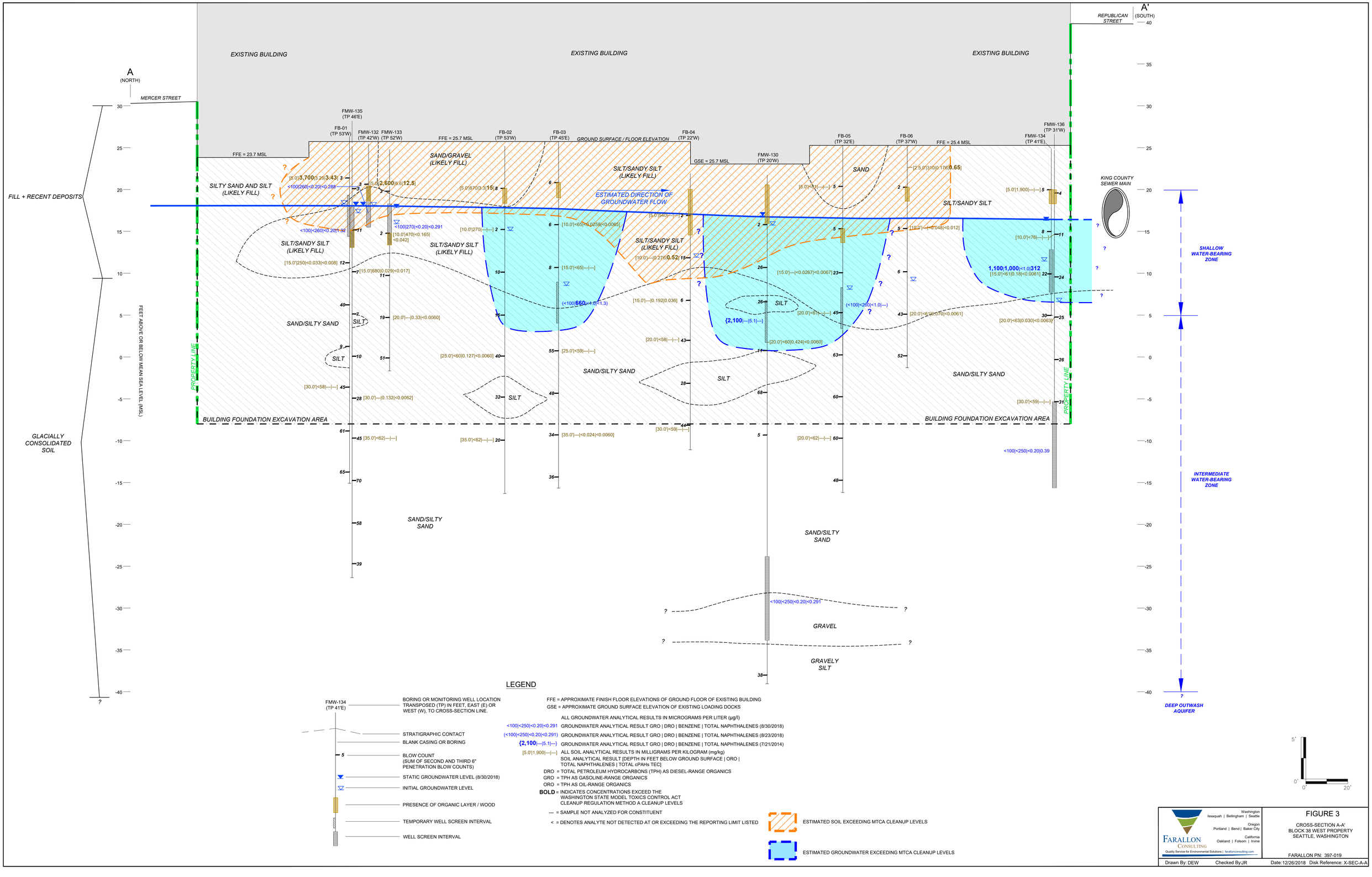
FIGURE 2

PROPERTY MAP
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018 | Disc Reference:
Document Path: Q:\Projects\397 VULCAN\019_Block38\Mapfiles\004_Reporting\Figure-02_Propertymap.mxd



LEGEND

FMW-134 (TP 41'E) — BORING OR MONITORING WELL LOCATION TRANSPOSED (TP) IN FEET. EAST (E) OR WEST (W), TO CROSS-SECTION LINE.

STRATIGRAPHIC CONTACT

BLANK CASING OR BORING

5 — BLOW COUNT (SUM OF SECOND AND THIRD 6" PENETRATION BLOW COUNTS)

STATIC GROUNDWATER LEVEL (8/30/2018)

INITIAL GROUNDWATER LEVEL

PRESENCE OF ORGANIC LAYER / WOOD

TEMPORARY WELL SCREEN INTERVAL

WELL SCREEN INTERVAL

FFE = APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING

GSE = APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCKS

ALL GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER (µg/l)

<100|<250|<0.20|<0.291 — GROUNDWATER ANALYTICAL RESULT GRO | DRO | BENZENE | TOTAL NAPHTHALENES (8/30/2018)

(<100|<250|<0.20|<0.291) — GROUNDWATER ANALYTICAL RESULT GRO | DRO | BENZENE | TOTAL NAPHTHALENES (8/23/2018)

{2,100|---|5.1|---} — GROUNDWATER ANALYTICAL RESULT GRO | DRO | BENZENE | TOTAL NAPHTHALENES (7/21/2014)

[5.0'|1,900|---|---] — ALL SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
SOIL ANALYTICAL RESULT [DEPTH IN FEET BELOW GROUND SURFACE | ORO | TOTAL NAPHTHALENES | TOTAL cPAHs TEC]

DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS

GRO = TPH AS GASOLINE-RANGE ORGANICS

ORO = TPH AS OIL-RANGE ORGANICS

BOLD = INDICATES CONCENTRATIONS EXCEED THE WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION METHOD A CLEANUP LEVELS

--- = SAMPLE NOT ANALYZED FOR CONSTITUENT

< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED

ESTIMATED SOIL EXCEEDING MTCA CLEANUP LEVELS

ESTIMATED GROUNDWATER EXCEEDING MTCA CLEANUP LEVELS

5' / 0' / 0' / 20'

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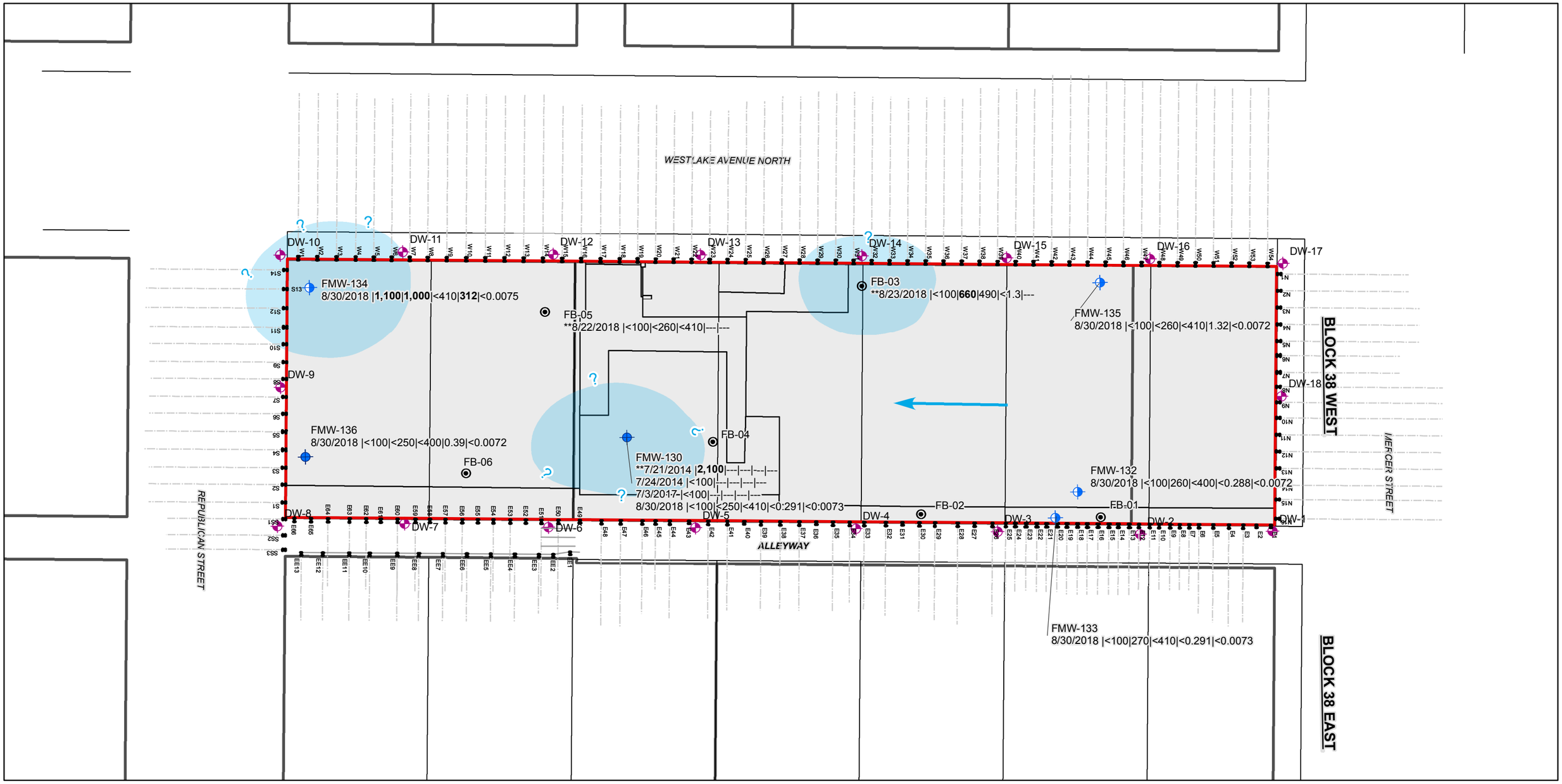
FIGURE 3

CROSS-SECTION A-A'
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: DEW | Checked By:JR | Date:12/26/2018 | Disk Reference: X-SEC-A-A



LEGEND

- BORING
- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- DEWATERING WELL
- INFERRED GROUNDWATER FLOW DIRECTION
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY
- PILE
- TIEBACK
- GROUNDWATER EXCEEDING MTCA CLEANUP LEVEL (? ESTIMATED EXTENT INFERRED)

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
BLACK = TPH SAMPLE DATE | GRO | DRO | ORO | TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MICROGRAMS PER LITER (µg/l)

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

cPAH TEC = CARCINAGENIC POLYCYCLIC AROMATIC HYDROCARBON TOXIC EQUIVALENT CONCENTRATION
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO = TPH AS GASOLINE-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
FFE = APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE = APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD = CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
< = ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
--- = SAMPLE NOT ANALYZED
MTCA = WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL = MEAN SEA LEVEL
** = INDICATES RESULTS ARE FROM A RECONNAISSANCE GROUNDWATER SAMPLE

N

0 40
SCALE IN FEET

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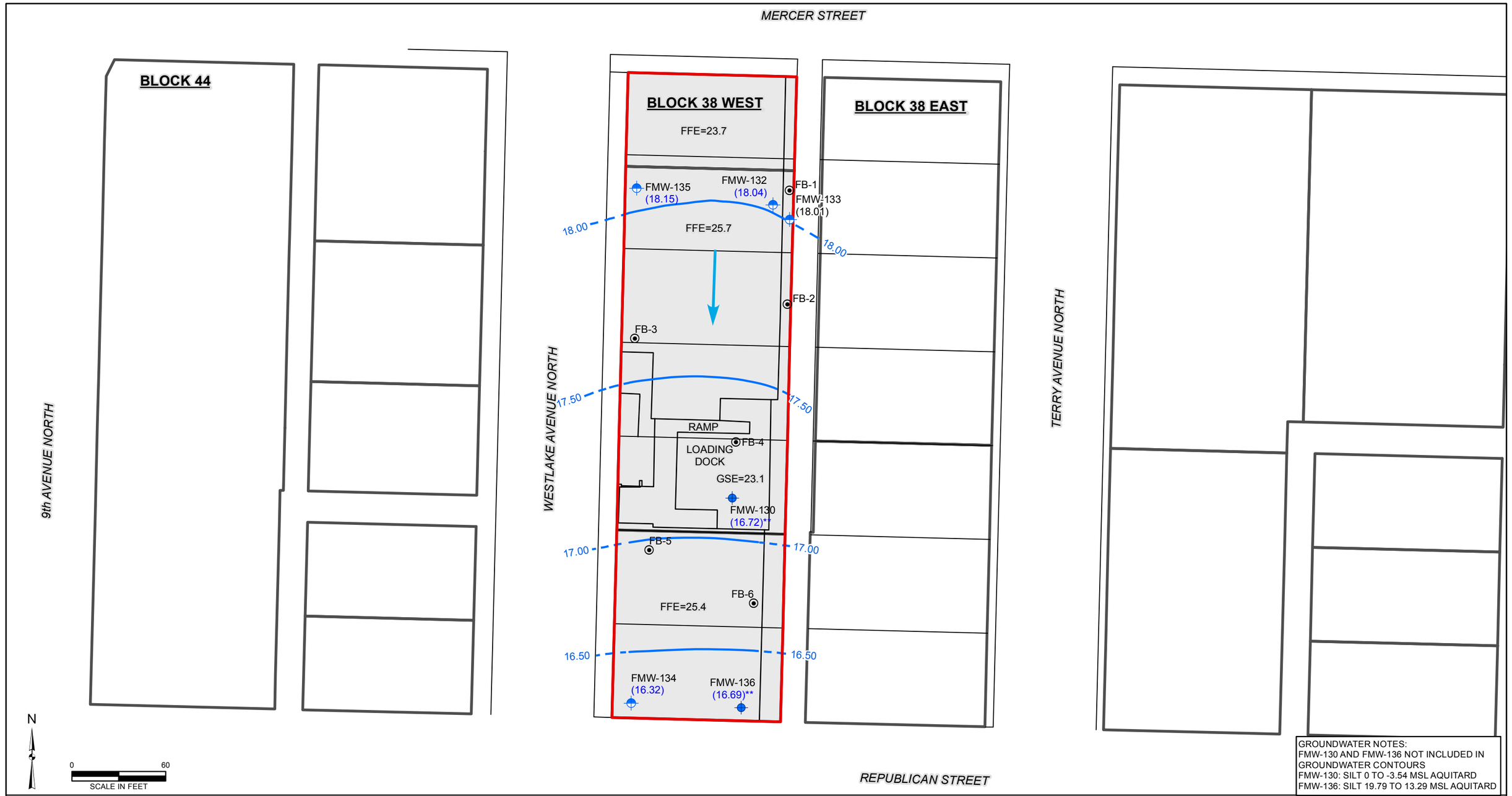
FIGURE 4

GROUNDWATER ANALYTICAL RESULTS
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018 | Disc Reference:

Document Path: Q:\Projects\397_VULCAN\019_Block38\Maps\files\004_Reporting\Figure-04_GroundwaterAnalytical.mxd



GROUNDWATER NOTES:
FMW-130 AND FMW-136 NOT INCLUDED IN GROUNDWATER CONTOURS
FMW-130: SILT 0 TO -3.54 MSL AQUITARD
FMW-136: SILT 19.79 TO 13.29 MSL AQUITARD

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- BORING
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY

(16.32) GROUNDWATER ELEVATION (8/30/18) MEASURED IN FEET RELATIVE TO NAVD 88

(16.69)** ELEVATION NOT USED IN CONTOURING

16.50' APPROXIMATE GROUNDWATER ELEVATION CONTOUR IN FEET NAVD88 (INFERRED WHERE DASHED)

INFERRED GROUNDWATER FLOW DIRECTION

FFE = APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE = APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK AREA
MSL = MEAN SEA LEVEL
NS = NOT SURVEYED
ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MEAN SEA LEVEL IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

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FIGURE 5
GROUNDWATER ELEVATION CONTOURS FOR AUGUST 30, 2018 BLOCK 38 WEST PROPERTY SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018 | Disc Reference:
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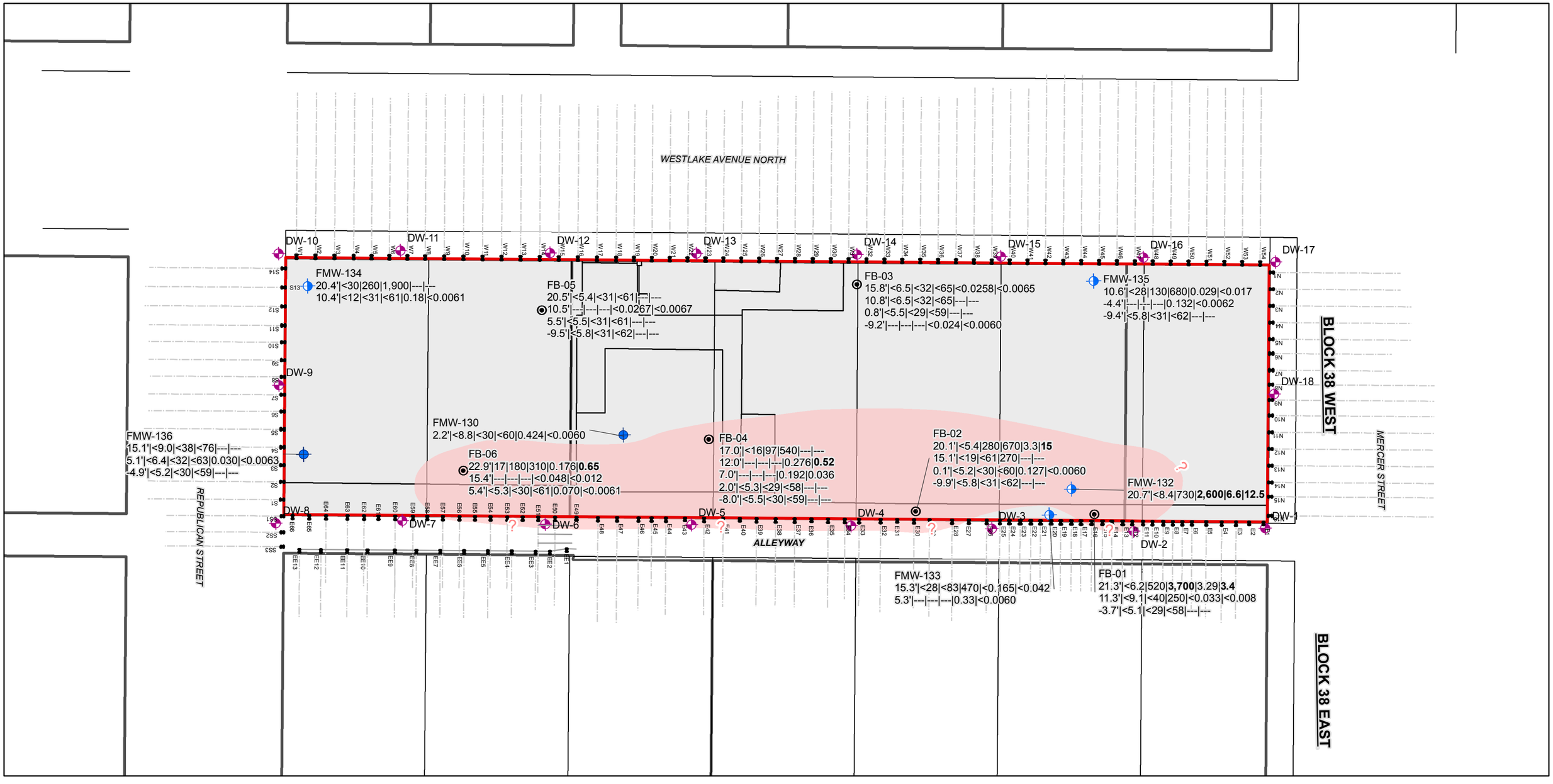

LEGEND

- BORING
- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- DEWATERING WELL
- SOIL EXCEEDING MTCA CLEANUP LEVEL
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET ACCORDING TO MSL |
GRO | DRO | ORO | TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC	=	CARCINAGENIC POLYCYCLIC AROMATIC HYDROCARBON TOXIC EQUIVALENT CONCENTRATION
DRO	=	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO	=	TPH AS GASOLINE-RANGE ORGANICS
ORO	=	TPH AS OIL-RANGE ORGANICS
FFE	=	APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE	=	APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD	=	CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
<	=	ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
---	=	SAMPLE NOT ANALYZED
MTCA	=	WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL	=	MEAN SEA LEVEL

N

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SCALE IN FEET

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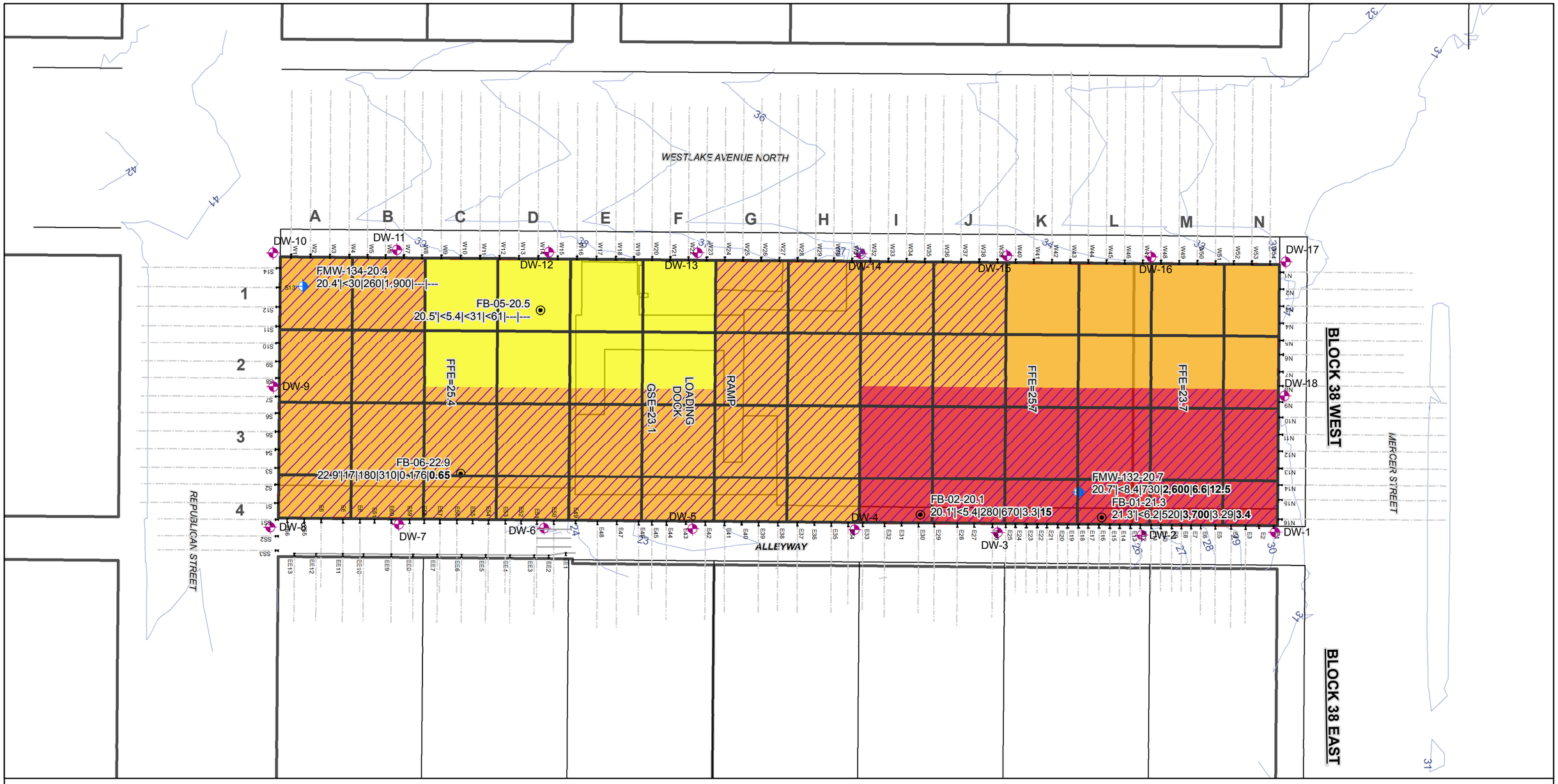
FIGURE 6

SOIL SAMPLE ANALYTICAL RESULTS
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018 | Disc Reference:

Document Path: Q:\Projects\397 VULCAN\019_Block38\Mapfiles\004_Reporting\Figure-06_SoilAnalytical.mxd



LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- MONITORING WELL
- DECOMISSIONED MONITORING WELL (UNKNOWN ZONE)
- DEWATERING WELL
- SOIL BORING
- PROPERTY BOUNDARY
- CATEGORY 1 CLEAN SOIL
- CATEGORY 2 IMPACTED SOIL
- CATEGORY 3 IMPACTED SOIL
- CATEGORY 3+ IMPACTED SOIL
- SOIL CONTAINS ORGANIC/PEAT/WOOD
- 30' X 30' GRID
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET MSL | GRO | DRO | ORO |
TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC = CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS TOXIC EQUIVALENT CONCENTRATION
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO = TPH AS GASOLINE-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
FFE = APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE = APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD = CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
< = ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
--- = SAMPLE NOT ANALYZED
MTCA = WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL = MEAN SEA LEVEL

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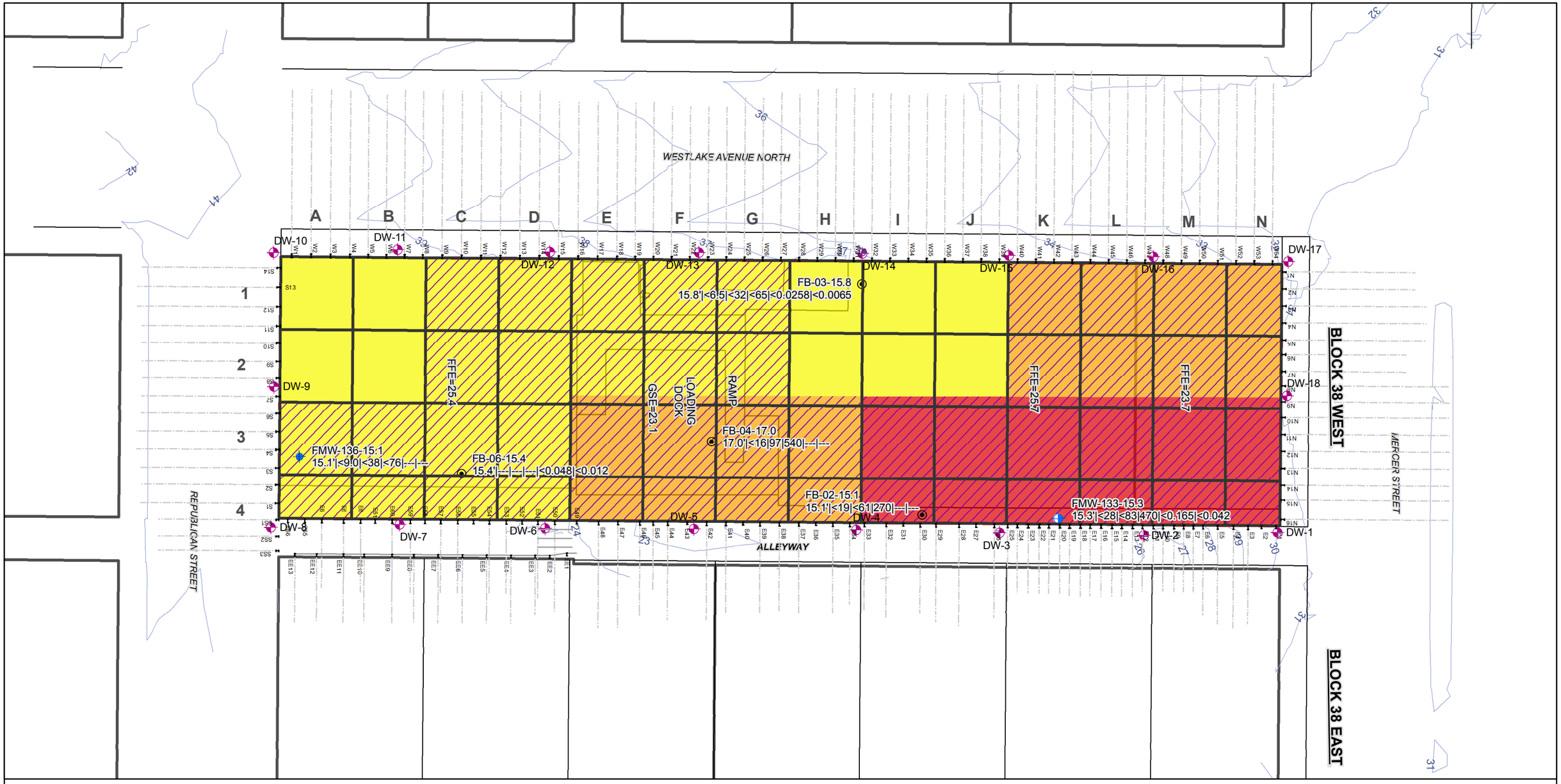
FIGURE 7

ESTIMATED EXCAVATION AREAS,
ELEVATIONS 26 TO 20 FEET MSL
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018 | Disc Reference:
Document Path: Q:\Projects\397 VULCAN\019_Block38\Mapfiles\LiftMaps\BL38_Lift_15_-10.mxd



LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- MONITORING WELL
- DECOMISSIONED MONITORING WELL (UNKNOWN ZONE)
- DEWATERING WELL
- SOIL BORING
- PROPERTY BOUNDARY
- CATEGORY 1 CLEAN SOIL
- CATEGORY 2 IMPACTED SOIL
- CATEGORY 3 IMPACTED SOIL
- CATEGORY 3+ IMPACTED SOIL
- SOIL CONTAINS ORGANIC/PEAT/WOOD
- 30' X 30' GRID
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET MSL | GRO | DRO | ORO |
TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC	=	CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS TOXIC EQUIVALENT CONCENTRATION
DRO	=	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO	=	TPH AS GASOLINE-RANGE ORGANICS
ORO	=	TPH AS OIL-RANGE ORGANICS
FFE	=	APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE	=	APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD	=	CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
<	=	ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
---	=	SAMPLE NOT ANALYZED
MTCA	=	WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL	=	MEAN SEA LEVEL

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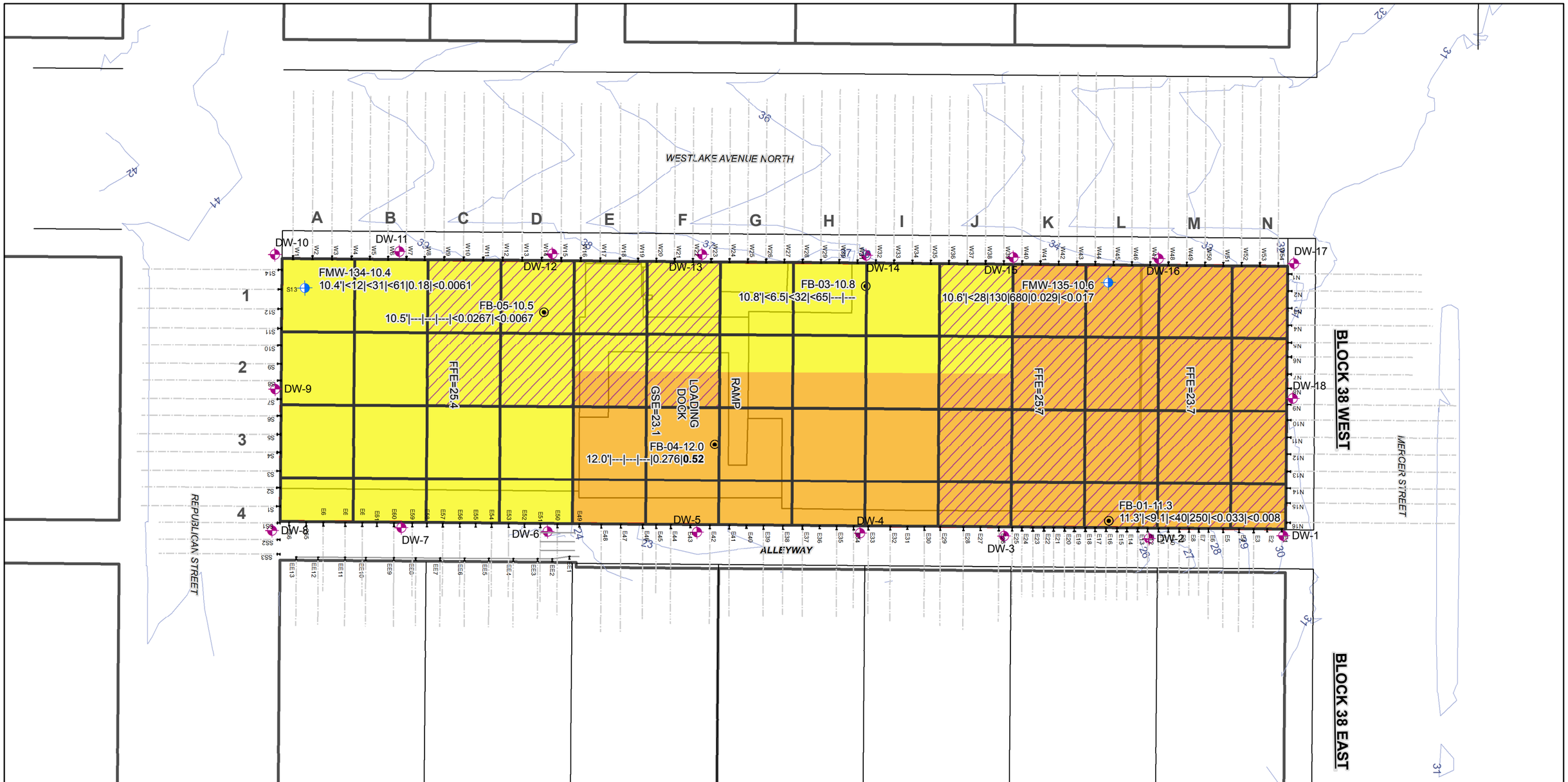
FIGURE 8

ESTIMATED EXCAVATION AREAS,
ELEVATIONS 20 TO 15 FEET MSL
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018

Disc Reference:
Document Path: Q:\Projects\397 VULCAN\019_Block38\Mapfiles\LiftMaps\BL38_Lift_15_-10.mxd



LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- MONITORING WELL
- DECOMISSIONED MONITORING WELL (UNKNOWN ZONE)
- DEWATERING WELL
- SOIL BORING
- PROPERTY BOUNDARY
- CATEGORY 1 CLEAN SOIL
- CATEGORY 2 IMPACTED SOIL
- CATEGORY 3 IMPACTED SOIL
- CATEGORY 3+ IMPACTED SOIL
- SOIL CONTAINS ORGANIC/PEAT/WOOD
- 30' X 30' GRID
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET MSL | GRO | DRO | ORO |
TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC	=	CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS TOXIC EQUIVALENT CONCENTRATION
DRO	=	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO	=	TPH AS GASOLINE-RANGE ORGANICS
ORO	=	TPH AS OIL-RANGE ORGANICS
FFE	=	APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE	=	APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD	=	CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
<	=	ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
---	=	SAMPLE NOT ANALYZED
MTCA	=	WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL	=	MEAN SEA LEVEL

N

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SCALE IN FEET

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FIGURE 9

ESTIMATED EXCAVATION AREAS, ELEVATIONS 15 TO 10 FEET MSL BLOCK 38 WEST PROPERTY SEATTLE, WASHINGTON

FARALLON PN: 397-019

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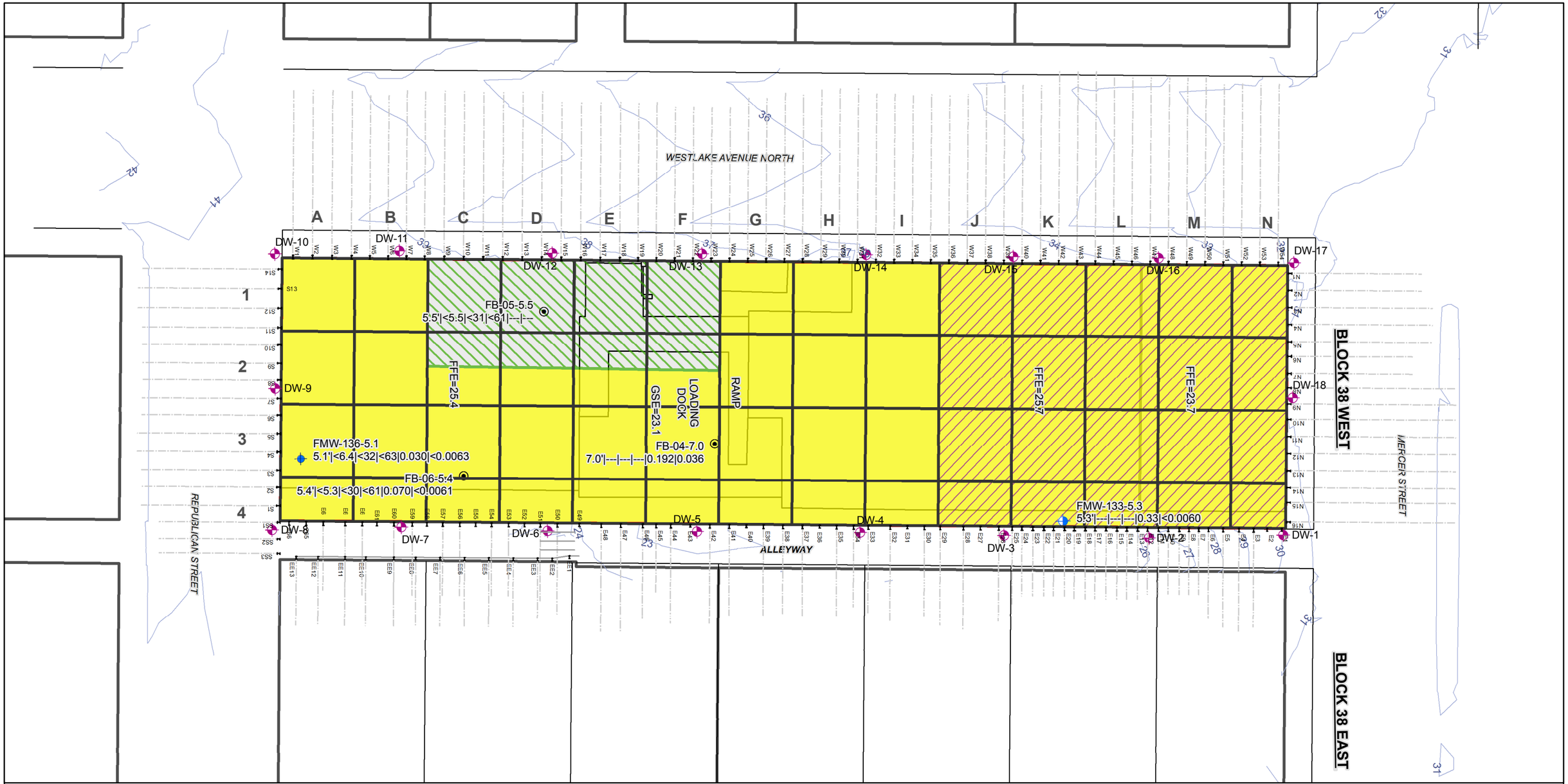

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL (UNKNOWN ZONE)
- DEWATERING WELL
- SOIL BORING
- PROPERTY BOUNDARY
- CATEGORY 1 CLEAN SOIL
- CATEGORY 2 IMPACTED SOIL
- CATEGORY 3 IMPACTED SOIL
- CATEGORY 3+ IMPACTED SOIL
- SOIL CONTAINS ORGANIC/PEAT/WOOD
- 30' X 30' GRID
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET MSL | GRO | DRO | ORO |
TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC	=	CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS TOXIC EQUIVALENT CONCENTRATION
DRO	=	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO	=	TPH AS GASOLINE-RANGE ORGANICS
ORO	=	TPH AS OIL-RANGE ORGANICS
FFE	=	APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE	=	APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD	=	CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
<	=	ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
---	=	SAMPLE NOT ANALYZED
MTCA	=	WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL	=	MEAN SEA LEVEL

N

0 40

SCALE IN FEET

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FIGURE 10

ESTIMATED EXCAVATION AREAS, ELEVATIONS 10 TO 5 FEET MSL
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

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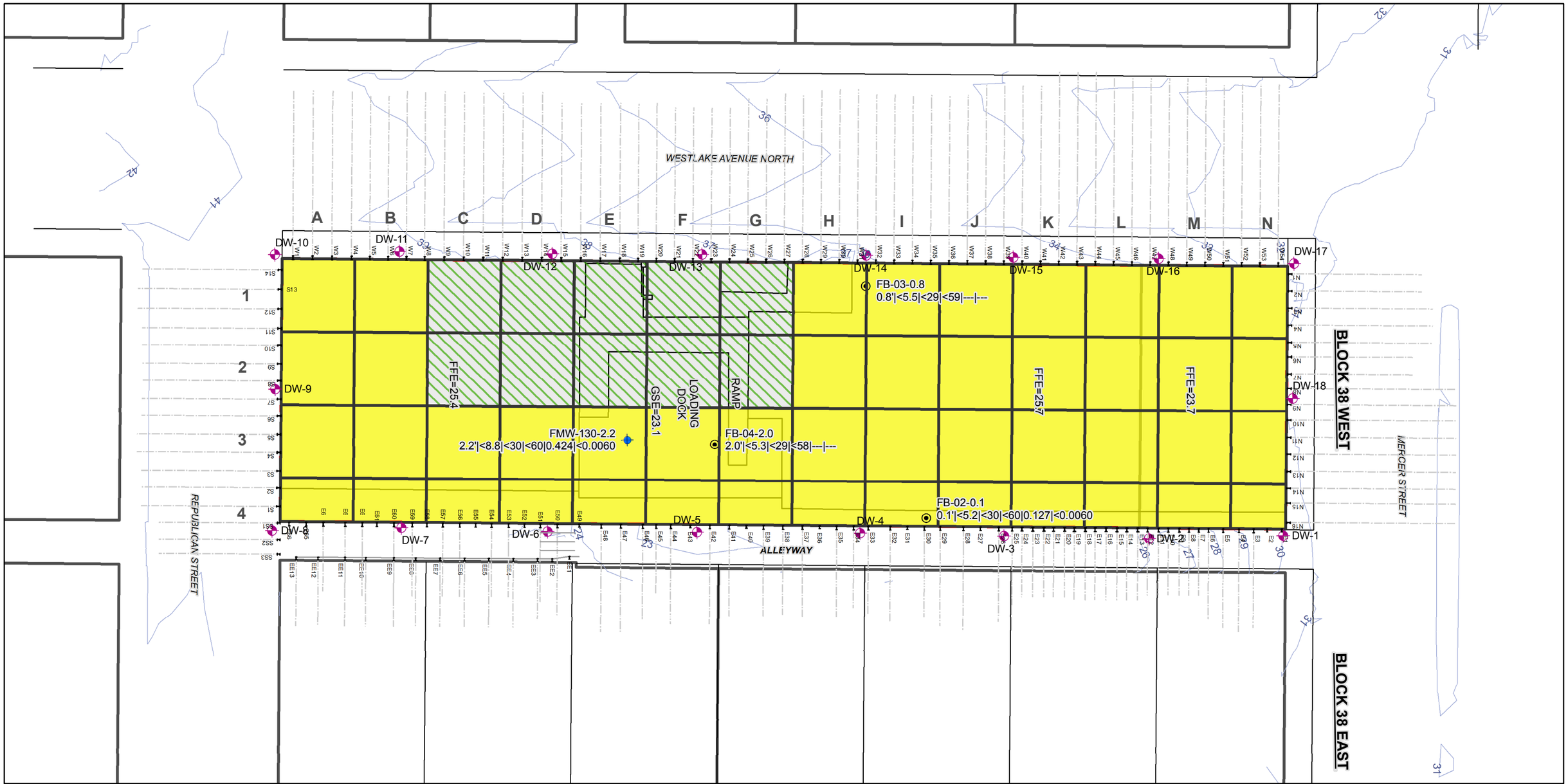

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- MONITORING WELL
- DECOMISSIONED MONITORING WELL (UNKNOWN ZONE)
- DEWATERING WELL
- SOIL BORING
- PROPERTY BOUNDARY
- CATEGORY 1 CLEAN SOIL
- CATEGORY 2 IMPACTED SOIL
- CATEGORY 3 IMPACTED SOIL
- CATEGORY 3+ IMPACTED SOIL
- SOIL CONTAINS ORGANIC/PEAT/WOOD
- 30' X 30' GRID
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET MSL | GRO | DRO | ORO |
TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC	=	CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS TOXIC EQUIVALENT CONCENTRATION
DRO	=	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO	=	TPH AS GASOLINE-RANGE ORGANICS
ORO	=	TPH AS OIL-RANGE ORGANICS
FFE	=	APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE	=	APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD	=	CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
<	=	ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
---	=	SAMPLE NOT ANALYZED
MTCA	=	WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL	=	MEAN SEA LEVEL

N

0 40

SCALE IN FEET

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FIGURE 11

ESTIMATED EXCAVATION AREAS,
ELEVATIONS 5 TO 0 FEET MSL
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

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WESTLAKE AVENUE NORTH

REPUBLICAN STREET

ALLEYWAY

MERCER STREET

BLOCK 38 WEST

BLOCK 38 EAST

A B C D E F G H I J K L M N

1 2 3 4

DW-10 DW-11 DW-12 DW-13 DW-14 DW-15 DW-16 DW-17 DW-18 DW-9 DW-8 DW-7 DW-6 DW-5 DW-4 DW-3 DW-2 DW-1

FMW-135--4.4
-4.4'|---|---|---|0.132|<0.0062

FMW-136--4.9
-4.9'|<5.2|<30|<59|---|---

FB-01--3.7
-3.7'|<5.1|<29|<58|---|---

FFE=25.4

GSE=23.1

LOADING DOCK

RAMP

FFE=25.7

FFE=23.7

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- MONITORING WELL
- DECOMISSIONED MONITORING WELL (UNKNOWN ZONE)
- DEWATERING WELL
- SOIL BORING
- PROPERTY BOUNDARY
- CATEGORY 1 CLEAN SOIL
- CATEGORY 2 IMPACTED SOIL
- CATEGORY 3 IMPACTED SOIL
- CATEGORY 3+ IMPACTED SOIL
- SOIL CONTAINS ORGANIC/PEAT/WOOD
- 30' X 30' GRID
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET MSL | GRO | DRO | ORO |
TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC	=	CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS TOXIC EQUIVALENT CONCENTRATION
DRO	=	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO	=	TPH AS GASOLINE-RANGE ORGANICS
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FFE	=	APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
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BOLD	=	CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
<	=	ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
---	=	SAMPLE NOT ANALYZED
MTCA	=	WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL	=	MEAN SEA LEVEL

N

0 40

SCALE IN FEET

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FIGURE 12

ESTIMATED EXCAVATION AREAS,
ELEVATIONS 0 TO -5 FEET MSL
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018 | Disc Reference:
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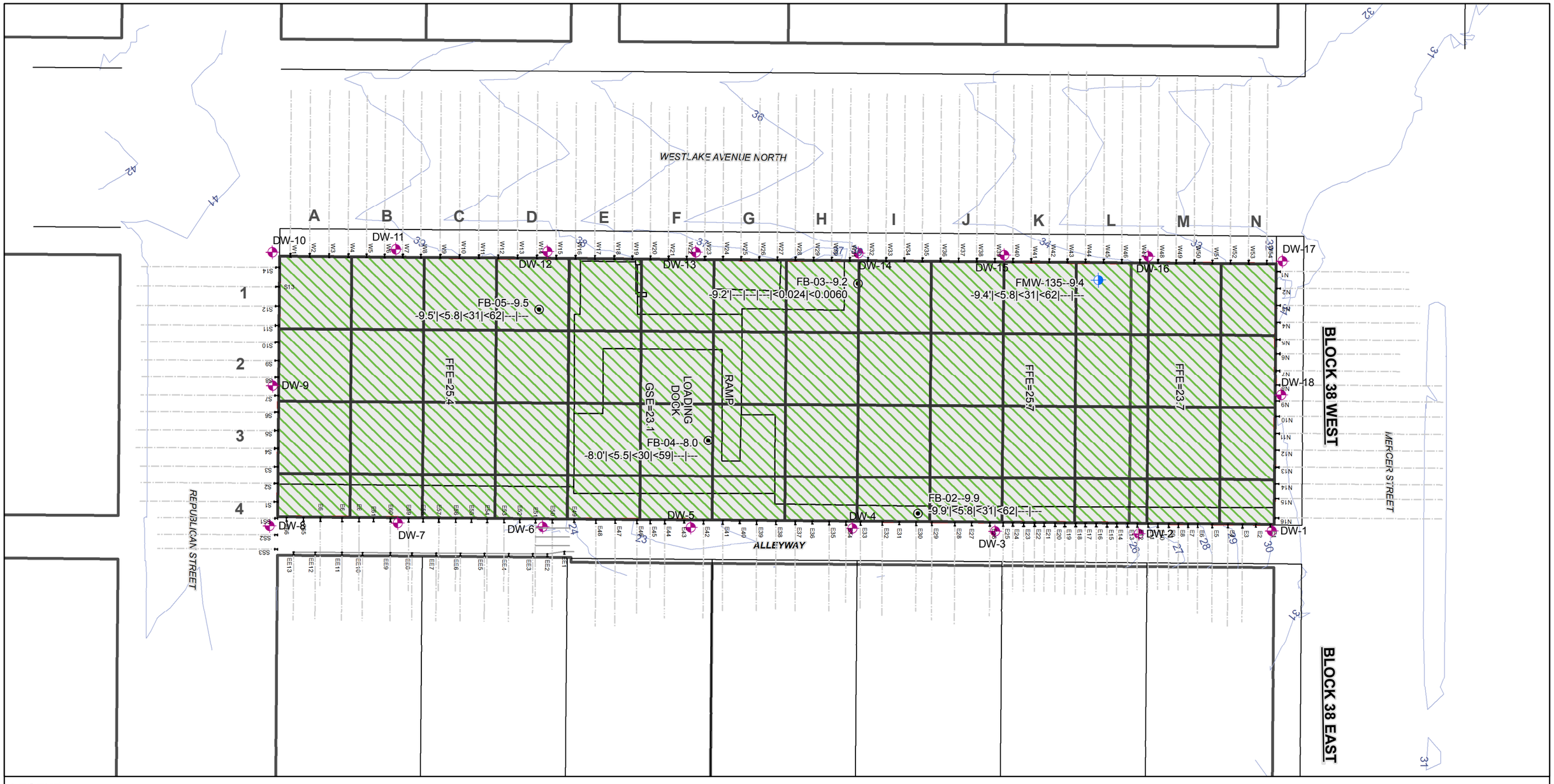

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL (UNKNOWN ZONE)
- DEWATERING WELL
- SOIL BORING
- PROPERTY BOUNDARY
- CATEGORY 1 CLEAN SOIL
- CATEGORY 2 IMPACTED SOIL
- CATEGORY 3 IMPACTED SOIL
- CATEGORY 3+ IMPACTED SOIL
- SOIL CONTAINS ORGANIC/PEAT/WOOD
- 30' X 30' GRID
- PILE
- TIEBACK

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
ELEVATION IN FEET MSL | GRO | DRO | ORO |
TOTAL Napthalenes | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

ELEVATION SOURCE: BUSH, ROED, & HITCHINGS, INC. (2014)
ELEVATION DATA PRESENTED IN FEET ABOVE MSL
IN THE NORTH AMERICAN VERTICAL DATUM OF 1988

cPAH TEC	=	CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS TOXIC EQUIVALENT CONCENTRATION
DRO	=	TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
GRO	=	TPH AS GASOLINE-RANGE ORGANICS
ORO	=	TPH AS OIL-RANGE ORGANICS
FFE	=	APPROXIMATE FINISH FLOOR ELEVATIONS OF GROUND FLOOR OF EXISTING BUILDING
GSE	=	APPROXIMATE GROUND SURFACE ELEVATION OF EXISTING LOADING DOCK
BOLD	=	CONCENTRATIONS THAT EXCEED MTCA CLEANUP LEVELS
<	=	ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
---	=	SAMPLE NOT ANALYZED
MTCA	=	WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION
MSL	=	MEAN SEA LEVEL

N

0 40
SCALE IN FEET

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FIGURE 13

ESTIMATED EXCAVATION AREAS, ELEVATIONS -5 TO -10 FEET MSL
BLOCK 38 WEST PROPERTY
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: pemahiser | Checked By: TC | Date: 12/28/2018

Disc Reference:
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TABLES

SUBSURFACE INVESTIGATION REPORT AND ENVIRONMENTAL MEDIA MANAGEMENT PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

Table 1
Soil Analytical Results for TPH and BTEX
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Elevation (feet msl)[1]	Sample Date	Analytical Results (milligrams per kilogram)								
					NWTPH-Dx[2]		NWTPH-Dx with Silica Gel[2]		NWTPH-Gx[3]	EPA Method 8021B[4]			
					DRO	ORO	DRO	ORO	GRO	Benzene	Toluene	Ethylbenzene	Xylenes
FB-01	FB-01-5.0-082118	5.0	21.3	8/21/2018	520	**3,700**	510 N	1,100	< 6.2	< 0.020	< 0.062	< 0.062	< 0.124
	FB-01-15.0-082118	15.0	11.3	8/21/2018	< 40	250	< 40	< 81	< 9.1	< 0.020	< 0.091	< 0.091	< 0.182
	FB-01-30.0-082118	30.0	-3.7	8/21/2018	< 29	< 58	---	---	< 5.1	< 0.020	< 0.051	< 0.051	< 0.102
FB-02	FB-02-5.0-082018	5.0	20.1	8/20/2018	280 N	670	---	---	< 5.4	< 0.020	< 0.054	< 0.054	< 0.108
	FB-02-10.0-082018	10.0	15.1	8/20/2018	< 61	270	---	---	< 19	< 0.037	< 0.19	< 0.19	< 0.38
	FB-02-25.0-082018	25.0	0.1	8/20/2018	< 30	< 60	---	---	< 5.2	< 0.020	< 0.052	< 0.052	< 0.104
	FB-02-35.0-082018	35.0	-9.9	8/20/2018	< 31	< 62	---	---	< 5.8	< 0.020	< 0.058	< 0.058	< 0.116
FB-03	FB-03-10.0-082318	10.0	15.8	8/23/2018	< 32	< 65	---	---	< 6.5	< 0.020	< 0.065	< 0.065	< 0.130
	FB-03-15.0-082318	15.0	10.8	8/23/2018	< 32	< 65	---	---	< 6.5	< 0.020	< 0.065	< 0.065	< 0.130
	FB-03-25.0-082318	25.0	0.8	8/23/2018	< 29	< 59	---	---	< 5.5	< 0.020	< 0.055	< 0.055	< 0.110
FB-04	FB-04-5.0-082118	5.0	17.0	8/21/2018	97 N	540	---	---	< 16	< 0.033	< 0.16	< 0.16	< 0.32
	FB-04-20.0-082118	20.0	2.0	8/21/2018	< 29	< 58	---	---	< 5.3	< 0.020	< 0.053	< 0.053	< 0.106
	FB-04-30.0-082118	30.0	-8.0	8/21/2018	< 30	< 59	---	---	< 5.5	< 0.020	< 0.055	< 0.055	< 0.110
FB-05	FB-05-5.0-082218	5.0	20.5	8/22/2018	< 31	< 61	---	---	< 5.4	< 0.020	< 0.054	< 0.054	< 0.108
	FB-05-20.0-082218	20.0	5.5	8/22/2018	< 31	< 61	---	---	< 5.5	< 0.020	< 0.055	< 0.055	< 0.110
	FB-05-35.0-082218	35.0	-9.5	8/22/2018	< 31	< 62	---	---	< 5.8	< 0.020	< 0.058	< 0.058	< 0.116
FB-06	FB-06-2.5-082218	2.5	22.9	8/22/2018	180	310	---	---	17 T	< 0.024	< 0.12	< 0.12	< 0.24
	FB-06-20.0-082218	20.0	5.4	8/22/2018	< 30	< 61	---	---	< 5.3	< 0.020	< 0.053	< 0.053	< 0.106
FMW-130	F-MW-130-20.0-072114	20.0	2.2	7/21/2014	< 30	< 60	---	---	< 8.8	< 0.020	< 0.088	< 0.088	< 0.176
FMW-132	FMW-132-5.0-082418	5.0	20.7	8/24/2018	730	**2,600**	---	---	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
FMW-133	FMW-133-10.0-082418	10.0	15.3	8/24/2018	< 83	470	---	---	< 28	< 0.057	< 0.28	< 0.28	< 0.56
FMW-134	FMW-134-5.0-082318	5.0	20.4	8/23/2018	260	1,900	---	---	< 30	< 0.059	< 0.30	< 0.30	< 0.60
	FMW-134-15.0-082318	15.0	10.4	8/23/2018	< 31	< 61	---	---	< 12	< 0.023	< 0.12	< 0.12	< 0.24
FMW-135	FMW-135-15.0-082418	15.0	10.6	8/24/2018	130	680	---	---	< 28	< 0.055	< 0.28	< 0.28	< 0.56
	FMW-135-35.0-082418	35.0	-9.4	8/24/2018	< 31	< 62	---	---	< 5.8	< 0.020	< 0.058	< 0.058	< 0.116
FMW-136	FMW-136-10.0-082218	10.0	15.1	8/22/2018	< 38	< 76	---	---	< 9.0	< 0.020	< 0.090	< 0.090	< 0.18
	FMW-136-20.0-082218	20.0	5.1	8/22/2018	< 32	< 63	---	---	< 6.4	< 0.020	< 0.064	< 0.064	< 0.128
	FMW-136-30.0-082218	30.0	-4.9	8/22/2018	< 30	< 59	---	---	< 5.2	< 0.020	< 0.052	< 0.052	< 0.104
MTCA Method A Cleanup Levels for Soil[5]					**2,000**	**2,000**	**2,000**	**2,000**	**30/100[6]**	**0.03**	**7**	**6**	**9**

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

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

— denotes sample not analyzed.

[1]Depth in feet below ground surface. Elevation in feet mean sea level using North American Vertical Datum of 1988.

[2]Analyzed by Northwest Method NWTPH-Dx. Results denoted as analyzed by NWTPH-Dx with silica gel were analyzed using a sample extract treated with sulfuric acid/silica gel cleanup procedure.

[3]Analyzed by Northwest Method NWTPH-Gx.

[4]Analyzed by U.S. Environmental Protection Agency Method 8021B.

[5]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.

[6]Cleanup level is 30 milligrams per kilogram if benzene is detected and 100 milligrams per kilogram if benzene is not detected.

BTEX = benzene, toluene, ethylbenzene and xylenes

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

GRO = TPH as gasoline-range organics

msl = mean sea level

N = hydrocarbons in the oil-range are impacting the diesel-range result

ORO = TPH as oil-range organics

T = the sample chromatogram is not similar to a typical gasoline standard.

Table 2
Soil Analytical Results for PAHs
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Elevation (feet msl)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]																	
					Non-Carcinogenic PAHs											Carcinogenic PAHs							
					Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[3,5]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[4,5]
FB-01	FB-01-5.0-082118	5.0	21.3	8/21/2018	0.99	1.1	1.2	3.29	0.46	0.32	1.0	1.9	4.8	0.46	5.4	6.8	2.5	2.6	2.9	0.76	3.1	0.45	1.6	**3.4**
	FB-01-15.0-082118	15.0	11.3	8/21/2018	< 0.011	< 0.011	< 0.011	< 0.033	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.008
FB-02	FB-02-5.0-082018	5.0	20.1	8/20/2018	1.1	0.86	1.3	3.3	1.4	0.45	3.3	8.5	18	1.3	12	25	11	9.8	12	3.5	9.7	1.6	8.0	**15**
	FB-02-25.0-082018	25.0	0.1	8/20/2018	0.083	0.020	0.024	0.127	0.027	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0060
FB-03	FB-03-10.0-082318	10.0	15.8	8/23/2018	< 0.0086	< 0.0086	< 0.0086	< 0.0258	< 0.0086	< 0.0086	< 0.0086	< 0.0086	0.011	< 0.0086	0.015	0.012	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0065
	FB-03-35.0-082318	35.0	-9.2	8/23/2018	< 0.0080	< 0.0080	< 0.0080	< 0.024	< 0.0080	< 0.0080	< 0.0080	< 0.0080	0.015	< 0.0080	0.017	0.017	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0060
FB-04	FB-04-10.0-082118	10.0	12.0	8/21/2018	0.12	0.057	0.099	0.276	0.21	0.045	0.29	0.21	0.97	0.22	1.0	1.1	0.36	0.67	0.47	0.18	0.95	0.041	0.19	**0.52**
	FB-04-15.0-082118	15.0	7.0	8/21/2018	0.052	0.048	0.092	0.192	0.049	< 0.0082	0.029	0.018	0.078	0.043	0.16	0.1	0.027	0.027	0.025	0.0099	0.028	< 0.0082	0.017	0.036
FB-05	FB-05-15.0-082218	15.0	10.5	8/22/2018	< 0.0089	< 0.0089	< 0.0089	< 0.0267	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0067
FB-06	FB-06-2.5-082218	2.5	22.9	8/22/2018	0.087	0.044	0.045	0.176	0.13	0.042	0.20	0.35	0.81	0.094	0.89	1.1	0.49	0.47	0.52	0.17	0.50	0.054	0.34	**0.65**
	FB-06-10.0-082218	10.0	15.4	8/22/2018	< 0.016 H	< 0.016 H	< 0.016 H	< 0.048	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	0.020 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.012
	FB-06-20.0-082218	20.0	5.4	8/22/2018	0.070	< 0.0081	< 0.0081	0.070	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0061
FMW-130	F-MW-130-20.0-072114	20.0	2.2	7/21/2014	0.38	0.016	0.028	0.424	0.014	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.0060
FMW-132	FMW-132-5.0-082418	5.0	20.7	8/24/2018	2.0	2.0	2.6	**6.6**	1.5	0.10	3.3	4.4	15	0.84	18	27	9.4	11	10	2.9	13	1.4	4.1	**12.5**
FMW-133	FMW-133-10.0-082418	10.0	15.3	8/24/2018	< 0.055	< 0.055	< 0.055	< 0.165	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.042
	FMW-133-20.0-082418	20.0	5.3	8/24/2018	0.25	0.035	0.042	0.33	0.021	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0060
FMW-134	FMW-134-15.0-082318	15.0	10.4	8/23/2018	0.14	0.012	0.028	0.18	0.014	< 0.0081	< 0.0081	< 0.0081	< 0.0081	0.016	0.021	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0061
FMW-135	FMW-135-15.0-082418	15.0	10.6	8/24/2018	0.029	< 0.022	< 0.022	0.029	0.039	< 0.022	< 0.022	< 0.022	0.042	< 0.022	0.068	0.073	< 0.022	< 0.022	< 0.022	< 0.022	< 0.022	< 0.022	< 0.022	< 0.017
	FMW-135-30.0-082418	30.0	-4.4	8/24/2018	0.12	0.012	< 0.0082	0.132	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0062
FMW-136	FMW-136-20.0-082218	20.0	5.1	8/22/2018	0.030	< 0.0084	< 0.0084	0.030	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0063
MTCA Method A Cleanup Level for Soil[6]								**5**	**4,800[7]**	**NE**	**24,000[7]**	**NE**	**3,200[7]**	**3,200[7]**	**NE**	**2,400[7]**								**0.1**

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.
< denotes analyte not detected at or exceeding the reporting limit listed.
[1]Depth in feet below ground surface. Elevation in feet mean sea level using North American Vertical Datum of 1988.
[2]Analyzed by U.S. Environmental Protection Agency Method 8270D/SIM.
[3]Sum of naphthalene, 1-methylnaphthalene and 2-methylnaphthalene.
[4]Total carcinogenic polycyclic aromatic hydrocarbons derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.
[5]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate total. If all constituent concentrations are non-detect, calculated total is indicated non-detect.
[6]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.
[7]Washington State Department of Ecology Cleanup Levels and Risk Calculations, under MTCA Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
H = sample analyzed outside of holding time
msl = mean sea level
NE = not established
PAHs = polycyclic aromatic hydrocarbons
TEC = toxic equivalent concentration

Table 3
Soil Analytical Results for Metals
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Identification	Sample Depth (feet) [1]	Sample Elevation (feet msl) [1]	Sample Date	Analytical Results (milligrams per kilogram)[2]					
					Cadmium	Chromium	Lead	Mercury	Selenium	Silver
FB-01	FB-01-15.0-082118	15.0	11.3	8/21/2018	< 0.81	60	< 8.1	< 0.40	< 16	< 1.6
FB-02	FB-02-10.0-082018	10.0	15.1	8/20/2018	< 1.2	36	24	1.2	< 12	< 2.5
FB-03	FB-03-10.0-082318	10.0	15.8	8/23/2018	< 0.65	100	8.9	< 0.32	< 13	< 1.3
	FB-03-35.0-082318	35.0	-9.2	8/23/2018	< 0.60	42	< 6.0	< 0.30	< 12	< 1.2
FB-04	FB-04-5.0-082118	5.0	17.0	8/21/2018	< 1.1	53	56	< 0.55	< 11	< 2.2
FB-05	FB-05-35.0-082218	35.0	-9.5	8/22/2018	< 0.62	38	< 6.2	< 0.31	< 12	< 1.2
FMW-133	FMW-133-10.0-082418	10.0	15.3	8/24/2018	< 1.7	29	18	< 0.83	< 17	< 3.3
	FMW-133-20.0-082418	20.0	5.3	8/24/2018	< 0.60	27	< 6.0	< 0.30	< 12	< 1.2
FMW-134	FMW-134-5.0-082318	5.0	20.4	8/23/2018	< 1.7	19	< 17	< 0.83	< 17	< 3.3
	FMW-134-15.0-082318	15.0	10.4	8/23/2018	< 0.61	42	< 6.1	< 0.30	< 12	< 1.2
FMW-135	FMW-135-5.0-082418	5.0	20.6	8/24/2018	< 0.61	48	16	< 0.31	< 12	< 1.2
	FMW-135-25.0-082418	25.0	0.6	8/24/2018	< 0.69	60	< 6.9	< 0.35	< 14	< 1.4
	FMW-135-30.0-082418	30.0	-4.4	8/24/2018	< 0.62	44	< 6.2	< 0.31	< 12	< 1.2
FMW-136	FMW-136-20.0-082218	20.0	5.1	8/22/2018	< 0.63	42	< 6.3	< 0.32	< 13	< 1.3
	FMW-136-30.0-082218	30.0	-4.9	8/22/2018	< 0.59	41	< 5.9	< 0.30	< 12	< 1.2
MTCA Cleanup Levels for Soil [3]					**2**	**2,000**	**250**	**2**	**400[4]**	**400[4]**

NOTES:
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
msl = mean sea level

[1]Depth in feet below ground surface. Elevation in feet mean sea level using North American Vertical Datum of 1988.
[2]Analyzed by U.S. Environmental Protection Agency Methods 6010D/7471B.
[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 amended 2013, unless otherwise noted.
[4]Washington State Department of Ecology Cleanup Levels and Risk Calculations, under MTCA Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway,

Table 4
Soil Analytical Results for Halogenated VOCs
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Elevation (feet MSL)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]				
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
FB-02	FB-02-10.0-082018	10.0	15.1	8/20/2018	< 0.0028	< 0.0028	< 0.0028	< 0.0028	< 0.0028
	FB-02-25.0-082018	25.0	0.1	8/20/2018	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085
FB-04	FB-04-20.0-082118	20.0	2.0	8/21/2018	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.00093
FB-05	FB-05-20.0-082218	20.0	5.5	8/22/2018	< 0.00090	< 0.00090	< 0.00090	< 0.00090	< 0.00090
FMW-135	FMW-135-50.0-082418	50.0	-24.4	8/24/2018	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074
FMW-136	FMW-136-10.0-082218	10.0	15.1	8/22/2018	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
	FMW-136-20.0-082218	20.0	5.1	8/22/2018	< 0.00094	< 0.00094	< 0.00094	< 0.00094	< 0.00094
MTCA Cleanup Levels for Soil[3]					**0.05**	**0.03**	**160[4]**	**1,600[4]**	**0.67[4]**

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

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

[1]Depth in feet below ground surface. Elevation in feet mean sea level using North American Vertical Datum of 1988.

[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.

MSL = mean sea level

PCE = tetrachloroethene

TCE = trichloroethene

VOC = volatile organic compound

Table 5
Stabilized Groundwater Field Parameters
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Monitoring Well	Screened Interval (feet msl)[1]	Date	Temperature (degrees Celsius)	pH (Standard Units)	Specific Conductivity (mS/cm)	Turbidity (NTU)
FMW-130	-22.8 to -32.8	7/24/2014	17.09	6.63	0.680	3.2
		7/3/2017	15.1	6.41	0.636	--
		8/30/2018	15.3	6.60	0.665	9.2
FMW-132	20.7 to 15.7	8/30/2018	19.5	6.39	1.073	7.9
FMW-133	18.8 to 13.8	8/30/2018	18.4	6.28	1.188	5.1
FMW-134	13.4 to 8.4	8/30/2018	16.6	6.31	0.780	20.9
FMW-135	18.6 to 13.6	8/30/2018	18.5	6.47	0.897	55.2
FMW-136	-4.9 to -14.9	8/30/2018	16.3	6.59	0.483	11.2

NOTE:

— denotes parameter not measured

[1]In feet above mean sea level using North American Vertical Datum of 1988.

mS/cm = milliSiemens per centimeter
msl = mean sea level
NTU = Nephelometric Turbidity Unit

Table 6
Groundwater Analytical Results for TPH and BTEX
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Date	Sample Identification	Screened Interval (feet msl)[1]	Analytical Results (micrograms per liter)						
				DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
Reconnaissance Groundwater Samples from Borings										
FB-03	8/23/2018	FB-03-082318	8.8 to 3.8	**660**	490	< 100	< 1.0	< 1.0	< 1.0	< 2.0
FB-05	8/22/2018	FB-05-082218	8.5 to 3.5	< 260	< 410	< 100	< 1.0	< 1.0	< 1.0	< 2.0
FMW-130	7/21/2014	F-MW-130-GW1-072114	7.2 to 2.2	---	---	**2,100**	**5.1**	7.5	2.2	6.7
Groundwater Samples from Monitoring Wells										
FMW-130	7/24/2014	F-MW-130-072414	-22.8 to -32.8	---	---	< 100	< 1.0	< 1.0	< 1.0	< 2.0
	7/3/2017	FMW-130-070317		---	---	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	8/30/2018	FMW-130-083018		< 250	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
FMW-132	8/30/2018	FMW-132-083018	20.7 to 15.7	260	< 400	< 100	< 0.20	< 1.0	< 0.20	< 0.60
FMW-133	8/30/2018	FMW-133-083018	18.8 to 13.8	270	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
FMW-134	8/30/2018	FMW-134-083018	13.4 to 8.4	**1,000** M	< 410	**1,100** Z	< 1.0	< 5.0	< 1.0	< 3.0
FMW-135	8/30/2018	FMW-135-083018	18.6 to 13.6	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
FMW-136	8/30/2018	FMW-136-083018	-4.9 to -14.9	< 250	< 400	< 100	< 0.20	< 1.0	< 0.20	< 0.60
Potable Water Sample										
Potable Well	8/21/2018	POTABLE-082118	Unknown	**---**	---	**---**	< 0.20	< 1.0	< 0.20	< 0.60
MTCA Method A Cleanup Level for Groundwater[5]				**500**	**500**	**800/1,000[6]**	**5**	**1,000**	**700**	**1,000**

NOTES:
Results in **bold** denote concentrations above applicable cleanup levels.
< denotes analyte not detected at or above the reporting limit listed.
— denotes sample not analyzed.
[1]In feet above mean sea level using North American Vertical Datum of 1988.
[2]Analyzed by Northwest Method NWTPH-Dx.
[3]Analyzed by Northwest Method NWTPH-Gx.
[4]Analyzed by U.S. Environmental Protection Agency Method 8021B and/or 8260C.
[5]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 amended 2013.
[6]Cleanup level is 800 micrograms per liter if benzene is detected and 1,000 micrograms per liter if benzene is not detected.

BTEX = benzene, toluene, ethylbenzene, and xylenes
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
M = hydrocarbons in the gasoline-range are impacting the diesel-range result
msl = mean sea level
ORO = TPH as oil-range organics
Z = the gasoline result is mainly attributed to a single peak (naphthalene)

Table 7
Groundwater Analytical Results for PAHs
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Date	Sample Identification	Screened Interval (feet msl)[1]	Analytical Results (micrograms per liter)[2]																	
				Non-Carcinogenic PAHs												Carcinogenic PAHs							
				Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[3]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[4,5]
Reconnaissance Groundwater Samples from Borings																					
FB-03	8/23/2018	FB-03-082318	8.8 to 3.8	< 1.3	---	---	< 1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Groundwater Samples from Monitoring Wells																					
FMW-130	8/30/2018	FMW-130-083018	-22.8 to -32.8	< 0.097	< 0.097	< 0.097	< 0.291	< 0.097	< 0.097	< 0.097	< 0.0097	< 0.097	< 0.097	< 0.097	< 0.097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0073
FMW-132	8/30/2018	FMW-132-083018	20.7 to 15.7	< 0.096	< 0.096	< 0.096	< 0.288	0.40	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
FMW-133	8/30/2018	FMW-133-083018	18.8 to 13.8	< 0.097	< 0.097	< 0.097	< 0.291	0.38	< 0.097	< 0.097	< 0.0097	< 0.097	0.098	< 0.097	< 0.097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0073
FMW-134	8/30/2018	FMW-134-083018	13.4 to 8.4	290	10	12	**312**	8.3	0.12	< 0.099	< 0.0099	< 0.099	1.6	0.48	< 0.099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0075
FMW-135	8/30/2018	FMW-135-083018	18.6 to 13.6	0.35	0.68	0.29	1.32	0.39	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
FMW-136	8/30/2018	FMW-136-083018	-4.9 to -14.9	0.39	< 0.096	< 0.096	0.39	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
Potable Water Sample																					
Potable Well	8/21/2018	POTABLE-082118	Unknown	< 1.0	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTCA Method A Cleanup Level for Groundwater[6]							**160**	**960[7]**	**NE**	**4,800[7]**	**NE**	**640[7]**	**640[7]**	**NE**	**480[7]**								**0.1**

NOTES:
Results in **bold** denote concentrations exceeding applicable cleanup levels.
< denotes analyte not detected at or exceeding the reporting limit listed.
--- denotes sample not analyzed.
[1]In feet above mean sea level using North American Vertical Datum of 1988.
[2]Analyzed by U.S. Environmental Protection Agency (EPA) Method 8270D/SIM. FB-03 and Potable Well samples analyzed by EPA Method 8260C.
[3]Sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene.
[4]Total carcinogenic polycyclic aromatic hydrocarbons derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.
[5]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate total. If all constituent concentrations are non-detect, calculated total is indicated non-detect.
[6]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.
[7]MTCA Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
msl = mean sea level
NE = not established
PAHs = polycyclic aromatic hydrocarbons
TEC = toxic equivalent concentration

Table 8
Groundwater Analytical Results for Detected VOCs
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Date	Sample Identification	Screened Interval (feet msl)[1]	Analytical Results (micrograms per liter)[2]		
				1,1,1-Trichloroethane	Chloroform	cis-1,2-Dichloroethene
Reconnaissance Groundwater Samples from Borings						
FB-03	8/23/2018	FB-03-082318	8.8 to 3.8	< 0.20	< 0.20	< 0.20
FB-05	8/22/2018	FB-05-082218	8.5 to 3.5	< 0.20	< 0.20	< 0.20
FMW-130	7/21/2014	F-MW-130-GW1-072114	7.2 to 2.2	< 0.20	< 0.20	< 0.20
Groundwater Samples from Monitoring Wells						
FMW-130	7/24/2014	F-MW-130-072414	-22.8 to -32.8	0.26	0.91	0.51
	7/3/2017	FMW-130-070317		< 0.20	< 0.20	< 0.20
	8/30/2018	FMW-130-083018		< 0.20	< 0.20	0.27
FMW-132	8/30/2018	FMW-132-083018	20.7 to 15.7	< 0.20	< 0.20	< 0.20
FMW-133	8/30/2018	FMW-133-083018	18.8 to 13.8	< 0.20	< 0.20	< 0.20
FMW-134	8/30/2018	FMW-134-083018	13.4 to 8.4	< 1.0	< 1.0	< 1.0
FMW-135	8/30/2018	FMW-135-083018	18.6 to 13.6	< 0.20	0.41	< 0.20
FMW-136	8/30/2018	FMW-136-083018	-4.9 to -14.9	< 0.20	**2.7**	0.36
Potable Water Sample						
Potable Well	8/21/2018	POTABLE-082118	Unknown	< 0.20	**16**	< 0.20
MTCA Cleanup Levels for Groundwater[3]				**200[4]**	**1.41**	**16**

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.
< denotes analyte not detected at or exceeding the reporting limit listed.
msl = mean sea level
VOCs = volatile organic compounds

[1]In feet above mean sea level using North American Vertical Datum of 1988.
[2]Analyzed by U.S. Environmental Protection Agency Method 8260C. Only detected VOCs shown; see lab report for full list of analytes.
[3]Washington State Model Toxics Control Act (MTCA) Cleanup Regulation Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx, unless otherwise noted.
[4]MTCA Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended 2013.

Table 9
Groundwater Elevations
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Location	Screened Interval (feet bgs)[1]	Screened Interval (feet msl)[2]	Top of Casing Elevation (feet msl)[2]	Monitoring Date	Depth to Water (feet)[3]	Water Level Elevation (feet msl)[2]
FMW-130	45.0 to 55.0	-22.8 to -32.8	21.86	8/30/2018	5.14	16.72
FMW-132	5.0 to 10.0	20.7 to 15.7	25.48	8/30/2018	7.44	18.04
FMW-133	6.5 to 11.5	18.8 to 13.8	24.87	8/30/2018	6.86	18.01
FMW-134	12.0 to 17.0	13.4 to 8.4	24.98	8/30/2018	8.66	16.32
FMW-135	7.0 to 12.0	18.6 to 13.6	25.29	8/30/2018	7.14	18.15
FMW-136	30.0 to 40.0	-4.9 to -14.9	24.79	8/30/2018	8.10	16.69

Notes:
[1]Depth in feet below ground surface.
[2]In feet above mean sea level using North American Vertical Datum of 1988.
[3]In feet below top of well casing.

bgs = below ground surface
msl = mean sea level

Table 10
Estimated Quantity of Impacted Soil
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Lift (feet msl)[1]	Impacted Grid Cell Identification	Impacted Area (square feet)	Impacted Elevation Range (feet msl)[1]	Impacted Thickness (feet)	Volume (cubic feet)	Volume (cubic yards)	Conversion Factor (tons per cubic yard)	Weight of Impacted Soil (tons)	Category 2 [2]		Category 3 [2]		Category 3+[2]	
									Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics
26 to 20	A 1	900	26 to 20	6	5,400	200	1.7	340				X		
	A 2	900	26 to 20	6	5,400	200	1.7	340				X		
	A 3	900	26 to 20	6	5,400	200	1.7	340				X		
	A 4	540	26 to 20	6	3,240	120	1.7	204				X		
	B 1	900	26 to 20	6	5,400	200	1.7	340				X		
	B 2	900	26 to 20	6	5,400	200	1.7	340				X		
	B 3	900	26 to 20	6	5,400	200	1.7	340				X		
	B 4	540	26 to 20	6	3,240	120	1.7	204				X		
	C 1	900	26 to 20	6	5,400	200	1.7	340	X					
	C 2	600	26 to 20	6	3,600	133	1.7	227	X					
	C 2	300	26 to 20	6	1,800	67	1.7	113			X			
	C 3	900	26 to 20	6	5,400	200	1.7	340			X			
	C 4	540	26 to 20	6	3,240	120	1.7	204			X			
	D 1	900	26 to 20	6	5,400	200	1.7	340	X					
	D 2	600	26 to 20	6	3,600	133	1.7	227	X					
	D 2	300	26 to 20	6	1,800	67	1.7	113				X		
	D 3	900	26 to 20	6	5,400	200	1.7	340				X		
	D 4	540	26 to 20	6	3,240	120	1.7	204				X		
	E 1	900	26 to 20	6	5,400	200	1.7	340	X					
	E 2	600	26 to 20	6	3,600	133	1.7	227	X					
	E 2	300	26 to 20	6	1,800	67	1.7	113				X		
	E 3	900	26 to 20	6	5,400	200	1.7	340				X		
	E 4	540	26 to 20	6	3,240	120	1.7	204				X		
	F 1	900	26 to 20	6	5,400	200	1.7	340	X					
	F 2	600	26 to 20	6	3,600	133	1.7	227	X					
	F 2	300	26 to 20	6	1,800	67	1.7	113				X		
	F 3	900	26 to 20	6	5,400	200	1.7	340				X		
	F 4	540	26 to 20	6	3,240	120	1.7	204				X		
	G 1	900	26 to 20	6	5,400	200	1.7	340				X		
	G 2	900	26 to 20	6	5,400	200	1.7	340				X		
	G 3	900	26 to 20	6	5,400	200	1.7	340				X		
	G 4	540	26 to 20	6	3,240	120	1.7	204				X		
	H 1	900	26 to 20	6	5,400	200	1.7	340				X		
	H 2	900	26 to 20	6	5,400	200	1.7	340				X		
	H 3	900	26 to 20	6	5,400	200	1.7	340				X		
	H 4	540	26 to 20	6	3,240	120	1.7	204				X		
	I 1	900	26 to 20	6	5,400	200	1.7	340				X		
	I 2	600	26 to 20	6	3,600	133	1.7	227				X		
	I 2	300	26 to 20	6	1,800	67	1.7	113						X
	I 3	900	26 to 20	6	5,400	200	1.7	340						X
	I 4	540	26 to 20	6	3,240	120	1.7	204						X
	J 1	900	26 to 20	6	5,400	200	1.7	340				X		
	J 2	600	26 to 20	6	3,600	133	1.7	227				X		
	J 2	300	26 to 20	6	1,800	67	1.7	113						X
	J 3	900	26 to 20	6	5,400	200	1.7	340						X
	J 4	540	26 to 20	6	3,240	120	1.7	204						X
	K 1	900	26 to 20	6	5,400	200	1.7	340			X			
	K 2	600	26 to 20	6	3,600	133	1.7	227			X			
	K 2	300	26 to 20	6	1,800	67	1.7	113						X
	K 3	900	26 to 20	6	5,400	200	1.7	340						X
	K 4	540	26 to 20	6	3,240	120	1.7	204						X

Table 10
Estimated Quantity of Impacted Soil
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Lift (feet msl)[1]	Impacted Grid Cell Identification	Impacted Area (square feet)	Impacted Elevation Range (feet msl)[1]	Impacted Thickness (feet)	Volume (cubic feet)	Volume (cubic yards)	Conversion Factor (tons per cubic yard)	Weight of Impacted Soil (tons)	Category 2 [2]		Category 3 [2]		Category 3+[2]	
									Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics
26 to 20 (cont.)	L 1	900	26 to 20	6	5,400	200	1.7	340			X			
	L 2	600	26 to 20	6	3,600	133	1.7	227			X			
	L 2	300	26 to 20	6	1,800	67	1.7	113						X
	L 3	900	26 to 20	6	5,400	200	1.7	340						X
	L 4	540	26 to 20	6	3,240	120	1.7	204						X
	M 1	900	26 to 20	6	5,400	200	1.7	340			X			
	M 2	600	26 to 20	6	3,600	133	1.7	227			X			
	M 2	300	26 to 20	6	1,800	67	1.7	113						X
	M 3	900	26 to 20	6	5,400	200	1.7	340						X
	M 4	540	26 to 20	6	3,240	120	1.7	204						X
	N 1	690	26 to 20	6	4,140	153	1.7	261			X			
	N 2	460	26 to 20	6	2,760	102	1.7	174			X			
	N 2	230	26 to 20	6	1,380	51	1.7	87						X
	N 3	690	26 to 20	6	4,140	153	1.7	261						X
	N 4	324	26 to 20	6	1,944	72	1.7	122						X
20 to 15	A 1	900	20 to 15	5	4,500	167	1.7	283	X					
	A 2	900	20 to 15	5	4,500	167	1.7	283	X					
	A 3	900	20 to 15	5	4,500	167	1.7	283		X				
	A 4	540	20 to 15	5	2,700	100	1.7	170		X				
	B 1	900	20 to 15	5	4,500	167	1.7	283	X					
	B 2	900	20 to 15	5	4,500	167	1.7	283	X					
	B 3	900	20 to 15	5	4,500	167	1.7	283		X				
	B 4	540	20 to 15	5	2,700	100	1.7	170		X				
	C 1	900	20 to 15	5	4,500	167	1.7	283		X				
	C 2	900	20 to 15	5	4,500	167	1.7	283		X				
	C 3	900	20 to 15	5	4,500	167	1.7	283		X				
	C 4	540	20 to 15	5	2,700	100	1.7	170		X				
	D 1	900	20 to 15	5	4,500	167	1.7	283		X				
	D 2	900	20 to 15	5	4,500	167	1.7	283		X				
	D 3	900	20 to 15	5	4,500	167	1.7	283		X				
	D 4	540	20 to 15	5	2,700	100	1.7	170		X				
	E 1	900	20 to 15	5	4,500	167	1.7	283		X				
	E 2	780	20 to 15	5	3,900	144	1.7	246		X				
	E 2	120	20 to 15	5	600	22	1.7	38				X		
	E 3	900	20 to 15	5	4,500	167	1.7	283				X		
	E 4	540	20 to 15	5	2,700	100	1.7	170				X		
	F 1	900	20 to 15	5	4,500	167	1.7	283		X				
	F 2	780	20 to 15	5	3,900	144	1.7	246		X				
	F 2	120	20 to 15	5	600	22	1.7	38				X		
	F 3	900	20 to 15	5	4,500	167	1.7	283				X		
	F 4	540	20 to 15	5	2,700	100	1.7	170				X		
	G 1	900	20 to 15	5	4,500	167	1.7	283		X				
	G 2	780	20 to 15	5	3,900	144	1.7	246		X				
	G 2	120	20 to 15	5	600	22	1.7	38				X		
	G 3	900	20 to 15	5	4,500	167	1.7	283				X		
	G 4	540	20 to 15	5	2,700	100	1.7	170				X		
	H 1	900	20 to 15	5	4,500	167	1.7	283	X					
	H 2	780	20 to 15	5	3,900	144	1.7	246	X					
	H 2	120	20 to 15	5	600	22	1.7	38				X		
	H 3	900	20 to 15	5	4,500	167	1.7	283				X		
	H 4	540	20 to 15	5	2,700	100	1.7	170				X		

Table 10
Estimated Quantity of Impacted Soil
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Lift (feet msl)[1]	Impacted Grid Cell Identification	Impacted Area (square feet)	Impacted Elevation Range (feet msl)[1]	Impacted Thickness (feet)	Volume (cubic feet)	Volume (cubic yards)	Conversion Factor (tons per cubic yard)	Weight of Impacted Soil (tons)	Category 2 [2]		Category 3 [2]		Category 3+[2]	
									Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics
20 to 15 (cont.)	I 1	900	20 to 15	5	4,500	167	1.7	283	X					
	I 2	780	20 to 15	5	3,900	144	1.7	246	X					
	I 2	120	20 to 15	5	600	22	1.7	38						X
	I 3	900	20 to 15	5	4,500	167	1.7	283						X
	I 4	540	20 to 15	5	2,700	100	1.7	170						X
	J 1	900	20 to 15	5	4,500	167	1.7	283	X					
	J 2	780	20 to 15	5	3,900	144	1.7	246	X					
	J 2	120	20 to 15	5	600	22	1.7	38						X
	J 3	900	20 to 15	5	4,500	167	1.7	283						X
	J 4	540	20 to 15	5	2,700	100	1.7	170						X
	K 1	900	20 to 15	5	4,500	167	1.7	283				X		
	K 2	780	20 to 15	5	3,900	144	1.7	246				X		
	K 2	120	20 to 15	5	600	22	1.7	38						X
	K 3	900	20 to 15	5	4,500	167	1.7	283						X
	K 4	540	20 to 15	5	2,700	100	1.7	170						X
	L 1	900	20 to 15	5	4,500	167	1.7	283				X		
	L 2	780	20 to 15	5	3,900	144	1.7	246				X		
	L 2	120	20 to 15	5	600	22	1.7	38						X
	L 3	900	20 to 15	5	4,500	167	1.7	283						X
	L 4	540	20 to 15	5	2,700	100	1.7	170						X
	M 1	900	20 to 15	5	4,500	167	1.7	283				X		
	M 2	780	20 to 15	5	3,900	144	1.7	246				X		
	M 2	120	20 to 15	5	600	22	1.7	38						X
	M 3	900	20 to 15	5	4,500	167	1.7	283						X
	M 4	540	20 to 15	5	2,700	100	1.7	170						X
	N 1	690	20 to 15	5	3,450	128	1.7	217				X		
	N 2	530	20 to 15	5	2,650	98	1.7	167				X		
	N 2	160	20 to 15	5	800	30	1.7	50						X
	N 3	690	20 to 15	5	3,450	128	1.7	217						X
	N 4	324	20 to 15	5	1,620	60	1.7	102						X
15 to 10	A 1	900	15 to 10	5	4,500	167	1.7	283	X					
	A 2	900	15 to 10	5	4,500	167	1.7	283	X					
	A 3	900	15 to 10	5	4,500	167	1.7	283	X					
	A 4	540	15 to 10	5	2,700	100	1.7	170	X					
	B 1	900	15 to 10	5	4,500	167	1.7	283	X					
	B 2	900	15 to 10	5	4,500	167	1.7	283	X					
	B 3	900	15 to 10	5	4,500	167	1.7	283	X					
	B 4	540	15 to 10	5	2,700	100	1.7	170	X					
	C 1	900	15 to 10	5	4,500	167	1.7	283		X				
	C 2	900	15 to 10	5	4,500	167	1.7	283		X				
	C 3	900	15 to 10	5	4,500	167	1.7	283	X					
	C 4	540	15 to 10	5	2,700	100	1.7	170	X					
	D 1	900	15 to 10	5	4,500	167	1.7	283		X				
	D 2	900	15 to 10	5	4,500	167	1.7	283		X				
	D 3	900	15 to 10	5	4,500	167	1.7	283	X					
	D 4	540	15 to 10	5	2,700	100	1.7	170	X					
	E 1	900	15 to 10	5	4,500	167	1.7	283		X				
	E 2	750	15 to 10	5	3,750	139	1.7	236		X				
	E 2	150	15 to 10	5	750	28	1.7	47				X		
	E 3	900	15 to 10	5	4,500	167	1.7	283			X			
	E 4	540	15 to 10	5	2,700	100	1.7	170			X			

Table 10
Estimated Quantity of Impacted Soil
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Lift (feet msl)[1]	Impacted Grid Cell Identification	Impacted Area (square feet)	Impacted Elevation Range (feet msl)[1]	Impacted Thickness (feet)	Volume (cubic feet)	Volume (cubic yards)	Conversion Factor (tons per cubic yard)	Weight of Impacted Soil (tons)	Category 2 [2]		Category 3 [2]		Category 3+[2]	
									Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics
15 to 10 (cont.)	F 1	900	15 to 10	5	4,500	167	1.7	283		X				
	F 2	750	15 to 10	5	3,750	139	1.7	236		X				
	F 2	150	15 to 10	5	750	28	1.7	47				X		
	F 3	900	15 to 10	5	4,500	167	1.7	283			X			
	F 4	540	15 to 10	5	2,700	100	1.7	170			X			
	G 1	900	15 to 10	5	4,500	167	1.7	283	X					
	G 2	750	15 to 10	5	3,750	139	1.7	236	X					
	G 2	150	15 to 10	5	750	28	1.7	47			X			
	G 3	900	15 to 10	5	4,500	167	1.7	283			X			
	G 4	540	15 to 10	5	2,700	100	1.7	170			X			
	H 1	900	15 to 10	5	4,500	167	1.7	283	X					
	H 2	750	15 to 10	5	3,750	139	1.7	236	X					
	H 2	150	15 to 10	5	750	28	1.7	47			X			
	H 3	900	15 to 10	5	4,500	167	1.7	283			X			
	H 4	540	15 to 10	5	2,700	100	1.7	170			X			
	I 1	900	15 to 10	5	4,500	167	1.7	283	X					
	I 2	750	15 to 10	5	3,750	139	1.7	236	X					
	I 2	150	15 to 10	5	750	28	1.7	47			X			
	I 3	900	15 to 10	5	4,500	167	1.7	283			X			
	I 4	540	15 to 10	5	2,700	100	1.7	170			X			
	J 1	900	15 to 10	5	4,500	167	1.7	283		X				
	J 2	750	15 to 10	5	3,750	139	1.7	236		X				
	J 2	150	15 to 10	5	750	28	1.7	47				X		
	J 3	900	15 to 10	5	4,500	167	1.7	283				X		
	J 4	540	15 to 10	5	2,700	100	1.7	170				X		
	K 1	900	15 to 10	5	4,500	167	1.7	283				X		
	K 2	900	15 to 10	5	4,500	167	1.7	283				X		
	K 3	900	15 to 10	5	4,500	167	1.7	283				X		
	K 4	540	15 to 10	5	2,700	100	1.7	170				X		
	L 1	900	15 to 10	5	4,500	167	1.7	283				X		
	L 2	900	15 to 10	5	4,500	167	1.7	283				X		
	L 3	900	15 to 10	5	4,500	167	1.7	283				X		
	L 4	540	15 to 10	5	2,700	100	1.7	170				X		
	M 1	900	15 to 10	5	4,500	167	1.7	283				X		
	M 2	900	15 to 10	5	4,500	167	1.7	283				X		
	M 3	900	15 to 10	5	4,500	167	1.7	283				X		
	M 4	540	15 to 10	5	2,700	100	1.7	170				X		
	N 1	690	15 to 10	5	3,450	128	1.7	217				X		
	N 2	530	15 to 10	5	2,650	98	1.7	167				X		
	N 2	160	15 to 10	5	800	30	1.7	50				X		
	N 3	690	15 to 10	5	3,450	128	1.7	217				X		
	N 4	324	15 to 10	5	1,620	60	1.7	102				X		
10 to 5	A 1	900	10 to 5	5	4,500	167	1.7	283	X					
	A 2	900	10 to 5	5	4,500	167	1.7	283	X					
	A 3	900	10 to 5	5	4,500	167	1.7	283	X					
	A 4	540	10 to 5	5	2,700	100	1.7	170	X					
	B 1	900	10 to 5	5	4,500	167	1.7	283	X					
	B 2	900	10 to 5	5	4,500	167	1.7	283	X					
	B 3	900	10 to 5	5	4,500	167	1.7	283	X					
	B 4	540	10 to 5	5	2,700	100	1.7	170	X					
	C 2	150	10 to 5	5	750	28	1.7	47	X					
	C 3	900	10 to 5	5	4,500	167	1.7	283	X					
	C 4	540	10 to 5	5	2,700	100	1.7	170	X					

Table 10
Estimated Quantity of Impacted Soil
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Lift (feet msl)[1]	Impacted Grid Cell Identification	Impacted Area (square feet)	Impacted Elevation Range (feet msl)[1]	Impacted Thickness (feet)	Volume (cubic feet)	Volume (cubic yards)	Conversion Factor (tons per cubic yard)	Weight of Impacted Soil (tons)	Category 2 [2]		Category 3 [2]		Category 3+[2]	
									Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics
10 to 5 (cont.)	D 2	150	10 to 5	5	750	28	1.7	47	X					
	D 3	900	10 to 5	5	4,500	167	1.7	283	X					
	D 4	540	10 to 5	5	2,700	100	1.7	170	X					
	E 2	150	10 to 5	5	750	28	1.7	47	X					
	E 3	900	10 to 5	5	4,500	167	1.7	283	X					
	E 4	540	10 to 5	5	2,700	100	1.7	170	X					
	F 2	150	10 to 5	5	750	28	1.7	47	X					
	F 3	900	10 to 5	5	4,500	167	1.7	283	X					
	F 4	540	10 to 5	5	2,700	100	1.7	170	X					
	G 1	900	10 to 5	5	4,500	167	1.7	283	X					
	G 2	900	10 to 5	5	4,500	167	1.7	283	X					
	G 3	900	10 to 5	5	4,500	167	1.7	283	X					
	G 4	540	10 to 5	5	2,700	100	1.7	170	X					
	H 1	900	10 to 5	5	4,500	167	1.7	283	X					
	H 2	900	10 to 5	5	4,500	167	1.7	283	X					
	H 3	900	10 to 5	5	4,500	167	1.7	283	X					
	H 4	540	10 to 5	5	2,700	100	1.7	170	X					
	I 1	900	10 to 5	5	4,500	167	1.7	283	X					
	I 2	900	10 to 5	5	4,500	167	1.7	283	X					
	I 3	900	10 to 5	5	4,500	167	1.7	283	X					
	I 4	540	10 to 5	5	2,700	100	1.7	170	X					
	J 1	900	10 to 5	5	4,500	167	1.7	283		X				
	J 2	900	10 to 5	5	4,500	167	1.7	283		X				
	J 3	900	10 to 5	5	4,500	167	1.7	283		X				
	J 4	540	10 to 5	5	2,700	100	1.7	170		X				
	K 1	900	10 to 5	5	4,500	167	1.7	283		X				
	K 2	900	10 to 5	5	4,500	167	1.7	283		X				
	K 3	900	10 to 5	5	4,500	167	1.7	283		X				
	K 4	540	10 to 5	5	2,700	100	1.7	170		X				
	L 1	900	10 to 5	5	4,500	167	1.7	283		X				
	L 2	900	10 to 5	5	4,500	167	1.7	283		X				
	L 3	900	10 to 5	5	4,500	167	1.7	283		X				
	L 4	540	10 to 5	5	2,700	100	1.7	170		X				
	M 1	900	10 to 5	5	4,500	167	1.7	283		X				
	M 2	900	10 to 5	5	4,500	167	1.7	283		X				
	M 3	900	10 to 5	5	4,500	167	1.7	283		X				
	M 4	540	10 to 5	5	2,700	100	1.7	170		X				
	N 1	690	10 to 5	5	3,450	128	1.7	217		X				
	N 2	690	10 to 5	5	3,450	128	1.7	217		X				
	N 3	690	10 to 5	5	3,450	128	1.7	217		X				
	N 4	324	10 to 5	5	1,620	60	1.7	102		X				

Table 10
Estimated Quantity of Impacted Soil
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Lift (feet msl)[1]	Impacted Grid Cell Identification	Impacted Area (square feet)	Impacted Elevation Range (feet msl)[1]	Impacted Thickness (feet)	Volume (cubic feet)	Volume (cubic yards)	Conversion Factor (tons per cubic yard)	Weight of Impacted Soil (tons)	Category 2 [2]		Category 3 [2]		Category 3+[2]	
									Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics
5 to 0	A 1	900	5 to 0	5	4,500	167	1.7	283	X					
	A 2	900	5 to 0	5	4,500	167	1.7	283	X					
	A 3	900	5 to 0	5	4,500	167	1.7	283	X					
	A 4	540	5 to 0	5	2,700	100	1.7	170	X					
	B 1	900	5 to 0	5	4,500	167	1.7	283	X					
	B 2	900	5 to 0	5	4,500	167	1.7	283	X					
	B 3	900	5 to 0	5	4,500	167	1.7	283	X					
	B 4	540	5 to 0	5	2,700	100	1.7	170	X					
	C 3	900	5 to 0	5	4,500	167	1.7	283	X					
	C 4	540	5 to 0	5	2,700	100	1.7	170	X					
	D 3	900	5 to 0	5	4,500	167	1.7	283	X					
	D 4	540	5 to 0	5	2,700	100	1.7	170	X					
	E 3	900	5 to 0	5	4,500	167	1.7	283	X					
	E 4	540	5 to 0	5	2,700	100	1.7	170	X					
	F 3	900	5 to 0	5	4,500	167	1.7	283	X					
	F 4	540	5 to 0	5	2,700	100	1.7	170	X					
	G 3	900	5 to 0	5	4,500	167	1.7	283	X					
	G 4	540	5 to 0	5	2,700	100	1.7	170	X					
	H 1	900	5 to 0	5	4,500	167	1.7	283	X					
	H 2	900	5 to 0	5	4,500	167	1.7	283	X					
	H 3	900	5 to 0	5	4,500	167	1.7	283	X					
	H 4	540	5 to 0	5	2,700	100	1.7	170	X					
	I 1	900	5 to 0	5	4,500	167	1.7	283	X					
	I 2	900	5 to 0	5	4,500	167	1.7	283	X					
	I 3	900	5 to 0	5	4,500	167	1.7	283	X					
	I 4	540	5 to 0	5	2,700	100	1.7	170	X					
	J 1	900	5 to 0	5	4,500	167	1.7	283	X					
	J 2	900	5 to 0	5	4,500	167	1.7	283	X					
	J 3	900	5 to 0	5	4,500	167	1.7	283	X					
	J 4	540	5 to 0	5	2,700	100	1.7	170	X					
	K 1	540	5 to 0	5	2,700	100	1.7	170	X					
	K 2	900	5 to 0	5	4,500	167	1.7	283	X					
	K 3	900	5 to 0	5	4,500	167	1.7	283	X					
	K 4	540	5 to 0	5	2,700	100	1.7	170	X					
	L 1	900	5 to 0	5	4,500	167	1.7	283	X					
	L 2	900	5 to 0	5	4,500	167	1.7	283	X					
	L 3	900	5 to 0	5	4,500	167	1.7	283	X					
	L 4	540	5 to 0	5	2,700	100	1.7	170	X					
	M 1	900	5 to 0	5	4,500	167	1.7	283	X					
	M 2	900	5 to 0	5	4,500	167	1.7	283	X					
	M 3	900	5 to 0	5	4,500	167	1.7	283	X					
	M 4	540	5 to 0	5	2,700	100	1.7	170	X					
	N 1	690	5 to 0	5	3,450	128	1.7	217	X					
	N 2	690	5 to 0	5	3,450	128	1.7	217	X					
	N 3	690	5 to 0	5	3,450	128	1.7	217	X					
	N 4	324	5 to 0	5	1,620	60	1.7	102	X					

Table 10
Estimated Quantity of Impacted Soil
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Lift (feet msl)[1]	Impacted Grid Cell Identification	Impacted Area (square feet)	Impacted Elevation Range (feet msl)[1]	Impacted Thickness (feet)	Volume (cubic feet)	Volume (cubic yards)	Conversion Factor (tons per cubic yard)	Weight of Impacted Soil (tons)	Category 2 [2]		Category 3 [2]		Category 3+[2]	
									Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics	Without Wood Debris/Organics	With Wood Debris/Organics
0 to -5	E 3	900	0 to -5	5	4,500	167	1.7	283	X					
	E 4	540	0 to -5	5	2,700	100	1.7	170	X					
	F 3	900	0 to -5	5	4,500	167	1.7	283	X					
	F 4	540	0 to -5	5	2,700	100	1.7	170	X					
	G 3	900	0 to -5	5	4,500	167	1.7	283	X					
	G 4	540	0 to -5	5	2,700	100	1.7	170	X					
	H 1	900	0 to -5	5	4,500	167	1.7	283	X					
	H 2	900	0 to -5	5	4,500	167	1.7	283	X					
	H 3	900	0 to -5	5	4,500	167	1.7	283	X					
	H 4	540	0 to -5	5	2,700	100	1.7	170	X					
	I 1	900	0 to -5	5	4,500	167	1.7	283	X					
	I 2	900	0 to -5	5	4,500	167	1.7	283	X					
	I 3	900	0 to -5	5	4,500	167	1.7	283	X					
	I 4	540	0 to -5	5	2,700	100	1.7	170	X					
	J 1	900	0 to -5	5	4,500	167	1.7	283	X					
	J 2	900	0 to -5	5	4,500	167	1.7	283	X					
	J 3	900	0 to -5	5	4,500	167	1.7	283	X					
	J 4	540	0 to -5	5	2,700	100	1.7	170	X					
	K 1	900	0 to -5	5	4,500	167	1.7	283	X					
	K 2	900	0 to -5	5	4,500	167	1.7	283	X					
	K 3	900	0 to -5	5	4,500	167	1.7	283	X					
	K 4	540	0 to -5	5	2,700	100	1.7	170	X					
	L 1	900	0 to -5	5	4,500	167	1.7	283	X					
	L 2	900	0 to -5	5	4,500	167	1.7	283	X					
	L 3	900	0 to -5	5	4,500	167	1.7	283	X					
	L 4	540	0 to -5	5	2,700	100	1.7	170	X					
	M 1	900	0 to -5	5	4,500	167	1.7	283	X					
	M 2	900	0 to -5	5	4,500	167	1.7	283	X					
	M 3	900	0 to -5	5	4,500	167	1.7	283	X					
	M 4	540	0 to -5	5	2,700	100	1.7	170	X					
	N 1	690	0 to -5	5	3,450	128	1.7	217	X					
	N 2	690	0 to -5	5	3,450	128	1.7	217	X					
	N 3	690	0 to -5	5	3,450	128	1.7	217	X					
	N 4	324	0 to -5	5	1,620	60	1.7	102	X					
						Total Estimated Tonnages of Impacted Soil		**76,080**	**35,895**	**12,059**	**5,200**	**16,345**	**0**	**6,582**

NOTES:

[1]Elevation in feet above mean sea level (msl) (NAVD 88).

[2]Petroleum-contaminated soil disposal classification according to CEMEX disposal criteria.

msl = mean sea level

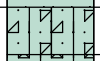
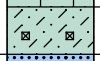
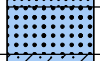
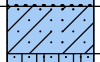
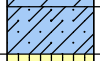
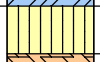
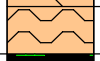
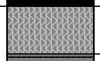
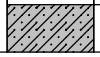
APPENDIX A
BORING LOGS AND WELL COMPLETION DIAGRAMS

SUBSURFACE INVESTIGATION REPORT AND ENVIRONMENTAL MEDIA MANAGEMENT PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

FARALLON CONSULTING

USCS Classification and Graphic Legend

Major Divisions			USCS Graphic Symbol	USCS Letter Symbol	Lithologic Description
Coarse-Grained Soil (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well graded GRAVEL, well graded GRAVEL with sand
				GP	Poorly graded GRAVEL, GRAVEL with sand
		GRAVEL WITH FINES (Appreciable amount of fines)		GP-GM	Poorly graded GRAVEL - GRAVEL with sand and silt
				GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well graded SAND
				SP	Poorly graded SAND
		SAND WITH FINES (Appreciable amount of fines)		SP-SM	Poorly graded SAND - silty SAND
				SM	Silty SAND
				SC	Clayey SAND
				SM-ML	SILT - Silty SAND
Fine-Grained Soil (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	SILT
				CL	CLAY
				OL	Organic SILT
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic SILT
				CH	Inorganic CLAY
				OH	Organic CLAY
		Highly Organic Soil		PT	Peat
OTHER MATERIALS	PAVEMENT			AC	Asphalt concrete
				CO	Concrete
	OTHER			RK	Bedrock
				WD	Wood Debris
				DB	Debris (Miscellaneous)
				PC	Portland cement

Legend

Sample Interval

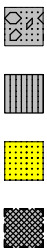
G — Grab Sample Interval

Water level at time of drilling

Water level at time of sampling

Blank Casing

Screened Casing



Cement Grout

Bentonite

Sand Pack

Well Cap

_____ Solid line indicates sharp contact between units well defined.

- - - - - - - Dashed line indicates gradational contact between units.

feet bgs = feet below ground surface

NE = Not Encountered

NA = Not Applicable

PID = Photoionization Detector

PN = Project Number

*ppm = parts per million total organic vapors in isobutylene equivalents using a 10.6 electron volt lamp

USCS = Unified Soil Classification System

Log of Boring: FB-01

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/21/2018 @ 1126	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/21/2018 @ 1540	**Drive Hammer (lbs.):**	140
Equipment:	MiniTrack	**Depth of Water ATD (ft bgs):**	8.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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		0.0-1.0': Concrete. Hand auger to clear for utilities.	CO							Concrete
		1.0'-5.0': Well graded SAND with silt and gravel (60% sand, 30% gravel, 10% silt), fine to coarse sand, fine gravel, brown, moist, no odor.	SW-SM				1.0			
5		5.0-6.5': Silty SAND (50% sand, 40% silt, 10% gravel), fine to coarse sand, fine gravel, dark brown, very loose, moist, no odor.	SM		80	3 2 1	0.5	FB-01-5.0-082118 @ 1140	X	Water Level
10		10.0-11.5': No soil samples collected. Temporary well installed at approximately 12.5 ft bgs.			NA	NA	NA	FB-01-082118 @1245	X	
15		15.0-15.8': SILT (90% silt, 10% sand), fine sand, brown, wet, stiff, no odor.	ML		100	2 4 8	0.0	FB-01-15.0-082118 @1420	X	Bentonite
		15.8-16.5': Silty SAND (70% sand, 30% silt), fine sand, gray, wet, medium dense, no odor.	SM							
20		20.0-21.5': Poorly-graded SAND (95% sand, 5% silt), fine sand, grayish brown, wet, dense, no odor.	SP		100	12 19 21	0.0	FB-01-20.0-082118 @ 1446		

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-01

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/21/2018 @ 1126	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/21/2018 @ 1540	**Drive Hammer (lbs.):**	140
Equipment:	MiniTrack	**Depth of Water ATD (ft bgs):**	8.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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
25		25.0-26.5': SILT (90% silt, 10% sand), fine sand, gray, wet,stiff, no odor.	ML		100	3 4 5	0.0	FB-01-25.0-082118 @ 1500		
30		30.0-31.5': Poorly graded SAND (95% sand, 5% silt), medium sand, gray, wet, dense, no odor.	SP		100	14 20 25	0.0	FB-01-30.0-082118 @ 1515	X	
35		35.0-36.5': Silty SAND (60% sand, 40% silt), fine sand, gray, moist, very dense no odor.	SM		100	17 35 26	0.0	FB-01-35.0-082118 @ 1530		Bentonite
40		40.0-41.5': Poorly graded SAND (95% sand, 5% silt), fine sand, dark gray, very dense, moist, no odor.	SP		100	12 15 50 5	0.0	FB-01-40.0-082118 @ 1540		

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-02

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/20/2018 @ 1045	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/20/2018 @ 1545	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	10.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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		0.0-0.7': Concrete, hand auguer to clear for utilities.	CO							Concrete
		2.5-3.5': Well graded GRAVEL with silt and sand (50% gravel, 40% sand,10% silt), fine to coarse sand, fine gravel, dark brown, moist, no odor. (Fill).	FILL				0.5	FB-02-3.0-082018 @1155		
5		5.0-6.5': Well graded GRAVEL with silt and sand (50% gravel, 40% sand, 10% silt), fine to coarse sand, fine gravel, dark brown, moist, loose, no odor. Wood debris present. (Fill).	FILL		100	11 5 3	0.9	FB-02-5.0-082018 @1220	X	
10		10.0-11.5': Sandy SILT (70% silt, 30% sand), fine to medium sand, dark brown, wet, very soft, no odor. Mottling present.	ML		100	1 1 1	0.2	FB-02-10.0-082018 @1255	X	Water Level
15		15.0-16.5': SILT with sand (75% silt, 25% sand), fine to medium sand, grayish brown, moist, stiff, no odor.	ML		100	4 4 6	0.5	FB-02-15.0-082018 @1245		Bentonite
20		20.0-21.5': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, gray, wet, medium dense, no odor.	SP-SM		100	14 11 5	0.2	FB-02-20.0-082018 @1310		

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-02

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/20/2018 @ 1045	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/20/2018 @ 1545	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	10.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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
25		25.0-26.5': Silty SAND (80% sand, 20% silt), fine to medium sand, gray, wet, dense, slight petroleum-like odor.	SM		100	16 20 20	0.4	FB-02-25.0-082018 @1430	X	
30		30.0-31.5': Sandy SILT (60% silt, 40% sand), fine sand, gray, moist to wet, very stiff, slight petroleum-like odor.	ML		100	12 16 16	0.7	FB-02-30.0-082018 @1454		
35		35.0-36.5': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, moist to wet, medium dense, no odor.	SP-SM		100	5 8 12	0.6	FB-02-35.0-082018 @1520	X	Bentonite
40		40.0-41.5': No Recovery. Heaving sands prevented drilling beyond 40.0 ft bgs.			0			No Sample		

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-03

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/23/2018 @ 1200	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/23/2018 @ 1540	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	17.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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		0.0-0.6': Concrete, asphalt fill material. Hand auger to clear for utilities.	CO							Concrete
5		5.0-6.5': SILT with sand (80% silt, 10% sand, 10% gravel), fine sand, fine gravel, gray, moist, medium stiff, organic odor. Some charcoal and wood debris. (Fill).	FILL		100	3 3 3	0.1	FB-03-5.0-082318 @1250		
10		10.0-11.5': SILT (100% silt), gray, moist, medium stiff, no odor.	ML		100	3 3 3	0.2	FB-03-10.0-082318 @1310	X	Bentonite
15		15.0-16.5': Sandy SILT (60% silt, 40% sand), fine sand, gray, wet, medium stiff, no odor.	ML		100	2 3 5	0.2	FB-03-15.0-082318 @1325	X	Water Level
20		20.5-21.5': No soil sample. Temporary well installed for reconnaissance groundwater sampling.			NA	NA	NA	FB-03-082318 @ 14:00	X	

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-03

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/23/2018 @ 1200	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/23/2018 @ 1540	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	17.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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
25		25.0-26.5': Poorly graded SAND with silt (90% sand, 10% silt), medium sand, gray, wet, very dense, no odor.	SP-SM		100	19 22 33	0.2	FB-03-25.0-082318 @1500	X	
30		30.0-31.5': Poorly graded SAND (100% sand), fine to medium sand, grayish brown, wet, dense, no odor.	SP		100	10 21 27	0.3	FB-03-30.0-082318 @1520		Bentonite
35		35.0-36.5': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, gray, wet, medium dense, no odor.	SP-SM		100	14 21 13	0.3	FB-03-35.0-082318 @1530	X	
40		40.0-41.5': Silty SAND (70% sand, 30% silt), fine sand, grayish brown, wet, medium dense, no odor.	SM		100	11 16 20	0.1	FB-03-40.0-082318 @1540		

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-04

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/21/2018 @ 0645	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/21/2018 @ 0900	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	17.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	33.0
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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		0.0-2.0': Asphalt. Hand auger to clear for utilities.	AC							Concrete
		2.0-3.0': SILT with sand (80% silt, 20% sand), fine sand, dark brown, moist, petroleum-like odor. Peat and orgranic material present. (Fill).	FILL				0.5	FB-04-3.0-082118 @0645		
5		5.0-6.5': SILT with sand (80% silt, 20% sand), fine sand, dark brown, moist, very soft, no odor. Debris and organic material present. (Fill).	FILL		100	1 1 1	0.9	FB-04-5.0-082118 @0650	X	
10		10.0-11.5': SILT with sand (80% silt, 20% silt), fine to medium sand, dark brown, moist to wet, stiff, no odor. Debris present. (Fill).	FILL		100	1 5 10	0.2	FB-04-10.0-082118 @0710	X	Bentonite
15		15.0-16.5': Silty SAND (80% sand, 20% silt), fine to medium sand, gray, wet, loose, no odor.	SM		100	3 2 4	0.5	FB-04-15.0-082118 @0735	X	Water Level
20		20.0-21.5': Poorly graded sand (100% sand), fine to medium sand, gray, wet, dense, no odor.	SP		100	7 15 28	0.2	FB-04-20.0-082118 @0745	X	
25		25.0-26.5': SILT with sand (60% silt, 40% sand), fine sand, gray, wet, very stiff, no odor.	ML		100	10 11 17	0.4	FB-04-25.0-082118 @0815		Bentonite
30		30-31.5': Poorly graded SAND (100% sand), fine to medium sand, gray, wet, dense, no odor.	SP		100	9 14 30	0.7	FB-04-30.0-082118 @0850	X	
35		Refusal at 33.0' bgs due to heaving sands.								

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-05

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/22/2018 @ 0815	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/22/2018 @ 1140	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	17.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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		0.0-0.5': Concrete. Hand auger to clear for utilities.	CO							Concrete
		0.5-5.0': Silty SAND (80% sand, 20% silt), fine to medium sand, dark brown, moist, no odor. (Fill).	FILL							
5		5.0-6.5': Silty SAND (50% sand, 45% silt, 5% gravel), fine to medium sand, fine gravel, dark brown, moist, loose, no odor. (Fill).	FILL		100	1 2 3	0.5	FB-05-5.0-082218 @0840	X	
10		10.0-11.5': SILT (90% silt, 10% sand), fine sand, gray, moist, medium stiff, no odor. Wood chips and organic matter present. (Fill).	FILL		100	2 2 3	0.6	FB-05-10.0-082218 @0855		Bentonite
15		15.0-16.5': SILT (95% silt, 5% sand), fine sand, gray, moist, very stiff, no odor.	ML		100	7 10 13	1.0	FB-05-15.0-082218 @0910	X	
								FB-04-082218 @0950	X	Water Level
20		20.0-20.6': SILT (100% silt), gray, wet, hard, no odor.	ML		100	14 21 24	0.6	FB-05-20.0-082218 @0930	X	
		20.6-21.5': Silty SAND (80% sand, 20% silt), medium sand, gray, wet, dense, no odor.	SM							

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-05

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA

Farallon PN: 397-019

Logged By: Greg Peters

Date/Time Started:	08/22/2018 @ 0815	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/22/2018 @ 1140	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	17.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	41.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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
25		25.0-26.5': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, moist, very dense, no odor.	SP-SM		100	17 13 50-6"	0.7	FB-04-25.0-082218 @1110		
30		30-31.5': Poorly-graded SAND (100% sand), fine to medium sand, grayish brown, wet, very dense, no odor.	SP		100	16 25 35	0.4	FB-04-30.0-082218 @1120		Bentonite
35		35-36.5': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, grayish brown, wet, very dense, no odor.	SP-SM		100	24 28 32	0.7	FB-04-35.0-082218 @1130	X	
40		40.0-41.5': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, grayish brown, wet, dense, no odor.	SP-SM		100	11 18 30	0.6	FB-04-40.0-082218 @1140		
45										

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: FB-06

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA

Farallon PN: 397-019

Logged By: Greg Peters

Date/Time Started:	08/22/2018 @ 0610	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/22/2018 @ 0730	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	16.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	26.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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		0.0-0.5': Concrete. Hand auger to clear for utilities.	CO							Concrete
		0.5-2.5': SILT with sand (80% silt, 15% sand, 5% gravel), fine sand, fine gravel, dark brown, moist, petroleum-like odor. (Fill).	FILL				6.9	FB-05-2.5-082218 @0610	X	
5		5.0-6.5': Sandy SILT (60% silt, 40% sand), fine sand, dark brown, moist, very soft, petroleum-like odor. Wood debris. (Fill).	FILL		100	1 1 1	2.4	No Sample		
10		10.0-11.5': SILT (90% silt, 10% sand), fine sand, dark brown, moist, medium stiff, no odor.	ML		100	1 2 3	0.4	FB-05-10.0-082218 @0640	X	Bentonite
15		15.0-16.5': SILT (95% silt, 5% sand), fine sand, brown, moist, medium stiff, no odor.	ML		100	3 3 3	0.4	FB-05-15.0-082218 @0655		Water Level
20		20.0-21.5': Sandy SILT (60 silt, 40% sand), fine sand, gray, moist to wet, hard, no odor.	ML		100	13 20 23	0.4	FB-05-20.0-082218 @0715	X	
25		25.0-26.5': Silty SAND (80% sand, 20% silt), fine sand, gray, moist, very dense, no odor.	SM		100	14 22 30	0.6	FB-05-25.0-082218 @0730	X	

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
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite		**Y:** NA

Log of Boring: F-MW-130

Client: Washington Builders LLC
Project: Block 43
Location: Block 38, Seattle, WA
Farallon PN: 397-010
Logged By: Dincer Kayhan

Date/Time Started:	7/21/14 @ 0945	**Sampler Type:**	PE Bags
Date/Time Completed:	7/22/14 @	**Drive Hammer (lbs.):**	Auto
Equipment:	Spider 1576	**Depth of Water ATD (ft bgs):**	5.7
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	60.0
Drilling Foreman:	Zane Huckins	**Total Well Depth (ft bgs):**	55
Drilling Method:	Sonic		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.8': Asphalt (Cored).	AC							Concrete
		1.1-5.7': Wood debris mixed with black silty sand/sandy silt.	FILL					Air knife from 0.0-5.7' bgs.		
5		5.7-6.7': SILT (100% Silt), brown with alternating zones of black, wet, no odor.	FILL			1/1/1	0.6	SS-6.0 SPT		Water Level
		6.7-8.0': SILT (100% silt), alternating colors between brown, gray, and light gray, wet, organic odor, debris includes glass shards.	FILL		100		2.1	SS-5.0-7.5		
		8.0-8.9': Sandy SILT with gravel (70% silt, 15% sand, 15% gravel), fine to medium sand, coarse gravel, gray, no odor.	ML							
10		8.9-10.8': SILT (95% silt, 5% sand), fine sand, gray, wet, no odor.	ML				2.6	SS-7.5-10.0		Grout with Bentonite
		10.8-12.7': Sandy SILT (60% silt, 40% sand), fine sand, gray, wet, no odor.	ML			7/14/12	3.1	SS-11.0 SPT		
							5.2	SS-10.0-12.5		
		12.7-14.3': Silty SAND (70% sand, 30% silt), fine sand, coarse gravel <5%, gray, no odor, loose, moist.	SM		96					
							4.0	SS-12.5-14.8		
		14.3-14.8': SILT (95% silt, 5% sand), fine sand, gray, wet, no odor.	ML							
15		14.8-15.0': No recovery.								
		15.0-16.0': SILT (95% silt, 5% sand), fine sand, gray, wet, no odor.	ML			3/6/20	NM	SS-15.0-SPT		
		16.0-20.0': Silty SAND (70% sand, 30% silt), fine sand, loose, wet, strong moth ball-like odor.	SM		100		2.2	SS-15.0-17.5		
20								F-MW-130-GW1-072114 @ 1420		

Well Construction Information

Monument Type: Flush Mount
Casing Diameter (inches): 2
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 45.0-55.0

Filter Pack: 10/20 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Boring Abandonment: NA

Ground Surface Elevation (ft): 23
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA, Y: NA

Log of Boring: F-MW-130

Client: Washington Builders LLC
Project: Block 43
Location: Block 38, Seattle, WA
Farallon PN: 397-010
Logged By: Dincer Kayhan

Date/Time Started:	7/21/14 @ 0945	**Sampler Type:**	PE Bags
Date/Time Completed:	7/22/14 @	**Drive Hammer (lbs.):**	Auto
Equipment:	Spider 1576	**Depth of Water ATD (ft bgs):**	5.7
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	60.0
Drilling Foreman:	Zane Huckins	**Total Well Depth (ft bgs):**	55
Drilling Method:	Sonic		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
20		20.0-21.2': Silty SAND (70% sand, 30% silt), fine sand, loose, wet, strong moth ball-like odor.	SM				27.7	F-MW-130-20.0-072114 @ 1300		
		21.2-23.5': SILT (90% silt, 5% sand, 5% gravel), fine sand, coarse gravel, gray, moist, no odor.	ML		70	4/6/5	NM	SS-21.0-SPT		
							4.6	SS-20.0-22.5		
							2.7	SS-22.5-23.5		
		23.5-25.0': No recovery.								
25		25.0-25.4': SILT (90% silt, 5% sand, 5% gravel), fine sand, coarse gravel, gray, moist, no odor.	ML							
		25.4-30.0': Silty SAND (60% sand, 40% silt), fine to medium sand, gray, moist, no odor, unit is more dense than previous silty sands.	SM		100	14/21 /47	NM	SS-26.0-SPT		
							2.2	SS-25.0-27.5		
		sand increased to 80% sand and 20% silt from 28.0-30.0' bgs, (zones of light brown toward 30.0' bgs).								
30							2.3	SS-27.5-30.0		Grout with Bentonite
		30.0-40.0': Well graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, moist, no odor.	SW-SM		100	5/4/1	NM	SS-31.0-SPT		
							2.9	SS-30.0-32.5		
35							3.2	SS-32.5-35.0		
					100		3.8	SS-35.0-37.5		
							2.9	SS-37.5-40.0		
40										

Well Construction Information

Monument Type:	Flush Mount	**Filter Pack:**	10/20 Sand	**Ground Surface Elevation (ft):**	23
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	45.0-55.0	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: F-MW-130

Client: Washington Builders LLC
Project: Block 43
Location: Block 38, Seattle, WA
Farallon PN: 397-010
Logged By: Dincer Kayhan

Date/Time Started:	7/21/14 @ 0945	**Sampler Type:**	PE Bags
Date/Time Completed:	7/22/14 @	**Drive Hammer (lbs.):**	Auto
Equipment:	Spider 1576	**Depth of Water ATD (ft bgs):**	5.7
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	60.0
Drilling Foreman:	Zane Huckins	**Total Well Depth (ft bgs):**	55
Drilling Method:	Sonic		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Boring/Well Construction Details
40		Moisture content increased from previous 30.0-35.0' interval but still classified as moist.	SM			26.7	F-MW-130-40.0-072114 @ 1655 SS-40.7	Bentonite Seal
		40.0-40.7': Silty SAND (80% sand, 20% silt), fine to medium sand, gray, moist, no odor.						
		40.7-45.0': No recovery. Soil was not solid enough to collect due to water injection to combat heaving sands.		14				Sand Pack
45		45.0-49.5': Silty SAND (80% sand, 20% silt), fine to medium sand, gray, moist, no odor.	SM	90		173	F-MW-130-47.5-072214 @ 1000	
		49.5-50.0': No recovery.						
50		50.0-55.0': Well graded GRAVEL with silt and sand (60% gravel, 30% sand, 10% silt), fine to coarse sand and gravel, gray, wet, no odor, large cobbles present, natural wood debris present (bark and tree branch).	GW-GM	100		88.4	F-MW-130-50.0-072214 @ 1005	Screen
						8.5	SS-50.0-52.5	
						8.3	SS-52.5-55.0	
55		55.0-56.7: Well graded GRAVEL with silt and sand (60% gravel, 30% sand, 10% silt), fine to coarse sand and gravel, gray, wet, no odor.	GW-GM				F-MW-130-55.0-072214 @ 1325	Sand Pack
		56.7-60.0': Gravelly SILT (50% silt, 40% gravel, 10% sand), fine to coarse gravel and sand, gray, wet, no odor, cobbles present, gradational contact with unit above.	ML	100		12.8	SS-55.0-57.5	
60					10/18 /20	6.7 NM	SS-57.5-60.0 SS-60.0-SPT	Bentonite Seal

Well Construction Information

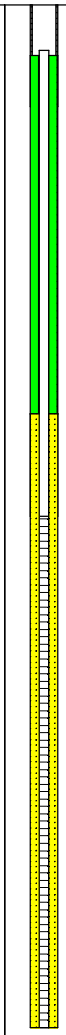
Monument Type:	Flush Mount	**Filter Pack:**	10/20 Sand	**Ground Surface Elevation (ft):**	23
Casing Diameter (inches):	2	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	45.0-55.0	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: FMW-132

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/24/2018 @ 1330	**Sampler Type:**	1.5 Split spoon
Date/Time Completed:	08/24/2018 @ 1530	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	7.5
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	10.0
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	10.0
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-1.0': Concrete, tile and asphalt material.	CO					
	1.0-2.5': Poorly graded SAND with gravel (80% sand,15% gravel, 5% silt), medium to coarse sand, fine gravel, brown, dry, no odor. (Fill).	FILL			0.3	FMW-132-2.5-082418@1320	
5	5.0-6.5': Sandy SILT (60% sand, 30% silt, 10% gravel), fine sand, fine gravel, brown, dry, very loose, no odor. Fill material consisting of wood & glass debris. Some organic matter present. (Fill).	FILL	100	3 2 1	0.5	FMW-132-5.0-082418@1320	X
10	Drilling crew encountered unidentified hard object while attempting to sample at 10.0 ft bgs. Farallon decided to stop drilling operations and install monitoring well at 10.0 ft bgs.		NA	NA	NA	FMW-132-10.0-082418@1835	X



Well Construction Information

Monument Type:	Flush Mount	**Filter Pack:**	Silica/Sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	1.0	**Surface Seal:**	Grout/Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite/Grout	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	5.0-10.0	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: FMW-133

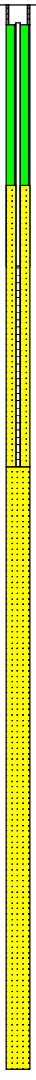
Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA

Farallon PN: 397-019

Logged By: Greg Peters

Date/Time Started:	08/24/2018 @ 1745	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/24/2018 @ 1902	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	9.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	26.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	11.5
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-1.5': Concrete. Hand auger to clear for utilities.	CO					
	2.5-5.0': Poorly graded SAND with gravel (70% sand, 25% gravel, 5% silt), medium sand, fine gravel, dark brown, dry to moist, no odor. (Fill).	FILL					
5	5.0-6.5': No Recovery.		0	1 2 1	NA	No Sample	
10	10.0-11.5': SILT (90% silt, 10% sand), fine sand, brown, moist to wet, very soft, no odor. Wood debris present. (Fill).	FILL	100	1 1 1	0.5	FMW-133-10.0-082418@1835	X
15	15.0-16.5': Silty SAND (85% sand, 15% silt), fine sand, gray, moist, stiff, no odor.	SM	100	4 5 6	0.3	FMW-133-15.0-082418@1849	
20	20.0-21.5': Poorly graded SAND (95% sand, 5% silt), medium to coarse sand, gray, wet, medium dense, wet, no odor.	SP	100	6 8 11	0.4	FMW-133-20.0-082418@1852	X
25	25.0-26.5': Poorly graded SAND (95% sand, 5% silt), fine to medium sand, gray, wet, very dense, no odor.	SP	100	18 21 30	0.4	FMW-133-25.0-082418@1902	



Well Construction Information

Monument Type:	Flush Mount	**Filter Pack:**	Silica/Sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	1.0	**Surface Seal:**	Grout/Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.01	**Annular Seal:**	NA	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	6.5 - 11.5	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: FMW-134

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA

Farallon PN: 397-019

Logged By: Greg Peters

Date/Time Started:	08/24/2018 @ 0700	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/24/2018 @ 1030	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	13.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	20.0
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	17.0
Drilling Method:	Hollow Stem Auger		

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		0.0-0.5': Concrete. Hand auger to clear for utilities.	CO							Monument
		0.5-2.5': Sandy SILT (50% silt, 40% sand, 10% gravel), fine to coarse sand, fine gravel, dark brown, moist, organic odor.	ML							
5		5.0-6.5': SILT (90% silt, 10% sand), fine sand, brown, moist to wet, medium stiff, organic odor. Organic matter present.	ML		100	2 1 4	0.1	FMW-134-5.0-082318@0710	X	Bentonite
10		10.0-11.0': SILT (90% silt, 10% sand), fine sand, gray, medium stiff, moist, no odor.	ML		100	2 3 5	0.0	FMW-134-10.0-082318@0720		
		11.0-11.5': Poorly-graded SAND (100% sand), fine to medium sand, gray, loose, moist, no odor.	SP							Sand Pack Water Level
15		15.0-16.5': Silty SAND (85% sand, 15% silt), fine to medium sand, grey, wet, medium dense, no odor.	SM		100	8 11 11	0.3	FMW-134-15.0-082318@0730	X	Pre-Packed Screen
										Sand Pack
20		20.0-21.5': Poorly graded SAND (100% sand), medium sand, grey, wet, medium dense, wet, no odor.	SP-SM		100	10 13 17	0.1	FMW-134-20.0-082318@0750		
25		Refusal at 25.0' bgs due to heaving sands.								

Well Construction Information

Monument Type:	Flush Mount	**Filter Pack:**	Silica/Sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	1.0	**Surface Seal:**	Grout/Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite/Grout	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	12.0-17.0	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: FMW-135

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/24/2018 @ 0700	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/24/2018 @ 0950	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	8.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	51.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	12.0
Drilling Method:	Hollow Stem Auger		

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		0.0-0.6': Concrete. Hand auger to clear for utilities.	CO							Monument
5		5.0-6.0': Silty SAND (60% sand, 30% silt,10% gravel), fine to coarse sand, fine gravel, brown, moist to wet, very loose, no odor. (Fill).	FILL		100	1 1 2	0.1	FMW-135-5.0-082418@0735	X	Bentonite
		6.0-6.5': SILT (90% silt, 10% sand), fine sand, grayish brown, moist to wet, soft, no odor. (Fill).	FILL							Sand Pack
10		10.0-11.5': Poor recovery. Wood debris throughout entire core sample. (Fill).	FILL		NA	9 6 5	0.5	No Sample		Water Level Pre-Packed Screen
15		15.0-15.9': SILT (100% silt), dark brown, moist, medium stiff, no odor.	ML		100	2 3 4	3.5	FMW-135-15.0-082418@0750	X	
		15.9-16.5': Silty SAND (70% sand, 30% silt), fine sand, gray, moist, loose, no odor.	SM							
20		20.0-20.8': Poorly-graded SAND (100% sand), medium to coarse sand, gray, wet, loose, organic odor.	SP		100	1 4 3	1.2	FMW-135-20.0-082418@0810		
		20.8-21.5': SILT (90% silt, 10% sand), medium sand, gray, moist to wet, medium stiff, organic odor.	ML							
25		25.0-26.5': Silty SAND (55% sand, 40% silt, 5% gravel), fine sand, fine gravel, gray, wet, loose, organic odor.	SM		100	2 4 6	1.0	FMW-135-25.0-082418@0823	X	

Well Construction Information

Monument Type:	Flush Mount	**Filter Pack:**	Silica/Sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	1.0	**Surface Seal:**	Grout/Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite/Grout	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	7.0-12.0	**Boring Abandonment:**	NA		**Y:** NA

FARALLON CONSULTING

Log of Boring: FMW-135

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/24/2018 @ 0700	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/24/2018 @ 0950	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	8.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	51.5
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	12.0
Drilling Method:	Hollow Stem Auger		

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
30		30.0-31.5': Silty SAND (70% sand, 30% silt), fine sand, gray, moist, medium dense, no odor.	SM		100	9 13 15	1.1	FMW-135-30.0-082418@0835	X	
35		35.0-36.5': Silty SAND (60% sand, 40% silt), fine sand, gray, moist, dense, no odor.	SM		100	15 21 24	0.9	FMW-135-35.0-082418@0850	X	
40		40.0-41.5': Poorly-graded SAND with silt (90% sand, 10% silt), fine sand, grayish brown, moist, very dense, no odor.	SP-SM		100	22 32 38	1.0	FMW-135-40.0-082418@0915		
45		45.0-46.5': Poorly-graded SAND with silt (90% sand, 10% silt), fine sand, grayish brown, moist, very dense, no odor.	SP-SM		100	19 26 32	0.9	FMW-135-45.0-082418@0930		
50		50.0-51.5': Well-graded SAND with gravel (70% sand, 25% gravel, 5% silt), fine to coarse sand, fine gravel, moist to wet, dense, no odor.	SW		100	15 21 18	1.0	FMW-135-50.0-082418@0950	X	

Well Construction Information

Monument Type: Flush Mount
Casing Diameter (inches): 1.0
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 7.0-12.0

Filter Pack: Silica/Sand
Surface Seal: Grout/Concrete
Annular Seal: Bentonite/Grout
Boring Abandonment: NA

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA, Y: NA

Log of Boring: FMW-136

Client: City Investors IX LLC
Project: Block 38 West Property
Location: Seattle, WA
Farallon PN: 397-019
Logged By: Greg Peters

Date/Time Started:	08/22/2018 @ 1310	**Sampler Type:**	1.5 Split Spoon
Date/Time Completed:	08/22/2018 @ 1400	**Drive Hammer (lbs.):**	140
Equipment:	Mini-track	**Depth of Water ATD (ft bgs):**	18.0
Drilling Company:	Geologic Drilling	**Total Boring Depth (ft bgs):**	40.0
Drilling Foreman:	Blaine Gibson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hollow Stem Auger		

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		0.0-0.5': Concrete. Hand auger to clear for utilities.	CO							Monument
5		5.0-6.5': Sandy SILT (70% silt, 30% sand), fine to medium sand, dark brown, moist, soft, no odor. Wood debris and organic matter present. (Fill).	FILL		100	1 2 2	0.7	FMW-136-5.0-082218@1315		
10		10.0-11.5': Sandy SILT (60% silt, 40% sand), fine sand, gray, moist, stiff, no odor.	ML		100	3 6 5	0.8	FMW-136-10.0-082218@1320	X	Bentonite
15		15.0-16.5': Silty SAND (60% sand, 40% silt), fine sand, gray, moist, medium dense, no odor.	SM		100	8 10 14	0.6	FMW-136-15.0-082218@1330		Water Level
20		20.0-21.5': Silty SAND (80% sand, 20% silt), fine to medium sand, grayish brown, moist to wet, medium dense, no odor.	SM		100	18 13 12	0.8	FMW-136-20.0-082218@1345	X	
25		25.0-26.5': Poorly-graded SAND with silt (90% sand, 10% silt), fine sand, grayish brown, wet, medium dense, no odor.	SP-SM		100	4 10 16	1.3	FMW-136-25.0-082218@1355		Sand Pack
30		30.0-31.5': Poorly-graded SAND (100% sand), fine sand, grayish brown, wet, dense, no odor.	SP		100	6 12 19	1.0	FMW-136-30.0-082218@1400	X	
35		No sample recovery beyond 30.0' bgs due to heaving sands.								Pre-Packed Screen
40										

Well Construction Information

Monument Type:	Flush Mount	**Filter Pack:**	Silica/Sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	1.0	**Surface Seal:**	Grout/Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite/Grout	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	30.0- 40.0	**Boring Abandonment:**	NA		**Y:** NA

APPENDIX B
LABORATORY ANALYTICAL REPORTS

SUBSURFACE INVESTIGATION REPORT AND ENVIRONMENTAL MEDIA MANAGEMENT PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

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

July 30, 2014

Cliff Schmitt
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 397-010
Laboratory Reference No. 1407-172

Dear Cliff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 22, 2014.

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: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

Case Narrative

Samples were collected on July 21 and 22, 2014 and received by the laboratory on July 22, 2014. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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.

NWTPH Gx/BTEX Analysis

The chromatogram for sample F-MW-130-GW1-072114 is not similar to a typical gas.

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: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

NWTPH-Gx/BTEX

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-GW1-072114**					
Laboratory ID:	07-172-02					
Benzene	**5.1**	1.0	EPA 8021B	7-24-14	7-24-14	
Toluene	**7.5**	1.0	EPA 8021B	7-24-14	7-24-14	
Ethyl Benzene	**2.2**	1.0	EPA 8021B	7-24-14	7-24-14	
m,p-Xylene	**3.4**	1.0	EPA 8021B	7-24-14	7-24-14	
o-Xylene	**3.3**	1.0	EPA 8021B	7-24-14	7-24-14	
Gasoline	**2100**	100	NWTPH-Gx	7-24-14	7-24-14	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*71-112*				

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Benzene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
Toluene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
Ethyl Benzene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
m,p-Xylene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
o-Xylene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
Gasoline	**ND**	100	NWTPH-Gx	7-24-14	7-24-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*71-112*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-209-02										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*97*	*96*	*71-112*			

MATRIX SPIKES											
Laboratory ID:	07-209-02										
	MS	MSD	MS	MSD		MS	MSD				
Benzene	**52.9**	**54.0**	50.0	50.0	ND	**106**	**108**	78-120	2	12	
Toluene	**54.7**	**55.9**	50.0	50.0	ND	**109**	**112**	80-121	2	12	
Ethyl Benzene	**55.1**	**55.9**	50.0	50.0	ND	**110**	**112**	81-120	1	13	
m,p-Xylene	**55.8**	**56.7**	50.0	50.0	ND	**112**	**113**	81-119	2	13	
o-Xylene	**55.4**	**56.0**	50.0	50.0	ND	**111**	**112**	79-117	1	13	
Surrogate:											
Fluorobenzene						*102*	*102*	*71-112*			

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-GW1-072114**					
Laboratory ID:	07-172-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloromethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Vinyl Chloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Iodomethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Methylene Chloride	ND	1.0	EPA 8260C	7-23-14	7-23-14	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroform	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Trichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Dibromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromodichloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-23-14	7-23-14	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-GW1-072114**					
Laboratory ID:	07-172-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Tetrachloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Dibromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromoform	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Bromobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*62-122*				
Toluene-d8	*101*	*70-120*				
4-Bromofluorobenzene	*99*	*71-120*				

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0723W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloromethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Vinyl Chloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Iodomethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Methylene Chloride	ND	1.0	EPA 8260C	7-23-14	7-23-14	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroform	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Trichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Dibromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromodichloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-23-14	7-23-14	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0723W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Tetrachloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Dibromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromoform	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Bromobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*62-122*				
Toluene-d8	*100*	*70-120*				
4-Bromofluorobenzene	*97*	*71-120*				

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

HALOGENATED VOLATILES 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:	SB0723W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.90**	**10.1**	10.0	10.0	99	101	63-142	2	17	
Benzene	**10.1**	**10.0**	10.0	10.0	101	100	78-125	1	15	
Trichloroethene	**10.4**	**10.0**	10.0	10.0	104	100	75-125	4	15	
Toluene	**10.1**	**9.91**	10.0	10.0	101	99	80-125	2	15	
Chlorobenzene	**9.83**	**9.74**	10.0	10.0	98	97	80-140	1	15	
Surrogate:										
Dibromofluoromethane					*95*	*98*	*62-122*			
Toluene-d8					*101*	*101*	*70-120*			
4-Bromofluorobenzene					*95*	*97*	*71-120*			

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-napthalene) 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 gas.

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: 397-010
Project Name: BLOCK 43
Project Manager: CLIFF SCHMITT
Sampled by: DINCER KAYHAN

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: 07-172

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	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	F-MW-130-20.0-072114	7/21/14	1300	S	5		X				X		~~STANDARD~~							~~TAT~~		DK	HOLD				
2	F-MW-130-GW1-072114	7/21/14	1420	W	5		X				X			STANDARD						TAT							
3	F-MW-130-40.0-072114	7/21/14	1655	S	~~4~~ 5																						
4	DRILLING WATER	7/22/14	0815	W	3													HOLD									

	Signature	Company	Date	Time
Relinquished		FARALLON	7/22/14	0950
Received		SPECTRA	7/22/14	1000
Relinquished		SPECTRA	7/22/14	1115
Received		ONE	7/22/14	1115
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐

Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.

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

August 5, 2014

Cliff Schmitt
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 397-010
Laboratory Reference No. 1407-172B

Dear Cliff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 22, 2014.

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: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

Case Narrative

Samples were collected on July 21 and 22, 2014 and received by the laboratory on July 22, 2014. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-20.0-072114**					
Laboratory ID:	07-172-01					
Benzene	**ND**	0.020	EPA 8021B	7-31-14	8-1-14	
Toluene	**ND**	0.088	EPA 8021B	7-31-14	8-1-14	
Ethyl Benzene	**ND**	0.088	EPA 8021B	7-31-14	8-1-14	
m,p-Xylene	**ND**	0.088	EPA 8021B	7-31-14	8-1-14	
o-Xylene	**ND**	0.088	EPA 8021B	7-31-14	8-1-14	
Gasoline	**ND**	8.8	NWTPH-Gx	7-31-14	8-1-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*71-121*				

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0731S1					
Benzene	**ND**	0.020	EPA 8021B	7-31-14	7-31-14	
Toluene	**ND**	0.050	EPA 8021B	7-31-14	7-31-14	
Ethyl Benzene	**ND**	0.050	EPA 8021B	7-31-14	7-31-14	
m,p-Xylene	**ND**	0.050	EPA 8021B	7-31-14	7-31-14	
o-Xylene	**ND**	0.050	EPA 8021B	7-31-14	7-31-14	
Gasoline	**ND**	5.0	NWTPH-Gx	7-31-14	7-31-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*107*	*71-121*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-275-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*109*	*109*	*71-121*			
SPIKE BLANKS											
Laboratory ID:	SB0731S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.998**	**1.04**	1.00	1.00		**100**	**104**	73-121	4	10	
Toluene	**1.07**	**1.13**	1.00	1.00		**107**	**113**	75-124	5	10	
Ethyl Benzene	**1.07**	**1.12**	1.00	1.00		**107**	**112**	75-125	5	9	
m,p-Xylene	**1.08**	**1.13**	1.00	1.00		**108**	**113**	75-126	5	9	
o-Xylene	**1.07**	**1.11**	1.00	1.00		**107**	**111**	74-123	4	8	
Surrogate:											
Fluorobenzene						*104*	*107*	*71-121*			

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-20.0-072114**					
Laboratory ID:	07-172-01					
Diesel Range Organics	**ND**	30	NWTPH-Dx	8-1-14	8-1-14	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	8-1-14	8-1-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0801S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-1-14	8-1-14	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-1-14	8-1-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	07-297-03									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*95* *105*	*50-150*			

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

SEMIVOLATILES EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-20.0-072114**					
Laboratory ID:	07-172-01					
n-Nitrosodimethylamine	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Pyridine	**ND**	0.40	EPA 8270D	8-1-14	8-2-14	
Phenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Aniline	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
bis(2-Chloroethyl)ether	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2-Chlorophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
1,3-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
1,4-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Benzyl alcohol	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
1,2-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2-Methylphenol (o-Cresol)	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
bis(2-Chloroisopropyl)ether	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
n-Nitroso-di-n-propylamine	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Hexachloroethane	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Nitrobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Isophorone	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2-Nitrophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,4-Dimethylphenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
bis(2-Chloroethoxy)methane	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,4-Dichlorophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
1,2,4-Trichlorobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Naphthalene	**0.38**	0.040	EPA 8270D	8-1-14	8-2-14	
4-Chloroaniline	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
Hexachlorobutadiene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
4-Chloro-3-methylphenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2-Methylnaphthalene	**0.028**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
1-Methylnaphthalene	**0.016**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Hexachlorocyclopentadiene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,4,6-Trichlorophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,3-Dichloroaniline	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,4,5-Trichlorophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2-Chloronaphthalene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2-Nitroaniline	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
1,4-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Dimethylphthalate	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
1,3-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,6-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
1,2-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Acenaphthylene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
3-Nitroaniline	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

SEMIVOLATILES EPA 8270D/SIM
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-20.0-072114**					
Laboratory ID:	07-172-01					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
Acenaphthene	**0.014**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
4-Nitrophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,4-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Dibenzofuran	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,3,5,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
2,3,4,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Diethylphthalate	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
4-Chlorophenyl-phenylether	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
4-Nitroaniline	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Fluorene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
n-Nitrosodiphenylamine	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
1,2-Diphenylhydrazine	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
4-Bromophenyl-phenylether	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Hexachlorobenzene	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Pentachlorophenol	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
Phenanthrene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Anthracene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Carbazole	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Di-n-butylphthalate	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Fluoranthene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Benzidine	**ND**	0.40	EPA 8270D	8-1-14	8-2-14	
Pyrene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Butylbenzylphthalate	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
bis-2-Ethylhexyladipate	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	8-1-14	8-2-14	
Benzo[a]anthracene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Chrysene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
bis(2-Ethylhexyl)phthalate	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Di-n-octylphthalate	**ND**	0.040	EPA 8270D	8-1-14	8-2-14	
Benzo[b]fluoranthene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Benzo(j,k)fluoranthene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Benzo[a]pyrene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Indeno[1,2,3-cd]pyrene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Dibenz[a,h]anthracene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Benzo[g,h,i]perylene	**ND**	0.0079	EPA 8270D/SIM	8-1-14	8-1-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*78*	*24 - 105*				
Phenol-d6	*85*	*34 - 101*				
Nitrobenzene-d5	*72*	*32 - 102*				
2-Fluorobiphenyl	*75*	*44 -100*				
2,4,6-Tribromophenol	*67*	*34 - 124*				
Terphenyl-d14	*74*	*47 - 114*				

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0801S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Pyridine	**ND**	0.33	EPA 8270D	8-1-14	8-1-14	
Phenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Aniline	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Isophorone	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0801S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Carbazole	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Di-n-butylphthalate	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Benzidine	**ND**	0.33	EPA 8270D	8-1-14	8-1-14	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Butylbenzylphthalate	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-1-14	8-1-14	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Di-n-octylphthalate	**ND**	0.033	EPA 8270D	8-1-14	8-1-14	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-1-14	8-1-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*85*	*24 - 105*				
Phenol-d6	*90*	*34 - 101*				
Nitrobenzene-d5	*79*	*32 - 102*				
2-Fluorobiphenyl	*77*	*44 -100*				
2,4,6-Tribromophenol	*76*	*34 - 124*				
Terphenyl-d14	*77*	*47 - 114*				

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

SEMIVOLATILES EPA 8270D/SIM
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:	SB0801S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.798**	**1.02**	1.33	1.33	60	77	41 - 104	24	36	
2-Chlorophenol	**0.799**	**1.03**	1.33	1.33	60	77	41 - 100	25	42	
1,4-Dichlorobenzene	**0.373**	**0.507**	0.667	0.667	56	76	34 - 100	30	48	
n-Nitroso-di-n-propylamine	**0.401**	**0.495**	0.667	0.667	60	74	41 - 98	21	30	
1,2,4-Trichlorobenzene	**0.395**	**0.502**	0.667	0.667	59	75	30 - 105	24	46	
4-Chloro-3-methylphenol	**0.877**	**1.02**	1.33	1.33	66	77	57 - 101	15	27	
Acenaphthene	**0.388**	**0.455**	0.667	0.667	58	68	56 - 95	16	22	
2,4-Dinitrotoluene	**0.422**	**0.485**	0.667	0.667	63	73	63 - 110	14	23	
Pentachlorophenol	**0.972**	**1.14**	1.33	1.33	73	86	35 - 120	16	29	
Pyrene	**0.454**	**0.502**	0.667	0.667	68	75	56 - 114	10	25	
Surrogate:										
2-Fluorophenol					*59*	*80*	*24 - 105*			
Phenol-d6					*67*	*84*	*34 - 101*			
Nitrobenzene-d5					*58*	*74*	*32 - 102*			
2-Fluorobiphenyl					*63*	*74*	*44 -100*			
2,4,6-Tribromophenol					*60*	*72*	*34 - 124*			
Terphenyl-d14					*66*	*74*	*47 - 114*			

Date of Report: August 5, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172B
Project: 397-010

% MOISTURE

Date Analyzed: 8-1-14

Client ID	Lab ID	% Moisture
F-MW-130-20.0-072114	07-172-01	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-napthalene) 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: 07-172

Company: FARALLON
Project Number: 397-010
Project Name: BLOCK 43
Project Manager: CLIFF SCHMITT
Sampled by: DINCER KAYHAN

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

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	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	F-MW-130-20.0-072114	7/21/14	1300	S	5		X		X		8260	X		STANDARD						TAT		DK, ~~HOLD~~ DB				X
2	F-MW-130-GW1-072114	7/21/14	1420	W	5		X				X			STANDARD						TAT						
3	F-MW-130-40.0-072114	7/21/14	1655	S	4																					
4	DRILLING WATER	7/22/14	0815	W	3													HOLD								

	Signature	Company	Date	Time
Relinquished		FARALLON	7/22/14	0950
Received		SPECTRA	7/22/14	1000
Relinquished		SPECTRA	7/22/14	1615
Received		ONE	7/22/14	1115
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
X Added 7/31/14. DB (3 day TAT)

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐

Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.

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

July 30, 2014

Cliff Schmitt
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 397-010
Laboratory Reference No. 1407-172

Dear Cliff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 22, 2014.

Please note that this is a *revised* report, and replaces the original dated July 30, 2014, due to a requested change of the Halogenated Volatiles to full list Volatiles.

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: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

Case Narrative

Samples were collected on July 21 and 22, 2014 and received by the laboratory on July 22, 2014. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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.

NWTPH Gx/BTEX Analysis

The chromatogram for sample F-MW-130-GW1-072114 is not similar to a typical gas.

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: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

NWTPH-Gx/BTEX

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-GW1-072114**					
Laboratory ID:	07-172-02					
Benzene	**5.1**	1.0	EPA 8021B	7-24-14	7-24-14	
Toluene	**7.5**	1.0	EPA 8021B	7-24-14	7-24-14	
Ethyl Benzene	**2.2**	1.0	EPA 8021B	7-24-14	7-24-14	
m,p-Xylene	**3.4**	1.0	EPA 8021B	7-24-14	7-24-14	
o-Xylene	**3.3**	1.0	EPA 8021B	7-24-14	7-24-14	
Gasoline	**2100**	100	NWTPH-Gx	7-24-14	7-24-14	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*71-112*				

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Benzene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
Toluene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
Ethyl Benzene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
m,p-Xylene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
o-Xylene	**ND**	1.0	EPA 8021B	7-24-14	7-24-14	
Gasoline	**ND**	100	NWTPH-Gx	7-24-14	7-24-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*71-112*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-209-02										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*97*	*96*	*71-112*			

MATRIX SPIKES											
Laboratory ID:	07-209-02										
	MS	MSD	MS	MSD		MS	MSD				
Benzene	**52.9**	**54.0**	50.0	50.0	ND	**106**	**108**	78-120	2	12	
Toluene	**54.7**	**55.9**	50.0	50.0	ND	**109**	**112**	80-121	2	12	
Ethyl Benzene	**55.1**	**55.9**	50.0	50.0	ND	**110**	**112**	81-120	1	13	
m,p-Xylene	**55.8**	**56.7**	50.0	50.0	ND	**112**	**113**	81-119	2	13	
o-Xylene	**55.4**	**56.0**	50.0	50.0	ND	**111**	**112**	79-117	1	13	
Surrogate:											
Fluorobenzene						*102*	*102*	*71-112*			

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-GW1-072114**					
Laboratory ID:	07-172-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloromethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Vinyl Chloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Acetone	ND	6.4	EPA 8260C	7-23-14	7-23-14	
Iodomethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Carbon Disulfide	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Methylene Chloride	ND	1.0	EPA 8260C	7-23-14	7-23-14	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Vinyl Acetate	ND	1.0	EPA 8260C	7-23-14	7-23-14	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Butanone	ND	5.0	EPA 8260C	7-23-14	7-23-14	
Bromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroform	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Benzene	6.1	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Trichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Dibromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromodichloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chloroethyl Vinyl Ether	ND	1.9	EPA 8260C	7-23-14	7-23-14	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-23-14	7-23-14	
Toluene	4.3	1.0	EPA 8260C	7-23-14	7-23-14	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

VOLATILES EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-GW1-072114**					
Laboratory ID:	07-172-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Tetrachloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Hexanone	ND	2.9	EPA 8260C	7-23-14	7-23-14	
Dibromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Ethylbenzene	1.6	0.20	EPA 8260C	7-23-14	7-23-14	
m,p-Xylene	2.2	0.40	EPA 8260C	7-23-14	7-23-14	
o-Xylene	2.3	0.20	EPA 8260C	7-23-14	7-23-14	
Styrene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromoform	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Isopropylbenzene	0.23	0.20	EPA 8260C	7-23-14	7-23-14	
Bromobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
n-Propylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3,5-Trimethylbenzene	1.2	0.20	EPA 8260C	7-23-14	7-23-14	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,4-Trimethylbenzene	2.6	0.20	EPA 8260C	7-23-14	7-23-14	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
n-Butylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Naphthalene	650	1.0	EPA 8260C	7-23-14	7-23-14	E
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*62-122*				
Toluene-d8	*101*	*70-120*				
4-Bromofluorobenzene	*99*	*71-120*				

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0723W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloromethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Vinyl Chloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Acetone	ND	6.4	EPA 8260C	7-23-14	7-23-14	
Iodomethane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Carbon Disulfide	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Methylene Chloride	ND	1.0	EPA 8260C	7-23-14	7-23-14	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Vinyl Acetate	ND	1.0	EPA 8260C	7-23-14	7-23-14	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Butanone	ND	5.0	EPA 8260C	7-23-14	7-23-14	
Bromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chloroform	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Benzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Trichloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Dibromomethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromodichloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chloroethyl Vinyl Ether	ND	1.9	EPA 8260C	7-23-14	7-23-14	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-23-14	7-23-14	
Toluene	ND	1.0	EPA 8260C	7-23-14	7-23-14	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-23-14	7-23-14	

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0723W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Tetrachloroethene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Hexanone	ND	2.9	EPA 8260C	7-23-14	7-23-14	
Dibromochloromethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Chlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Ethylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
m,p-Xylene	ND	0.40	EPA 8260C	7-23-14	7-23-14	
o-Xylene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Styrene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromoform	ND	1.0	EPA 8260C	7-23-14	7-23-14	
Isopropylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Bromobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-23-14	7-23-14	
n-Propylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
n-Butylbenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-23-14	7-23-14	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Naphthalene	ND	1.0	EPA 8260C	7-23-14	7-23-14	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-23-14	7-23-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*62-122*				
Toluene-d8	*100*	*70-120*				
4-Bromofluorobenzene	*97*	*71-120*				

Date of Report: July 30, 2014
Samples Submitted: July 22, 2014
Laboratory Reference: 1407-172
Project: 397-010

VOLATILES 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:	SB0723W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.90**	**10.1**	10.0	10.0	99	101	63-142	2	17	
Benzene	**10.1**	**10.0**	10.0	10.0	101	100	78-125	1	15	
Trichloroethene	**10.4**	**10.0**	10.0	10.0	104	100	75-125	4	15	
Toluene	**10.1**	**9.91**	10.0	10.0	101	99	80-125	2	15	
Chlorobenzene	**9.83**	**9.74**	10.0	10.0	98	97	80-140	1	15	
Surrogate:										
Dibromofluoromethane					*95*	*98*	*62-122*			
Toluene-d8					*101*	*101*	*70-120*			
4-Bromofluorobenzene					*95*	*97*	*71-120*			

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-napthalene) 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 gas.

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: 397-010
Project Name: BLOCK 43
Project Manager: CLIFF SCHMITT
Sampled by: DINCER KAYHAN

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: 07-172

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	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	F-MW-130-20.0-072114	7/21/14	1300	S	5		X				X		~~STANDARD~~							~~TAT~~		DK	HOLD				
2	F-MW-130-GW1-072114	7/21/14	1420	W	5		X				X			STANDARD						TAT							
3	F-MW-130-40.0-072114	7/21/14	1655	S	~~4~~ 5																						
4	DRILLING WATER	7/22/14	0815	W	3													HOLD									

	Signature	Company	Date	Time
Relinquished		FARALLON	7/22/14	0950
Received		SPECTRA	7/22/14	1000
Relinquished		SPECTRA	7/22/14	1115
Received		ONE	7/22/14	1115
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐

Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.

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

July 28, 2014

Jennifer Moore
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 397-010
Laboratory Reference No. 1407-225

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on July 24, 2014.

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: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

Case Narrative

Samples were collected on July 24, 2014 and received by the laboratory on July 24, 2014. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

NWTPH-Gx/BTEX

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-072414**					
Laboratory ID:	07-225-01					
Benzene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
Toluene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
Ethyl Benzene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
m,p-Xylene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
o-Xylene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
Gasoline	**ND**	100	NWTPH-Gx	7-25-14	7-25-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*71-112*				

Date of Report: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725W1					
Benzene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
Toluene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
Ethyl Benzene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
m,p-Xylene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
o-Xylene	**ND**	1.0	EPA 8021B	7-25-14	7-25-14	
Gasoline	**ND**	100	NWTPH-Gx	7-25-14	7-25-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*71-112*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-225-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*93*	*93*	*71-112*			
SPIKE BLANKS											
Laboratory ID:	SB0725W1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**51.0**	**49.9**	50.0	50.0		**102**	**100**	86-116	2	11	
Toluene	**51.5**	**50.6**	50.0	50.0		**103**	**101**	86-117	2	12	
Ethyl Benzene	**50.9**	**49.7**	50.0	50.0		**102**	**99**	86-118	2	13	
m,p-Xylene	**51.0**	**49.9**	50.0	50.0		**102**	**100**	86-118	2	14	
o-Xylene	**50.9**	**49.9**	50.0	50.0		**102**	**100**	85-117	2	14	
Surrogate:											
Fluorobenzene						*94*	*95*	*71-112*			

Date of Report: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-072414**					
Laboratory ID:	07-225-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chloromethane	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Vinyl Chloride	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Bromomethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chloroethane	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Iodomethane	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Methylene Chloride	ND	1.0	EPA 8260C	7-25-14	7-25-14	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
(cis) 1,2-Dichloroethene	0.51	0.20	EPA 8260C	7-25-14	7-25-14	
Bromochloromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chloroform	0.91	0.20	EPA 8260C	7-25-14	7-25-14	
1,1,1-Trichloroethane	0.26	0.20	EPA 8260C	7-25-14	7-25-14	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Trichloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Dibromomethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Bromodichloromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-25-14	7-25-14	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-25-14	7-25-14	

Date of Report: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F-MW-130-072414**					
Laboratory ID:	07-225-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Tetrachloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Dibromochloromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Bromoform	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Bromobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dibromo-3-chloropropane	ND	1.3	EPA 8260C	7-25-14	7-25-14	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*62-122*				
Toluene-d8	*102*	*70-120*				
4-Bromofluorobenzene	*98*	*71-120*				

Date of Report: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0725W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chloromethane	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Vinyl Chloride	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Bromomethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chloroethane	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Iodomethane	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Methylene Chloride	ND	1.0	EPA 8260C	7-25-14	7-25-14	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Bromochloromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chloroform	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Trichloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Dibromomethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Bromodichloromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-25-14	7-25-14	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-25-14	7-25-14	

Date of Report: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0725W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Tetrachloroethene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Dibromochloromethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Chlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Bromoform	ND	1.0	EPA 8260C	7-25-14	7-25-14	
Bromobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-25-14	7-25-14	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2-Dibromo-3-chloropropane	ND	1.3	EPA 8260C	7-25-14	7-25-14	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-25-14	7-25-14	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*93*	*62-122*				
Toluene-d8	*99*	*70-120*				
4-Bromofluorobenzene	*95*	*71-120*				

Date of Report: July 28, 2014
Samples Submitted: July 24, 2014
Laboratory Reference: 1407-225
Project: 397-010

HALOGENATED VOLATILES EPA 8260C
MS/MSD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-225-01										
	MS	MSD	MS	MSD		MS	MSD				
1,1-Dichloroethene	**9.22**	**9.29**	10.0	10.0	ND	92	93	57-133	1	15	
Benzene	**9.68**	**9.81**	10.0	10.0	ND	97	98	78-117	1	15	
Trichloroethene	**9.61**	**9.56**	10.0	10.0	ND	96	96	77-120	1	15	
Toluene	**9.48**	**9.60**	10.0	10.0	ND	95	96	80-115	1	15	
Chlorobenzene	**9.26**	**9.32**	10.0	10.0	ND	93	93	80-122	1	15	
Surrogate:											
Dibromofluoromethane						*99*	*102*	*62-122*			
Toluene-d8						*99*	*101*	*70-120*			
4-Bromofluorobenzene						*95*	*97*	*71-120*			

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-napthalene) 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: 397-010
Project Name: Block 43
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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

Laboratory Number: 07-225

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	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	F-MW-130-072417	7/24/14	1053	W	6		X				X											
			RO																			

	Signature	Company	Date	Time
Relinquished	Ryan Ostrom	Farallon	7/24/14	1352
Received			7/24/14	1352
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐

Electronic Data Deliverables (EDDs) ☐ _____

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

July 11, 2017

Rob Leet
Farallon Consulting
1809 7th Ave., Suite 1111
Seattle, WA 98101

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1707-004

Dear Rob:

Enclosed are the analytical results and associated quality control data for samples submitted on July 3, 2017.

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: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

Case Narrative

Samples were collected on July 3, 2017 and received by the laboratory on July 3, 2017. 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: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-130-070317**					
Laboratory ID:	07-004-01					
Gasoline	**ND**	100	NWTPH-Gx	7-6-17	7-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*83*	*61-118*				

Date of Report: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0706W1					
Gasoline	**ND**	100	NWTPH-Gx	7-6-17	7-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*83*	*61-118*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	06-353-32										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*86*	*85*	*61-118*			

Date of Report: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-130-070317**					
Laboratory ID:	07-004-01					
Dichlorodifluoromethane	ND	0.35	EPA 8260C	7-5-17	7-5-17	
Chloromethane	ND	1.3	EPA 8260C	7-5-17	7-5-17	
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromomethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Chloroethane	ND	1.0	EPA 8260C	7-5-17	7-5-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Acetone	ND	5.0	EPA 8260C	7-5-17	7-5-17	
Iodomethane	ND	1.7	EPA 8260C	7-5-17	7-5-17	
Carbon Disulfide	ND	0.43	EPA 8260C	7-5-17	7-5-17	
Methylene Chloride	ND	1.0	EPA 8260C	7-5-17	7-5-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Vinyl Acetate	ND	1.0	EPA 8260C	7-5-17	7-5-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Butanone	ND	5.0	EPA 8260C	7-5-17	7-5-17	
Bromochloromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Chloroform	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Benzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Trichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Dibromomethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromodichloromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-5-17	7-5-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-5-17	7-5-17	
Toluene	ND	1.0	EPA 8260C	7-5-17	7-5-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-5-17	7-5-17	

Date of Report: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

VOLATILES EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-130-070317**					
Laboratory ID:	07-004-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Tetrachloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Hexanone	ND	2.0	EPA 8260C	7-5-17	7-5-17	
Dibromochloromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Chlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Ethylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
m,p-Xylene	ND	0.40	EPA 8260C	7-5-17	7-5-17	
o-Xylene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Styrene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromoform	ND	1.0	EPA 8260C	7-5-17	7-5-17	
Isopropylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
n-Propylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
n-Butylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-5-17	7-5-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Naphthalene	ND	1.0	EPA 8260C	7-5-17	7-5-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*77-129*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*105*	*80-125*				

Date of Report: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0705W2					
Dichlorodifluoromethane	ND	0.35	EPA 8260C	7-5-17	7-5-17	
Chloromethane	ND	1.3	EPA 8260C	7-5-17	7-5-17	
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromomethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Chloroethane	ND	1.0	EPA 8260C	7-5-17	7-5-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Acetone	ND	5.0	EPA 8260C	7-5-17	7-5-17	
Iodomethane	ND	1.7	EPA 8260C	7-5-17	7-5-17	
Carbon Disulfide	ND	0.43	EPA 8260C	7-5-17	7-5-17	
Methylene Chloride	ND	1.0	EPA 8260C	7-5-17	7-5-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Vinyl Acetate	ND	1.0	EPA 8260C	7-5-17	7-5-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Butanone	ND	5.0	EPA 8260C	7-5-17	7-5-17	
Bromochloromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Chloroform	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Benzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Trichloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Dibromomethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromodichloromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-5-17	7-5-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-5-17	7-5-17	
Toluene	ND	1.0	EPA 8260C	7-5-17	7-5-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-5-17	7-5-17	

Date of Report: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0705W2					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Tetrachloroethene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Hexanone	ND	2.0	EPA 8260C	7-5-17	7-5-17	
Dibromochloromethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Chlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Ethylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
m,p-Xylene	ND	0.40	EPA 8260C	7-5-17	7-5-17	
o-Xylene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Styrene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromoform	ND	1.0	EPA 8260C	7-5-17	7-5-17	
Isopropylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Bromobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-5-17	7-5-17	
n-Propylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
n-Butylbenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-5-17	7-5-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Naphthalene	ND	1.0	EPA 8260C	7-5-17	7-5-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-5-17	7-5-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*94*	*77-129*				
Toluene-d8	*97*	*80-127*				
4-Bromofluorobenzene	*102*	*80-125*				

Date of Report: July 11, 2017
Samples Submitted: July 3, 2017
Laboratory Reference: 1707-004
Project: 397-019

VOLATILES 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:	SB0705W2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**7.70**	**7.67**	10.0	10.0	77	77	63-127	0	17	
Benzene	**10.0**	**10.2**	10.0	10.0	100	102	76-121	2	12	
Trichloroethene	**8.43**	**8.41**	10.0	10.0	84	84	64-120	0	15	
Toluene	**10.3**	**10.6**	10.0	10.0	103	106	82-120	3	13	
Chlorobenzene	**8.96**	**9.40**	10.0	10.0	90	94	80-120	5	14	
Surrogate:										
Dibromofluoromethane					*100*	*100*	*77-129*			
Toluene-d8					*95*	*95*	*80-127*			
4-Bromofluorobenzene					*103*	*103*	*80-125*			

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-napthalene) 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: 397-019
Project Name: Block 38
Project Manager: Rob Leet
Sampled by: A. Burns

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: 07-004

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	Volatiles by 8260C				% Moisture
1	FMW-130-070317	7-3-17	9:40	Water	6			X															X				

AB

	Signature	Company	Date	Time
Relinquished	A Burns	Farallon	7-3-17	10:32
Received		CBE	7/3/17	1032
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

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

August 24, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-217

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 21, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

Case Narrative

Samples were collected on August 20, 2018 and received by the laboratory on August 21, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

NWTPH Gx/BTEX Analysis

The MTCA Method A cleanup level of 0.030 ppm for Benzene is not achievable for sample FB-02-10.0-082018 due to the low dry weight of the sample.

Total Metals EPA 6010D/7471B Analysis

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

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-5.0-082018**					
Laboratory ID:	08-217-02					
Benzene	**ND**	0.020	EPA 8021B	8-21-18	8-21-18	
Toluene	**ND**	0.054	EPA 8021B	8-21-18	8-21-18	
Ethyl Benzene	**ND**	0.054	EPA 8021B	8-21-18	8-21-18	
m,p-Xylene	**ND**	0.054	EPA 8021B	8-21-18	8-21-18	
o-Xylene	**ND**	0.054	EPA 8021B	8-21-18	8-21-18	
Gasoline	**ND**	5.4	NWTPH-Gx	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*57-129*				
Client ID:	**FB-02-10.0-082018**					
Laboratory ID:	08-217-03					
Benzene	**ND**	0.037	EPA 8021B	8-21-18	8-21-18	
Toluene	**ND**	0.19	EPA 8021B	8-21-18	8-21-18	
Ethyl Benzene	**ND**	0.19	EPA 8021B	8-21-18	8-21-18	
m,p-Xylene	**ND**	0.19	EPA 8021B	8-21-18	8-21-18	
o-Xylene	**ND**	0.19	EPA 8021B	8-21-18	8-21-18	
Gasoline	**ND**	19	NWTPH-Gx	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*57-129*				
Client ID:	**FB-02-25.0-082018**					
Laboratory ID:	08-217-06					
Benzene	**ND**	0.020	EPA 8021B	8-21-18	8-21-18	
Toluene	**ND**	0.052	EPA 8021B	8-21-18	8-21-18	
Ethyl Benzene	**ND**	0.052	EPA 8021B	8-21-18	8-21-18	
m,p-Xylene	**ND**	0.052	EPA 8021B	8-21-18	8-21-18	
o-Xylene	**ND**	0.052	EPA 8021B	8-21-18	8-21-18	
Gasoline	**ND**	5.2	NWTPH-Gx	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*57-129*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-35.0-082018**					
Laboratory ID:	08-217-08					
Benzene	**ND**	0.020	EPA 8021B	8-21-18	8-21-18	
Toluene	**ND**	0.058	EPA 8021B	8-21-18	8-21-18	
Ethyl Benzene	**ND**	0.058	EPA 8021B	8-21-18	8-21-18	
m,p-Xylene	**ND**	0.058	EPA 8021B	8-21-18	8-21-18	
o-Xylene	**ND**	0.058	EPA 8021B	8-21-18	8-21-18	
Gasoline	**ND**	5.8	NWTPH-Gx	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*57-129*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0821S1					
Benzene	**ND**	0.020	EPA 8021B	8-21-18	8-21-18	
Toluene	**ND**	0.050	EPA 8021B	8-21-18	8-21-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	8-21-18	8-21-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	8-21-18	8-21-18	
o-Xylene	**ND**	0.050	EPA 8021B	8-21-18	8-21-18	
Gasoline	**ND**	5.0	NWTPH-Gx	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*57-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-170-14										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*89*	*91*	*57-129*			
SPIKE BLANKS											
Laboratory ID:	SB0821S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.875**	**0.882**	1.00	1.00		**88**	**88**	69-111	1	10	
Toluene	**0.868**	**0.873**	1.00	1.00		**87**	**87**	70-114	1	11	
Ethyl Benzene	**0.868**	**0.876**	1.00	1.00		**87**	**88**	70-115	1	10	
m,p-Xylene	**0.860**	**0.863**	1.00	1.00		**86**	**86**	72-115	0	10	
o-Xylene	**0.890**	**0.884**	1.00	1.00		**89**	**88**	71-115	1	11	
Surrogate:											
Fluorobenzene						*86*	*86*	*57-129*			

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-5.0-082018**					
Laboratory ID:	08-217-02					
Diesel Range Organics	**280**	150	NWTPH-Dx	8-22-18	8-22-18	N
Lube Oil Range Organics	**670**	310	NWTPH-Dx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**FB-02-10.0-082018**					
Laboratory ID:	08-217-03					
Diesel Range Organics	**ND**	61	NWTPH-Dx	8-22-18	8-22-18	
Lube Oil Range Organics	**270**	120	NWTPH-Dx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**FB-02-25.0-082018**					
Laboratory ID:	08-217-06					
Diesel Range Organics	**ND**	30	NWTPH-Dx	8-22-18	8-22-18	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**FB-02-35.0-082018**					
Laboratory ID:	08-217-08					
Diesel Range Organics	**ND**	31	NWTPH-Dx	8-22-18	8-22-18	
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0822S2					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-22-18	8-22-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*121*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-170-16										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range Organics	**149**	**126**	NA	NA		NA		NA	17	NA	
Surrogate:											
o-Terphenyl						*115*	*103*	*50-150*			

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-10.0-082018**					
Laboratory ID:	08-217-03					
Dichlorodifluoromethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Chloromethane	ND	0.014	EPA 8260C	8-21-18	8-21-18	
Vinyl Chloride	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Bromomethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Chloroethane	ND	0.014	EPA 8260C	8-21-18	8-21-18	
Trichlorofluoromethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloroethene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Iodomethane	ND	0.028	EPA 8260C	8-21-18	8-21-18	
Methylene Chloride	ND	0.014	EPA 8260C	8-21-18	8-21-18	
(trans) 1,2-Dichloroethene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloroethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
2,2-Dichloropropane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
(cis) 1,2-Dichloroethene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Bromochloromethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Chloroform	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,1,1-Trichloroethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Carbon Tetrachloride	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloropropene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,2-Dichloroethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Trichloroethene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,2-Dichloropropane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Dibromomethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Bromodichloromethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
2-Chloroethyl Vinyl Ether	ND	0.014	EPA 8260C	8-21-18	8-21-18	
(cis) 1,3-Dichloropropene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
(trans) 1,3-Dichloropropene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-10.0-082018**					
Laboratory ID:	08-217-03					
1,1,2-Trichloroethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Tetrachloroethene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,3-Dichloropropane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Dibromochloromethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,2-Dibromoethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Chlorobenzene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,1,1,2-Tetrachloroethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Bromoform	ND	0.014	EPA 8260C	8-21-18	8-21-18	
Bromobenzene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,1,2,2-Tetrachloroethane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,2,3-Trichloropropane	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
2-Chlorotoluene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
4-Chlorotoluene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,3-Dichlorobenzene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,4-Dichlorobenzene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,2-Dichlorobenzene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
1,2-Dibromo-3-chloropropane	ND	0.014	EPA 8260C	8-21-18	8-21-18	
1,2,4-Trichlorobenzene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Hexachlorobutadiene	ND	0.014	EPA 8260C	8-21-18	8-21-18	
1,2,3-Trichlorobenzene	ND	0.0028	EPA 8260C	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*94*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*87*	*71-132*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-25.0-082018**					
Laboratory ID:	08-217-06					
Dichlorodifluoromethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Chloromethane	ND	0.0043	EPA 8260C	8-21-18	8-21-18	
Vinyl Chloride	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Bromomethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Chloroethane	ND	0.0043	EPA 8260C	8-21-18	8-21-18	
Trichlorofluoromethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloroethene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Iodomethane	ND	0.0085	EPA 8260C	8-21-18	8-21-18	
Methylene Chloride	ND	0.0043	EPA 8260C	8-21-18	8-21-18	
(trans) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloroethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
2,2-Dichloropropane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
(cis) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Bromochloromethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Chloroform	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,1,1-Trichloroethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Carbon Tetrachloride	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloropropene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,2-Dichloroethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Trichloroethene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,2-Dichloropropane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Dibromomethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Bromodichloromethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
2-Chloroethyl Vinyl Ether	ND	0.0043	EPA 8260C	8-21-18	8-21-18	
(cis) 1,3-Dichloropropene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
(trans) 1,3-Dichloropropene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-25.0-082018**					
Laboratory ID:	08-217-06					
1,1,2-Trichloroethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Tetrachloroethene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,3-Dichloropropane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Dibromochloromethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,2-Dibromoethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Chlorobenzene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,1,1,2-Tetrachloroethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Bromoform	ND	0.0043	EPA 8260C	8-21-18	8-21-18	
Bromobenzene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,1,2,2-Tetrachloroethane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,2,3-Trichloropropane	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
2-Chlorotoluene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
4-Chlorotoluene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,3-Dichlorobenzene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,4-Dichlorobenzene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,2-Dichlorobenzene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
1,2-Dibromo-3-chloropropane	ND	0.0043	EPA 8260C	8-21-18	8-21-18	
1,2,4-Trichlorobenzene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Hexachlorobutadiene	ND	0.0043	EPA 8260C	8-21-18	8-21-18	
1,2,3-Trichlorobenzene	ND	0.00085	EPA 8260C	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*94*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

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:	MB0821S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Chloromethane	ND	0.0050	EPA 8260C	8-21-18	8-21-18	
Vinyl Chloride	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Bromomethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Chloroethane	ND	0.0050	EPA 8260C	8-21-18	8-21-18	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Iodomethane	ND	0.0050	EPA 8260C	8-21-18	8-21-18	
Methylene Chloride	ND	0.0065	EPA 8260C	8-21-18	8-21-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Bromochloromethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Chloroform	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Dibromomethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-21-18	8-21-18	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0821S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Chlorobenzene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Bromoform	ND	0.0050	EPA 8260C	8-21-18	8-21-18	
Bromobenzene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-21-18	8-21-18	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-21-18	8-21-18	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-21-18	8-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*89*	*68-139*				
Toluene-d8	*99*	*79-128*				
4-Bromofluorobenzene	*89*	*71-132*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

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:	SB0821S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0511**	**0.0534**	0.0500	0.0500	102	107	53-141	4	17	
Benzene	**0.0432**	**0.0439**	0.0500	0.0500	86	88	70-130	2	15	
Trichloroethene	**0.0520**	**0.0545**	0.0500	0.0500	104	109	74-122	5	16	
Toluene	**0.0493**	**0.0505**	0.0500	0.0500	99	101	76-130	2	15	
Chlorobenzene	**0.0477**	**0.0479**	0.0500	0.0500	95	96	75-120	0	14	
Surrogate:										
Dibromofluoromethane					*95*	*92*	*68-139*			
Toluene-d8					*97*	*98*	*79-128*			
4-Bromofluorobenzene					*94*	*92*	*71-132*			

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-25.0-082018**					
Laboratory ID:	08-217-06					
n-Nitrosodimethylamine	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Pyridine	**ND**	0.40	EPA 8270D	8-22-18	8-22-18	
Phenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Aniline	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethyl)ether	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2-Chlorophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
1,3-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
1,4-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Benzyl alcohol	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
1,2-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2-Methylphenol (o-Cresol)	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroisopropyl)ether	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
n-Nitroso-di-n-propylamine	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Hexachloroethane	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Nitrobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Isophorone	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2-Nitrophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,4-Dimethylphenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethoxy)methane	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,4-Dichlorophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
1,2,4-Trichlorobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Naphthalene	**0.083**	0.040	EPA 8270D	8-22-18	8-22-18	
4-Chloroaniline	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
Hexachlorobutadiene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
4-Chloro-3-methylphenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2-Methylnaphthalene	**0.024**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
1-Methylnaphthalene	**0.020**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Hexachlorocyclopentadiene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,4,6-Trichlorophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,3-Dichloroaniline	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,4,5-Trichlorophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2-Chloronaphthalene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2-Nitroaniline	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
1,4-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Dimethylphthalate	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
1,3-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,6-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
1,2-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Acenaphthylene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
3-Nitroaniline	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-25.0-082018**					
Laboratory ID:	08-217-06					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
Acenaphthene	**0.027**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
4-Nitrophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,4-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Dibenzofuran	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Diethylphthalate	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
4-Chlorophenyl-phenylether	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
4-Nitroaniline	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Fluorene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
n-Nitrosodiphenylamine	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
1,2-Diphenylhydrazine	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
4-Bromophenyl-phenylether	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Hexachlorobenzene	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Pentachlorophenol	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
Phenanthrene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Anthracene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Carbazole	**ND**	0.040	EPA 8270D	8-22-18	8-22-18	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
Fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Benzidine	**ND**	0.40	EPA 8270D	8-22-18	8-22-18	
Pyrene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Butylbenzylphthalate	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
bis-2-Ethylhexyladipate	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
Benzo[a]anthracene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Chrysene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
Di-n-octylphthalate	**ND**	0.20	EPA 8270D	8-22-18	8-22-18	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo(j,k)fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[g,h,i]perylene	**ND**	0.0080	EPA 8270D/SIM	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*74*	*19 - 103*				
Phenol-d6	*72*	*30 - 103*				
Nitrobenzene-d5	*69*	*27 - 105*				
2-Fluorobiphenyl	*77*	*36 - 102*				
2,4,6-Tribromophenol	*82*	*33 - 110*				
Terphenyl-d14	*74*	*38 - 108*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0822S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Pyridine	**ND**	0.33	EPA 8270D	8-22-18	8-22-18	
Phenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Aniline	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Isophorone	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0822S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Carbazole	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzidine	**ND**	0.33	EPA 8270D	8-22-18	8-22-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*86*	*19 - 103*				
Phenol-d6	*87*	*30 - 103*				
Nitrobenzene-d5	*84*	*27 - 105*				
2-Fluorobiphenyl	*92*	*36 - 102*				
2,4,6-Tribromophenol	*99*	*33 - 110*				
Terphenyl-d14	*92*	*38 - 108*				

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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:	SB0822S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.988**	**1.12**	1.33	1.33	74	84	45 - 94	13	29	
2-Chlorophenol	**1.05**	**1.21**	1.33	1.33	79	91	46 - 94	14	33	
1,4-Dichlorobenzene	**0.511**	**0.581**	0.667	0.667	77	87	42 - 91	13	37	
n-Nitroso-di-n-propylamine	**0.506**	**0.568**	0.667	0.667	76	85	45 - 100	12	26	
1,2,4-Trichlorobenzene	**0.559**	**0.579**	0.667	0.667	84	87	45 - 100	4	32	
4-Chloro-3-methylphenol	**1.09**	**1.13**	1.33	1.33	82	85	55 - 97	4	21	
Acenaphthene	**0.539**	**0.564**	0.667	0.667	81	85	48 - 91	5	21	
4-Nitrophenol	**1.06**	**1.17**	1.33	1.33	80	88	53 - 102	10	20	
2,4-Dinitrotoluene	**0.527**	**0.583**	0.667	0.667	79	87	47 - 96	10	19	
Pentachlorophenol	**1.34**	**1.40**	1.33	1.33	101	105	35 - 125	4	26	
Pyrene	**0.534**	**0.561**	0.667	0.667	80	84	55 - 110	5	17	
Surrogate:										
2-Fluorophenol					*72*	*81*	*19 - 103*			
Phenol-d6					*73*	*80*	*30 - 103*			
Nitrobenzene-d5					*72*	*73*	*27 - 105*			
2-Fluorobiphenyl					*79*	*80*	*36 - 102*			
2,4,6-Tribromophenol					*86*	*85*	*33 - 110*			
Terphenyl-d14					*76*	*78*	*38 - 108*			

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-10.0-082018**					
Laboratory ID:	08-217-03					
Arsenic	**ND**	12	EPA 6010D	8-23-18	8-23-18	
Barium	**190**	6.1	EPA 6010D	8-23-18	8-23-18	
Cadmium	**ND**	1.2	EPA 6010D	8-23-18	8-23-18	
Chromium	**36**	1.2	EPA 6010D	8-23-18	8-23-18	
Lead	**24**	12	EPA 6010D	8-23-18	8-23-18	
Mercury	**1.2**	0.61	EPA 7471B	8-22-18	8-22-18	
Selenium	**ND**	12	EPA 6010D	8-23-18	8-23-18	
Silver	**ND**	2.5	EPA 6010D	8-23-18	8-23-18	

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0823SM1					
Arsenic	**ND**	5.0	EPA 6010D	8-23-18	8-23-18	
Barium	**ND**	2.5	EPA 6010D	8-23-18	8-23-18	
Cadmium	**ND**	0.50	EPA 6010D	8-23-18	8-23-18	
Chromium	**ND**	0.50	EPA 6010D	8-23-18	8-23-18	
Lead	**ND**	5.0	EPA 6010D	8-23-18	8-23-18	
Selenium	**ND**	5.0	EPA 6010D	8-23-18	8-23-18	
Silver	**ND**	1.0	EPA 6010D	8-23-18	8-23-18	
Laboratory ID:	MB0822S1					
Mercury	**ND**	0.25	EPA 7471B	8-22-18	8-22-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-239-08										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Barium	**92.2**	**83.3**	NA	NA		NA		NA	10	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**8.30**	**5.65**	NA	NA		NA		NA	38	20	K
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Selenium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-218-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	08-239-08										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**93.1**	**95.5**	100	100	ND	**93**	**96**	75-125	3	20	
Barium	**188**	**184**	100	100	92.2	**96**	**92**	75-125	2	20	
Cadmium	**46.3**	**45.8**	50.0	50.0	ND	**93**	**92**	75-125	1	20	
Chromium	**102**	**102**	100	100	8.30	**94**	**94**	75-125	0	20	
Lead	**232**	**233**	250	250	ND	**93**	**93**	75-125	1	20	
Selenium	**91.2**	**92.2**	100	100	ND	**91**	**92**	75-125	1	20	
Silver	**21.8**	**21.9**	25.0	25.0	ND	**87**	**88**	75-125	1	20	
Laboratory ID:	08-218-01										
Mercury	**0.562**	**0.540**	0.500	0.500	0.0190	**109**	**104**	80-120	4	20	

Date of Report: August 24, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217
Project: 397-019

% MOISTURE

Date Analyzed: 8-22-18

Client ID	Lab ID	% Moisture
FB-02-5.0-082018	08-217-02	18
FB-02-10.0-082018	08-217-03	59
FB-02-25.0-082018	08-217-06	17
FB-02-35.0-082018	08-217-08	19

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: 08-217

Company: Farallon
Project Number: 397-019
Project Name: Block 38 West Property
Project Manager: Javan Branch
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)
☐ _____ (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	FB-02-3.0-082018	8/20/18	1155	Soil	5																						
2	FB-02-5.0-082018		1220				X		X																		X
3	FB-02-10.0-082018		1235				X		X		X								X								X
4	FB-02-15.0-082018		1245																								
5	FB-02-20.0-082018		1310																								
6	FB-02-25.0-082018		1430				X		X		X		X														X
7	FB-02-30.0-082018		1454																								
8	FB-02-35.0-082018		1520				X		X																		X

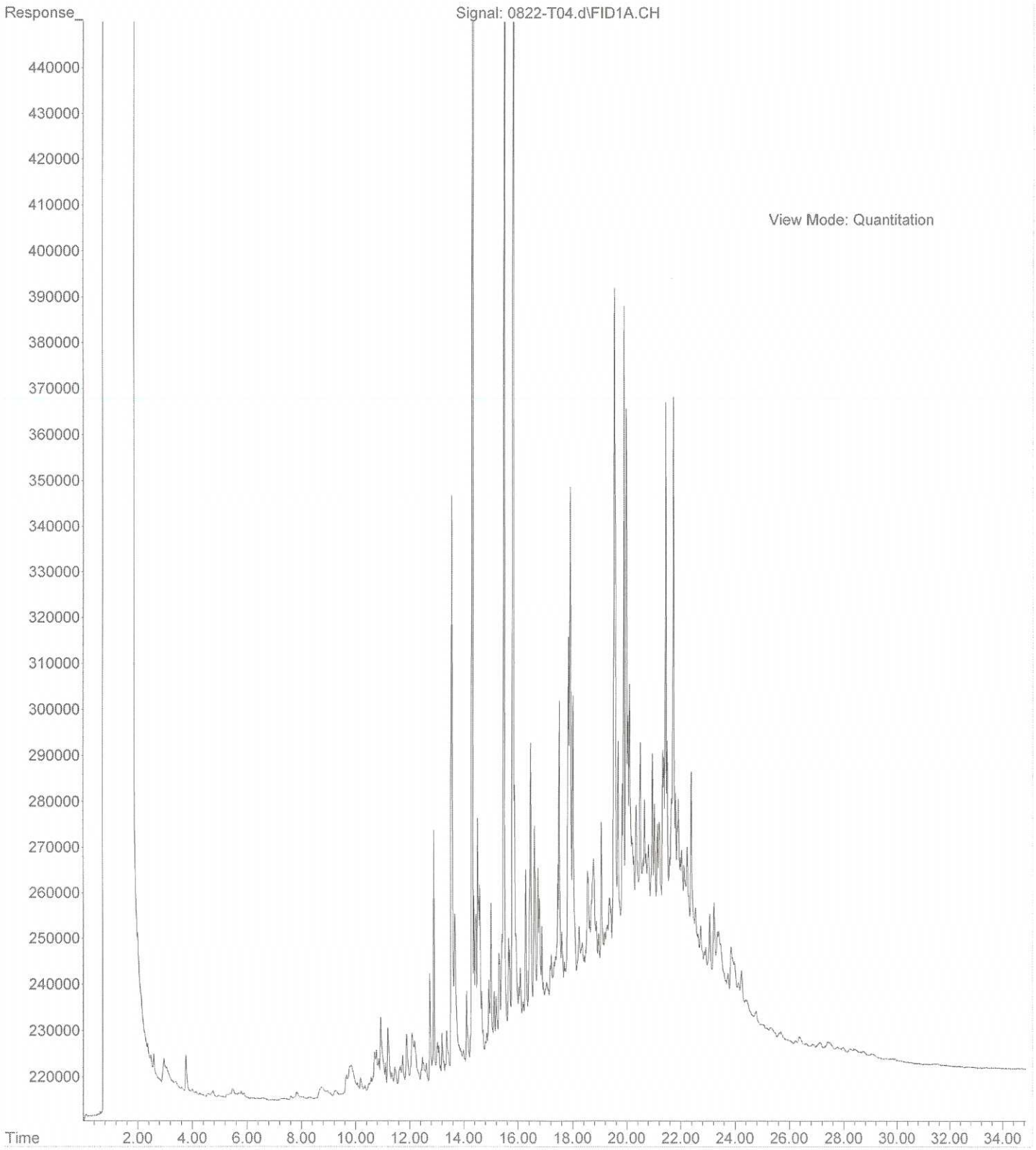
	Signature	Company	Date	Time
Relinquished		Farallon	8/20/18	1845
Received		OSE	8/21/18	1000
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
~~Please Contact Project Manager for Analyses and turn around time requests~~ 8/21/18
60

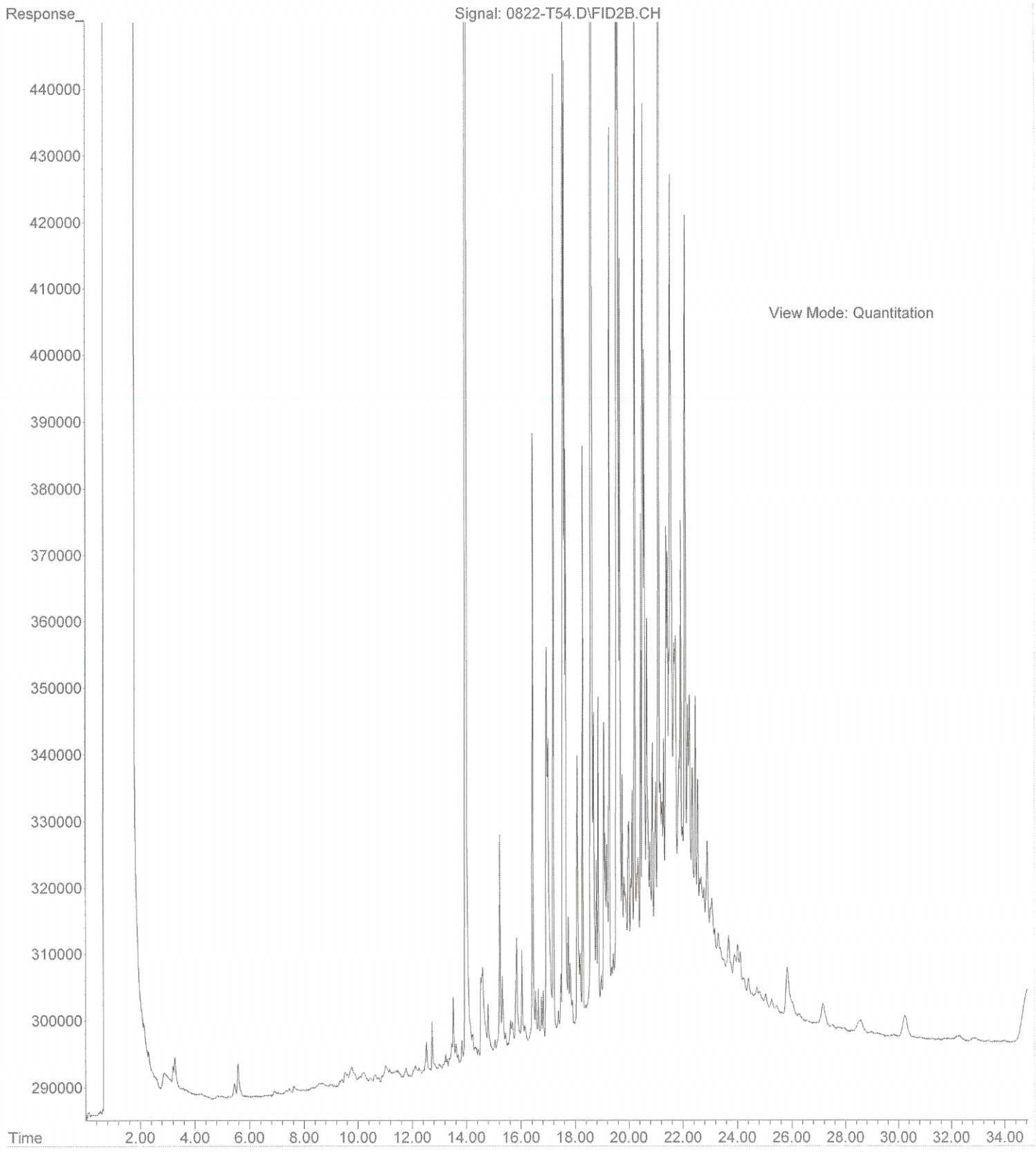
Data Package: Standard ☐ Level III ☐ Level IV ☐

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

File :C:\msdchem\1\data\T180822\0822-T04.d
Operator : JT
Acquired : 22 Aug 2018 11:01 using AcqMethod T180110F.M
Instrument : Teri
Sample Name: 08-217-02 5X
Misc Info :
Vial Number: 4



File :C:\msdchem\1\data\T180822.SEC\0822-T54.D
Operator : JT
Acquired : 22 Aug 2018 11:01 using AcqMethod T180110F.M
Instrument : Teri
Sample Name: 08-217-03
Misc Info :
Vial Number: 54



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

September 26, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-217B

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 21, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 26, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217B
Project: 397-019

Case Narrative

Samples were collected on August 20, 2018 and received by the laboratory on August 21, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

Date of Report: September 26, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-5.0-082018**					
Laboratory ID:	08-217-02					
n-Nitrosodimethylamine	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Pyridine	**ND**	3.0	EPA 8270D	9-1-18	9-24-18	
Phenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Aniline	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
bis(2-Chloroethyl)ether	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2-Chlorophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
1,3-Dichlorobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
1,4-Dichlorobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Benzyl alcohol	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
1,2-Dichlorobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2-Methylphenol (o-Cresol)	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
bis(2-Chloroisopropyl)ether	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
n-Nitroso-di-n-propylamine	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Hexachloroethane	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Nitrobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Isophorone	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2-Nitrophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,4-Dimethylphenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
bis(2-Chloroethoxy)methane	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,4-Dichlorophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
1,2,4-Trichlorobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Naphthalene	**1.1**	0.30	EPA 8270D	9-1-18	9-24-18	
4-Chloroaniline	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
Hexachlorobutadiene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
4-Chloro-3-methylphenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2-Methylnaphthalene	**1.3**	0.30	EPA 8270D	9-1-18	9-24-18	
1-Methylnaphthalene	**0.86**	0.30	EPA 8270D	9-1-18	9-24-18	
Hexachlorocyclopentadiene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,4,6-Trichlorophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,3-Dichloroaniline	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,4,5-Trichlorophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2-Chloronaphthalene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2-Nitroaniline	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
1,4-Dinitrobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Dimethylphthalate	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
1,3-Dinitrobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,6-Dinitrotoluene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
1,2-Dinitrobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Acenaphthylene	**0.45**	0.30	EPA 8270D	9-1-18	9-24-18	
3-Nitroaniline	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	

Date of Report: September 26, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-02-5.0-082018**					
Laboratory ID:	08-217-02					
2,4-Dinitrophenol	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
Acenaphthene	**1.4**	0.30	EPA 8270D	9-1-18	9-24-18	
4-Nitrophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,4-Dinitrotoluene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Dibenzofuran	**0.71**	0.30	EPA 8270D	9-1-18	9-24-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Diethylphthalate	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
4-Chlorophenyl-phenylether	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
4-Nitroaniline	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Fluorene	**1.3**	0.30	EPA 8270D	9-1-18	9-24-18	
4,6-Dinitro-2-methylphenol	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
n-Nitrosodiphenylamine	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
1,2-Diphenylhydrazine	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
4-Bromophenyl-phenylether	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Hexachlorobenzene	**ND**	0.30	EPA 8270D	9-1-18	9-24-18	
Pentachlorophenol	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
Phenanthrene	**12**	0.30	EPA 8270D	9-1-18	9-24-18	
Anthracene	**3.3**	0.30	EPA 8270D	9-1-18	9-24-18	
Carbazole	**0.55**	0.30	EPA 8270D	9-1-18	9-24-18	
Di-n-butylphthalate	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
Fluoranthene	**18**	0.30	EPA 8270D	9-1-18	9-24-18	
Benzidine	**ND**	3.0	EPA 8270D	9-1-18	9-24-18	
Pyrene	**25**	1.2	EPA 8270D	9-1-18	9-25-18	
Butylbenzylphthalate	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
bis-2-Ethylhexyladipate	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
3,3'-Dichlorobenzidine	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
Benzo[a]anthracene	**9.8**	0.30	EPA 8270D	9-1-18	9-24-18	
Chrysene	**9.7**	0.30	EPA 8270D	9-1-18	9-24-18	
bis(2-Ethylhexyl)phthalate	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
Di-n-octylphthalate	**ND**	1.5	EPA 8270D	9-1-18	9-24-18	
Benzo[b]fluoranthene	**12**	0.30	EPA 8270D	9-1-18	9-24-18	
Benzo(j,k)fluoranthene	**3.5**	0.30	EPA 8270D	9-1-18	9-24-18	
Benzo[a]pyrene	**11**	0.30	EPA 8270D	9-1-18	9-24-18	
Indeno[1,2,3-cd]pyrene	**8.0**	0.30	EPA 8270D	9-1-18	9-24-18	
Dibenz[a,h]anthracene	**1.6**	0.30	EPA 8270D	9-1-18	9-24-18	
Benzo[g,h,i]perylene	**8.5**	0.30	EPA 8270D	9-1-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*63*	*19 - 103*				
Phenol-d6	*73*	*30 - 103*				
Nitrobenzene-d5	*73*	*27 - 105*				
2-Fluorobiphenyl	*91*	*36 - 102*				
2,4,6-Tribromophenol	*79*	*33 - 110*				
Terphenyl-d14	*97*	*38 - 108*				

Date of Report: September 26, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0901S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Pyridine	**ND**	0.33	EPA 8270D	9-1-18	9-4-18	
Phenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Aniline	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Isophorone	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	

Date of Report: September 26, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0901S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Carbazole	**ND**	0.033	EPA 8270D	9-1-18	9-4-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Benzidine	**ND**	0.33	EPA 8270D	9-1-18	9-4-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	9-1-18	9-4-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	9-1-18	9-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*89*	*19 - 103*				
Phenol-d6	*91*	*30 - 103*				
Nitrobenzene-d5	*75*	*27 - 105*				
2-Fluorobiphenyl	*83*	*36 - 102*				
2,4,6-Tribromophenol	*99*	*33 - 110*				
Terphenyl-d14	*101*	*38 - 108*				

Date of Report: September 26, 2018
Samples Submitted: August 21, 2018
Laboratory Reference: 1808-217B
Project: 397-019

PAHs EPA 8270D/SIM
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:	SB0901S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**1.09**	**1.18**	1.33	1.33	82	89	45 - 94	8	29	
2-Chlorophenol	**1.03**	**1.10**	1.33	1.33	77	83	46 - 94	7	33	
1,4-Dichlorobenzene	**0.521**	**0.524**	0.667	0.667	78	79	42 - 91	1	37	
n-Nitroso-di-n-propylamine	**0.526**	**0.582**	0.667	0.667	79	87	45 - 100	10	26	
1,2,4-Trichlorobenzene	**0.519**	**0.555**	0.667	0.667	78	83	45 - 100	7	32	
4-Chloro-3-methylphenol	**1.04**	**1.19**	1.33	1.33	78	89	55 - 97	13	21	
Acenaphthene	**0.533**	**0.577**	0.667	0.667	80	87	48 - 91	8	21	
4-Nitrophenol	**0.917**	**1.03**	1.33	1.33	69	77	53 - 102	12	20	
2,4-Dinitrotoluene	**0.407**	**0.460**	0.667	0.667	61	69	47 - 96	12	19	
Pentachlorophenol	**1.08**	**1.26**	1.33	1.33	81	95	35 - 125	15	26	
Pyrene	**0.581**	**0.627**	0.667	0.667	87	94	55 - 110	8	17	
Surrogate:										
2-Fluorophenol					*81*	*82*	*19 - 103*			
Phenol-d6					*79*	*84*	*30 - 103*			
Nitrobenzene-d5					*69*	*74*	*27 - 105*			
2-Fluorobiphenyl					*76*	*78*	*36 - 102*			
2,4,6-Tribromophenol					*84*	*91*	*33 - 110*			
Terphenyl-d14					*85*	*87*	*38 - 108*			

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: 397-019
Project Name: Block 38 West Property
Project Manager: Javan Branch
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)
☐ _____ (other)

Laboratory Number: 08-217

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	FB-02-3.0-082018	8/20/18	1155	Soil	5																						
2	FB-02-5.0-082018		1220				X		X				(●)		Extract and Hold												X
3	FB-02-10.0-082018		1235				X		X		X								X								X
4	FB-02-15.0-082018		1245																								
5	FB-02-20.0-082018		1310																								
6	FB-02-25.0-082018		1430				X		X		X		X														X
7	FB-02-30.0-082018		1454																								
8	FB-02-35.0-082018		1520				X		X																		X

	Signature	Company	Date	Time
Relinquished		Farallon	8/20/18	1845
Received		OSE	8/21/18	1000
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

~~Please Contact Project Manager for Analyses and turn around time requests~~ 1/1 DB 8/22/18
60
(X) Added 8/31/18 BG

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

(●) Analysis requested 9/24/18. DB (STA)

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

August 27, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-229

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 22, 2018.

Please note that the data for the additionally requested analyses will follow in the final report.

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: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

Case Narrative

Samples were collected on August 21, 2018 and received by the laboratory on August 22, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

NWTPH Gx/BTEX Analysis

The MTCA Method A cleanup level of 0.030 ppm for Benzene is not achievable for sample FB-04-5.0-082118 due to the low dry weight of the sample.

Total Metals EPA 6010D/7471B Analysis

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

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-04-5.0-082118**					
Laboratory ID:	08-229-02					
Benzene	**ND**	0.033	EPA 8021B	8-22-18	8-22-18	
Toluene	**ND**	0.16	EPA 8021B	8-22-18	8-22-18	
Ethyl Benzene	**ND**	0.16	EPA 8021B	8-22-18	8-22-18	
m,p-Xylene	**ND**	0.16	EPA 8021B	8-22-18	8-22-18	
o-Xylene	**ND**	0.16	EPA 8021B	8-22-18	8-22-18	
Gasoline	**ND**	16	NWTPH-Gx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*57-129*				
Client ID:	**FB-04-20.0-082118**					
Laboratory ID:	08-229-05					
Benzene	**ND**	0.020	EPA 8021B	8-22-18	8-22-18	
Toluene	**ND**	0.053	EPA 8021B	8-22-18	8-22-18	
Ethyl Benzene	**ND**	0.053	EPA 8021B	8-22-18	8-22-18	
m,p-Xylene	**ND**	0.053	EPA 8021B	8-22-18	8-22-18	
o-Xylene	**ND**	0.053	EPA 8021B	8-22-18	8-22-18	
Gasoline	**ND**	5.3	NWTPH-Gx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*57-129*				
Client ID:	**FB-04-30.0-082118**					
Laboratory ID:	08-229-07					
Benzene	**ND**	0.020	EPA 8021B	8-22-18	8-22-18	
Toluene	**ND**	0.055	EPA 8021B	8-22-18	8-22-18	
Ethyl Benzene	**ND**	0.055	EPA 8021B	8-22-18	8-22-18	
m,p-Xylene	**ND**	0.055	EPA 8021B	8-22-18	8-22-18	
o-Xylene	**ND**	0.055	EPA 8021B	8-22-18	8-22-18	
Gasoline	**ND**	5.5	NWTPH-Gx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*57-129*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-01-5.0-082118**					
Laboratory ID:	08-229-08					
Benzene	**ND**	0.020	EPA 8021B	8-22-18	8-22-18	
Toluene	**ND**	0.062	EPA 8021B	8-22-18	8-22-18	
Ethyl Benzene	**ND**	0.062	EPA 8021B	8-22-18	8-22-18	
m,p-Xylene	**ND**	0.062	EPA 8021B	8-22-18	8-22-18	
o-Xylene	**ND**	0.062	EPA 8021B	8-22-18	8-22-18	
Gasoline	**ND**	6.2	NWTPH-Gx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*57-129*				
Client ID:	**FB-01-15.0-082118**					
Laboratory ID:	08-229-09					
Benzene	**ND**	0.020	EPA 8021B	8-22-18	8-22-18	
Toluene	**ND**	0.091	EPA 8021B	8-22-18	8-22-18	
Ethyl Benzene	**ND**	0.091	EPA 8021B	8-22-18	8-22-18	
m,p-Xylene	**ND**	0.091	EPA 8021B	8-22-18	8-22-18	
o-Xylene	**ND**	0.091	EPA 8021B	8-22-18	8-22-18	
Gasoline	**ND**	9.1	NWTPH-Gx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*57-129*				
Client ID:	**FB-01-30.0-082118**					
Laboratory ID:	08-229-12					
Benzene	**ND**	0.020	EPA 8021B	8-22-18	8-22-18	
Toluene	**ND**	0.051	EPA 8021B	8-22-18	8-22-18	
Ethyl Benzene	**ND**	0.051	EPA 8021B	8-22-18	8-22-18	
m,p-Xylene	**ND**	0.051	EPA 8021B	8-22-18	8-22-18	
o-Xylene	**ND**	0.051	EPA 8021B	8-22-18	8-22-18	
Gasoline	**ND**	5.1	NWTPH-Gx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*57-129*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0822S1					
Benzene	**ND**	0.020	EPA 8021B	8-22-18	8-22-18	
Toluene	**ND**	0.050	EPA 8021B	8-22-18	8-22-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	8-22-18	8-22-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	8-22-18	8-22-18	
o-Xylene	**ND**	0.050	EPA 8021B	8-22-18	8-22-18	
Gasoline	**ND**	5.0	NWTPH-Gx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*83*	*57-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-229-02										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*104*	*102*	*57-129*			
SPIKE BLANKS											
Laboratory ID:	SB0822S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.855**	**0.924**	1.00	1.00		**86**	**92**	69-111	8	10	
Toluene	**0.842**	**0.912**	1.00	1.00		**84**	**91**	70-114	8	11	
Ethyl Benzene	**0.843**	**0.915**	1.00	1.00		**84**	**92**	70-115	8	10	
m,p-Xylene	**0.826**	**0.900**	1.00	1.00		**83**	**90**	72-115	9	10	
o-Xylene	**0.853**	**0.919**	1.00	1.00		**85**	**92**	71-115	7	11	
Surrogate:											
Fluorobenzene						*83*	*89*	*57-129*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-01-5.0-082118**					
Laboratory ID:	08-229-08					
Diesel Range Organics	**520**	320	NWTPH-Dx	8-22-18	8-24-18	
Lube Oil Range Organics	**3700**	640	NWTPH-Dx	8-22-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	---	*50-150*				S
Client ID:	**FB-01-15.0-082118**					
Laboratory ID:	08-229-09					
Diesel Range Organics	**ND**	40	NWTPH-Dx	8-22-18	8-23-18	
Lube Oil Range Organics	**250**	81	NWTPH-Dx	8-22-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				
Client ID:	**FB-01-30.0-082118**					
Laboratory ID:	08-229-12					
Diesel Range Organics	**ND**	29	NWTPH-Dx	8-22-18	8-23-18	
Lube Oil Range Organics	**ND**	58	NWTPH-Dx	8-22-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0822S4					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-22-18	8-22-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*131*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-231-10										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*55*	*64*	*50-150*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-01-5.0-082118**					
Laboratory ID:	08-229-08					
Diesel Range Organics	**510**	160	NWTPH-Dx	8-22-18	8-25-18	X1,N
Lube Oil Range Organics	**1100**	320	NWTPH-Dx	8-22-18	8-25-18	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**FB-01-15.0-082118**					
Laboratory ID:	08-229-09					
Diesel Range Organics	**ND**	40	NWTPH-Dx	8-22-18	8-25-18	X1
Lube Oil Range Organics	**ND**	81	NWTPH-Dx	8-22-18	8-25-18	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0822S4					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-22-18	8-25-18	X1
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-22-18	8-25-18	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	08-231-10									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*55* *64*	*50-150*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-04-5.0-082118**					
Laboratory ID:	08-229-02					
Diesel Range Organics	**97**	55	NWTPH-Dx	8-23-18	8-23-18	N
Lube Oil Range Organics	**540**	110	NWTPH-Dx	8-23-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				
Client ID:	**FB-04-20.0-082118**					
Laboratory ID:	08-229-05					
Diesel Range Organics	**ND**	29	NWTPH-Dx	8-23-18	8-23-18	
Lube Oil Range Organics	**ND**	58	NWTPH-Dx	8-23-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**FB-04-30.0-082118**					
Laboratory ID:	08-229-07					
Diesel Range Organics	**ND**	30	NWTPH-Dx	8-23-18	8-23-18	
Lube Oil Range Organics	**ND**	59	NWTPH-Dx	8-23-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0823S2					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-23-18	8-23-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-23-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	08-229-05									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*96* *63*	*50-150*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-04-20.0-082118**					
Laboratory ID:	08-229-05					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	8-22-18	8-22-18	
Chloromethane	ND	0.0046	EPA 8260C	8-22-18	8-22-18	
Vinyl Chloride	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Bromomethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Chloroethane	ND	0.0046	EPA 8260C	8-22-18	8-22-18	
Trichlorofluoromethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Iodomethane	ND	0.0046	EPA 8260C	8-22-18	8-22-18	
Methylene Chloride	ND	0.0046	EPA 8260C	8-22-18	8-22-18	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,1-Dichloroethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
2,2-Dichloropropane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
(cis) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Bromochloromethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Chloroform	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,1,1-Trichloroethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Carbon Tetrachloride	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,1-Dichloropropene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,2-Dichloroethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Trichloroethene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,2-Dichloropropane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Dibromomethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Bromodichloromethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
2-Chloroethyl Vinyl Ether	ND	0.0046	EPA 8260C	8-22-18	8-22-18	
(cis) 1,3-Dichloropropene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
(trans) 1,3-Dichloropropene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-04-20.0-082118**					
Laboratory ID:	08-229-05					
1,1,2-Trichloroethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Tetrachloroethene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,3-Dichloropropane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Dibromochloromethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,2-Dibromoethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Chlorobenzene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,1,1,2-Tetrachloroethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Bromoform	ND	0.0046	EPA 8260C	8-22-18	8-22-18	
Bromobenzene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,1,2,2-Tetrachloroethane	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	8-22-18	8-22-18	
2-Chlorotoluene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
4-Chlorotoluene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,3-Dichlorobenzene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,4-Dichlorobenzene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,2-Dichlorobenzene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
1,2-Dibromo-3-chloropropane	ND	0.0060	EPA 8260C	8-22-18	8-22-18	
1,2,4-Trichlorobenzene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Hexachlorobutadiene	ND	0.0046	EPA 8260C	8-22-18	8-22-18	
1,2,3-Trichlorobenzene	ND	0.00093	EPA 8260C	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-139*				
Toluene-d8	*100*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

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:	MB0822S1					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	8-22-18	8-22-18	
Chloromethane	ND	0.0050	EPA 8260C	8-22-18	8-22-18	
Vinyl Chloride	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Bromomethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Chloroethane	ND	0.0050	EPA 8260C	8-22-18	8-22-18	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Iodomethane	ND	0.0050	EPA 8260C	8-22-18	8-22-18	
Methylene Chloride	ND	0.0050	EPA 8260C	8-22-18	8-22-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Bromochloromethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Chloroform	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Dibromomethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-22-18	8-22-18	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0822S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Chlorobenzene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Bromoform	ND	0.0050	EPA 8260C	8-22-18	8-22-18	
Bromobenzene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	8-22-18	8-22-18	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260C	8-22-18	8-22-18	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-22-18	8-22-18	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*100*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

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:	SB0822S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0491**	**0.0531**	0.0500	0.0500	98	106	53-141	8	17	
Benzene	**0.0466**	**0.0535**	0.0500	0.0500	93	107	70-130	14	15	
Trichloroethene	**0.0469**	**0.0529**	0.0500	0.0500	94	106	74-122	12	16	
Toluene	**0.0490**	**0.0543**	0.0500	0.0500	98	109	76-130	10	15	
Chlorobenzene	**0.0444**	**0.0496**	0.0500	0.0500	89	99	75-120	11	14	
Surrogate:										
Dibromofluoromethane					*96*	*91*	*68-139*			
Toluene-d8					*103*	*100*	*79-128*			
4-Bromofluorobenzene					*103*	*104*	*71-132*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

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

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Potable-082118**					
Laboratory ID:	08-229-16					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Chloromethane	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Vinyl Chloride	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromomethane	ND	2.0	EPA 8260C	8-23-18	8-23-18	
Chloroethane	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Acetone	10	5.0	EPA 8260C	8-23-18	8-23-18	
Iodomethane	ND	5.0	EPA 8260C	8-23-18	8-23-18	
Carbon Disulfide	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Methylene Chloride	ND	1.0	EPA 8260C	8-23-18	8-23-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Vinyl Acetate	ND	1.0	EPA 8260C	8-23-18	8-23-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
2-Butanone	ND	5.0	EPA 8260C	8-23-18	8-23-18	
Bromochloromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Chloroform	16	0.20	EPA 8260C	8-23-18	8-23-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Benzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Trichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Dibromomethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromodichloromethane	1.6	0.20	EPA 8260C	8-23-18	8-23-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	8-23-18	8-23-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	8-23-18	8-23-18	
Toluene	ND	1.0	EPA 8260C	8-23-18	8-23-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-23-18	8-23-18	

Date of Report: August 27, 2018
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Potable-082118**					
Laboratory ID:	08-229-16					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Tetrachloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
2-Hexanone	ND	2.0	EPA 8260C	8-23-18	8-23-18	
Dibromochloromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Chlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Ethylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
m,p-Xylene	ND	0.40	EPA 8260C	8-23-18	8-23-18	
o-Xylene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Styrene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromoform	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Isopropylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
n-Propylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
n-Butylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	8-23-18	8-23-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Naphthalene	ND	1.0	EPA 8260C	8-23-18	8-23-18	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260C	8-23-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*90*	*75-127*				
Toluene-d8	*85*	*80-127*				
4-Bromofluorobenzene	*96*	*78-125*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

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

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0823W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Chloromethane	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Vinyl Chloride	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromomethane	ND	2.0	EPA 8260C	8-23-18	8-23-18	
Chloroethane	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Acetone	ND	5.0	EPA 8260C	8-23-18	8-23-18	
Iodomethane	ND	5.0	EPA 8260C	8-23-18	8-23-18	
Carbon Disulfide	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Methylene Chloride	ND	1.0	EPA 8260C	8-23-18	8-23-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Vinyl Acetate	ND	1.0	EPA 8260C	8-23-18	8-23-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
2-Butanone	ND	5.0	EPA 8260C	8-23-18	8-23-18	
Bromochloromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Chloroform	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Benzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Trichloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Dibromomethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromodichloromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	8-23-18	8-23-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	8-23-18	8-23-18	
Toluene	ND	1.0	EPA 8260C	8-23-18	8-23-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-23-18	8-23-18	

Date of Report: August 27, 2018
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Laboratory Reference: 1808-229
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0823W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Tetrachloroethene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
2-Hexanone	ND	2.0	EPA 8260C	8-23-18	8-23-18	
Dibromochloromethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Chlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Ethylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
m,p-Xylene	ND	0.40	EPA 8260C	8-23-18	8-23-18	
o-Xylene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Styrene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromoform	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Isopropylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Bromobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	8-23-18	8-23-18	
n-Propylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
n-Butylbenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	8-23-18	8-23-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	8-23-18	8-23-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	8-23-18	8-23-18	
Naphthalene	ND	1.0	EPA 8260C	8-23-18	8-23-18	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260C	8-23-18	8-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*89*	*75-127*				
Toluene-d8	*89*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

Date of Report: August 27, 2018
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Project: 397-019

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:	SB0823W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.8**	**10.2**	10.0	10.0	108	102	62-129	6	15	
Benzene	**10.6**	**9.90**	10.0	10.0	106	99	77-127	7	15	
Trichloroethene	**10.1**	**9.52**	10.0	10.0	101	95	70-120	6	15	
Toluene	**10.4**	**9.86**	10.0	10.0	104	99	82-123	5	15	
Chlorobenzene	**10.0**	**9.49**	10.0	10.0	100	95	79-120	5	15	
Surrogate:										
Dibromofluoromethane					*89*	*90*	*75-127*			
Toluene-d8					*89*	*90*	*80-127*			
4-Bromofluorobenzene					*96*	*97*	*78-125*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-01-5.0-082118**					
Laboratory ID:	08-229-08					
n-Nitrosodimethylamine	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Pyridine	**ND**	8.6	EPA 8270D	8-22-18	8-24-18	
Phenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Aniline	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
bis(2-Chloroethyl)ether	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2-Chlorophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
1,3-Dichlorobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
1,4-Dichlorobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Benzyl alcohol	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
1,2-Dichlorobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2-Methylphenol (o-Cresol)	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
bis(2-Chloroisopropyl)ether	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
n-Nitroso-di-n-propylamine	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Hexachloroethane	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Nitrobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Isophorone	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2-Nitrophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,4-Dimethylphenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
bis(2-Chloroethoxy)methane	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,4-Dichlorophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
1,2,4-Trichlorobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Naphthalene	**0.99**	0.86	EPA 8270D	8-22-18	8-24-18	
4-Chloroaniline	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
Hexachlorobutadiene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
4-Chloro-3-methylphenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2-Methylnaphthalene	**1.2**	0.86	EPA 8270D	8-22-18	8-24-18	
1-Methylnaphthalene	**1.1**	0.86	EPA 8270D	8-22-18	8-24-18	
Hexachlorocyclopentadiene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,4,6-Trichlorophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,3-Dichloroaniline	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,4,5-Trichlorophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2-Chloronaphthalene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2-Nitroaniline	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
1,4-Dinitrobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Dimethylphthalate	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
1,3-Dinitrobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,6-Dinitrotoluene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
1,2-Dinitrobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Acenaphthylene	**0.32**	0.034	EPA 8270D/SIM	8-22-18	8-24-18	
3-Nitroaniline	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-01-5.0-082118**					
Laboratory ID:	08-229-08					
2,4-Dinitrophenol	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
Acenaphthene	**0.46**	0.034	EPA 8270D/SIM	8-22-18	8-24-18	
4-Nitrophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,4-Dinitrotoluene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Dibenzofuran	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Diethylphthalate	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
4-Chlorophenyl-phenylether	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
4-Nitroaniline	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Fluorene	**0.46**	0.034	EPA 8270D/SIM	8-22-18	8-24-18	
4,6-Dinitro-2-methylphenol	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
n-Nitrosodiphenylamine	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
1,2-Diphenylhydrazine	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
4-Bromophenyl-phenylether	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Hexachlorobenzene	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Pentachlorophenol	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
Phenanthrene	**5.4**	0.86	EPA 8270D	8-22-18	8-24-18	
Anthracene	**1.0**	0.86	EPA 8270D	8-22-18	8-24-18	
Carbazole	**ND**	0.86	EPA 8270D	8-22-18	8-24-18	
Di-n-butylphthalate	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
Fluoranthene	**4.8**	0.86	EPA 8270D	8-22-18	8-24-18	
Benzidine	**ND**	8.6	EPA 8270D	8-22-18	8-24-18	
Pyrene	**6.8**	0.86	EPA 8270D	8-22-18	8-24-18	
Butylbenzylphthalate	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
bis-2-Ethylhexyladipate	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
3,3'-Dichlorobenzidine	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
Benzo[a]anthracene	**2.6**	0.86	EPA 8270D	8-22-18	8-24-18	
Chrysene	**3.1**	0.86	EPA 8270D	8-22-18	8-24-18	
bis(2-Ethylhexyl)phthalate	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
Di-n-octylphthalate	**ND**	4.3	EPA 8270D	8-22-18	8-24-18	
Benzo[b]fluoranthene	**2.9**	0.86	EPA 8270D	8-22-18	8-24-18	
Benzo(j,k)fluoranthene	**0.76**	0.034	EPA 8270D/SIM	8-22-18	8-24-18	
Benzo[a]pyrene	**2.5**	0.86	EPA 8270D	8-22-18	8-24-18	
Indeno[1,2,3-cd]pyrene	**1.6**	0.86	EPA 8270D	8-22-18	8-24-18	
Dibenz[a,h]anthracene	**0.45**	0.034	EPA 8270D/SIM	8-22-18	8-24-18	
Benzo[g,h,i]perylene	**1.9**	0.86	EPA 8270D	8-22-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*52*	*19 - 103*				
Phenol-d6	*61*	*30 - 103*				
Nitrobenzene-d5	*68*	*27 - 105*				
2-Fluorobiphenyl	*88*	*36 - 102*				
2,4,6-Tribromophenol	*66*	*33 - 110*				
Terphenyl-d14	*94*	*38 - 108*				

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METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0822S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Pyridine	**ND**	0.33	EPA 8270D	8-22-18	8-22-18	
Phenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Aniline	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Isophorone	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	

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METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0822S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Carbazole	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzidine	**ND**	0.33	EPA 8270D	8-22-18	8-22-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*86*	*19 - 103*				
Phenol-d6	*87*	*30 - 103*				
Nitrobenzene-d5	*84*	*27 - 105*				
2-Fluorobiphenyl	*92*	*36 - 102*				
2,4,6-Tribromophenol	*99*	*33 - 110*				
Terphenyl-d14	*92*	*38 - 108*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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:	SB0822S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.988**	**1.12**	1.33	1.33	74	84	45 - 94	13	29	
2-Chlorophenol	**1.05**	**1.21**	1.33	1.33	79	91	46 - 94	14	33	
1,4-Dichlorobenzene	**0.511**	**0.581**	0.667	0.667	77	87	42 - 91	13	37	
n-Nitroso-di-n-propylamine	**0.506**	**0.568**	0.667	0.667	76	85	45 - 100	12	26	
1,2,4-Trichlorobenzene	**0.559**	**0.579**	0.667	0.667	84	87	45 - 100	4	32	
4-Chloro-3-methylphenol	**1.09**	**1.13**	1.33	1.33	82	85	55 - 97	4	21	
Acenaphthene	**0.539**	**0.564**	0.667	0.667	81	85	48 - 91	5	21	
4-Nitrophenol	**1.06**	**1.17**	1.33	1.33	80	88	53 - 102	10	20	
2,4-Dinitrotoluene	**0.527**	**0.583**	0.667	0.667	79	87	47 - 96	10	19	
Pentachlorophenol	**1.34**	**1.40**	1.33	1.33	101	105	35 - 125	4	26	
Pyrene	**0.534**	**0.561**	0.667	0.667	80	84	55 - 110	5	17	
Surrogate:										
2-Fluorophenol					*72*	*81*	*19 - 103*			
Phenol-d6					*73*	*80*	*30 - 103*			
Nitrobenzene-d5					*72*	*73*	*27 - 105*			
2-Fluorobiphenyl					*79*	*80*	*36 - 102*			
2,4,6-Tribromophenol					*86*	*85*	*33 - 110*			
Terphenyl-d14					*76*	*78*	*38 - 108*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-04-10.0-082118**					
Laboratory ID:	08-229-03					
n-Nitrosodimethylamine	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Pyridine	**ND**	0.83	EPA 8270D	8-22-18	8-24-18	
Phenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Aniline	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
bis(2-Chloroethyl)ether	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2-Chlorophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
1,3-Dichlorobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
1,4-Dichlorobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Benzyl alcohol	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
1,2-Dichlorobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2-Methylphenol (o-Cresol)	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
bis(2-Chloroisopropyl)ether	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
n-Nitroso-di-n-propylamine	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Hexachloroethane	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Nitrobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Isophorone	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2-Nitrophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,4-Dimethylphenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
bis(2-Chloroethoxy)methane	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,4-Dichlorophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
1,2,4-Trichlorobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Naphthalene	**0.12**	0.083	EPA 8270D	8-22-18	8-24-18	
4-Chloroaniline	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
Hexachlorobutadiene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
4-Chloro-3-methylphenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2-Methylnaphthalene	**0.099**	0.083	EPA 8270D	8-22-18	8-24-18	
1-Methylnaphthalene	**0.057**	0.017	EPA 8270D/SIM	8-22-18	8-24-18	
Hexachlorocyclopentadiene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,4,6-Trichlorophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,3-Dichloroaniline	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,4,5-Trichlorophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2-Chloronaphthalene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2-Nitroaniline	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
1,4-Dinitrobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Dimethylphthalate	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
1,3-Dinitrobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,6-Dinitrotoluene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
1,2-Dinitrobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Acenaphthylene	**0.045**	0.017	EPA 8270D/SIM	8-22-18	8-24-18	
3-Nitroaniline	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-04-10.0-082118**					
Laboratory ID:	08-229-03					
2,4-Dinitrophenol	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
Acenaphthene	**0.21**	0.083	EPA 8270D	8-22-18	8-24-18	
4-Nitrophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,4-Dinitrotoluene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Dibenzofuran	**0.12**	0.083	EPA 8270D	8-22-18	8-24-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Diethylphthalate	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
4-Chlorophenyl-phenylether	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
4-Nitroaniline	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Fluorene	**0.22**	0.083	EPA 8270D	8-22-18	8-24-18	
4,6-Dinitro-2-methylphenol	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
n-Nitrosodiphenylamine	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
1,2-Diphenylhydrazine	**ND**	0.18	EPA 8270D	8-22-18	8-24-18	U1
4-Bromophenyl-phenylether	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Hexachlorobenzene	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Pentachlorophenol	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
Phenanthrene	**1.0**	0.083	EPA 8270D	8-22-18	8-24-18	
Anthracene	**0.29**	0.083	EPA 8270D	8-22-18	8-24-18	
Carbazole	**ND**	0.083	EPA 8270D	8-22-18	8-24-18	
Di-n-butylphthalate	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
Fluoranthene	**0.97**	0.083	EPA 8270D	8-22-18	8-24-18	
Benzidine	**ND**	0.83	EPA 8270D	8-22-18	8-24-18	
Pyrene	**1.1**	0.083	EPA 8270D	8-22-18	8-24-18	
Butylbenzylphthalate	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
bis-2-Ethylhexyladipate	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
3,3'-Dichlorobenzidine	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
Benzo[a]anthracene	**0.67**	0.083	EPA 8270D	8-22-18	8-24-18	
Chrysene	**0.95**	0.083	EPA 8270D	8-22-18	8-24-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
Di-n-octylphthalate	**ND**	0.42	EPA 8270D	8-22-18	8-24-18	
Benzo[b]fluoranthene	**0.47**	0.083	EPA 8270D	8-22-18	8-24-18	
Benzo(j,k)fluoranthene	**0.18**	0.083	EPA 8270D	8-22-18	8-24-18	
Benzo[a]pyrene	**0.36**	0.083	EPA 8270D	8-22-18	8-24-18	
Indeno[1,2,3-cd]pyrene	**0.19**	0.083	EPA 8270D	8-22-18	8-24-18	
Dibenz[a,h]anthracene	**0.041**	0.017	EPA 8270D/SIM	8-22-18	8-24-18	
Benzo[g,h,i]perylene	**0.21**	0.083	EPA 8270D	8-22-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*41*	*19 - 103*				
Phenol-d6	*48*	*30 - 103*				
Nitrobenzene-d5	*45*	*27 - 105*				
2-Fluorobiphenyl	*55*	*36 - 102*				
2,4,6-Tribromophenol	*64*	*33 - 110*				
Terphenyl-d14	*60*	*38 - 108*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0822S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Pyridine	**ND**	0.33	EPA 8270D	8-22-18	8-22-18	
Phenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Aniline	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Isophorone	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0822S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Carbazole	**ND**	0.033	EPA 8270D	8-22-18	8-22-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzidine	**ND**	0.33	EPA 8270D	8-22-18	8-22-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-22-18	8-22-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-22-18	8-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*86*	*19 - 103*				
Phenol-d6	*87*	*30 - 103*				
Nitrobenzene-d5	*84*	*27 - 105*				
2-Fluorobiphenyl	*92*	*36 - 102*				
2,4,6-Tribromophenol	*99*	*33 - 110*				
Terphenyl-d14	*92*	*38 - 108*				

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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:	SB0822S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.988**	**1.12**	1.33	1.33	74	84	45 - 94	13	29	
2-Chlorophenol	**1.05**	**1.21**	1.33	1.33	79	91	46 - 94	14	33	
1,4-Dichlorobenzene	**0.511**	**0.581**	0.667	0.667	77	87	42 - 91	13	37	
n-Nitroso-di-n-propylamine	**0.506**	**0.568**	0.667	0.667	76	85	45 - 100	12	26	
1,2,4-Trichlorobenzene	**0.559**	**0.579**	0.667	0.667	84	87	45 - 100	4	32	
4-Chloro-3-methylphenol	**1.09**	**1.13**	1.33	1.33	82	85	55 - 97	4	21	
Acenaphthene	**0.539**	**0.564**	0.667	0.667	81	85	48 - 91	5	21	
4-Nitrophenol	**1.06**	**1.17**	1.33	1.33	80	88	53 - 102	10	20	
2,4-Dinitrotoluene	**0.527**	**0.583**	0.667	0.667	79	87	47 - 96	10	19	
Pentachlorophenol	**1.34**	**1.40**	1.33	1.33	101	105	35 - 125	4	26	
Pyrene	**0.534**	**0.561**	0.667	0.667	80	84	55 - 110	5	17	
Surrogate:										
2-Fluorophenol					*72*	*81*	*19 - 103*			
Phenol-d6					*73*	*80*	*30 - 103*			
Nitrobenzene-d5					*72*	*73*	*27 - 105*			
2-Fluorobiphenyl					*79*	*80*	*36 - 102*			
2,4,6-Tribromophenol					*86*	*85*	*33 - 110*			
Terphenyl-d14					*76*	*78*	*38 - 108*			

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 1 of 2

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 2 of 2

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-04-5.0-082118**					
Laboratory ID:	08-229-02					
Arsenic	**ND**	11	EPA 6010D	8-23-18	8-23-18	
Barium	**290**	5.5	EPA 6010D	8-23-18	8-23-18	
Cadmium	**ND**	1.1	EPA 6010D	8-23-18	8-23-18	
Chromium	**53**	1.1	EPA 6010D	8-23-18	8-23-18	
Lead	**56**	11	EPA 6010D	8-23-18	8-23-18	
Mercury	**ND**	0.55	EPA 7471B	8-23-18	8-23-18	
Selenium	**ND**	11	EPA 6010D	8-23-18	8-23-18	
Silver	**ND**	2.2	EPA 6010D	8-23-18	8-23-18	
Client ID:	**FB-01-15.0-082118**					
Laboratory ID:	08-229-09					
Arsenic	**ND**	16	EPA 6010D	8-23-18	8-23-18	
Barium	**110**	4.0	EPA 6010D	8-23-18	8-23-18	
Cadmium	**ND**	0.81	EPA 6010D	8-23-18	8-23-18	
Chromium	**60**	0.81	EPA 6010D	8-23-18	8-23-18	
Lead	**ND**	8.1	EPA 6010D	8-23-18	8-23-18	
Mercury	**ND**	0.40	EPA 7471B	8-23-18	8-23-18	
Selenium	**ND**	16	EPA 6010D	8-23-18	8-23-18	
Silver	**ND**	1.6	EPA 6010D	8-23-18	8-23-18	

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0823SM1					
Arsenic	**ND**	5.0	EPA 6010D	8-23-18	8-23-18	
Barium	**ND**	2.5	EPA 6010D	8-23-18	8-23-18	
Cadmium	**ND**	0.50	EPA 6010D	8-23-18	8-23-18	
Chromium	**ND**	0.50	EPA 6010D	8-23-18	8-23-18	
Lead	**ND**	5.0	EPA 6010D	8-23-18	8-23-18	
Selenium	**ND**	5.0	EPA 6010D	8-23-18	8-23-18	
Silver	**ND**	1.0	EPA 6010D	8-23-18	8-23-18	
Laboratory ID:	MB0823S1					
Mercury	**ND**	0.25	EPA 7471B	8-23-18	8-23-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	08-239-08									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Barium	**92.2**	**83.3**	NA	NA		NA	NA	10	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**8.30**	**5.65**	NA	NA		NA	NA	38	20	K
Lead	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Selenium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	08-239-08									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	

MATRIX SPIKES										
Laboratory ID:	08-239-08									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	**93.1**	**95.5**	100	100	ND	**93**	**96**	75-125	3	20
Barium	**188**	**184**	100	100	92.2	**96**	**92**	75-125	2	20
Cadmium	**46.3**	**45.8**	50.0	50.0	ND	**93**	**92**	75-125	1	20
Chromium	**102**	**102**	100	100	8.30	**94**	**94**	75-125	0	20
Lead	**232**	**233**	250	250	ND	**93**	**93**	75-125	1	20
Selenium	**91.2**	**92.2**	100	100	ND	**91**	**92**	75-125	1	20
Silver	**21.8**	**21.9**	25.0	25.0	ND	**87**	**88**	75-125	1	20
Laboratory ID:	08-239-08									
Mercury	**0.555**	**0.554**	0.500	0.500	0.00530	**110**	**110**	80-120	0	20

Date of Report: August 27, 2018
Samples Submitted: August 22, 2018
Laboratory Reference: 1808-229
Project: 397-019

% MOISTURE

Date Analyzed: 8-22-18

Client ID	Lab ID	% Moisture
FB-04-3.0-082118	08-229-02	54
FB-04-10.0-082118	08-229-03	60
FB-04-20.0-082118	08-229-05	14
FB-04-30.0-082118	08-229-07	15
FB-01-5.0-082118	08-229-08	22
FB-01-15.0-082118	08-229-09	38
FB-01-30.0-082118	08-229-12	13

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: 397-019
Project Name: Block 38 West Property
Project Manager: Jason Quark
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)
☐ _____ (other)

Laboratory Number: 08-229

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	ACUISG	2 DAY TAT	3 DAY TAT		% Moisture
1	FB-04-3.0-082118	8/21/18	0645	Soil	5																						
2	FB-04-5.0-082118		0650		1		X		X										X						X		X
3	FB-04-10.0-082118		0710										X												X		X
4	FB-04-15.0-082118		0735				X																				
5	FB-04-20.0-082118		0745				X		X		X														X		X
6	FB-04-25.0-082118		0815				X																				
7	FB-04-30.0-082118		0850				X		X																X		X
8	FB-04-5.0-082118		1140				X		X				X										⊗	X			X
9	FB-01-15.0-082118		1420				X		X				O						X	3 day TAT			⊗	X			X
10	FB-01-20.0-082118		1446																								

	Signature	Company	Date	Time
Relinquished				
Received		GSE	8/22/18	0930
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

X - Added 8/22/18. DB (2-3 day TAT)
⊗ Added 8/24/18. DB (1 day TAT)
O Added 8/27/18. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

Chain of Custody

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

Company:
Project Number:
Project Name:
Project Manager:
Sampled by:

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: 08-229

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		2 DAY TAT	3 DAY TAT		% Moisture
11	FB-01-25.0-082118	8/21/18	1500	Soil	5																						
12	FB-01-30.0-082118	↓	1515	Soil	5		X		X															X			X
13	FB-01-35.0-082118		1530	Soil	5																						
14	FB-01-40.0-082118		1540	Soil	5																						
15	FB01-082118		1245	Water	8		X		X		X		HOLD														
16	Potable-082118	↓	1655	Water	12					X															X		

	Signature	Company	Date	Time
Relinquished		forallan	8/21/18	1915
Received		COE	8/22/18	0930
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Please Contact Project Manager for analyses and Sample turn around time Confirmations.

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

September 4, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-271

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 23, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

Case Narrative

Samples were collected on August 22, 2018 and received by the laboratory on August 23, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-10.0-082218**					
Laboratory ID:	08-271-02					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.090	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.090	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.090	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.090	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	9.0	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*57-129*				
Client ID:	**FMW-136-20.0-082218**					
Laboratory ID:	08-271-04					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.064	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.064	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.064	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.064	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	6.4	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*57-129*				
Client ID:	**FMW-136-30.0-082218**					
Laboratory ID:	08-271-06					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.052	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.052	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.052	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.052	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	5.2	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*57-129*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0824S1					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	5.0	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*86*	*57-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-271-02										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*94*	*95*	*57-129*			
SPIKE BLANKS											
Laboratory ID:	SB0824S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.873**	**0.924**	1.00	1.00		**87**	**92**	69-111	6	10	
Toluene	**0.863**	**0.912**	1.00	1.00		**86**	**91**	70-114	6	11	
Ethyl Benzene	**0.860**	**0.915**	1.00	1.00		**86**	**92**	70-115	6	10	
m,p-Xylene	**0.841**	**0.897**	1.00	1.00		**84**	**90**	72-115	6	10	
o-Xylene	**0.872**	**0.916**	1.00	1.00		**87**	**92**	71-115	5	11	
Surrogate:											
Fluorobenzene						*85*	*91*	*57-129*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-10.0-082218**					
Laboratory ID:	08-271-02					
Diesel Range Organics	**ND**	38	NWTPH-Dx	8-24-18	8-24-18	
Lube Oil Range Organics	**ND**	76	NWTPH-Dx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**FMW-136-20.0-082218**					
Laboratory ID:	08-271-04					
Diesel Range Organics	**ND**	32	NWTPH-Dx	8-24-18	8-27-18	
Lube Oil Range Organics	**ND**	63	NWTPH-Dx	8-24-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*66*	*50-150*				
Client ID:	**FMW-136-30.0-082218**					
Laboratory ID:	08-271-06					
Diesel Range Organics	**ND**	30	NWTPH-Dx	8-24-18	8-24-18	
Lube Oil Range Organics	**ND**	59	NWTPH-Dx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*77*	*50-150*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0824S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-24-18	8-24-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	08-245-02									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						*56* *90*	*50-150*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-10.0-082218**					
Laboratory ID:	08-271-02					
Dichlorodifluoromethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Chloromethane	ND	0.0077	EPA 8260C	8-24-18	8-24-18	
Vinyl Chloride	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Bromomethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Chloroethane	ND	0.0077	EPA 8260C	8-24-18	8-24-18	
Trichlorofluoromethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Iodomethane	ND	0.0077	EPA 8260C	8-24-18	8-24-18	
Methylene Chloride	ND	0.0077	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
2,2-Dichloropropane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Bromochloromethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Chloroform	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,1,1-Trichloroethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Carbon Tetrachloride	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloropropene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloroethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloropropane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Dibromomethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Bromodichloromethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
2-Chloroethyl Vinyl Ether	ND	0.0077	EPA 8260C	8-24-18	8-24-18	
(cis) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
(trans) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	

Date of Report: September 4, 2018
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Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-10.0-082218**					
Laboratory ID:	08-271-02					
1,1,2-Trichloroethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,3-Dichloropropane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Dibromochloromethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromoethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Chlorobenzene	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
1,1,1,2-Tetrachloroethane	ND	0.0015	EPA 8260C	8-24-18	8-24-18	
Bromoform	ND	0.0077	EPA 8260C	8-24-18	8-24-18	
Bromobenzene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
1,1,2,2-Tetrachloroethane	ND	0.093	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichloropropane	ND	0.093	EPA 8260C	8-24-18	8-24-18	
2-Chlorotoluene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
4-Chlorotoluene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
1,3-Dichlorobenzene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
1,4-Dichlorobenzene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
1,2-Dichlorobenzene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromo-3-chloropropane	ND	0.46	EPA 8260C	8-24-18	8-24-18	
1,2,4-Trichlorobenzene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
Hexachlorobutadiene	ND	0.46	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichlorobenzene	ND	0.093	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*98*	*79-128*				
4-Bromofluorobenzene	*83*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

VOLATILE ORGANICS EPA 8260C
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-20.0-082218**					
Laboratory ID:	08-271-04					
Dichlorodifluoromethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Chloromethane	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
Vinyl Chloride	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Bromomethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Chloroethane	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
Trichlorofluoromethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Iodomethane	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
Methylene Chloride	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
2,2-Dichloropropane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Bromochloromethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Chloroform	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,1,1-Trichloroethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Carbon Tetrachloride	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloropropene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloroethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloropropane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Dibromomethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Bromodichloromethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
2-Chloroethyl Vinyl Ether	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
(cis) 1,3-Dichloropropene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
(trans) 1,3-Dichloropropene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-20.0-082218**					
Laboratory ID:	08-271-04					
1,1,2-Trichloroethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,3-Dichloropropane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Dibromochloromethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromoethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Chlorobenzene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,1,1,2-Tetrachloroethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Bromoform	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
Bromobenzene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,1,2,2-Tetrachloroethane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichloropropane	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
2-Chlorotoluene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
4-Chlorotoluene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,3-Dichlorobenzene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,4-Dichlorobenzene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,2-Dichlorobenzene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromo-3-chloropropane	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
1,2,4-Trichlorobenzene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Hexachlorobutadiene	ND	0.0047	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichlorobenzene	ND	0.00094	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*98*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

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:	MB0824S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chloromethane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Vinyl Chloride	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromomethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chloroethane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Iodomethane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Methylene Chloride	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromochloromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chloroform	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Dibromomethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
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VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0824S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromoform	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Bromobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*101*	*79-128*				
4-Bromofluorobenzene	*97*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

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:	SB0824S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0480**	**0.0510**	0.0500	0.0500	96	102	53-141	6	17	
Benzene	**0.0481**	**0.0509**	0.0500	0.0500	96	102	70-130	6	15	
Trichloroethene	**0.0506**	**0.0520**	0.0500	0.0500	101	104	74-122	3	16	
Toluene	**0.0513**	**0.0551**	0.0500	0.0500	103	110	76-130	7	15	
Chlorobenzene	**0.0488**	**0.0506**	0.0500	0.0500	98	101	75-120	4	14	
Surrogate:										
Dibromofluoromethane					*98*	*94*	*68-139*			
Toluene-d8					*101*	*103*	*79-128*			
4-Bromofluorobenzene					*98*	*98*	*71-132*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-20.0-082218**					
Laboratory ID:	08-271-04					
n-Nitrosodimethylamine	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Pyridine	**ND**	0.42	EPA 8270D	8-27-18	8-30-18	
Phenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Aniline	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2-Chlorophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Benzyl alcohol	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Hexachloroethane	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Nitrobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Isophorone	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2-Nitrophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,4-Dimethylphenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Naphthalene	**0.030**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
4-Chloroaniline	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
Hexachlorobutadiene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2-Methylnaphthalene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
1-Methylnaphthalene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Hexachlorocyclopentadiene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2-Chloronaphthalene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2-Nitroaniline	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Dimethylphthalate	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Acenaphthylene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
3-Nitroaniline	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	

Date of Report: September 4, 2018
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SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-20.0-082218**					
Laboratory ID:	08-271-04					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
Acenaphthene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
4-Nitrophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Dibenzofuran	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Diethylphthalate	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
4-Nitroaniline	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Fluorene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
4-Bromophenyl-phenylether	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Hexachlorobenzene	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Pentachlorophenol	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
Phenanthrene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Anthracene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Carbazole	**ND**	0.042	EPA 8270D	8-27-18	8-30-18	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
Fluoranthene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Benzidine	**ND**	0.42	EPA 8270D	8-27-18	8-30-18	
Pyrene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Butylbenzylphthalate	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
Benzo[a]anthracene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Chrysene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
Di-n-octylphthalate	**ND**	0.21	EPA 8270D	8-27-18	8-30-18	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[g,h,i]perylene	**ND**	0.0084	EPA 8270D/SIM	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*67*	*19 - 103*				
Phenol-d6	*68*	*30 - 103*				
Nitrobenzene-d5	*62*	*27 - 105*				
2-Fluorobiphenyl	*69*	*36 - 102*				
2,4,6-Tribromophenol	*78*	*33 - 110*				
Terphenyl-d14	*72*	*38 - 108*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0827S2					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Pyridine	**ND**	0.33	EPA 8270D	8-27-18	8-28-18	
Phenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Aniline	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Isophorone	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0827S2					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Carbazole	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzidine	**ND**	0.33	EPA 8270D	8-27-18	8-28-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*79*	*19 - 103*				
Phenol-d6	*82*	*30 - 103*				
Nitrobenzene-d5	*78*	*27 - 105*				
2-Fluorobiphenyl	*83*	*36 - 102*				
2,4,6-Tribromophenol	*94*	*33 - 110*				
Terphenyl-d14	*84*	*38 - 108*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-245-02										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**1.14**	**1.11**	1.33	1.33	ND	86	83	37 - 94	3	27	
2-Chlorophenol	**1.15**	**1.12**	1.33	1.33	ND	86	84	37 - 95	3	32	
1,4-Dichlorobenzene	**0.550**	**0.554**	0.667	0.667	ND	82	83	23 - 97	1	37	
n-Nitroso-di-n-propylamine	**0.562**	**0.552**	0.667	0.667	ND	84	83	40 - 91	2	28	
1,2,4-Trichlorobenzene	**0.586**	**0.564**	0.667	0.667	ND	88	85	37 - 93	4	30	
4-Chloro-3-methylphenol	**1.15**	**1.11**	1.33	1.33	ND	86	83	46 - 96	4	25	
Acenaphthene	**0.581**	**0.573**	0.667	0.667	ND	87	86	43 - 90	1	25	
4-Nitrophenol	**1.15**	**1.18**	1.33	1.33	ND	86	89	31 - 104	3	28	
2,4-Dinitrotoluene	**0.607**	**0.576**	0.667	0.667	ND	91	86	31 - 96	5	32	
Pentachlorophenol	**1.34**	**1.36**	1.33	1.33	ND	101	102	20 - 123	1	29	
Pyrene	**0.590**	**0.590**	0.667	0.667	ND	88	88	28 - 114	0	35	
Surrogate:											
2-Fluorophenol						*80*	*81*	*19 - 103*			
Phenol-d6						*83*	*82*	*30 - 103*			
Nitrobenzene-d5						*74*	*73*	*27 - 105*			
2-Fluorobiphenyl						*78*	*79*	*36 - 102*			
2,4,6-Tribromophenol						*91*	*92*	*33 - 110*			
Terphenyl-d14						*80*	*80*	*38 - 108*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-20.0-082218**					
Laboratory ID:	08-271-04					
Arsenic	**ND**	13	EPA 6010D	8-28-18	8-30-18	
Barium	**46**	3.2	EPA 6010D	8-28-18	8-30-18	
Cadmium	**ND**	0.63	EPA 6010D	8-28-18	8-30-18	
Chromium	**42**	0.63	EPA 6010D	8-28-18	8-30-18	
Lead	**ND**	6.3	EPA 6010D	8-28-18	8-30-18	
Mercury	**ND**	0.32	EPA 7471B	8-27-18	8-27-18	
Selenium	**ND**	13	EPA 6010D	8-28-18	8-30-18	
Silver	**ND**	1.3	EPA 6010D	8-28-18	8-30-18	
Client ID:	**FMW-136-30.0-082218**					
Laboratory ID:	08-271-06					
Arsenic	**ND**	12	EPA 6010D	8-28-18	8-30-18	
Barium	**45**	3.0	EPA 6010D	8-28-18	8-30-18	
Cadmium	**ND**	0.59	EPA 6010D	8-28-18	8-30-18	
Chromium	**41**	0.59	EPA 6010D	8-28-18	8-30-18	
Lead	**ND**	5.9	EPA 6010D	8-28-18	8-30-18	
Mercury	**ND**	0.30	EPA 7471B	8-27-18	8-27-18	
Selenium	**ND**	12	EPA 6010D	8-28-18	8-30-18	
Silver	**ND**	1.2	EPA 6010D	8-28-18	8-30-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0828SM1					
Arsenic	**ND**	10	EPA 6010D	8-28-18	8-30-18	
Cadmium	**ND**	0.50	EPA 6010D	8-28-18	8-30-18	
Chromium	**ND**	0.50	EPA 6010D	8-28-18	8-30-18	
Lead	**ND**	5.0	EPA 6010D	8-28-18	8-30-18	
Selenium	**ND**	10	EPA 6010D	8-28-18	8-30-18	
Silver	**ND**	1.0	EPA 6010D	8-28-18	8-30-18	
Laboratory ID:	MB0827S1					
Mercury	**ND**	0.25	EPA 7471B	8-27-18	8-27-18	
Laboratory ID:	MB0828SM3					
Barium	**ND**	2.5	EPA 6010D	8-28-18	8-30-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-245-01										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**35.3**	**42.0**	NA	NA		NA		NA	17	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Selenium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-245-05										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-245-01										
	ORIG	DUP									
Barium	**69.6**	**60.3**	NA	NA		NA		NA	14	20	
MATRIX SPIKES											
Laboratory ID:	08-245-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**95.8**	**96.1**	100	100	ND	**96**	**96**	75-125	0	20	
Cadmium	**46.4**	**47.9**	50.0	50.0	ND	**93**	**96**	75-125	3	20	
Chromium	**133**	**141**	100	100	35.3	**98**	**106**	75-125	6	20	
Lead	**243**	**250**	250	250	ND	**97**	**100**	75-125	3	20	
Selenium	**93.1**	**96.9**	100	100	ND	**93**	**97**	75-125	4	20	
Silver	**22.4**	**22.6**	25.0	25.0	ND	**90**	**90**	75-125	1	20	
Laboratory ID:	08-245-05										
Mercury	**0.529**	**0.523**	0.500	0.500	0.0116	**103**	**102**	80-120	1	20	
Laboratory ID:	08-245-01										
	MS	MSD	MS	MSD		MS	MSD				
Barium	**186**	**183**	100	100	69.6	**116**	**113**	75-125	2	20	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-271
Project: 397-019

% MOISTURE

Date Analyzed: 8-24-18

Client ID	Lab ID	% Moisture
FMW-136-10.0-082218	08-271-02	34
FMW-136-20.0-082218	08-271-04	21
FMW-136-30.0-082218	08-271-06	15

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: 397-019
Project Name: Block 38 West Property
Project Manager: Javan Rivard
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)
- ☐ _____ (other)

Laboratory Number: 08-271

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-136-5.0-082218	8/22/18	1315	Soil	5																						
2	FMW-136-10.0-082218		1320				X		X		X																X
3	FMW-136-15.0-082218		1330																								
4	FMW-136-20.0-082218		1345				X		X		X		X						X								X
5	FMW-136-25.0-082218		1355																								
6	FMW-136-30.0-082218		1400				X		X										X								X

	Signature	Company	Date	Time
Relinquished	[signature]	Farallon	8/22/18	1915
Received	Kathleen Lucas	OSE	8/23/18	1417
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

~~Please contact Project Manager for sample analyses and turn around time.~~ DJ

X - Added 8-24-18 LL (STA)

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

September 4, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-272

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 23, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

Case Narrative

Samples were collected on August 22, 2018 and received by the laboratory on August 23, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

NWTPH Gx/BTEX (soil) Analysis

The chromatogram for sample FB-06-2.5-082218 is not similar to a typical gas.

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: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-2.5-082218**					
Laboratory ID:	08-272-01					
Benzene	**ND**	0.024	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.12	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.12	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.12	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.12	EPA 8021B	8-24-18	8-24-18	
Gasoline	**17**	12	NWTPH-Gx	8-24-18	8-24-18	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*57-129*				
Client ID:	**FB-06-20.0-082218**					
Laboratory ID:	08-272-04					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.053	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.053	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.053	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.053	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	5.3	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*57-129*				
Client ID:	**FB-05-5.0-082218**					
Laboratory ID:	08-272-06					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.054	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.054	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.054	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.054	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	5.4	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*57-129*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-20.0-082218**					
Laboratory ID:	08-272-09					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.055	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.055	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.055	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.055	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	5.5	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*79*	*57-129*				
Client ID:	**FB-05-35.0-082218**					
Laboratory ID:	08-272-12					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.058	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.058	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.058	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.058	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	5.8	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*57-129*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0824S1					
Benzene	**ND**	0.020	EPA 8021B	8-24-18	8-24-18	
Toluene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
o-Xylene	**ND**	0.050	EPA 8021B	8-24-18	8-24-18	
Gasoline	**ND**	5.0	NWTPH-Gx	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*86*	*57-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-271-02										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*94*	*95*	*57-129*			
SPIKE BLANKS											
Laboratory ID:	SB0824S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.873**	**0.924**	1.00	1.00		**87**	**92**	69-111	6	10	
Toluene	**0.863**	**0.912**	1.00	1.00		**86**	**91**	70-114	6	11	
Ethyl Benzene	**0.860**	**0.915**	1.00	1.00		**86**	**92**	70-115	6	10	
m,p-Xylene	**0.841**	**0.897**	1.00	1.00		**84**	**90**	72-115	6	10	
o-Xylene	**0.872**	**0.916**	1.00	1.00		**87**	**92**	71-115	5	11	
Surrogate:											
Fluorobenzene						*85*	*91*	*57-129*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-082218**					
Laboratory ID:	08-272-14					
Benzene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	100	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*66-117*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0827W2					
Benzene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	1.0	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	100	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-276-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*101*	*93*	*66-117*			
MATRIX SPIKES											
Laboratory ID:	08-276-03										
	MS	MSD	MS	MSD		MS	MSD				
Benzene	**53.6**	**51.8**	50.0	50.0	ND	**107**	**104**	82-122	3	11	
Toluene	**52.2**	**50.4**	50.0	50.0	ND	**104**	**101**	83-123	4	12	
Ethyl Benzene	**52.3**	**50.6**	50.0	50.0	ND	**105**	**101**	83-123	3	12	
m,p-Xylene	**51.7**	**50.2**	50.0	50.0	ND	**103**	**100**	83-123	3	12	
o-Xylene	**52.3**	**51.0**	50.0	50.0	ND	**105**	**102**	83-123	3	11	
Surrogate:											
Fluorobenzene						*103*	*104*	*66-117*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-2.5-082218**					
Laboratory ID:	08-272-01					
Diesel Range Organics	**180**	43	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**310**	87	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*88*	*50-150*				
Client ID:	**FB-06-20.0-082218**					
Laboratory ID:	08-272-04					
Diesel Range Organics	**ND**	30	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*117*	*50-150*				
Client ID:	**FB-05-5.0-082218**					
Laboratory ID:	08-272-06					
Diesel Range Organics	**ND**	31	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*131*	*50-150*				
Client ID:	**FB-05-20.0-082218**					
Laboratory ID:	08-272-09					
Diesel Range Organics	**ND**	31	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*56*	*50-150*				
Client ID:	**FB-05-35.0-082218**					
Laboratory ID:	08-272-12					
Diesel Range Organics	**ND**	31	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0827S2					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-272-01										
	ORIG	DUP									
Diesel Range Organics	**101**	**73.8**	NA	NA		NA		NA	31	NA	
Lube Oil Range Organics	**177**	**148**	NA	NA		NA		NA	18	NA	
Surrogate:											
o-Terphenyl						*88*	*102*	*50-150*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-082218**					
Laboratory ID:	08-272-14					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0827W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	8-27-18	8-27-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*80*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-270-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range Organics	**0.687**	**0.476**	NA	NA		NA		NA	36	NA	
Surrogate:											
o-Terphenyl						*88*	*82*	*50-150*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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-05-20.0-082218**					
Laboratory ID:	08-272-09					
Dichlorodifluoromethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Chloromethane	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
Vinyl Chloride	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Bromomethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Chloroethane	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
Trichlorofluoromethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Iodomethane	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
Methylene Chloride	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
2,2-Dichloropropane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Bromochloromethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Chloroform	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,1,1-Trichloroethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Carbon Tetrachloride	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloropropene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloroethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloropropane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Dibromomethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Bromodichloromethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
2-Chloroethyl Vinyl Ether	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
(cis) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
(trans) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-20.0-082218**					
Laboratory ID:	08-272-09					
1,1,2-Trichloroethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,3-Dichloropropane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Dibromochloromethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromoethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Chlorobenzene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,1,1,2-Tetrachloroethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Bromoform	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
Bromobenzene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,1,2,2-Tetrachloroethane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichloropropane	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
2-Chlorotoluene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
4-Chlorotoluene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,3-Dichlorobenzene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,4-Dichlorobenzene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,2-Dichlorobenzene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromo-3-chloropropane	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
1,2,4-Trichlorobenzene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Hexachlorobutadiene	ND	0.0045	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichlorobenzene	ND	0.00090	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-139*				
Toluene-d8	*100*	*79-128*				
4-Bromofluorobenzene	*94*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0824S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chloromethane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Vinyl Chloride	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromomethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chloroethane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Iodomethane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Methylene Chloride	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromochloromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chloroform	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Dibromomethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0824S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Chlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Bromoform	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
Bromobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-24-18	8-24-18	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*101*	*79-128*				
4-Bromofluorobenzene	*97*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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:	SB0824S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0480**	**0.0510**	0.0500	0.0500	96	102	53-141	6	17	
Benzene	**0.0481**	**0.0509**	0.0500	0.0500	96	102	70-130	6	15	
Trichloroethene	**0.0506**	**0.0520**	0.0500	0.0500	101	104	74-122	3	16	
Toluene	**0.0513**	**0.0551**	0.0500	0.0500	103	110	76-130	7	15	
Chlorobenzene	**0.0488**	**0.0506**	0.0500	0.0500	98	101	75-120	4	14	
Surrogate:										
Dibromofluoromethane					*98*	*94*	*68-139*			
Toluene-d8					*101*	*103*	*79-128*			
4-Bromofluorobenzene					*98*	*98*	*71-132*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-082218**					
Laboratory ID:	08-272-14					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloromethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromomethane	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Chloroethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Iodomethane	ND	5.0	EPA 8260C	8-29-18	8-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloroform	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Dibromomethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-082218**					
Laboratory ID:	08-272-14					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromoform	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Bromobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*90*	*75-127*				
Toluene-d8	*90*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloromethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromomethane	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Chloroethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Iodomethane	ND	5.0	EPA 8260C	8-29-18	8-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloroform	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Dibromomethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromoform	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Bromobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*87*	*75-127*				
Toluene-d8	*88*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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:	SB0829W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.6**	**10.0**	10.0	10.0	106	100	62-129	6	15	
Benzene	**11.1**	**10.5**	10.0	10.0	111	105	77-127	6	15	
Trichloroethene	**10.7**	**9.96**	10.0	10.0	107	100	70-120	7	15	
Toluene	**11.1**	**10.5**	10.0	10.0	111	105	82-123	6	15	
Chlorobenzene	**10.5**	**9.70**	10.0	10.0	105	97	79-120	8	15	
Surrogate:										
Dibromofluoromethane					*85*	*89*	*75-127*			
Toluene-d8					*88*	*89*	*80-127*			
4-Bromofluorobenzene					*93*	*94*	*78-125*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-2.5-082218**					
Laboratory ID:	08-272-01					
n-Nitrosodimethylamine	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Pyridine	**ND**	0.58	EPA 8270D	8-27-18	8-30-18	
Phenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Aniline	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2-Chlorophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Benzyl alcohol	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Hexachloroethane	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Nitrobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Isophorone	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2-Nitrophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,4-Dimethylphenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Naphthalene	**0.087**	0.058	EPA 8270D	8-27-18	8-30-18	
4-Chloroaniline	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
Hexachlorobutadiene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2-Methylnaphthalene	**0.045**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
1-Methylnaphthalene	**0.044**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Hexachlorocyclopentadiene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2-Chloronaphthalene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2-Nitroaniline	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Dimethylphthalate	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Acenaphthylene	**0.042**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
3-Nitroaniline	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-2.5-082218**					
Laboratory ID:	08-272-01					
2,4-Dinitrophenol	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
Acenaphthene	**0.13**	0.058	EPA 8270D	8-27-18	8-30-18	
4-Nitrophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Dibenzofuran	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Diethylphthalate	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
4-Nitroaniline	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Fluorene	**0.094**	0.058	EPA 8270D	8-27-18	8-30-18	
4,6-Dinitro-2-methylphenol	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.16	EPA 8270D	8-27-18	8-30-18	U1
4-Bromophenyl-phenylether	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Hexachlorobenzene	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Pentachlorophenol	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
Phenanthrene	**0.89**	0.058	EPA 8270D	8-27-18	8-30-18	
Anthracene	**0.20**	0.058	EPA 8270D	8-27-18	8-30-18	
Carbazole	**ND**	0.058	EPA 8270D	8-27-18	8-30-18	
Di-n-butylphthalate	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
Fluoranthene	**0.81**	0.058	EPA 8270D	8-27-18	8-30-18	
Benzidine	**ND**	0.58	EPA 8270D	8-27-18	8-30-18	
Pyrene	**1.1**	0.058	EPA 8270D	8-27-18	8-30-18	
Butylbenzylphthalate	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
Benzo[a]anthracene	**0.47**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Chrysene	**0.50**	0.058	EPA 8270D	8-27-18	8-30-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
Di-n-octylphthalate	**ND**	0.29	EPA 8270D	8-27-18	8-30-18	
Benzo[b]fluoranthene	**0.52**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo(j,k)fluoranthene	**0.17**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[a]pyrene	**0.49**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Indeno[1,2,3-cd]pyrene	**0.34**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Dibenz[a,h]anthracene	**0.054**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[g,h,i]perylene	**0.35**	0.012	EPA 8270D/SIM	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*65*	*19 - 103*				
Phenol-d6	*65*	*30 - 103*				
Nitrobenzene-d5	*63*	*27 - 105*				
2-Fluorobiphenyl	*76*	*36 - 102*				
2,4,6-Tribromophenol	*80*	*33 - 110*				
Terphenyl-d14	*83*	*38 - 108*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-20.0-082218**					
Laboratory ID:	08-272-04					
n-Nitrosodimethylamine	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Pyridine	**ND**	0.40	EPA 8270D	8-27-18	8-30-18	
Phenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Aniline	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2-Chlorophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Benzyl alcohol	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Hexachloroethane	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Nitrobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Isophorone	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2-Nitrophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,4-Dimethylphenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Naphthalene	**0.070**	0.040	EPA 8270D	8-27-18	8-30-18	
4-Chloroaniline	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
Hexachlorobutadiene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2-Methylnaphthalene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
1-Methylnaphthalene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Hexachlorocyclopentadiene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2-Chloronaphthalene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2-Nitroaniline	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Dimethylphthalate	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Acenaphthylene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
3-Nitroaniline	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-20.0-082218**					
Laboratory ID:	08-272-04					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
Acenaphthene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
4-Nitrophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Dibenzofuran	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Diethylphthalate	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
4-Nitroaniline	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Fluorene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
4-Bromophenyl-phenylether	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Hexachlorobenzene	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Pentachlorophenol	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
Phenanthrene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Anthracene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Carbazole	**ND**	0.040	EPA 8270D	8-27-18	8-30-18	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
Fluoranthene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Benzidine	**ND**	0.40	EPA 8270D	8-27-18	8-30-18	
Pyrene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Butylbenzylphthalate	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
Benzo[a]anthracene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Chrysene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
Di-n-octylphthalate	**ND**	0.20	EPA 8270D	8-27-18	8-30-18	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[g,h,i]perylene	**ND**	0.0081	EPA 8270D/SIM	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*70*	*19 - 103*				
Phenol-d6	*71*	*30 - 103*				
Nitrobenzene-d5	*64*	*27 - 105*				
2-Fluorobiphenyl	*71*	*36 - 102*				
2,4,6-Tribromophenol	*80*	*33 - 110*				
Terphenyl-d14	*75*	*38 - 108*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-15.0-082218**					
Laboratory ID:	08-272-08					
n-Nitrosodimethylamine	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Pyridine	**ND**	0.45	EPA 8270D	8-27-18	8-30-18	
Phenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Aniline	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2-Chlorophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Benzyl alcohol	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Hexachloroethane	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Nitrobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Isophorone	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2-Nitrophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,4-Dimethylphenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Naphthalene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
4-Chloroaniline	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
Hexachlorobutadiene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2-Methylnaphthalene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
1-Methylnaphthalene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Hexachlorocyclopentadiene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2-Chloronaphthalene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2-Nitroaniline	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Dimethylphthalate	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Acenaphthylene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
3-Nitroaniline	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-15.0-082218**					
Laboratory ID:	08-272-08					
2,4-Dinitrophenol	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
Acenaphthene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
4-Nitrophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Dibenzofuran	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Diethylphthalate	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
4-Nitroaniline	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Fluorene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
4,6-Dinitro-2-methylphenol	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
4-Bromophenyl-phenylether	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Hexachlorobenzene	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Pentachlorophenol	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
Phenanthrene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Anthracene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Carbazole	**ND**	0.045	EPA 8270D	8-27-18	8-30-18	
Di-n-butylphthalate	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
Fluoranthene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Benzidine	**ND**	0.45	EPA 8270D	8-27-18	8-30-18	
Pyrene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Butylbenzylphthalate	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
Benzo[a]anthracene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Chrysene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
Di-n-octylphthalate	**ND**	0.22	EPA 8270D	8-27-18	8-30-18	
Benzo[b]fluoranthene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[a]pyrene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Dibenz[a,h]anthracene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[g,h,i]perylene	**ND**	0.0089	EPA 8270D/SIM	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*60*	*19 - 103*				
Phenol-d6	*61*	*30 - 103*				
Nitrobenzene-d5	*57*	*27 - 105*				
2-Fluorobiphenyl	*66*	*36 - 102*				
2,4,6-Tribromophenol	*78*	*33 - 110*				
Terphenyl-d14	*76*	*38 - 108*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0827S2					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Pyridine	**ND**	0.33	EPA 8270D	8-27-18	8-28-18	
Phenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Aniline	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Isophorone	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0827S2					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Carbazole	**ND**	0.033	EPA 8270D	8-27-18	8-28-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzidine	**ND**	0.33	EPA 8270D	8-27-18	8-28-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-27-18	8-28-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*79*	*19 - 103*				
Phenol-d6	*82*	*30 - 103*				
Nitrobenzene-d5	*78*	*27 - 105*				
2-Fluorobiphenyl	*83*	*36 - 102*				
2,4,6-Tribromophenol	*94*	*33 - 110*				
Terphenyl-d14	*84*	*38 - 108*				

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-245-02										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**1.14**	**1.11**	1.33	1.33	ND	86	83	37 - 94	3	27	
2-Chlorophenol	**1.15**	**1.12**	1.33	1.33	ND	86	84	37 - 95	3	32	
1,4-Dichlorobenzene	**0.550**	**0.554**	0.667	0.667	ND	82	83	23 - 97	1	37	
n-Nitroso-di-n-propylamine	**0.562**	**0.552**	0.667	0.667	ND	84	83	40 - 91	2	28	
1,2,4-Trichlorobenzene	**0.586**	**0.564**	0.667	0.667	ND	88	85	37 - 93	4	30	
4-Chloro-3-methylphenol	**1.15**	**1.11**	1.33	1.33	ND	86	83	46 - 96	4	25	
Acenaphthene	**0.581**	**0.573**	0.667	0.667	ND	87	86	43 - 90	1	25	
4-Nitrophenol	**1.15**	**1.18**	1.33	1.33	ND	86	89	31 - 104	3	28	
2,4-Dinitrotoluene	**0.607**	**0.576**	0.667	0.667	ND	91	86	31 - 96	5	32	
Pentachlorophenol	**1.34**	**1.36**	1.33	1.33	ND	101	102	20 - 123	1	29	
Pyrene	**0.590**	**0.590**	0.667	0.667	ND	88	88	28 - 114	0	35	
Surrogate:											
2-Fluorophenol						*80*	*81*	*19 - 103*			
Phenol-d6						*83*	*82*	*30 - 103*			
Nitrobenzene-d5						*74*	*73*	*27 - 105*			
2-Fluorobiphenyl						*78*	*79*	*36 - 102*			
2,4,6-Tribromophenol						*91*	*92*	*33 - 110*			
Terphenyl-d14						*80*	*80*	*38 - 108*			

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-05-35.0-082218**					
Laboratory ID:	08-272-12					
Arsenic	**ND**	12	EPA 6010D	8-28-18	8-30-18	
Barium	**58**	3.1	EPA 6010D	8-28-18	8-30-18	
Cadmium	**ND**	0.62	EPA 6010D	8-28-18	8-30-18	
Chromium	**38**	0.62	EPA 6010D	8-28-18	8-30-18	
Lead	**ND**	6.2	EPA 6010D	8-28-18	8-30-18	
Mercury	**ND**	0.31	EPA 7471B	8-27-18	8-27-18	
Selenium	**ND**	12	EPA 6010D	8-28-18	8-30-18	
Silver	**ND**	1.2	EPA 6010D	8-28-18	8-30-18	

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Samples Submitted: August 23, 2018
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Project: 397-019

TOTAL METALS
EPA 6010D/7471B
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0828SM1					
Arsenic	**ND**	10	EPA 6010D	8-28-18	8-30-18	
Cadmium	**ND**	0.50	EPA 6010D	8-28-18	8-30-18	
Chromium	**ND**	0.50	EPA 6010D	8-28-18	8-30-18	
Lead	**ND**	5.0	EPA 6010D	8-28-18	8-30-18	
Selenium	**ND**	10	EPA 6010D	8-28-18	8-30-18	
Silver	**ND**	1.0	EPA 6010D	8-28-18	8-30-18	
Laboratory ID:	MB0827S1					
Mercury	**ND**	0.25	EPA 7471B	8-27-18	8-27-18	
Laboratory ID:	MB0828SM3					
Barium	**ND**	2.5	EPA 6010D	8-28-18	8-30-18	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-245-01										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**35.3**	**42.0**	NA	NA		NA		NA	17	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Selenium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-245-05										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-245-01										
	ORIG	DUP									
Barium	**69.6**	**60.3**	NA	NA		NA		NA	14	20	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-245-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**95.8**	**96.1**	100	100	ND	**96**	**96**	75-125	0	20	
Cadmium	**46.4**	**47.9**	50.0	50.0	ND	**93**	**96**	75-125	3	20	
Chromium	**133**	**141**	100	100	35.3	**98**	**106**	75-125	6	20	
Lead	**243**	**250**	250	250	ND	**97**	**100**	75-125	3	20	
Selenium	**93.1**	**96.9**	100	100	ND	**93**	**97**	75-125	4	20	
Silver	**22.4**	**22.6**	25.0	25.0	ND	**90**	**90**	75-125	1	20	
Laboratory ID:	08-245-05										
Mercury	**0.529**	**0.523**	0.500	0.500	0.0116	**103**	**102**	80-120	1	20	
Laboratory ID:	08-245-01										
	MS	MSD	MS	MSD		MS	MSD				
Barium	**186**	**183**	100	100	69.6	**116**	**113**	75-125	2	20	

Date of Report: September 4, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-272
Project: 397-019

% MOISTURE

Date Analyzed: 8-24&27-18

Client ID	Lab ID	% Moisture
FB-06-2.5-082218	08-272-01	42
FB-06-20.0-082218	08-272-04	18
FB-05-5.0-082218	08-272-06	18
FB-05-15.0-082218	08-272-08	25
FB-05-20.0-082218	08-272-09	18
FB-05-35.0-082218	08-272-12	19

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 gas.

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

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

Z -

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

Chain of Custody

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

Company: FARALLON
Project Number: 397-019
Project Name: Block 38 West Property
Project Manager: Jovan Kvark
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)
☐ _____ (other)

Laboratory Number: 08-272

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	FB-06-2.5-082218	8/22/18	0610	Soil	5		X		X				X														X
2	FB-06-10.0-082218		0640																								
3	FB-06-15.0-082218		0655																								
4	FB-06-20.0-082218		0710				X		X				X														X
5	FB-06-25.0-082218		0730																								
6	FB-05-5.0-082218		0840				X		X																		X
7	FB-05-10.0-082218		0855																								
8	FB-05-15.0-082218		0910										X														X
9	FB-05-20.0-082218		0930				X		X		X																X
10	FB-05-25.0-082218	⇓	1110	⇓	⇓																						

	Signature	Company	Date	Time
Relinquished		Farallon	8/22/18	1850
Received		OSE	8/23/18	1417
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

~~Please contact Project Manager for Analyses and turnaround time for each sample~~ DB

X - Added 8/24/18: DR (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

Chain of Custody

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

Company:
Project Number:
Project Name:
Project Manager:
Sampled by:

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: 08-272

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-05-30.0-082218	8/22/18	1120	Soil	5																						
12	FB-05-35.0-082218	"	1130	Soil	5		X		X										X								X
13	FB-05-40.0-082218	"	1140	Soil	5																						
14	FB-05-082218	"	0950	Water	12		X		X		X																

	Signature	Company	Date	Time
Relinquished		towaller	8/22/18	1550
Received		OSE	8/23/18	1417
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

See Page 1.

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

September 7, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-272B

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on September 5, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 7, 2018
Samples Submitted: September 5, 2018
Laboratory Reference: 1808-272B
Project: 397-019

Case Narrative

Samples were collected on August 22, 2018 and received by the laboratory on August 23, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

Semivolatiles EPA 8270D/SIM Analysis

Per client request, sample FB-06-10.0-082218 was extracted and analyzed out of hold-time.

The Spike Blank Duplicate associated with sample FB-06-10.0-082218 had one recovery slightly above control limits. The sample was non-detect for this analyte so no further action was taken.

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: September 7, 2018
Samples Submitted: September 5, 2018
Laboratory Reference: 1808-272B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-10.0-082218**					
Laboratory ID:	08-272-02					
n-Nitrosodimethylamine	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Pyridine	**ND**	0.82	EPA 8270D	9-6-18	9-6-18	
Phenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Aniline	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
bis(2-Chloroethyl)ether	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2-Chlorophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
1,3-Dichlorobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
1,4-Dichlorobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Benzyl alcohol	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
1,2-Dichlorobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2-Methylphenol (o-Cresol)	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
bis(2-Chloroisopropyl)ether	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
n-Nitroso-di-n-propylamine	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Hexachloroethane	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Nitrobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Isophorone	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2-Nitrophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,4-Dimethylphenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
bis(2-Chloroethoxy)methane	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,4-Dichlorophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
1,2,4-Trichlorobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Naphthalene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
4-Chloroaniline	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
Hexachlorobutadiene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
4-Chloro-3-methylphenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2-Methylnaphthalene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
1-Methylnaphthalene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Hexachlorocyclopentadiene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,4,6-Trichlorophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,3-Dichloroaniline	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,4,5-Trichlorophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2-Chloronaphthalene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2-Nitroaniline	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
1,4-Dinitrobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Dimethylphthalate	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
1,3-Dinitrobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,6-Dinitrotoluene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
1,2-Dinitrobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Acenaphthylene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
3-Nitroaniline	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	

Date of Report: September 7, 2018
Samples Submitted: September 5, 2018
Laboratory Reference: 1808-272B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-06-10.0-082218**					
Laboratory ID:	08-272-02					
2,4-Dinitrophenol	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
Acenaphthene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
4-Nitrophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,4-Dinitrotoluene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Dibenzofuran	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Diethylphthalate	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
4-Chlorophenyl-phenylether	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
4-Nitroaniline	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Fluorene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
4,6-Dinitro-2-methylphenol	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
n-Nitrosodiphenylamine	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
1,2-Diphenylhydrazine	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
4-Bromophenyl-phenylether	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Hexachlorobenzene	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Pentachlorophenol	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
Phenanthrene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Anthracene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Carbazole	**ND**	0.082	EPA 8270D	9-6-18	9-6-18	
Di-n-butylphthalate	**ND**	0.93	EPA 8270D	9-6-18	9-6-18	U1
Fluoranthene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Benzidine	**ND**	0.82	EPA 8270D	9-6-18	9-6-18	
Pyrene	**0.020**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Butylbenzylphthalate	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
bis-2-Ethylhexyladipate	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
3,3'-Dichlorobenzidine	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
Benzo[a]anthracene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Chrysene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
Di-n-octylphthalate	**ND**	0.41	EPA 8270D	9-6-18	9-6-18	
Benzo[b]fluoranthene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Benzo(j,k)fluoranthene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Benzo[a]pyrene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Dibenz[a,h]anthracene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Benzo[g,h,i]perylene	**ND**	0.016	EPA 8270D/SIM	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*64*	*19 - 103*				
Phenol-d6	*79*	*30 - 103*				
Nitrobenzene-d5	*76*	*27 - 105*				
2-Fluorobiphenyl	*76*	*36 - 102*				
2,4,6-Tribromophenol	*86*	*33 - 110*				
Terphenyl-d14	*82*	*38 - 108*				

Date of Report: September 7, 2018
Samples Submitted: September 5, 2018
Laboratory Reference: 1808-272B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0906S2					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Pyridine	**ND**	0.33	EPA 8270D	9-6-18	9-6-18	
Phenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Aniline	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Isophorone	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	

Date of Report: September 7, 2018
Samples Submitted: September 5, 2018
Laboratory Reference: 1808-272B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0906S2					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Carbazole	**ND**	0.033	EPA 8270D	9-6-18	9-6-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Benzidine	**ND**	0.33	EPA 8270D	9-6-18	9-6-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	9-6-18	9-6-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*73*	*19 - 103*				
Phenol-d6	*83*	*30 - 103*				
Nitrobenzene-d5	*82*	*27 - 105*				
2-Fluorobiphenyl	*82*	*36 - 102*				
2,4,6-Tribromophenol	*86*	*33 - 110*				
Terphenyl-d14	*80*	*38 - 108*				

Date of Report: September 7, 2018
Samples Submitted: September 5, 2018
Laboratory Reference: 1808-272B
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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:	SB0906S2									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.940**	**0.997**	1.33	1.33	71	75	45 - 94	6	29	
2-Chlorophenol	**0.963**	**1.05**	1.33	1.33	72	79	46 - 94	9	33	
1,4-Dichlorobenzene	**0.405**	**0.493**	0.667	0.667	61	74	42 - 91	20	37	
n-Nitroso-di-n-propylamine	**0.495**	**0.576**	0.667	0.667	74	86	45 - 100	15	26	
1,2,4-Trichlorobenzene	**0.480**	**0.537**	0.667	0.667	72	81	45 - 100	11	32	
4-Chloro-3-methylphenol	**1.08**	**1.19**	1.33	1.33	81	89	55 - 97	10	21	
Acenaphthene	**0.531**	**0.589**	0.667	0.667	80	88	48 - 91	10	21	
4-Nitrophenol	**1.17**	**1.33**	1.33	1.33	88	100	53 - 102	13	20	
2,4-Dinitrotoluene	**0.534**	**0.606**	0.667	0.667	80	91	47 - 96	13	19	
Pentachlorophenol	**1.46**	**1.78**	1.33	1.33	110	134	35 - 125	20	26	I
Pyrene	**0.523**	**0.592**	0.667	0.667	78	89	55 - 110	12	17	
Surrogate:										
2-Fluorophenol					*68*	*70*	*19 - 103*			
Phenol-d6					*77*	*79*	*30 - 103*			
Nitrobenzene-d5					*80*	*76*	*27 - 105*			
2-Fluorobiphenyl					*79*	*85*	*36 - 102*			
2,4,6-Tribromophenol					*82*	*91*	*33 - 110*			
Terphenyl-d14					*76*	*85*	*38 - 108*			

Date of Report: September 7, 2018
Samples Submitted: September 5, 2018
Laboratory Reference: 1808-272B
Project: 397-019

% MOISTURE

Date Analyzed: 8-24,27&9-5-18

Client ID	Lab ID	% Moisture
FB-06-10.0-082218	08-272-02	59

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: 397-019
Project Name: Block 38 West Property
Project Manager: Javan Ruark
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)
☐ _____ (other)

Laboratory Number: 08-272

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	FB-06-2.5-082218	8/22/18	0610	Soil	5		X		X				X														X
2	FB-06-10.0-082218		0640										(X)														(X)
3	FB-06-15.0-082218		0655																							/	
4	FB-06-20.0-082218		0710				X		X				X														X
5	FB-06-25.0-082218		0730																								
6	FB-05-5.0-082218		0840				X		X																		X
7	FB-05-10.0-082218		0855																								
8	FB-05-15.0-082218		0910										X														X
9	FB-05-20.0-082218		0930				X		X		X																X
10	FB-05-25.0-082218	⇓	1110	⇓	⇓																						

	Signature	Company	Date	Time
Relinquished		farallon	8/22/18	1850
Received		OSE	8/23/18	1417
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

~~Please contact Project Manager for analyses and turnaround time for each sample~~ pb

X - Added 8/24/18. DR (STA)
(X) Added 9/5/18. PB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☒

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

Chain of Custody

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

Company:
Project Number:
Project Name:
Project Manager:
Sampled by:

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: 08-272

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-05-30.0-082218	8/22/18	1120	Soil	5																						
12	FB-05-35.0-082218	"	1130	Soil	5		X		X										X								X
13	FB-05-40.0-082218	"	1140	Soil	5																						
14	FB-05-082218	"	0950	Water	2		X		X		X																

	Signature	Company	Date	Time
Relinquished		Tawalla	8/22/18	1850
Received		OSE	8/23/18	1417
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

See Page 1.

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

September 6, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-277

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 24, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

Case Narrative

Samples were collected on August 23, 2018 and received by the laboratory on August 24, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

NWTPH Gx/BTEX Analysis

The MTCA Method A cleanup level of 0.030 ppm for Benzene is not achievable for sample FMW-134-5.0-082318 due to the low dry weight 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: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-5.0-082318**					
Laboratory ID:	08-277-01					
Benzene	**ND**	0.059	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.30	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.30	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.30	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.30	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	30	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*80*	*57-129*				
Client ID:	**FMW-134-15.0-082318**					
Laboratory ID:	08-277-03					
Benzene	**ND**	0.023	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.12	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.12	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.12	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.12	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	12	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*57-129*				
Client ID:	**FB-03-10.0-082318**					
Laboratory ID:	08-277-06					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	6.5	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*57-129*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-15.0-082318**					
Laboratory ID:	08-277-07					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.065	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	6.5	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*57-129*				
Client ID:	**FB-03-25.0-082318**					
Laboratory ID:	08-277-08					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.055	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.055	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.055	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.055	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	5.5	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*57-129*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0827S2					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	5.0	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*57-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-276-04										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*99*	*94*	*57-129*			
SPIKE BLANKS											
Laboratory ID:	SB0827S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.923**	**0.893**	1.00	1.00		**92**	**89**	69-111	3	10	
Toluene	**0.915**	**0.880**	1.00	1.00		**92**	**88**	70-114	4	11	
Ethyl Benzene	**0.918**	**0.886**	1.00	1.00		**92**	**89**	70-115	4	10	
m,p-Xylene	**0.907**	**0.877**	1.00	1.00		**91**	**88**	72-115	3	10	
o-Xylene	**0.917**	**0.882**	1.00	1.00		**92**	**88**	71-115	4	11	
Surrogate:											
Fluorobenzene						*89*	*86*	*57-129*			

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-082318**					
Laboratory ID:	08-277-12					
Benzene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
Toluene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
Ethyl Benzene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
m,p-Xylene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
o-Xylene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
Gasoline	**ND**	100	NWTPH-Gx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*66-117*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0828W1					
Benzene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
Toluene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
Ethyl Benzene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
m,p-Xylene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
o-Xylene	**ND**	1.0	EPA 8021B	8-28-18	8-28-18	
Gasoline	**ND**	100	NWTPH-Gx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*112*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-277-12										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*111*	*113*	*66-117*			
MATRIX SPIKES											
Laboratory ID:	08-277-12										
	MS	MSD	MS	MSD		MS	MSD				
Benzene	**50.9**	**52.1**	50.0	50.0	ND	**102**	**104**	82-122	2	11	
Toluene	**50.2**	**51.2**	50.0	50.0	ND	**100**	**102**	83-123	2	12	
Ethyl Benzene	**50.6**	**51.9**	50.0	50.0	ND	**101**	**104**	83-123	3	12	
m,p-Xylene	**50.1**	**51.2**	50.0	50.0	ND	**100**	**102**	83-123	2	12	
o-Xylene	**50.7**	**51.8**	50.0	50.0	ND	**101**	**104**	83-123	2	11	
Surrogate:											
Fluorobenzene						*100*	*100*	*66-117*			

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-5.0-082318**					
Laboratory ID:	08-277-01					
Diesel Range Organics	**260**	83	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**1900**	170	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*83*	*50-150*				
Client ID:	**FMW-134-15.0-082318**					
Laboratory ID:	08-277-03					
Diesel Range Organics	**ND**	31	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*124*	*50-150*				
Client ID:	**FB-03-10.0-082318**					
Laboratory ID:	08-277-06					
Diesel Range Organics	**ND**	32	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	65	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*75*	*50-150*				
Client ID:	**FB-03-15.0-082318**					
Laboratory ID:	08-277-07					
Diesel Range Organics	**ND**	32	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	65	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				
Client ID:	**FB-03-25.0-082318**					
Laboratory ID:	08-277-08					
Diesel Range Organics	**ND**	29	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	59	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*77*	*50-150*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0828S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-277-03										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*124*	*113*	*50-150*			

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-082318**					
Laboratory ID:	08-277-12					
Diesel Range Organics	**0.66**	0.25	NWTPH-Dx	8-28-18	8-30-18	
Lube Oil Range Organics	**0.49**	0.41	NWTPH-Dx	8-28-18	8-30-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0828W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*118*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	SB0828W1										
	ORIG	DUP									
Diesel Fuel #2	**0.920**	**0.849**	NA	NA		NA		NA	8	NA	
Lube Oil	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*103*	*106*	*50-150*			

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-082318**					
Laboratory ID:	08-277-12					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloromethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromomethane	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Chloroethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Acetone	7.4	5.0	EPA 8260C	8-29-18	8-29-18	
Iodomethane	ND	5.0	EPA 8260C	8-29-18	8-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	8-29-18	8-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Butanone	ND	5.0	EPA 8260C	8-29-18	8-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloroform	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Benzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Dibromomethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Toluene	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

VOLATILES EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-082318**					
Laboratory ID:	08-277-12					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Hexanone	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	8-29-18	8-29-18	
o-Xylene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Styrene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromoform	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Naphthalene	ND	1.3	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*96*	*80-127*				
4-Bromofluorobenzene	*106*	*78-125*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloromethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromomethane	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Chloroethane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Acetone	ND	5.0	EPA 8260C	8-29-18	8-29-18	
Iodomethane	ND	5.0	EPA 8260C	8-29-18	8-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	8-29-18	8-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Butanone	ND	5.0	EPA 8260C	8-29-18	8-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chloroform	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Benzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Dibromomethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Toluene	ND	1.0	EPA 8260C	8-29-18	8-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	8-29-18	8-29-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Hexanone	ND	2.0	EPA 8260C	8-29-18	8-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	8-29-18	8-29-18	
o-Xylene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Styrene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromoform	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Bromobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	8-29-18	8-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	8-29-18	8-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	8-29-18	8-29-18	
Naphthalene	ND	1.3	EPA 8260C	8-29-18	8-29-18	
1,2,3-Trichlorobenzene	ND	0.26	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*87*	*75-127*				
Toluene-d8	*88*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

VOLATILES 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:	SB0829W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.6**	**10.0**	10.0	10.0	106	100	62-129	6	15	
Benzene	**11.1**	**10.5**	10.0	10.0	111	105	77-127	6	15	
Trichloroethene	**10.7**	**9.96**	10.0	10.0	107	100	70-120	7	15	
Toluene	**11.1**	**10.5**	10.0	10.0	111	105	82-123	6	15	
Chlorobenzene	**10.5**	**9.70**	10.0	10.0	105	97	79-120	8	15	
Surrogate:										
Dibromofluoromethane					*85*	*89*	*75-127*			
Toluene-d8					*88*	*89*	*80-127*			
4-Bromofluorobenzene					*93*	*94*	*78-125*			

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-15.0-082318**					
Laboratory ID:	08-277-03					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Pyridine	**ND**	0.41	EPA 8270D	8-29-18	8-29-18	
Phenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Aniline	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2-Chlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Benzyl alcohol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Hexachloroethane	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Nitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Isophorone	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2-Nitrophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Naphthalene	**0.14**	0.041	EPA 8270D	8-29-18	8-29-18	
4-Chloroaniline	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2-Methylnaphthalene	**0.028**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**0.012**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2-Nitroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Dimethylphthalate	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Acenaphthylene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-15.0-082318**					
Laboratory ID:	08-277-03					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Acenaphthene	**0.014**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Dibenzofuran	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Diethylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
4-Nitroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Fluorene	**0.016**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Pentachlorophenol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Phenanthrene	**0.021**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.041	EPA 8270D	8-29-18	8-29-18	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Fluoranthene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.41	EPA 8270D	8-29-18	8-29-18	
Pyrene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
bis-2-Ethylhexyladipate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Benzo[a]anthracene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Di-n-octylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0081	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*71*	*19 - 103*				
Phenol-d6	*71*	*30 - 103*				
Nitrobenzene-d5	*65*	*27 - 105*				
2-Fluorobiphenyl	*70*	*36 - 102*				
2,4,6-Tribromophenol	*79*	*33 - 110*				
Terphenyl-d14	*69*	*38 - 108*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-10.0-082318**					
Laboratory ID:	08-277-06					
n-Nitrosodimethylamine	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Pyridine	**ND**	0.43	EPA 8270D	8-29-18	8-29-18	
Phenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Aniline	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethyl)ether	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2-Chlorophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
1,3-Dichlorobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
1,4-Dichlorobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Benzyl alcohol	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
1,2-Dichlorobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2-Methylphenol (o-Cresol)	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroisopropyl)ether	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
n-Nitroso-di-n-propylamine	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Hexachloroethane	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Nitrobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Isophorone	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2-Nitrophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,4-Dimethylphenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethoxy)methane	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,4-Dichlorophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Naphthalene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
4-Chloroaniline	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
Hexachlorobutadiene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
4-Chloro-3-methylphenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2-Methylnaphthalene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,4,6-Trichlorophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,3-Dichloroaniline	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,4,5-Trichlorophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2-Chloronaphthalene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2-Nitroaniline	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
1,4-Dinitrobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Dimethylphthalate	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
1,3-Dinitrobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,6-Dinitrotoluene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
1,2-Dinitrobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Acenaphthylene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-10.0-082318**					
Laboratory ID:	08-277-06					
2,4-Dinitrophenol	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
Acenaphthene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,4-Dinitrotoluene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Dibenzofuran	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Diethylphthalate	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
4-Chlorophenyl-phenylether	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
4-Nitroaniline	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Fluorene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
n-Nitrosodiphenylamine	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
1,2-Diphenylhydrazine	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
4-Bromophenyl-phenylether	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Hexachlorobenzene	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Pentachlorophenol	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
Phenanthrene	**0.015**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.043	EPA 8270D	8-29-18	8-29-18	
Di-n-butylphthalate	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
Fluoranthene	**0.011**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.43	EPA 8270D	8-29-18	8-29-18	
Pyrene	**0.012**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
bis-2-Ethylhexyladipate	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
3,3'-Dichlorobenzidine	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
Benzo[a]anthracene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
Di-n-octylphthalate	**ND**	0.22	EPA 8270D	8-29-18	8-29-18	
Benzo[b]fluoranthene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0086	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*60*	*19 - 103*				
Phenol-d6	*61*	*30 - 103*				
Nitrobenzene-d5	*52*	*27 - 105*				
2-Fluorobiphenyl	*54*	*36 - 102*				
2,4,6-Tribromophenol	*56*	*33 - 110*				
Terphenyl-d14	*52*	*38 - 108*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-35.0-082318**					
Laboratory ID:	08-277-10					
n-Nitrosodimethylamine	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Pyridine	**ND**	0.40	EPA 8270D	8-29-18	8-29-18	
Phenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Aniline	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethyl)ether	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2-Chlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
1,3-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
1,4-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Benzyl alcohol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
1,2-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2-Methylphenol (o-Cresol)	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroisopropyl)ether	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
n-Nitroso-di-n-propylamine	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Hexachloroethane	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Nitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Isophorone	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2-Nitrophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,4-Dimethylphenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethoxy)methane	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,4-Dichlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Naphthalene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
4-Chloroaniline	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Hexachlorobutadiene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
4-Chloro-3-methylphenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2-Methylnaphthalene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,4,6-Trichlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,3-Dichloroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,4,5-Trichlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2-Chloronaphthalene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2-Nitroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
1,4-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Dimethylphthalate	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
1,3-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,6-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
1,2-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Acenaphthylene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-35.0-082318**					
Laboratory ID:	08-277-10					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Acenaphthene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,4-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Dibenzofuran	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Diethylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
4-Chlorophenyl-phenylether	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
4-Nitroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Fluorene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
n-Nitrosodiphenylamine	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
1,2-Diphenylhydrazine	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
4-Bromophenyl-phenylether	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Hexachlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Pentachlorophenol	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Phenanthrene	**0.017**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.040	EPA 8270D	8-29-18	8-29-18	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Fluoranthene	**0.015**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.40	EPA 8270D	8-29-18	8-29-18	
Pyrene	**0.017**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
bis-2-Ethylhexyladipate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Benzo[a]anthracene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Di-n-octylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-29-18	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*75*	*19 - 103*				
Phenol-d6	*78*	*30 - 103*				
Nitrobenzene-d5	*69*	*27 - 105*				
2-Fluorobiphenyl	*73*	*36 - 102*				
2,4,6-Tribromophenol	*84*	*33 - 110*				
Terphenyl-d14	*75*	*38 - 108*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Pyridine	**ND**	0.33	EPA 8270D	8-29-18	8-29-18	
Phenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Aniline	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Isophorone	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.33	EPA 8270D	8-29-18	8-29-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*79*	*19 - 103*				
Phenol-d6	*79*	*30 - 103*				
Nitrobenzene-d5	*73*	*27 - 105*				
2-Fluorobiphenyl	*75*	*36 - 102*				
2,4,6-Tribromophenol	*88*	*33 - 110*				
Terphenyl-d14	*81*	*38 - 108*				

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-229-04										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**1.15**	**0.989**	1.33	1.33	ND	86	74	37 - 94	15	27	
2-Chlorophenol	**1.21**	**1.03**	1.33	1.33	ND	91	77	37 - 95	16	32	
1,4-Dichlorobenzene	**0.568**	**0.493**	0.667	0.667	ND	85	74	23 - 97	14	37	
n-Nitroso-di-n-propylamine	**0.580**	**0.501**	0.667	0.667	ND	87	75	40 - 91	15	28	
1,2,4-Trichlorobenzene	**0.563**	**0.505**	0.667	0.667	ND	84	76	37 - 93	11	30	
4-Chloro-3-methylphenol	**1.11**	**1.03**	1.33	1.33	ND	83	77	46 - 96	7	25	
Acenaphthene	**0.585**	**0.526**	0.667	0.667	0.0395	82	73	43 - 90	11	25	
4-Nitrophenol	**1.15**	**1.03**	1.33	1.33	ND	86	77	31 - 104	11	28	
2,4-Dinitrotoluene	**0.575**	**0.516**	0.667	0.667	ND	86	77	31 - 96	11	32	
Pentachlorophenol	**1.38**	**1.22**	1.33	1.33	ND	104	92	20 - 123	12	29	
Pyrene	**0.582**	**0.518**	0.667	0.667	0.0828	75	65	28 - 114	12	35	
Surrogate:											
2-Fluorophenol						*85*	*71*	*19 - 103*			
Phenol-d6						*84*	*73*	*30 - 103*			
Nitrobenzene-d5						*72*	*65*	*27 - 105*			
2-Fluorobiphenyl						*77*	*70*	*36 - 102*			
2,4,6-Tribromophenol						*92*	*84*	*33 - 110*			
Terphenyl-d14						*78*	*71*	*38 - 108*			

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-5.0-082318**					
Laboratory ID:	08-277-01					
Arsenic	**ND**	17	EPA 6010D	8-29-18	8-31-18	
Barium	**110**	8.3	EPA 6010D	8-29-18	8-31-18	
Cadmium	**ND**	1.7	EPA 6010D	8-29-18	8-31-18	
Chromium	**19**	1.7	EPA 6010D	8-29-18	8-31-18	
Lead	**ND**	17	EPA 6010D	8-29-18	8-31-18	
Mercury	**ND**	0.83	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	17	EPA 6010D	8-29-18	8-31-18	
Silver	**ND**	3.3	EPA 6010D	8-29-18	8-31-18	
Client ID:	**FMW-134-15.0-082318**					
Laboratory ID:	08-277-03					
Arsenic	**ND**	12	EPA 6010D	8-29-18	8-31-18	
Barium	**48**	3.0	EPA 6010D	8-29-18	8-31-18	
Cadmium	**ND**	0.61	EPA 6010D	8-29-18	8-31-18	
Chromium	**42**	0.61	EPA 6010D	8-29-18	8-31-18	
Lead	**ND**	6.1	EPA 6010D	8-29-18	8-31-18	
Mercury	**ND**	0.30	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	12	EPA 6010D	8-29-18	8-31-18	
Silver	**ND**	1.2	EPA 6010D	8-29-18	8-31-18	
Client ID:	**FB-03-10.0-082318**					
Laboratory ID:	08-277-06					
Arsenic	**ND**	13	EPA 6010D	8-29-18	8-31-18	
Barium	**230**	3.2	EPA 6010D	8-29-18	8-31-18	
Cadmium	**ND**	0.65	EPA 6010D	8-29-18	8-31-18	
Chromium	**100**	0.65	EPA 6010D	8-29-18	8-31-18	
Lead	**8.9**	6.5	EPA 6010D	8-29-18	8-31-18	
Mercury	**ND**	0.32	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	13	EPA 6010D	8-29-18	8-31-18	
Silver	**ND**	1.3	EPA 6010D	8-29-18	8-31-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FB-03-35.0-082318**					
Laboratory ID:	08-277-10					
Arsenic	**ND**	12	EPA 6010D	8-29-18	8-31-18	
Barium	**44**	3.0	EPA 6010D	8-29-18	8-31-18	
Cadmium	**ND**	0.60	EPA 6010D	8-29-18	8-31-18	
Chromium	**42**	0.60	EPA 6010D	8-29-18	8-31-18	
Lead	**ND**	6.0	EPA 6010D	8-29-18	8-31-18	
Mercury	**ND**	0.30	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	12	EPA 6010D	8-29-18	8-31-18	
Silver	**ND**	1.2	EPA 6010D	8-29-18	8-31-18	

Date of Report: September 6, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-277
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0829SM1					
Arsenic	**ND**	5.0	EPA 6010D	8-29-18	8-31-18	
Barium	**ND**	2.5	EPA 6010D	8-29-18	8-31-18	
Cadmium	**ND**	0.50	EPA 6010D	8-29-18	8-31-18	
Chromium	**ND**	0.50	EPA 6010D	8-29-18	8-31-18	
Lead	**ND**	5.0	EPA 6010D	8-29-18	8-31-18	
Selenium	**ND**	5.0	EPA 6010D	8-29-18	8-31-18	
Silver	**ND**	1.0	EPA 6010D	8-29-18	8-31-18	
Laboratory ID:	MB0829S1					
Mercury	**ND**	0.25	EPA 7471B	8-29-18	8-29-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-277-03										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Barium	**39.8**	**42.3**	NA	NA		NA		NA	6	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**34.5**	**36.2**	NA	NA		NA		NA	5	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Selenium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-277-03										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	08-277-03										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**98.9**	**98.4**	100	100	ND	**99**	**98**	75-125	0	20	
Barium	**148**	**148**	100	100	39.8	**109**	**109**	75-125	0	20	
Cadmium	**49.4**	**48.5**	50.0	50.0	ND	**99**	**97**	75-125	2	20	
Chromium	**137**	**136**	100	100	34.5	**102**	**102**	75-125	0	20	
Lead	**242**	**239**	250	250	ND	**97**	**96**	75-125	1	20	
Selenium	**100**	**101**	100	100	ND	**100**	**101**	75-125	0	20	
Silver	**22.9**	**22.7**	25.0	25.0	ND	**92**	**91**	75-125	1	20	
Laboratory ID:	08-277-03										
Mercury	**0.534**	**0.537**	0.500	0.500	0.0115	**105**	**105**	80-120	1	20	

Date of Report: September 6, 2018
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Laboratory Reference: 1808-277
Project: 397-019

% MOISTURE

Date Analyzed: 8-27&28-18

Client ID	Lab ID	% Moisture
FMW-134-5.0-082318	08-277-01	70
FMW-134-15.0-082318	08-277-03	18
FB-03-10.0-082318	08-277-06	23
FB-03-15.0-082318	08-277-07	23
FB-03-25.0-082318	08-277-08	15
FB-03-35.0-082318	08-277-10	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: 397-019
Project Name: Block 38 West Property
Project Manager: Jason Quark
Sampled by:

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: 08-277

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-134-5.0-082318	8/23/18	0710	Soil	5		X		X										X								X
2	FMW-134-10.0-082318		0720		5																						
3	FMW-134-15.0-082318		0730				X		X				X						X								X
4	FMW-134-20.0-082318		0750																								
5	FB03-5.0-082318		1250																								
6	FB-03-10.0-082318		1310				X		X				X						X								X
7	FB-03-15.0-082318		1325				X		X																		X
8	FB-03-25.0-082318		1500				X		X																		X
9	FB-03-30.0-082318		1520																								
10	FB-03-35.0-082318		1530										X						X								X

	Signature	Company	Date	Time
Relinquished		Farallon	8/23/18	1857
Received		CSE	8/24/18	1100
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please Contact Project Manager for Sample analyses and turnaround time. Confirmations to
X - Added 8/27/18. DB (CSTA)

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

Chain of Custody

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

Company:
Project Number:
Project Name:
Project Manager:
Sampled by:

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: 08-277

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-03-40.0-082318	8/23/18	1540	Soil	5			~~X~~ ND																		
12	FB-03-082318	8/23/18	1400	Water	8		X	~~X~~ ND	X	X	~~X~~ ND																
13	FMW-134-2.5-082318	8/23/18	0700	Soil	5			~~X~~ ND																			

	Signature	Company	Date	Time
Relinquished				
Received		CORE	8/24/18	1100
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

See Page 1.

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

September 5, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-292

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 25, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

Case Narrative

Samples were collected on August 24, 2018 and received by the laboratory on August 25, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

NWTPH Gx/BTEX Analysis

The MTCA Method A cleanup level of 0.030 ppm for Benzene is not achievable for sample FMW-135-15.0-082418 due to the low dry weight 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: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-15.0-082418**					
Laboratory ID:	08-292-02					
Benzene	**ND**	0.055	EPA 8021B	8-27-18	8-28-18	
Toluene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
Ethyl Benzene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
m,p-Xylene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
o-Xylene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
Gasoline	**ND**	28	NWTPH-Gx	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*109*	*57-129*				
Client ID:	**FMW-135-35.0-082418**					
Laboratory ID:	08-292-06					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-28-18	
Toluene	**ND**	0.058	EPA 8021B	8-27-18	8-28-18	
Ethyl Benzene	**ND**	0.058	EPA 8021B	8-27-18	8-28-18	
m,p-Xylene	**ND**	0.058	EPA 8021B	8-27-18	8-28-18	
o-Xylene	**ND**	0.058	EPA 8021B	8-27-18	8-28-18	
Gasoline	**ND**	5.8	NWTPH-Gx	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*80*	*57-129*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0827S1					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	5.0	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*57-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-276-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*104*	*103*	*57-129*			
SPIKE BLANKS											
Laboratory ID:	SB0827S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.923**	**0.893**	1.00	1.00		**92**	**89**	69-111	3	10	
Toluene	**0.915**	**0.880**	1.00	1.00		**92**	**88**	70-114	4	11	
Ethyl Benzene	**0.918**	**0.886**	1.00	1.00		**92**	**89**	70-115	4	10	
m,p-Xylene	**0.907**	**0.877**	1.00	1.00		**91**	**88**	72-115	3	10	
o-Xylene	**0.917**	**0.882**	1.00	1.00		**92**	**88**	71-115	4	11	
Surrogate:											
Fluorobenzene						*89*	*86*	*57-129*			

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-15.0-082418**					
Laboratory ID:	08-292-02					
Diesel Range Organics	**130**	83	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**680**	170	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*78*	*50-150*				
Client ID:	**FMW-135-35.0-082418**					
Laboratory ID:	08-292-06					
Diesel Range Organics	**ND**	31	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0828S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	08-277-03								
	ORIG	DUP							
Diesel Range	**ND**	**ND**	NA	NA	NA	NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA	NA	NA	NA	NA	
Surrogate:									
o-Terphenyl					*124* *113*	*50-150*			

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

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-135-50.0-082418**					
Laboratory ID:	08-292-09					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	8-28-18	8-29-18	
Chloromethane	ND	0.0037	EPA 8260C	8-28-18	8-29-18	
Vinyl Chloride	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Bromomethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Chloroethane	ND	0.0037	EPA 8260C	8-28-18	8-29-18	
Trichlorofluoromethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,1-Dichloroethene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Iodomethane	ND	0.0053	EPA 8260C	8-28-18	8-29-18	
Methylene Chloride	ND	0.0037	EPA 8260C	8-28-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,1-Dichloroethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
2,2-Dichloropropane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Bromochloromethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Chloroform	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,1,1-Trichloroethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Carbon Tetrachloride	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,1-Dichloropropene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,2-Dichloroethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Trichloroethene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,2-Dichloropropane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Dibromomethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Bromodichloromethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
2-Chloroethyl Vinyl Ether	ND	0.0037	EPA 8260C	8-28-18	8-29-18	
(cis) 1,3-Dichloropropene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
(trans) 1,3-Dichloropropene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-50.0-082418**					
Laboratory ID:	08-292-09					
1,1,2-Trichloroethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Tetrachloroethene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,3-Dichloropropane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Dibromochloromethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,2-Dibromoethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Chlorobenzene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,1,1,2-Tetrachloroethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Bromoform	ND	0.0037	EPA 8260C	8-28-18	8-29-18	
Bromobenzene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,1,2,2-Tetrachloroethane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,2,3-Trichloropropane	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
2-Chlorotoluene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
4-Chlorotoluene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,3-Dichlorobenzene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,4-Dichlorobenzene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,2-Dichlorobenzene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
1,2-Dibromo-3-chloropropane	ND	0.0037	EPA 8260C	8-28-18	8-29-18	
1,2,4-Trichlorobenzene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Hexachlorobutadiene	ND	0.0037	EPA 8260C	8-28-18	8-29-18	
1,2,3-Trichlorobenzene	ND	0.00074	EPA 8260C	8-28-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-139*				
Toluene-d8	*100*	*79-128*				
4-Bromofluorobenzene	*102*	*71-132*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

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:	MB0828S2					
Dichlorodifluoromethane	ND	0.0015	EPA 8260C	8-28-18	8-28-18	
Chloromethane	ND	0.0050	EPA 8260C	8-28-18	8-28-18	
Vinyl Chloride	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Bromomethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Chloroethane	ND	0.0050	EPA 8260C	8-28-18	8-28-18	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Iodomethane	ND	0.0065	EPA 8260C	8-28-18	8-28-18	
Methylene Chloride	ND	0.0050	EPA 8260C	8-28-18	8-28-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Bromochloromethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Chloroform	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Dibromomethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Bromodichloromethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
2-Chloroethyl Vinyl Ether	ND	0.0074	EPA 8260C	8-28-18	8-28-18	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

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

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0828S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Dibromochloromethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Chlorobenzene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Bromoform	ND	0.0050	EPA 8260C	8-28-18	8-28-18	
Bromobenzene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
2-Chlorotoluene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
4-Chlorotoluene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	8-28-18	8-28-18	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	8-28-18	8-28-18	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*106*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

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:	SB0828S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0608**	**0.0586**	0.0500	0.0500	122	117	53-141	4	17	
Benzene	**0.0636**	**0.0600**	0.0500	0.0500	127	120	70-130	6	15	
Trichloroethene	**0.0588**	**0.0580**	0.0500	0.0500	118	116	74-122	1	16	
Toluene	**0.0628**	**0.0621**	0.0500	0.0500	126	124	76-130	1	15	
Chlorobenzene	**0.0559**	**0.0532**	0.0500	0.0500	112	106	75-120	5	14	
Surrogate:										
Dibromofluoromethane					*99*	*99*	*68-139*			
Toluene-d8					*108*	*107*	*79-128*			
4-Bromofluorobenzene					*108*	*109*	*71-132*			

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-15.0-082418**					
Laboratory ID:	08-292-02					
n-Nitrosodimethylamine	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Pyridine	**ND**	1.1	EPA 8270D	8-29-18	8-30-18	
Phenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Aniline	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2-Chlorophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Benzyl alcohol	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Hexachloroethane	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Nitrobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Isophorone	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2-Nitrophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,4-Dimethylphenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Naphthalene	**0.029**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
4-Chloroaniline	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
Hexachlorobutadiene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2-Methylnaphthalene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
1-Methylnaphthalene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Hexachlorocyclopentadiene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2-Chloronaphthalene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2-Nitroaniline	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Dimethylphthalate	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Acenaphthylene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
3-Nitroaniline	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-15.0-082418**					
Laboratory ID:	08-292-02					
2,4-Dinitrophenol	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
Acenaphthene	**0.039**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
4-Nitrophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Dibenzofuran	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Diethylphthalate	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
4-Nitroaniline	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Fluorene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
4,6-Dinitro-2-methylphenol	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
4-Bromophenyl-phenylether	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Hexachlorobenzene	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Pentachlorophenol	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
Phenanthrene	**0.068**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Anthracene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Carbazole	**ND**	0.11	EPA 8270D	8-29-18	8-30-18	
Di-n-butylphthalate	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
Fluoranthene	**0.042**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Benzidine	**ND**	1.1	EPA 8270D	8-29-18	8-30-18	
Pyrene	**0.073**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Butylbenzylphthalate	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
Benzo[a]anthracene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Chrysene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
Di-n-octylphthalate	**ND**	0.56	EPA 8270D	8-29-18	8-30-18	
Benzo[b]fluoranthene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Benzo(j,k)fluoranthene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Benzo[a]pyrene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Dibenz[a,h]anthracene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Benzo[g,h,i]perylene	**ND**	0.022	EPA 8270D/SIM	8-29-18	8-31-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*58*	*19 - 103*				
Phenol-d6	*60*	*30 - 103*				
Nitrobenzene-d5	*59*	*27 - 105*				
2-Fluorobiphenyl	*65*	*36 - 102*				
2,4,6-Tribromophenol	*76*	*33 - 110*				
Terphenyl-d14	*71*	*38 - 108*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-30.0-082418**					
Laboratory ID:	08-292-05					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Pyridine	**ND**	0.41	EPA 8270D	8-29-18	8-30-18	
Phenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Aniline	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2-Chlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Benzyl alcohol	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Hexachloroethane	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Nitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Isophorone	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2-Nitrophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Naphthalene	**0.12**	0.041	EPA 8270D	8-29-18	8-30-18	
4-Chloroaniline	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**0.012**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2-Nitroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Dimethylphthalate	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Acenaphthylene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-30.0-082418**					
Laboratory ID:	08-292-05					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
Acenaphthene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Dibenzofuran	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Diethylphthalate	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
4-Nitroaniline	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Fluorene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Pentachlorophenol	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
Phenanthrene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.041	EPA 8270D	8-29-18	8-30-18	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
Fluoranthene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.41	EPA 8270D	8-29-18	8-30-18	
Pyrene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
Di-n-octylphthalate	**ND**	0.21	EPA 8270D	8-29-18	8-30-18	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0082	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*73*	*19 - 103*				
Phenol-d6	*72*	*30 - 103*				
Nitrobenzene-d5	*64*	*27 - 105*				
2-Fluorobiphenyl	*71*	*36 - 102*				
2,4,6-Tribromophenol	*80*	*33 - 110*				
Terphenyl-d14	*78*	*38 - 108*				

Date of Report: September 5, 2018
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Laboratory Reference: 1808-292
Project: 397-019

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Pyridine	**ND**	0.33	EPA 8270D	8-29-18	8-29-18	
Phenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Aniline	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Isophorone	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.33	EPA 8270D	8-29-18	8-29-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*79*	*19 - 103*				
Phenol-d6	*79*	*30 - 103*				
Nitrobenzene-d5	*73*	*27 - 105*				
2-Fluorobiphenyl	*75*	*36 - 102*				
2,4,6-Tribromophenol	*88*	*33 - 110*				
Terphenyl-d14	*81*	*38 - 108*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-229-04										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**1.15**	**0.989**	1.33	1.33	ND	86	74	37 - 94	15	27	
2-Chlorophenol	**1.21**	**1.03**	1.33	1.33	ND	91	77	37 - 95	16	32	
1,4-Dichlorobenzene	**0.568**	**0.493**	0.667	0.667	ND	85	74	23 - 97	14	37	
n-Nitroso-di-n-propylamine	**0.580**	**0.501**	0.667	0.667	ND	87	75	40 - 91	15	28	
1,2,4-Trichlorobenzene	**0.563**	**0.505**	0.667	0.667	ND	84	76	37 - 93	11	30	
4-Chloro-3-methylphenol	**1.11**	**1.03**	1.33	1.33	ND	83	77	46 - 96	7	25	
Acenaphthene	**0.585**	**0.526**	0.667	0.667	0.0395	82	73	43 - 90	11	25	
4-Nitrophenol	**1.15**	**1.03**	1.33	1.33	ND	86	77	31 - 104	11	28	
2,4-Dinitrotoluene	**0.575**	**0.516**	0.667	0.667	ND	86	77	31 - 96	11	32	
Pentachlorophenol	**1.38**	**1.22**	1.33	1.33	ND	104	92	20 - 123	12	29	
Pyrene	**0.582**	**0.518**	0.667	0.667	0.0828	75	65	28 - 114	12	35	
Surrogate:											
2-Fluorophenol						*85*	*71*	*19 - 103*			
Phenol-d6						*84*	*73*	*30 - 103*			
Nitrobenzene-d5						*72*	*65*	*27 - 105*			
2-Fluorobiphenyl						*77*	*70*	*36 - 102*			
2,4,6-Tribromophenol						*92*	*84*	*33 - 110*			
Terphenyl-d14						*78*	*71*	*38 - 108*			

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-5.0-082418**					
Laboratory ID:	08-292-01					
Arsenic	**ND**	12	EPA 6010D	8-28-18	8-31-18	
Barium	**120**	3.1	EPA 6010D	8-28-18	8-31-18	
Cadmium	**ND**	0.61	EPA 6010D	8-28-18	8-31-18	
Chromium	**48**	0.61	EPA 6010D	8-28-18	8-31-18	
Lead	**16**	6.1	EPA 6010D	8-28-18	8-31-18	
Mercury	**ND**	0.31	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	12	EPA 6010D	8-28-18	8-31-18	
Silver	**ND**	1.2	EPA 6010D	8-28-18	8-31-18	
Client ID:	**FMW-135-25.0-082418**					
Laboratory ID:	08-292-04					
Arsenic	**ND**	14	EPA 6010D	8-28-18	8-31-18	
Barium	**120**	3.5	EPA 6010D	8-28-18	8-31-18	
Cadmium	**ND**	0.69	EPA 6010D	8-28-18	8-31-18	
Chromium	**60**	0.69	EPA 6010D	8-28-18	8-31-18	
Lead	**ND**	6.9	EPA 6010D	8-28-18	8-31-18	
Mercury	**ND**	0.35	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	14	EPA 6010D	8-28-18	8-31-18	
Silver	**ND**	1.4	EPA 6010D	8-28-18	8-31-18	
Client ID:	**FMW-135-30.0-082418**					
Laboratory ID:	08-292-05					
Arsenic	**ND**	12	EPA 6010D	8-28-18	8-31-18	
Barium	**66**	3.1	EPA 6010D	8-28-18	8-31-18	
Cadmium	**ND**	0.62	EPA 6010D	8-28-18	8-31-18	
Chromium	**44**	0.62	EPA 6010D	8-28-18	8-31-18	
Lead	**ND**	6.2	EPA 6010D	8-28-18	8-31-18	
Mercury	**ND**	0.31	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	12	EPA 6010D	8-28-18	8-31-18	
Silver	**ND**	1.2	EPA 6010D	8-28-18	8-31-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0828SM2					
Arsenic	**ND**	10	EPA 6010D	8-28-18	8-29-18	
Barium	**ND**	2.5	EPA 6010D	8-28-18	8-29-18	
Cadmium	**ND**	0.50	EPA 6010D	8-28-18	8-29-18	
Chromium	**ND**	0.50	EPA 6010D	8-28-18	8-28-18	
Lead	**ND**	5.0	EPA 6010D	8-28-18	8-29-18	
Selenium	**ND**	10	EPA 6010D	8-28-18	8-29-18	
Silver	**ND**	1.0	EPA 6010D	8-28-18	8-29-18	
Laboratory ID:	MB0829S1					
Mercury	**ND**	0.25	EPA 7471B	8-29-18	8-29-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-265-16										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Barium	**22.1**	**19.5**	NA	NA		NA		NA	13	20	
Cadmium	**25.2**	**23.2**	NA	NA		NA		NA	8	20	
Chromium	**8.95**	**7.40**	NA	NA		NA		NA	19	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Selenium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-277-03										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	08-265-16										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**111**	**112**	100	100	ND	**111**	**112**	75-125	1	20	
Barium	**141**	**139**	100	100	22.1	**119**	**117**	75-125	1	20	
Cadmium	**75.1**	**75.9**	50.0	50.0	25.2	**100**	**101**	75-125	1	20	
Chromium	**109**	**108**	100	100	8.95	**100**	**99**	75-125	1	20	
Lead	**237**	**239**	250	250	ND	**95**	**95**	75-125	1	20	
Selenium	**104**	**101**	100	100	ND	**104**	**101**	75-125	2	20	
Silver	**25.6**	**25.4**	25.0	25.0	ND	**102**	**102**	75-125	1	20	
Laboratory ID:	08-277-03										
Mercury	**0.534**	**0.537**	0.500	0.500	0.0115	**105**	**105**	80-120	1	20	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-292
Project: 397-019

% MOISTURE

Date Analyzed: 8-27&28-18

Client ID	Lab ID	% Moisture
FMW-135-5.0-082418	08-292-01	18
FMW-135-15.0-082418	08-292-02	70
FMW-135-25.0-082418	08-292-04	28
FMW-135-30.0-082418	08-292-05	19
FMW-135-35.0-082418	08-292-06	19
FMW-135-50.0-082418	08-292-09	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

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: 397-019
Project Name: Block 38 West Property
Project Manager: Javan Rhoads
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)
☐ _____ (other)

Laboratory Number: 08-292

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-135-5.0-082418	8/24/18	0735	Soil	5														X								X
2	FMW-135-15.0-082418		0750				X		X				X														X
3	FMW-135-20.0-082418		0810																								
4	FMW-135-25.0-082418		0823																X								X
5	FMW-135-30.0-082418		0835										X						X								X
6	FMW-135-35.0-082418		0850				X		X																		X
7	FMW-135-40.0-082418		0915																								
8	FMW-135-45.0-082418		0930																								
9	FMW-135-50.0-082418		0950								X																X

	Signature	Company	Date	Time
Relinquished		Farallon	8/24/18	0840
Received		OnSite Env	8/25/18	840
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
~~Please Contact Project manager for Analyses and turnaround time confirmation~~
X-Added 8/27/18. DB (STA)

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

September 5, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-293

Dear Javan:

Enclosed are the analytical results and associated quality control data for samples submitted on August 25, 2018.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

Case Narrative

Samples were collected on August 24, 2018 and received by the laboratory on August 25, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

Semivolatiles EPA 8270D/SIM Analysis

Sample FMW-133-20.0-082418 had one surrogate recovery out of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

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: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-132-5.0-082418**					
Laboratory ID:	08-293-02					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-28-18	
Toluene	**ND**	0.084	EPA 8021B	8-27-18	8-28-18	
Ethyl Benzene	**ND**	0.084	EPA 8021B	8-27-18	8-28-18	
m,p-Xylene	**ND**	0.084	EPA 8021B	8-27-18	8-28-18	
o-Xylene	**ND**	0.084	EPA 8021B	8-27-18	8-28-18	
Gasoline	**ND**	8.4	NWTPH-Gx	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*77*	*57-129*				
Client ID:	**FMW-133-10.0-082418**					
Laboratory ID:	08-293-03					
Benzene	**ND**	0.057	EPA 8021B	8-27-18	8-28-18	
Toluene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
Ethyl Benzene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
m,p-Xylene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
o-Xylene	**ND**	0.28	EPA 8021B	8-27-18	8-28-18	
Gasoline	**ND**	28	NWTPH-Gx	8-27-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*80*	*57-129*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0827S1					
Benzene	**ND**	0.020	EPA 8021B	8-27-18	8-27-18	
Toluene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
o-Xylene	**ND**	0.050	EPA 8021B	8-27-18	8-27-18	
Gasoline	**ND**	5.0	NWTPH-Gx	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*57-129*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-276-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*104*	*103*	*57-129*			
SPIKE BLANKS											
Laboratory ID:	SB0827S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.923**	**0.893**	1.00	1.00		**92**	**89**	69-111	3	10	
Toluene	**0.915**	**0.880**	1.00	1.00		**92**	**88**	70-114	4	11	
Ethyl Benzene	**0.918**	**0.886**	1.00	1.00		**92**	**89**	70-115	4	10	
m,p-Xylene	**0.907**	**0.877**	1.00	1.00		**91**	**88**	72-115	3	10	
o-Xylene	**0.917**	**0.882**	1.00	1.00		**92**	**88**	71-115	4	11	
Surrogate:											
Fluorobenzene						*89*	*86*	*57-129*			

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-132-5.0-082418**					
Laboratory ID:	08-293-02					
Diesel Range Organics	**730**	180	NWTPH-Dx	8-28-18	8-30-18	
Lube Oil Range Organics	**2600**	360	NWTPH-Dx	8-28-18	8-30-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**FMW-133-10.0-082418**					
Laboratory ID:	08-293-03					
Diesel Range Organics	**ND**	83	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**470**	170	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0828S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	8-28-18	8-28-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-277-03										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*124*	*113*	*50-150*			

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-132-5.0-082418**					
Laboratory ID:	08-293-02					
n-Nitrosodimethylamine	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Pyridine	**ND**	4.8	EPA 8270D	8-29-18	8-31-18	
Phenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Aniline	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
bis(2-Chloroethyl)ether	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2-Chlorophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
1,3-Dichlorobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
1,4-Dichlorobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Benzyl alcohol	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
1,2-Dichlorobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2-Methylphenol (o-Cresol)	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
bis(2-Chloroisopropyl)ether	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
n-Nitroso-di-n-propylamine	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Hexachloroethane	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Nitrobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Isophorone	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2-Nitrophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,4-Dimethylphenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
bis(2-Chloroethoxy)methane	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,4-Dichlorophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
1,2,4-Trichlorobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Naphthalene	**2.0**	0.48	EPA 8270D	8-29-18	8-31-18	
4-Chloroaniline	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
Hexachlorobutadiene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
4-Chloro-3-methylphenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2-Methylnaphthalene	**2.6**	0.48	EPA 8270D	8-29-18	8-31-18	
1-Methylnaphthalene	**2.0**	0.48	EPA 8270D	8-29-18	8-31-18	
Hexachlorocyclopentadiene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,4,6-Trichlorophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,3-Dichloroaniline	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,4,5-Trichlorophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2-Chloronaphthalene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2-Nitroaniline	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
1,4-Dinitrobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Dimethylphthalate	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
1,3-Dinitrobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,6-Dinitrotoluene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
1,2-Dinitrobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Acenaphthylene	**0.10**	0.0095	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-132-5.0-082418**					
Laboratory ID:	08-293-02					
2,4-Dinitrophenol	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
Acenaphthene	**1.5**	0.48	EPA 8270D	8-29-18	8-31-18	
4-Nitrophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,4-Dinitrotoluene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Dibenzofuran	**0.70**	0.48	EPA 8270D	8-29-18	8-31-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Diethylphthalate	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
4-Chlorophenyl-phenylether	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
4-Nitroaniline	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Fluorene	**0.84**	0.48	EPA 8270D	8-29-18	8-31-18	
4,6-Dinitro-2-methylphenol	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
n-Nitrosodiphenylamine	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
1,2-Diphenylhydrazine	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
4-Bromophenyl-phenylether	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Hexachlorobenzene	**ND**	0.48	EPA 8270D	8-29-18	8-31-18	
Pentachlorophenol	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
Phenanthrene	**18**	0.48	EPA 8270D	8-29-18	8-31-18	
Anthracene	**3.3**	0.48	EPA 8270D	8-29-18	8-31-18	
Carbazole	**1.1**	0.48	EPA 8270D	8-29-18	8-31-18	
Di-n-butylphthalate	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
Fluoranthene	**15**	0.48	EPA 8270D	8-29-18	8-31-18	
Benzidine	**ND**	4.8	EPA 8270D	8-29-18	8-31-18	
Pyrene	**27**	0.48	EPA 8270D	8-29-18	8-31-18	
Butylbenzylphthalate	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
bis-2-Ethylhexyladipate	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
3,3'-Dichlorobenzidine	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
Benzo[a]anthracene	**11**	0.48	EPA 8270D	8-29-18	8-31-18	
Chrysene	**13**	0.48	EPA 8270D	8-29-18	8-31-18	
bis(2-Ethylhexyl)phthalate	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
Di-n-octylphthalate	**ND**	2.4	EPA 8270D	8-29-18	8-31-18	
Benzo[b]fluoranthene	**10**	0.48	EPA 8270D	8-29-18	8-31-18	
Benzo(j,k)fluoranthene	**2.9**	0.48	EPA 8270D	8-29-18	8-31-18	
Benzo[a]pyrene	**9.4**	0.48	EPA 8270D	8-29-18	8-31-18	
Indeno[1,2,3-cd]pyrene	**4.1**	0.48	EPA 8270D	8-29-18	8-31-18	
Dibenz[a,h]anthracene	**1.4**	0.48	EPA 8270D	8-29-18	8-31-18	
Benzo[g,h,i]perylene	**4.4**	0.48	EPA 8270D	8-29-18	8-31-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*54*	*19 - 103*				
Phenol-d6	*53*	*30 - 103*				
Nitrobenzene-d5	*67*	*27 - 105*				
2-Fluorobiphenyl	*77*	*36 - 102*				
2,4,6-Tribromophenol	*72*	*33 - 110*				
Terphenyl-d14	*75*	*38 - 108*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-10.0-082418**					
Laboratory ID:	08-293-03					
n-Nitrosodimethylamine	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Pyridine	**ND**	2.8	EPA 8270D	8-29-18	8-30-18	
Phenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Aniline	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2-Chlorophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Benzyl alcohol	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Hexachloroethane	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Nitrobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Isophorone	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2-Nitrophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,4-Dimethylphenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Naphthalene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
4-Chloroaniline	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
Hexachlorobutadiene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2-Methylnaphthalene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2-Chloronaphthalene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2-Nitroaniline	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Dimethylphthalate	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Acenaphthylene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-10.0-082418**					
Laboratory ID:	08-293-03					
2,4-Dinitrophenol	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
Acenaphthene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Dibenzofuran	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Diethylphthalate	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
4-Nitroaniline	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Fluorene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
4-Bromophenyl-phenylether	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Hexachlorobenzene	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Pentachlorophenol	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
Phenanthrene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.28	EPA 8270D	8-29-18	8-30-18	
Di-n-butylphthalate	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
Fluoranthene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	2.8	EPA 8270D	8-29-18	8-30-18	
Pyrene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
Benzo[a]anthracene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
Di-n-octylphthalate	**ND**	1.4	EPA 8270D	8-29-18	8-30-18	
Benzo[b]fluoranthene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.055	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*57*	*19 - 103*				
Phenol-d6	*61*	*30 - 103*				
Nitrobenzene-d5	*52*	*27 - 105*				
2-Fluorobiphenyl	*59*	*36 - 102*				
2,4,6-Tribromophenol	*73*	*33 - 110*				
Terphenyl-d14	*65*	*38 - 108*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-20.0-082418**					
Laboratory ID:	08-293-05					
n-Nitrosodimethylamine	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Pyridine	**ND**	0.40	EPA 8270D	8-29-18	8-30-18	
Phenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Aniline	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethyl)ether	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2-Chlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
1,3-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
1,4-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Benzyl alcohol	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
1,2-Dichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2-Methylphenol (o-Cresol)	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroisopropyl)ether	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
n-Nitroso-di-n-propylamine	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Hexachloroethane	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Nitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Isophorone	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2-Nitrophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,4-Dimethylphenol	**0.091**	0.040	EPA 8270D	8-29-18	8-30-18	
bis(2-Chloroethoxy)methane	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,4-Dichlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
1,2,4-Trichlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Naphthalene	**0.25**	0.040	EPA 8270D	8-29-18	8-30-18	
4-Chloroaniline	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
Hexachlorobutadiene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
4-Chloro-3-methylphenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2-Methylnaphthalene	**0.042**	0.040	EPA 8270D	8-29-18	8-30-18	
1-Methylnaphthalene	**0.035**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,4,6-Trichlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,3-Dichloroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,4,5-Trichlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2-Chloronaphthalene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2-Nitroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
1,4-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Dimethylphthalate	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
1,3-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,6-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
1,2-Dinitrobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Acenaphthylene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-20.0-082418**					
Laboratory ID:	08-293-05					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
Acenaphthene	**0.021**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,4-Dinitrotoluene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Dibenzofuran	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Diethylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
4-Chlorophenyl-phenylether	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
4-Nitroaniline	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Fluorene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
n-Nitrosodiphenylamine	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
1,2-Diphenylhydrazine	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
4-Bromophenyl-phenylether	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Hexachlorobenzene	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Pentachlorophenol	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
Phenanthrene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.040	EPA 8270D	8-29-18	8-30-18	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
Fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.40	EPA 8270D	8-29-18	8-30-18	
Pyrene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
bis-2-Ethylhexyladipate	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
Benzo[a]anthracene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
Di-n-octylphthalate	**ND**	0.20	EPA 8270D	8-29-18	8-30-18	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0080	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*51*	*19 - 103*				
Phenol-d6	*70*	*30 - 103*				
Nitrobenzene-d5	*66*	*27 - 105*				
2-Fluorobiphenyl	*72*	*36 - 102*				
2,4,6-Tribromophenol	*27*	*33 - 110*				Q
Terphenyl-d14	*74*	*38 - 108*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Pyridine	**ND**	0.33	EPA 8270D	8-29-18	8-29-18	
Phenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Aniline	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Chlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Benzyl alcohol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Hexachloroethane	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Nitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Isophorone	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Nitrophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4-Chloroaniline	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Dimethylphthalate	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
3-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4-Nitrophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Dibenzofuran	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Diethylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Nitroaniline	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Pentachlorophenol	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Carbazole	**ND**	0.033	EPA 8270D	8-29-18	8-29-18	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzidine	**ND**	0.33	EPA 8270D	8-29-18	8-29-18	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	8-29-18	8-29-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*79*	*19 - 103*				
Phenol-d6	*79*	*30 - 103*				
Nitrobenzene-d5	*73*	*27 - 105*				
2-Fluorobiphenyl	*75*	*36 - 102*				
2,4,6-Tribromophenol	*88*	*33 - 110*				
Terphenyl-d14	*81*	*38 - 108*				

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

SEMIVOLATILE ORGANICS EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	08-229-04										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**1.15**	**0.989**	1.33	1.33	ND	86	74	37 - 94	15	27	
2-Chlorophenol	**1.21**	**1.03**	1.33	1.33	ND	91	77	37 - 95	16	32	
1,4-Dichlorobenzene	**0.568**	**0.493**	0.667	0.667	ND	85	74	23 - 97	14	37	
n-Nitroso-di-n-propylamine	**0.580**	**0.501**	0.667	0.667	ND	87	75	40 - 91	15	28	
1,2,4-Trichlorobenzene	**0.563**	**0.505**	0.667	0.667	ND	84	76	37 - 93	11	30	
4-Chloro-3-methylphenol	**1.11**	**1.03**	1.33	1.33	ND	83	77	46 - 96	7	25	
Acenaphthene	**0.585**	**0.526**	0.667	0.667	0.0395	82	73	43 - 90	11	25	
4-Nitrophenol	**1.15**	**1.03**	1.33	1.33	ND	86	77	31 - 104	11	28	
2,4-Dinitrotoluene	**0.575**	**0.516**	0.667	0.667	ND	86	77	31 - 96	11	32	
Pentachlorophenol	**1.38**	**1.22**	1.33	1.33	ND	104	92	20 - 123	12	29	
Pyrene	**0.582**	**0.518**	0.667	0.667	0.0828	75	65	28 - 114	12	35	
Surrogate:											
2-Fluorophenol						*85*	*71*	*19 - 103*			
Phenol-d6						*84*	*73*	*30 - 103*			
Nitrobenzene-d5						*72*	*65*	*27 - 105*			
2-Fluorobiphenyl						*77*	*70*	*36 - 102*			
2,4,6-Tribromophenol						*92*	*84*	*33 - 110*			
Terphenyl-d14						*78*	*71*	*38 - 108*			

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-10.0-082418**					
Laboratory ID:	08-293-03					
Arsenic	**ND**	17	EPA 6010D	8-28-18	8-31-18	
Barium	**200**	8.3	EPA 6010D	8-28-18	8-31-18	
Cadmium	**ND**	1.7	EPA 6010D	8-28-18	8-31-18	
Chromium	**29**	1.7	EPA 6010D	8-28-18	8-31-18	
Lead	**18**	17	EPA 6010D	8-28-18	8-31-18	
Mercury	**ND**	0.83	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	17	EPA 6010D	8-28-18	8-31-18	
Silver	**ND**	3.3	EPA 6010D	8-28-18	8-31-18	
Client ID:	**FMW-133-20.0-082418**					
Laboratory ID:	08-293-05					
Arsenic	**ND**	12	EPA 6010D	8-28-18	8-31-18	
Barium	**50**	3.0	EPA 6010D	8-28-18	8-31-18	
Cadmium	**ND**	0.60	EPA 6010D	8-28-18	8-31-18	
Chromium	**27**	0.60	EPA 6010D	8-28-18	8-31-18	
Lead	**ND**	6.0	EPA 6010D	8-28-18	8-31-18	
Mercury	**ND**	0.30	EPA 7471B	8-29-18	8-29-18	
Selenium	**ND**	12	EPA 6010D	8-28-18	8-31-18	
Silver	**ND**	1.2	EPA 6010D	8-28-18	8-31-18	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0828SM2					
Arsenic	**ND**	5.0	EPA 6010D	8-28-18	8-29-18	
Barium	**ND**	2.5	EPA 6010D	8-28-18	8-29-18	
Cadmium	**ND**	0.50	EPA 6010D	8-28-18	8-29-18	
Chromium	**ND**	0.50	EPA 6010D	8-28-18	8-28-18	
Lead	**ND**	5.0	EPA 6010D	8-28-18	8-29-18	
Selenium	**ND**	5.0	EPA 6010D	8-28-18	8-29-18	
Silver	**ND**	1.0	EPA 6010D	8-28-18	8-29-18	
Laboratory ID:	MB0829S1					
Mercury	**ND**	0.25	EPA 7471B	8-29-18	8-29-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-265-16										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Barium	**22.1**	**19.5**	NA	NA		NA		NA	13	20	
Cadmium	**25.2**	**23.2**	NA	NA		NA		NA	8	20	
Chromium	**8.95**	**7.40**	NA	NA		NA		NA	19	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Selenium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	08-277-03										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	08-265-16										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**111**	**112**	100	100	ND	**111**	**112**	75-125	1	20	
Barium	**141**	**139**	100	100	22.1	**119**	**117**	75-125	1	20	
Cadmium	**75.1**	**75.9**	50.0	50.0	25.2	**100**	**101**	75-125	1	20	
Chromium	**109**	**108**	100	100	8.95	**100**	**99**	75-125	1	20	
Lead	**237**	**239**	250	250	ND	**95**	**95**	75-125	1	20	
Selenium	**104**	**101**	100	100	ND	**104**	**101**	75-125	2	20	
Silver	**25.6**	**25.4**	25.0	25.0	ND	**102**	**102**	75-125	1	20	
Laboratory ID:	08-277-03										
Mercury	**0.534**	**0.537**	0.500	0.500	0.0115	**105**	**105**	80-120	1	20	

Date of Report: September 5, 2018
Samples Submitted: August 25, 2018
Laboratory Reference: 1808-293
Project: 397-019

% MOISTURE

Date Analyzed: 8-27&28-18

Client ID	Lab ID	% Moisture
FMW-132-5.0-082418	08-293-02	30
FMW-133-10.0-082418	08-293-03	70
FMW-133-20.0-082418	08-293-05	17

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: 397-019
Project Name: Block 38 West Property
Project Manager: Javan Ruark
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)
☐ _____ (other)

Laboratory Number: 08-293

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-132-2.5-082418	8/24/18	1320	Soil	5																						
2	FMW-132-5.0-082418		1430		5		X		X				X														X
3	FMW-133-10.0-082418		1835				X		X				X						X								X
4	FMW-133-15.0-082418		1849																								
5	FMW-133-20.0-082418		1852										X						X								X
6	FMW-133-25.0-082418		1902																								

	Signature	Company	Date	Time
Relinquished		Farallon	8/24/18	0840
Received		Onsite Env	8/25/18	840
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please contact project Manager for analyses and turn around time confirmation
X-Added 8/27/18. DB (STA)

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

September 11, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-374

Dear Javan:

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

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

Case Narrative

Samples were collected on August 30, 2018 and received by the laboratory on August 31, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

NWTPH-Gx Analysis

The gasoline result for sample FMW-134-083018 is mainly attributed to a single peak (Naphthalene).

Volatiles EPA 8260C Analysis

Some MTCA Method A cleanup levels are non-achievable for sample FMW-134-083018 due to the necessary dilution of the sample.

PAHs EPA 8270D/SIM Analysis

The associated method blank had one surrogate recovery out of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-083018**					
Laboratory ID:	08-374-01					
Gasoline	**1100**	100	NWTPH-Gx	9-6-18	9-6-18	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*114*	*66-117*				
Client ID:	**FMW-133-083018**					
Laboratory ID:	08-374-02					
Gasoline	**ND**	100	NWTPH-Gx	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*112*	*66-117*				
Client ID:	**FMW-132-083018**					
Laboratory ID:	08-374-03					
Gasoline	**ND**	100	NWTPH-Gx	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*112*	*66-117*				
Client ID:	**FMW-130-083018**					
Laboratory ID:	08-374-04					
Gasoline	**ND**	100	NWTPH-Gx	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*66-117*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0906W3					
Gasoline	**ND**	100	NWTPH-Gx	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-380-02										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*112*	*112*	*66-117*			

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-083018**					
Laboratory ID:	08-374-01					
Diesel Range Organics	**1.0**	0.26	NWTPH-Dx	9-7-18	9-8-18	M
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**FMW-133-083018**					
Laboratory ID:	08-374-02					
Diesel Range Organics	**0.27**	0.26	NWTPH-Dx	9-7-18	9-8-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**FMW-132-083018**					
Laboratory ID:	08-374-03					
Diesel Range Organics	**0.26**	0.25	NWTPH-Dx	9-7-18	9-8-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**FMW-130-083018**					
Laboratory ID:	08-374-04					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	9-7-18	9-8-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0907W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	9-7-18	9-8-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-374-01										
	ORIG	DUP									
Diesel Range Organics	**1.03**	**1.01**	NA	NA		NA		NA	2	NA	M
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*100*	*94*	*50-150*			

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-083018**					
Laboratory ID:	08-374-01					
Dichlorodifluoromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Chloromethane	ND	5.0	EPA 8260C	9-5-18	9-5-18	
Vinyl Chloride	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromomethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Chloroethane	ND	5.0	EPA 8260C	9-5-18	9-5-18	
Trichlorofluoromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Iodomethane	ND	5.0	EPA 8260C	9-5-18	9-5-18	
Methylene Chloride	ND	5.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,2-Dichloroethene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
2,2-Dichloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(cis) 1,2-Dichloroethene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromochloromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Chloroform	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,1,1-Trichloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Carbon Tetrachloride	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloropropene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Benzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Trichloroethene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Dibromomethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromodichloromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
2-Chloroethyl Vinyl Ether	ND	5.0	EPA 8260C	9-5-18	9-5-18	
(cis) 1,3-Dichloropropene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Toluene	ND	5.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,3-Dichloropropene	ND	1.0	EPA 8260C	9-5-18	9-5-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-083018**					
Laboratory ID:	08-374-01					
1,1,2-Trichloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Tetrachloroethene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,3-Dichloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Dibromochloromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromoethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Chlorobenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,1,1,2-Tetrachloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Ethylbenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
m,p-Xylene	ND	2.0	EPA 8260C	9-5-18	9-5-18	
o-Xylene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromoform	ND	5.0	EPA 8260C	9-5-18	9-5-18	
Bromobenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,1,2,2-Tetrachloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
2-Chlorotoluene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
4-Chlorotoluene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,3-Dichlorobenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,4-Dichlorobenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2-Dichlorobenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromo-3-chloropropane	ND	5.0	EPA 8260C	9-5-18	9-5-18	
1,2,4-Trichlorobenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Hexachlorobutadiene	ND	5.0	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichlorobenzene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*113*	*75-127*				
Toluene-d8	*107*	*80-127*				
4-Bromofluorobenzene	*87*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-083018**					
Laboratory ID:	08-374-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Iodomethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Methylene Chloride	ND	2.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroform	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Benzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Trichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Toluene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-083018**					
Laboratory ID:	08-374-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-5-18	9-5-18	
o-Xylene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromoform	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*116*	*75-127*				
Toluene-d8	*107*	*80-127*				
4-Bromofluorobenzene	*89*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-132-083018**					
Laboratory ID:	08-374-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Iodomethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Methylene Chloride	ND	2.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroform	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Benzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Trichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Toluene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-132-083018**					
Laboratory ID:	08-374-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-5-18	9-5-18	
o-Xylene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromoform	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*116*	*75-127*				
Toluene-d8	*105*	*80-127*				
4-Bromofluorobenzene	*87*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

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

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-130-083018**					
Laboratory ID:	08-374-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Iodomethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
(cis) 1,2-Dichloroethene	0.27	0.20	EPA 8260C	9-5-18	9-5-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroform	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Benzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Trichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Toluene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-130-083018**					
Laboratory ID:	08-374-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-5-18	9-5-18	
o-Xylene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromoform	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*118*	*75-127*				
Toluene-d8	*108*	*80-127*				
4-Bromofluorobenzene	*86*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

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

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0905W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloromethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Iodomethane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Methylene Chloride	ND	2.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chloroform	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Benzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Trichloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromomethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Toluene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-5-18	9-5-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0905W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-5-18	9-5-18	
o-Xylene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Bromoform	ND	1.0	EPA 8260C	9-5-18	9-5-18	
Bromobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-5-18	9-5-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-5-18	9-5-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-5-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*75-127*				
Toluene-d8	*106*	*80-127*				
4-Bromofluorobenzene	*86*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

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:	SB0905W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**7.44**	**7.44**	10.0	10.0	74	74	62-129	0	15	
Benzene	**8.58**	**8.79**	10.0	10.0	86	88	77-127	2	15	
Trichloroethene	**8.79**	**8.75**	10.0	10.0	88	88	70-120	0	15	
Toluene	**9.25**	**9.39**	10.0	10.0	93	94	82-123	2	15	
Chlorobenzene	**9.02**	**9.13**	10.0	10.0	90	91	79-120	1	15	
Surrogate:										
Dibromofluoromethane					*105*	*107*	*75-127*			
Toluene-d8					*105*	*104*	*80-127*			
4-Bromofluorobenzene					*85*	*86*	*78-125*			

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-134-083018**					
Laboratory ID:	08-374-01					
Naphthalene	**290**	9.9	EPA 8270D/SIM	9-4-18	9-5-18	
2-Methylnaphthalene	**12**	2.0	EPA 8270D/SIM	9-4-18	9-5-18	
1-Methylnaphthalene	**10**	2.0	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthylene	**0.12**	0.099	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthene	**8.3**	2.0	EPA 8270D/SIM	9-4-18	9-5-18	
Fluorene	**1.6**	0.099	EPA 8270D/SIM	9-4-18	9-5-18	
Phenanthrene	**0.48**	0.099	EPA 8270D/SIM	9-4-18	9-5-18	
Anthracene	**ND**	0.099	EPA 8270D/SIM	9-4-18	9-5-18	
Fluoranthene	**ND**	0.099	EPA 8270D/SIM	9-4-18	9-5-18	
Pyrene	**ND**	0.099	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]anthracene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Chrysene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[b]fluoranthene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]pyrene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Dibenz[a,h]anthracene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[g,h,i]perylene	**ND**	0.0099	EPA 8270D/SIM	9-4-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*21 - 110*				
Pyrene-d10	*73*	*19 - 111*				
Terphenyl-d14	*73*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-133-083018**					
Laboratory ID:	08-374-02					
Naphthalene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
2-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
1-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthylene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthene	**0.38**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Fluorene	**0.098**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Phenanthrene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Anthracene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Fluoranthene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Pyrene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]anthracene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Chrysene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[b]fluoranthene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]pyrene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Dibenz[a,h]anthracene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[g,h,i]perylene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*78*	*21 - 110*				
Pyrene-d10	*89*	*19 - 111*				
Terphenyl-d14	*89*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-132-083018**					
Laboratory ID:	08-374-03					
Naphthalene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
2-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
1-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthene	**0.40**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Fluorene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Anthracene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Pyrene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*71*	*21 - 110*				
Pyrene-d10	*84*	*19 - 111*				
Terphenyl-d14	*84*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-130-083018**					
Laboratory ID:	08-374-04					
Naphthalene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
2-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
1-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthylene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Fluorene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Phenanthrene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Anthracene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Fluoranthene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Pyrene	**ND**	0.097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]anthracene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Chrysene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[b]fluoranthene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]pyrene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Dibenz[a,h]anthracene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[g,h,i]perylene	**ND**	0.0097	EPA 8270D/SIM	9-4-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*69*	*21 - 110*				
Pyrene-d10	*85*	*19 - 111*				
Terphenyl-d14	*84*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0904W1					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Fluorene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Anthracene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Pyrene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*115*	*21 - 110*				Q
Pyrene-d10	*88*	*19 - 111*				
Terphenyl-d14	*117*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-374
Project: 397-019

PAHs EPA 8270D/SIM
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:	SB0904W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.343**	**0.271**	0.500	0.500	69	54	28 - 109	23	38	
Acenaphthylene	**0.384**	**0.320**	0.500	0.500	77	64	37 - 111	18	26	
Acenaphthene	**0.375**	**0.304**	0.500	0.500	75	61	41 - 113	21	33	
Fluorene	**0.366**	**0.339**	0.500	0.500	73	68	47 - 114	8	23	
Phenanthrene	**0.363**	**0.339**	0.500	0.500	73	68	50 - 113	7	18	
Anthracene	**0.380**	**0.362**	0.500	0.500	76	72	50 - 117	5	18	
Fluoranthene	**0.396**	**0.381**	0.500	0.500	79	76	52 - 120	4	15	
Pyrene	**0.395**	**0.381**	0.500	0.500	79	76	51 - 128	4	31	
Benzo[a]anthracene	**0.428**	**0.413**	0.500	0.500	86	83	57 - 127	4	15	
Chrysene	**0.414**	**0.413**	0.500	0.500	83	83	51 - 120	0	15	
Benzo[b]fluoranthene	**0.412**	**0.402**	0.500	0.500	82	80	54 - 124	2	17	
Benzo(j,k)fluoranthene	**0.426**	**0.418**	0.500	0.500	85	84	50 - 127	2	18	
Benzo[a]pyrene	**0.414**	**0.398**	0.500	0.500	83	80	50 - 120	4	16	
Indeno(1,2,3-c,d)pyrene	**0.407**	**0.390**	0.500	0.500	81	78	46 - 132	4	20	
Dibenz[a,h]anthracene	**0.416**	**0.403**	0.500	0.500	83	81	49 - 129	3	18	
Benzo[g,h,i]perylene	**0.412**	**0.402**	0.500	0.500	82	80	45 - 130	2	19	
Surrogate:										
2-Fluorobiphenyl					*69*	*56*	*21 - 110*			
Pyrene-d10					*79*	*78*	*19 - 111*			
Terphenyl-d14					*79*	*77*	*32 - 137*			

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 - The gasoline result is mainly attributed to a single peak (Naphthalene).

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: 397-019
Project Name: Block 38 West
Project Manager: Jason Quarles
Sampled by: Greg Peters

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

Laboratory Number: 08-374

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 + BTEX	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-134-083018	8/30/18	1034	Water	11		X		X		X			X													
2	FMW-133-083018	"	1519	"	11		X		X		X			X													
3	FMW-132-083018	"	1707	"	11		X		X		X			X													
4	FMW-130-083018	"	1347	"	11		X		X		X			X													

	Signature	Company	Date	Time
Relinquished		Farallon	8/30/18	1834
Received		OSE	8/31/18	1015
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please Contact Project Manager for Sample analytes and turnaround time !!
X-Added 9/4/18. DB (STA)

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

September 11, 2018

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

Re: Analytical Data for Project 397-019
Laboratory Reference No. 1808-375

Dear Javan:

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

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

Case Narrative

Samples were collected on August 30, 2018 and received by the laboratory on August 31, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

PAHs EPA 8270D/SIM Analysis

The associated method blank had one surrogate recovery out of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

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: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-083018**					
Laboratory ID:	08-375-01					
Gasoline	**ND**	100	NWTPH-Gx	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*110*	*66-117*				
Client ID:	**FMW-136-083018**					
Laboratory ID:	08-375-02					
Gasoline	**ND**	100	NWTPH-Gx	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*110*	*66-117*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0906W3					
Gasoline	**ND**	100	NWTPH-Gx	9-6-18	9-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-380-02										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*112*	*112*	*66-117*			

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-083018**					
Laboratory ID:	08-375-01					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	9-7-18	9-8-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				
Client ID:	**FMW-136-083018**					
Laboratory ID:	08-375-02					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	9-7-18	9-8-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0907W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	9-7-18	9-8-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	9-7-18	9-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-374-01										
	ORIG	DUP									
Diesel Range Organics	**1.03**	**1.01**	NA	NA		NA		NA	2	NA	M
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*100*	*94*	*50-150*			

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-083018**					
Laboratory ID:	08-375-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloromethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Iodomethane	ND	1.5	EPA 8260C	9-10-18	9-10-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroform	0.41	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Benzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Trichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Toluene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

VOLATILE ORGANICS EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-083018**					
Laboratory ID:	08-375-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-10-18	9-10-18	
o-Xylene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*75-127*				
Toluene-d8	*108*	*80-127*				
4-Bromofluorobenzene	*84*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-083018**					
Laboratory ID:	08-375-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloromethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroethane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Iodomethane	ND	1.5	EPA 8260C	9-10-18	9-10-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
(cis) 1,2-Dichloroethene	0.36	0.20	EPA 8260C	9-10-18	9-10-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chloroform	2.7	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Benzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Trichloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromomethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Toluene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-10-18	9-10-18	

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-083018**					
Laboratory ID:	08-375-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-10-18	9-10-18	
o-Xylene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*114*	*75-127*				
Toluene-d8	*107*	*80-127*				
4-Bromofluorobenzene	*84*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

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

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

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0910W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-10-18	9-10-18	
o-Xylene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Bromoform	ND	1.0	EPA 8260C	9-10-18	9-10-18	
Bromobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-10-18	9-10-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-10-18	9-10-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-10-18	9-10-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*75-127*				
Toluene-d8	*106*	*80-127*				
4-Bromofluorobenzene	*83*	*78-125*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

VOLATILE ORGANICS EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

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

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-135-083018**					
Laboratory ID:	08-375-01					
Naphthalene	**0.35**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
2-Methylnaphthalene	**0.29**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
1-Methylnaphthalene	**0.68**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthene	**0.39**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Fluorene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Anthracene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Pyrene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*50*	*21 - 110*				
Pyrene-d10	*62*	*19 - 111*				
Terphenyl-d14	*62*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FMW-136-083018**					
Laboratory ID:	08-375-02					
Naphthalene	**0.39**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
2-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
1-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Acenaphthene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Fluorene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Anthracene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Pyrene	**ND**	0.096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270D/SIM	9-4-18	9-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*83*	*21 - 110*				
Pyrene-d10	*84*	*19 - 111*				
Terphenyl-d14	*83*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0904W1					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Fluorene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Anthracene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Pyrene	**ND**	0.10	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	9-4-18	9-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*115*	*21 - 110*				Q
Pyrene-d10	*88*	*19 - 111*				
Terphenyl-d14	*117*	*32 - 137*				

Date of Report: September 11, 2018
Samples Submitted: August 31, 2018
Laboratory Reference: 1808-375
Project: 397-019

PAHs EPA 8270D/SIM
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:	SB0904W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.343**	**0.271**	0.500	0.500	69	54	28 - 109	23	38	
Acenaphthylene	**0.384**	**0.320**	0.500	0.500	77	64	37 - 111	18	26	
Acenaphthene	**0.375**	**0.304**	0.500	0.500	75	61	41 - 113	21	33	
Fluorene	**0.366**	**0.339**	0.500	0.500	73	68	47 - 114	8	23	
Phenanthrene	**0.363**	**0.339**	0.500	0.500	73	68	50 - 113	7	18	
Anthracene	**0.380**	**0.362**	0.500	0.500	76	72	50 - 117	5	18	
Fluoranthene	**0.396**	**0.381**	0.500	0.500	79	76	52 - 120	4	15	
Pyrene	**0.395**	**0.381**	0.500	0.500	79	76	51 - 128	4	31	
Benzo[a]anthracene	**0.428**	**0.413**	0.500	0.500	86	83	57 - 127	4	15	
Chrysene	**0.414**	**0.413**	0.500	0.500	83	83	51 - 120	0	15	
Benzo[b]fluoranthene	**0.412**	**0.402**	0.500	0.500	82	80	54 - 124	2	17	
Benzo(j,k)fluoranthene	**0.426**	**0.418**	0.500	0.500	85	84	50 - 127	2	18	
Benzo[a]pyrene	**0.414**	**0.398**	0.500	0.500	83	80	50 - 120	4	16	
Indeno(1,2,3-c,d)pyrene	**0.407**	**0.390**	0.500	0.500	81	78	46 - 132	4	20	
Dibenz[a,h]anthracene	**0.416**	**0.403**	0.500	0.500	83	81	49 - 129	3	18	
Benzo[g,h,i]perylene	**0.412**	**0.402**	0.500	0.500	82	80	45 - 130	2	19	
Surrogate:										
2-Fluorobiphenyl					*69*	*56*	*21 - 110*			
Pyrene-d10					*79*	*78*	*19 - 111*			
Terphenyl-d14					*79*	*77*	*32 - 137*			

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: 08-375

Company:	Farallon
Project Number:	397-019
Project Name:	Block 38 West
Project Manager:	Jovan Rwark
Sampled by:	Greg Peters

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~~ DB	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C + BTEX	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-135-083018	8/30/18	1545	Water	11		X		X		X			X													
2	FMW-136-083018	8/30/18	1151	Water	11		X		X		X			X													

	Signature	Company	Date	Time
Relinquished		Farallon	8/30/18	1839
Received		OSE	8/31/18	1015
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

~~Please Contact project manager for sample analyses and turnaround time!!.~~

X - added 9/4/18 - DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

APPENDIX C
CATEGORY 1 SOIL ANALYTICAL DATA TABLES

SUBSURFACE INVESTIGATION REPORT AND ENVIRONMENTAL MEDIA MANAGEMENT PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

Table 1
Soil Analytical Results for TPH and BTEX
South Lake Union Block 38
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)						
				NWTPH-Dx[2]		NWTPH-Gx[3]	EPA Method 8021B[4]			
				DRO	ORO	GRO	Benzene	Toluene	Ethylbenzene	Xylenes
FB-01	FB-01-30.0-082118	30.0	8/21/2018	< 29	< 58	< 5.1	< 0.020	< 0.051	< 0.051	< 0.102
FB-02	FB-02-35.0-082018	35.0	8/20/2018	< 31	< 62	< 5.8	< 0.020	< 0.058	< 0.058	< 0.116
FB-03	FB-03-15.0-082318	15.0	8/23/2018	< 32	< 65	< 6.5	< 0.020	< 0.065	< 0.065	< 0.130
	FB-03-25.0-082318	25.0	8/23/2018	< 29	< 59	< 5.5	< 0.020	< 0.055	< 0.055	< 0.110
FB-04	FB-04-20.0-082118	20.0	8/21/2018	< 29	< 58	< 5.3	< 0.020	< 0.053	< 0.053	< 0.106
	FB-04-30.0-082118	30.0	8/21/2018	< 30	< 59	< 5.5	< 0.020	< 0.055	< 0.055	< 0.110
FB-05	FB-05-5.0-082218	5.0	8/22/2018	< 31	< 61	< 5.4	< 0.020	< 0.054	< 0.054	< 0.108
	FB-05-20.0-082218	20.0	8/22/2018	< 31	< 61	< 5.5	< 0.020	< 0.055	< 0.055	< 0.110
	FB-05-35.0-082218	35.0	8/22/2018	< 31	< 62	< 5.8	< 0.020	< 0.058	< 0.058	< 0.116
FMW-135	FMW-135-35.0-082418	35.0	8/24/2018	< 31	< 62	< 5.8	< 0.020	< 0.058	< 0.058	< 0.116
FMW-136	FMW-136-10.0-082218	10.0	8/22/2018	< 38	< 76	< 9.0	< 0.020	< 0.090	< 0.090	< 0.18
	FMW-136-30.0-082218	30.0	8/22/2018	< 30	< 59	< 5.2	< 0.020	< 0.052	< 0.052	< 0.104
MTCA Method A Cleanup Levels for Soil[5]				**2,000**	**2,000**	**30/100[6]**	**0.03**	**7**	**6**	**9**

NOTES:

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

— denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Analyzed by Northwest Method NWTPH-Dx.

[3]Analyzed by Northwest Method NWTPH-Gx.

[4]Analyzed by U.S. Environmental Protection Agency Method 8021B.

[5]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.

[6]Cleanup level is 30 milligrams per kilogram if benzene is detected and 100 milligrams per kilogram if benzene is not detected.

EPA = U.S. Environmental Protection Agency

BTEX = benzene, toluene, ethylbenzene and xylenes

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

GRO = TPH as gasoline-range organics

ORO = TPH as oil-range organics

Table 2
Soil Analytical Results for Halogenated VOCs
South Lake Union Block 38
Seattle, Washington
Farallon PN: 397-019

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-04	FB-04-20.0-082118	20.0	8/21/2018	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.00093
FB-05	FB-05-20.0-082218	20.0	8/22/2018	< 0.00090	< 0.00090	< 0.00090	< 0.00090	< 0.00090
FMW-135	FMW-135-50.0-082418	50.0	8/24/2018	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074
FMW-136	FMW-136-10.0-082218	10.0	8/22/2018	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
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.

[4]Washington State Cleanup Levels and Risk Calculations under MTCA Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx

PCE = tetrachloroethene
TCE = trichloroethene
VOCs = volatile organic compounds

Table 3
Soil Analytical Results for PAHs
South Lake Union Block 38
Seattle, Washington
Farallon PN: 397-019

				Analytical Results (milligrams per kilogram)[2]																			
				Non-Carcinogenic PAHs												Carcinogenic PAHs							
Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[3]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[4,5]
FB-05	FB-05-15.0-082218	15.0	8/22/2018	< 0.0089	< 0.0089	< 0.0089	< 0.0267	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	0.0067
FB-06	FB-06-10.0-082218	10.0	8/22/2018	< 0.016 H	< 0.016 H	< 0.016 H	< 0.048	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	0.020 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	< 0.016 H	0.012
MTCA Method A Cleanup Level for Soil[6]							**5**	**4,800[7]**	**NE**	**24,000[7]**	**NE**	**3,200[7]**	**3,200[7]**	**NE**	**2,400[7]**								**0.1**

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 8270D/SIM.

[3]Sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene.

[4]Total carcinogenic polycyclic aromatic hydrocarbons derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

[5]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

[6]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.

[7]Washington State Department of Ecology Cleanup Levels and Risk Calculations, under MTCA Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
H = sample analyzed outside of holding time
NE = not established
PAHs = polycyclic aromatic hydrocarbons
TEC = toxic equivalent concentration

Table 4
Soil Analytical Results for Detected SVOCs
South Lake Union Block 38
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]		
				2,4-Dimethylphenol	Carbazole	Dibenzofuran
FB-05	FB-05-15.0-082218	15.0	8/22/2018	< 0.045	< 0.045	< 0.045
FB-06	FB-06-10.0-082218	10.0	8/22/2018	< 0.082 H	< 0.082 H	< 0.082 H
MTCA Cleanup Levels for Soil[3]				**1,600**	**NE**	**80**

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.
< 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 8270D or 8270D/SIM. Only detected SVOCs shown in table; see lab report for full list of analytes.
[3]Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act (MTCA) Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx

H = sample analyzed outside of holding time
NE = not established
SVOCs = semivolatile organic comounds

Table 5
Soil Analytical Results for Metals
South Lake Union Block 38
Seattle, Washington
Farallon PN: 397-019

Sample Location	Sample Identification	Sample Depth (feet) [1]	Sample Date	Analytical Results (milligrams per kilogram)[2]							
				Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
FB-05	FB-05-35.0-082218	35.0	8/22/2018	< 12	58	< 0.62	38	< 6.2	< 0.31	< 12	< 1.2
FMW-135	FMW-135-5.0-082418	5.0	8/24/2018	< 12	120	< 0.61	48	16	< 0.31	< 12	< 1.2
	FMW-135-25.0-082418	25.0	8/24/2018	< 14	120	< 0.69	60	< 6.9	< 0.35	< 14	< 1.4
FMW-136	FMW-136-30.0-082218	30.0	8/22/2018	< 12	45	< 0.59	41	< 5.9	< 0.30	< 12	< 1.2
MTCA Cleanup Levels for Soil [3]				**20**	**16,000[4]**	**2**	**2,000**	**250**	**2**	**400[4]**	**400[4]**

NOTES:

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

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Methods 6010D/7471B.

[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 amended 2013, unless otherwise noted.

[4]Washington State Department of Ecology Cleanup Levels and Risk Calculations, under MTCA Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx

APPENDIX D
SAMPLING AND ANALYSIS PLAN

SUBSURFACE INVESTIGATION REPORT AND ENVIRONMENTAL MEDIA MANAGEMENT PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Bend | Baker City
California
Oakland | Folsom | Irvine

SAMPLING AND ANALYSIS PLAN

APPENDIX D

ENVIRONMENTAL MEDIA MANAGEMENT PLAN
BLOCK 38 WEST PROPERTY
500 THROUGH 536 WESTLAKE AVENUE NORTH
SEATTLE, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 397-019

For:
City Investors IX LLC
505 5th Avenue South, Suite 900
Seattle, Washington 98104

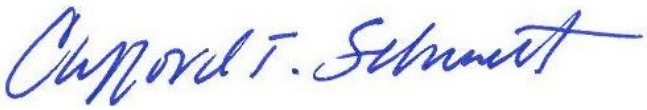
December 28, 2018

Prepared by:

Javan Ruark, L.G.
Associate Geologist

Reviewed by:

Thaddeus Cline, P.E., L.G., L.H.G.
Principal Civil Engineer/Hydrogeologist



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

TABLE OF CONTENTS

ATTACHMENT

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) prepared this Sampling and Analysis Plan (SAP) on behalf of Lakefront Investors IX LLC (Lakefront Investors) to present the requirements and methodology for sample collection and laboratory analysis activities related to the planned redevelopment at the property at 500 through 536 Westlake Avenue North in Seattle, Washington (herein referred to as Block 38 West). The SAP presents project-specific protocols and information pertaining to sampling and analysis procedures to be used during the redevelopment at Block 38 West in accordance with the Environmental Media Management Plan (EMMP) to which this SAP is attached as Appendix D.

The objective of the cleanup action to be conducted during construction excavation will be to protect human health and the environment and to satisfy the requirements for regulatory closure and a No Further Action determination from the Washington State Department of Ecology (Ecology) under the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340). The cleanup action summarized in the EMMP describes the following general elements: site preparation, dewatering and wastewater treatment and discharge, contaminated soil management, compliance soil monitoring, and waterproof barrier installation. The cleanup action entails mass excavation of contaminated soil until cleanup objectives identified in the EMMP are achieved.

The purpose of the SAP is to specify requirements for field screening and compliance monitoring soil sample collection and laboratory analysis activities to be conducted during the excavation of impacted soil at Block 38 West, to ensure data are collected in accordance with technically acceptable protocols and that analytical results will meet the data quality objectives (DQOs) for the cleanup action.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

This section identifies key personnel related to the cleanup action excavation at Block 38 West and their responsibilities.

2.1 MANAGEMENT

The Farallon Principal is Mr. Thaddeus Cline, who will provide overall program guidance to support staff and will have a direct line of communication with Lakefront Investors.

The Farallon Project Manager is Mr. Javan Ruark, whose primary role is to ensure compliance with the requirements of this SAP during implementation of the cleanup action.

The Farallon Health and Safety Coordinator is Mr. Joe Rounds, who will provide support in implementing health and safety protocols for Farallon field personnel.

2.2 FIELD COORDINATOR

The Farallon Field Coordinator will be responsible for monitoring Farallon field activities and supporting the Field Scientist(s). The Field Coordinator will ensure that appropriate protocols for sample collection, preservation, and holding times are observed, and will submit or arrange for submittal of soil samples to the designated laboratory for analyses. Farallon Engineer Mr. Russell Luiten has been assigned the Field Coordinator role for the cleanup action excavation at Block 38 West.

2.3 FIELD SCIENTISTS

Farallon Field Scientists are experienced field technicians with training in field procedures related to cleanup action excavations and the methodology described in this SAP. Personnel assigned to the Field Scientist role have not yet been named for the cleanup action excavation.

2.4 QUALITY ASSURANCE/QUALITY CONTROL MANAGER

Farallon Associate Geologist Mr. Ruark will serve as the Farallon Quality Assurance and Quality Control (QA/QC) Manager, providing QA/QC oversight for field screening, soil sampling, and laboratory analytical programs; ensuring that field data are collected and documented appropriately; coordinating with the analytical laboratories; and overseeing data quality assessment and quality assurance coordination.

2.5 DATA MANAGER

Ms. Jeannette Mullin will serve as the Farallon Data Manager, and will compile field measurements and analytical data into a project database, review the data for completeness and consistency, conduct data quality assessment activities, and review assigned data qualifiers based on results of data quality assessment.

2.6 LABORATORY PROJECT MANAGER

OnSite Environmental, Inc. in Redmond, Washington (OnSite) is the analytical laboratory selected for this project. Mr. David Baumeister will serve as the Laboratory Project Manager, overseeing laboratory operations associated with the receipt of environmental samples, chemical analyses, and laboratory report preparation for this project.

OnSite will be responsible for the following tasks:

- Performing laboratory analysis of samples using the methods outlined in the SAP;
- Adhering to documentation, custody, and sample logbook procedures;
- Meeting reporting and QA/QC requirements;
- Delivering electronic data deliverables as specified in the SAP;
- Meeting turnaround times for deliverables as described in the SAP; and
- Allowing the Farallon QA/QC Manager to perform laboratory and data audits as requested.

OnSite will be certified through Ecology and the National Environmental Laboratory Accreditation Program for the analytical methods performed.

3.0 DATA QUALITY OBJECTIVES AND MEASUREMENT CRITERIA

DQOs provide a qualitative and quantitative framework pertaining to laboratory analysis of soil samples collected during the cleanup action excavation, including a series of planning steps based on the scientific method around which data collection programs are designed. The use of DQOs ensures that:

- The objectives of field screening, soil sampling, and laboratory analysis to be conducted during the cleanup action excavation are clearly defined;
- The type, quantity, and quality of environmental data used in decision making are appropriate for their intended application; and
- Acceptable levels of decision error and performance goals are specified, such that the quantity and quality of data needed to support management decisions are provided.

The objectives of field screening, soil sampling, and laboratory analysis are to obtain data documenting the effectiveness of the cleanup action so that the cleanup action objectives indicated in the EMMP and summarized in Section 1, Introduction, are met. The overall QA/QC objective for this SAP is to develop and implement procedures that will ensure the collection of representative data of known and acceptable quality.

Measurement quality indicators pertaining to field sampling and laboratory analysis are generally defined in terms of five parameters:

- Precision;
- Accuracy;
- Representativeness;
- Comparability; and
- Completeness.

Each parameter is defined below. Specific QC objectives for sample collection and laboratory analyses are set forth below.

3.1 PRECISION

Precision measures the reproducibility of measurements under a given set of conditions and pertains to laboratory analytical results. The goal is to maintain a level of analytical precision consistent with the objectives of the cleanup action. Work for this project will adhere to established protocols as presented in this SAP. Precision will be evaluated using laboratory duplicate results as applicable per the analytical methods. Analytical precision measurements may be carried out

on project-specific samples at the discretion of the Field Coordinator. The equation used to evaluate precision is:

$$RPD = \frac{(A-B)}{[\frac{(A+B)}{2}]} \; x \; 100\%$$

Where:
RPD = relative percent difference
A = Analytical result from one of two duplicate measurements
B = Analytical result from the second measurement

Plus or minus 35 percent RPD is the criterion for sufficient precision for this project.

3.2 ACCURACY

Accuracy (or bias) is an expression of the degree to which a measured value conforms to the reference value and pertains to laboratory analytical results. Laboratory blanks and surrogate standards will be used to evaluate the bias of the analytical data.

Accuracy can be expressed as a percentage of the true or reference value, or as percent recovery in analyses where reference materials are not available and spiked samples are analyzed. The equation used to determine percent recovery for spiked samples is:

$$Percent\ Recovery = \frac{A-X}{B} \; x \; 100\%$$

Where:
A = Value measured in spiked sample or standard
X = Value measured in original sample
B = True value of amount added to sample or true value of standard

The equation used to determine percent recovery for reference materials is:

$$Percent\ Recovery = \frac{A}{B} \; x \; 100\%$$

Where:
A = Value measured in control or reference sample
B = Established concentration of the control or reference sample

Method blank analytical results can reflect systematic bias resulting from contamination of samples during laboratory analysis, and as such, any detected values will be evaluated.

Recovery of 60 to 140 percent is the criterion for sufficient accuracy for this project.

Trip blank analytical results may be evaluated to check for procedural contamination, cross-contamination, and contamination during shipment and storage of samples collected for

volatile organic compounds (VOC) analysis, which includes benzene. Up to one trip blank, filled with analyte-free deionized water and preserved with hydrochloric acid, may be submitted to the project laboratory for each cooler containing samples for analysis for benzene. After their preparation, the trip blank sample containers are not to be opened until the containers have been returned to the laboratory.

3.3 REPRESENTATIVENESS

Representativeness is the degree to which laboratory analytical data accurately and precisely represent conditions in the project area. Representativeness is dependent on sampling and analytical variability and the variability of environmental media. The sampling plan, sample collection techniques, sample handling protocols, analytical methods, and data review procedures have been developed to ensure that the results obtained are representative of conditions at Block 38 West.

3.4 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which a data set can be compared with another. Comparability will be maintained through consistent use of the field sampling and laboratory analytical methodologies set forth in the SAP, and through the use of established QA/QC procedures and appropriately trained personnel. In addition, the use of standard methods and procedures for both sample collection and laboratory analysis will make the data collected comparable to internal and other data generated.

3.5 COMPLETENESS

Completeness is defined as a measure of the amount of valid data obtained from an event or investigation compared to the total amount obtained. Completeness (*C*) will be calculated as follows:

$$C = \frac{[(\text{number of acceptable data points}) \text{ x } 100]}{(\text{total number of data points collected})}$$

The measurement quality objective for completeness for all components of this project is 95 percent. Data that have been qualified as estimated because the QC criteria were not met will be considered valid for the purpose of assessing completeness. Data that have been qualified as rejected will not be considered valid for the purpose of assessing completeness.

Completeness of 95 percent is the criterion for sufficient completeness for this project.

4.0 DOCUMENTATION AND RECORD KEEPING

Procedures, observations, and test results will be documented for sample collection, laboratory analysis and reporting, and data quality assessment activities. Procedures for documentation of these activities are described in this section.

4.1 FIELD RECORDS

Documentation of field activities will be provided on Field Report forms, Soil Sample Data Log forms, sample and waste material labels, Chain of Custody forms, Soil Disposal Tracking Sheets, and field maps. Documentation generated during the field program will be scanned for electronic archive with hard copies retained in the project file and included in the reports generated, as appropriate.

4.1.1 Field Report Form

Field personnel will be required to keep a daily record of field activities on a Field Report form. Field notes will be as descriptive and inclusive as possible, enabling independent parties to reconstruct the sampling situation from the recorded information. Language will be objective, factual, and free of inappropriate terminology. A summary of daily events will be provided on the Field Report form. At a minimum, field documentation will include the date, job number, project identification and location, weather conditions, sample collection data, personnel present and responsibilities, field equipment used, and any field activities performed during the day. In addition, if other forms or documents such as well-head surveys or maps are completed or used, these documents will be cited in and attached to the Field Report form. Field personnel will sign the completed Field Report form. A copy of the Field Report form is included in Attachment 1.

4.1.2 Soil Sample Data Log Form

A Soil Sample Data Log form will be used to record soil field measurements, observations, and samples collected for analysis. The Soil Sample Data Log form will be completed by the Field Scientist at the time of sample collection. A copy of a Soil Sample Data Log form is included in Attachment 1.

4.1.3 Sample Labels

A sample label is filled out and affixed to appropriate sample containers immediately prior to sample collection. Each sample collected will be assigned a unique sample identifier and number. The sample identifier and number will be filled out in indelible ink and affixed to sample containers immediately prior to sample collection. The sample identifier will be placed on the sample label, Field Report form, and Chain of Custody form. In addition to the sample identifier and number, the sample labels will include the client name, project name and number, date and time of sample collection, sampler's initials, analytical method, and analyte preservative(s).

4.1.4 Chain of Custody Form

The written procedures that are followed whenever samples are collected, transferred, stored, analyzed, or destroyed are designed to create an accurate written record that can be used to trace the possession and handling of the sample from the moment of its collection through analysis and reporting of analytical values. This written record, the Chain of Custody form, will be filled out by the Farallon Field Scientist at the time a sample is obtained. The Farallon Field Scientist will sign and date the Chain of Custody form to relinquish custody of the samples to another party such as the analytical laboratory.

Samples submitted to the laboratory are accompanied by a Chain of Custody form. This form is checked for accuracy and completeness, signed, and dated by the laboratory sample custodian accepting the sample. At the laboratory, each sample is assigned a unique, sequential laboratory identification number that is stamped or written on the Chain of Custody form.

Samples are held under internal chain of custody in the Sample Control room under the appropriate storage conditions (e.g., ambient, refrigeration, frozen). The laboratory Project Manager assigned to a particular client is responsible for tracking the status of the samples throughout the laboratory. Samples are signed out of the Sample Control room in a sample control logbook by the analyst who will prepare the samples for analysis.

The Chain of Custody form includes the client name, project name and number, date and time sampled, sample identifier, sampler's initials, analysis, and analyte preservative(s), if any. A copy of the Chain of Custody form is included in Attachment 1.

4.1.5 Soil Disposal Tracking Sheet

A Soil Disposal Tracking Sheet will be used to document and track the soil excavated and disposed of during the cleanup action. The form will include: the categorization of the soil (Category 2 and Category 3), the source area and depth of the soil disposed as described using the grid system shown on the series of maps with an overlay grid system (Lift Maps) provided in the EMMP, the time the truck transporting the soil departs the site, the name of the trucking company, and the identification number for the truck. A copy of the Soil Disposal Tracking Sheet is included in Attachment 1. Minor modifications may be made to the Soil Disposal Tracking Sheet to satisfy specific project requirements.

4.1.6 Field Maps (Lift Maps)

The EMMP includes Lift Maps that will be used to record the locations for soil samples collected and features related to excavation progress. The locations will be documented on the Lift Maps by the Field Scientist at the time the observation is made and/or sample collection. In addition, Farallon field personnel will track changes in topographic elevations as the excavation progresses and the approximate locations of stockpiled soil segregated by category. The Lift Maps will be updated continually during the cleanup action excavation, and final versions will be maintained in the project files.

4.2 LABORATORY DATA REPORTS

Activities and results associated with analysis of the samples submitted to the analytical laboratory will be documented at the analytical laboratory.

The analytical laboratory will provide analytical results and associated documentation for each sample in a standard data package for each sample delivery group or analytical batch. Each data package will contain the information required for a complete quality assurance review, including the following:

- **Project Narrative.** This summary, presented in a cover letter, will discuss problems (including deviations from applicable laboratory Standard Operating Procedures and this SAP), if any, encountered during analysis. This summary will discuss but not be limited to QC, sample shipment, sample storage, and analytical difficulties. Any actual or perceived problems identified and their resolution will be documented with as much detail as appropriate.
- **Chain-of-Custody Records.** Legible copies of the Chain of Custody forms will be provided as part of the data package. This documentation will include the time of receipt and the condition of each sample received by the laboratory. Additional internal tracking of sample custody by the laboratory also will be documented.
- **Sample Results.** The data package will summarize the results for each sample analyzed. The summary will include the following information, where applicable:
    - Field sample identification and the corresponding laboratory sample identification;
    - Sample matrix;
    - Date of sample extraction;
    - Date and time of analysis;
    - Weight and/or volume used for analysis;
    - Final dilution volume or concentration factor for the sample;
    - The instrument used for analysis;
    - Method detection limits;
    - Method reporting limits;
    - Analytical results with units identified; and
    - Data qualifiers and their definitions.
- **QC Summaries.** This section will contain the results of the laboratory QC procedures. Each QC sample analysis will be documented with the same information required for the sample results (see above). No recovery or blank corrections will be made by the laboratory. The required summaries are listed below; additional information may be requested.

- **Method Blank Analysis.** The method blank analyses associated with each sample and the concentrations of all compounds of interest will be reported.
- **Surrogate Spike Recovery.** Surrogate spike recovery data will be reported. The names of compounds added, percent recoveries, and range of acceptable recoveries will be listed.

5.0 FIELD SCREENING AND SOIL SAMPLING

The procedures for soil field screening and soil sampling are described in this section. Field screening techniques will be used by the Field Scientist to obtain real-time information for guiding the cleanup action excavation activities and the segregation of waste soil for disposal, and for identifying areas for soil sampling. Additional information pertaining to field screening and soil sampling is provided in the EMMP.

Soil sampling will be conducted for purposes of cleanup action excavation performance and protection monitoring. Descriptions of soil sampling procedures are provided in Section 5.2, Soil Sampling.

Field screening and soil sampling data will be documented on appropriate field records, as described in Section 4, Documentation and Record Keeping. Proper personal protective equipment will be used during field screening and soil sample collection per the Health and Safety Plan prepared for Block 38 West.

Four general categories of soil are expected to be encountered during implementation of the cleanup action excavation, as described in the EMMP and summarized below:

- **Category 1 Soil** has no olfactory, visual, or other evidence of contamination (e.g., odor, staining, sheen, elevated photoionization detector readings) and meets criteria for reuse as clean fill or meets acceptance criteria for disposal at a facility or site selected by the excavation subcontractor. Category 1 Soil is not a threat to human health or the environment and can be reused where allowed under other regulations. Areas of Category 1 Soil are indicated by blue-green hatching on the Lift Maps in the EMMP.
- **Category 2 Soil** contains constituents at concentrations not meeting acceptance criteria for the Category 1 Soil disposal facility or for reuse as clean fill off Block 38 West, but meeting acceptance criteria for disposal at the selected Category 2 Soil disposal facility. Category 2 Soil may not contain concentrations of constituents of concern detected in laboratory analyses, but instead could exhibit olfactory, visual, or other evidence of impact. Areas of Category 2 Soil are indicated by yellow shading on the Lift Maps in the EMMP.
- **Category 3 Soil** contains constituents at concentrations exceeding acceptance criteria for disposal at the selected Category 2 Soil disposal facility, but meeting acceptance criteria for disposal at the Category 3 Soil disposal facility. Areas of Category 3 Soil are indicated by orange shading on the Lift Maps in the EMMP.
- **Category 3**+ Soil contains constituents and other material (e.g., wood debris) not meeting acceptance criteria for disposal at the Category 3 Soil disposal facility, but meeting acceptance criteria for disposal at the selected Category 3+ disposal facility. Category 3+ Soil may require pre-treatment by the selected disposal facility prior to disposal. Areas of Category 3+ Soil are indicated by red shading on the Lift Maps in the EMMP.

Lift Maps will be updated continually during the cleanup action excavation to document the extent of the soil categories encountered.

5.1 FIELD SCREENING

Field screening will be performed by the Field Scientist to guide the cleanup action excavation work and to supplement soil sample analytical data, as needed, in identifying extents of the general categories of soil for purposes of soil handling and disposal and regulatory closure under MTCA.

Field screening will consist of any or all of the following:

- Visual and olfactory observations;
- Organic vapor screening; and
- Soil sheen testing.

Results of field screening will be recorded by the Field Scientist on a Field Report form and/or Lift Maps.

Soil sampling procedures for cleanup action excavation performance and confirmation monitoring are discussed in Section 5.2, Soil Sampling.

5.1.1 Visual and Olfactory Observations

Field Scientist visual and olfactory observations will include at a minimum: elevation and soil lift identification, Unified Soil Classification System soil description, estimated soil moisture, physical indications of contamination (e.g., odor, staining), and estimate of percentage of wood debris by volume.

5.1.2 Organic Vapor Screening

Organic vapor screening may be performed by the Field Scientist using a calibrated photoionization detector (PID) for purposes of identifying soil containing VOCs or for health and safety monitoring. A PID reading exceeding ambient or background concentrations indicates potential confirmation of VOC concentrations in a soil sample. Organic vapor screening will be conducted as follows:

- Approximately 100 grams of the soil sample will be sealed in a heavy resealable plastic bag, and care will be taken to leave air (headspace) in the bag for the volatile organic vapors to collect;
- The sealed bag will be shaken to volatilize the contaminants in the soil;
- After waiting approximately 5 minutes, the Field Scientist will insert the PID probe tip into a small opening in the seal at the top of the bag, and the highest PID reading will be recorded on the Soil Sample Data Log form; and

- The bag will be resealed after taking the headspace reading in case further assessment of the sample is needed.

5.1.3 Soil Sheen Test

Soil sheen testing will be performed for purposes of identifying soil containing petroleum hydrocarbons. The Field Scientist will place a soil sample into a clean sample jar and add fresh water. The surface of the water will then be observed for the presence or absence of a sheen in accordance with *Guidance for Remediation of Petroleum Contaminated Sites* dated 2016, prepared by Ecology (2016) (Ecology Guidance), with the following sheen descriptors noted:

- NS – No visible sheen on the water surface.
- SS – Slight (i.e., light, colorless, dull) sheen on the water surface, with irregular non-rapid spread. Natural organic oils or iron bacteria in the soil may produce a slight sheen.
- MS – Moderate (i.e., pronounced over limited area) sheen. Sheen may have some color/iridescence, with irregular and possibly rapid spread, but does not spread over entire water surface.
- HS – Heavy sheen with pronounced color/iridescence and rapid spread, with the sheen covering the entire water surface.

Decaying organic matter and/or iron bacteria can produce a rainbow-like sheen similar to an oil sheen. However, these sheens typically can be broken up when agitated or disturbed, unlike oil sheens, which can be iridescent.

5.2 SOIL SAMPLING

The cleanup action excavation provides for compliance monitoring soil sampling in accordance with WAC 173-340-410 to document the effectiveness of the cleanup action excavation. The following sections summarize the methodology for compliance monitoring to be conducted as performance soil sampling and confirmation soil sampling, as described in the EMMP. Performance soil sample results will be used to identify the limits of the cleanup action excavation and may also be used, as needed, to document compliance of soil with waste profiles approved by selected disposal facilities. Confirmation soil sampling results will confirm compliance with cleanup objectives identified in the EMMP, to the extent practicable, at the limits of the cleanup action excavation. Data pertaining to soil sampling will be recorded by the Field Scientist on a Field Report form, a Soil Sample Data Log form, and/or Lift Maps. Soil sampling methodology is discussed in Section 6, Sample Handling and Chain-of-Custody Procedures.

5.2.1 Performance Soil Sampling

Performance soil sampling will involve collecting discrete in-situ soil samples for laboratory analysis. Performance soil samples generally will be collected from test pits excavated by a track-hoe in advance of mass excavation and at the direction of the Field Scientist. Performance soil

samples may in some cases be used for confirmation soil samples when data indicate that cleanup objectives identified in the EMMP have been attained.

The frequency and location of performance soil sampling will be dependent on the sampling data available at that time and results of field screening described in Section 5.1, Field Screening, and at the discretion of the Field Scientist. Performance soil sample locations and elevations will be measured using a geographic positioning system or by a construction land surveyor, and will be clearly indicated on the Lift Maps.

Lift Maps will be updated continually with results of field screening and performance soil sampling, and will be used for planning of additional performance soil sampling, to minimize the amount of contaminated soil requiring off-site disposal, and to minimize the amount of soil requiring off-site disposal at a higher cost. If soil contamination is confirmed in a Lift Map grid area, the grid area may be divided further into subareas and additional performance samples collected to assess the lateral extent of contamination, as needed. The frequency of performance soil sampling may be higher near the lateral and vertical limits of the cleanup action excavation to confirm that cleanup objectives are attained.

5.2.2 Confirmation Soil Sampling

Confirmation soil sampling will be conducted once performance soil sampling results indicate the excavation is approaching the lateral and vertical limits of Contaminated Soil. Confirmation soil sampling will consist of collecting and analyzing in-situ soil samples from the base and sidewalls of the excavation to confirm that no constituents of concern are present at concentrations exceeding their respective cleanup levels. Performance soil sampling locations will be used as confirmation soil sampling points in cases where analytical results for the performance soil samples confirm that cleanup levels have been attained.

5.2.3 General Field Procedures

Soil samples will be collected and handled in accordance with the general procedures listed below:

- Don a new pair of powder-free nitrile gloves prior to collecting each individual soil sample to avoid potential cross-contamination.
- Collect soil samples directly from the top 6 inches of exposed surface of the sidewalls and/or bottom of the cleanup action excavation, unless otherwise directed by the Farallon Project Manager or Field Coordinator, using decontaminated stainless steel sampling tools or sampling kits specific to the U.S. Environmental Protection Agency (EPA) Method 5035A sampling protocol to analyze for VOCs (as applicable). If sampling personnel are not allowed into the excavation area due to health and safety concerns, samples can be collected directly from the excavator bucket, taking care to collect soil from the center of the bucket and not to collect soil samples that have come in contact with the excavator bucket. Samples collected for laboratory analyses should only come into contact with decontaminated stainless steel equipment or laboratory certified-clean sample containers.

- If VOC analyses are to be conducted, fill VOC-specific sampling vials as soon as possible from the excavator bucket or exposed soil to minimize volatilization of VOCs. VOC samples will be prepared in accordance with the EPA Method 5035A sampling protocol for VOCs in soil. This method entails collection of approximately 5 grams of a representative soil sample using a dedicated sampling tool from target locations into a standard 40-milliliter, septum-sealed, threaded screw-capped glass vial containing a laboratory-provided preservative.
- For all other analyses, transfer the soil immediately to an 8-ounce, laboratory-supplied and certified-clean sampling container using a decontaminated stainless steel spoon. Care will be taken not to handle the seal or the inside cap of the container when placing the sample into the container. The container will be filled to eliminate headspace and the seal/cap will be secured. Non-dedicated sampling equipment will be decontaminated between uses, as appropriate.
- Place soil sample containers into a cooler chilled to approximately 4 degrees Celsius immediately upon collection.
- Record the following information, at a minimum, on the Soil Sample Data Log form during sampling: sample identification, sample depth, Unified Soil Classification System soil description, soil moisture, and physical indications of contamination (e.g., visual observations, PID readings).
- Label the sample container with the client name, project name and number, date and time sampled, sample identification, sampler's initials, analysis, and analyte preservative(s), if any.
- Log the sample on a Chain of Custody form and place into a cooler on ice for transport to the laboratory under standard chain-of-custody protocols. The Chain of Custody form will clearly indicate that each sample is to be thoroughly homogenized by the laboratory.
- Discard of all disposable sampling and health and safety supplies and equipment in an appropriate waste dumpster on Block 38 West.
- Deliver soil samples to the analytical laboratory as soon as possible after sampling in order for the laboratory to analyze the samples within regulatory holding times as described in Section 7, Sample Analysis.

5.2.4 Sample Designation

Each soil sample collected during the cleanup action will be assigned a unique sample identifier. The soil sample identifier will be filled out in indelible ink on sample labels affixed to appropriate containers immediately prior to sample collection.

Soil samples collected from interior portions of the excavation will be assigned a unique sample identifier that will include the components listed below:

- Lift Map grid designation (e.g., A2);

- Grid quarter designation, as appropriate:
    - Northwest (NW)
    - Northeast (NE)
    - Southeast (SE)
    - Southwest (SW)
    - Center (C);
- Elevation of the surface soil sample in feet above mean sea level (msl); and
- Sampling date (e.g., MMDDYY).

For example, the soil sample collected from the northwestern portion of grid square G2 at 15 feet above msl on October 30, 2019 would be assigned the sample identifier G2-NW-15-103019.

Soil samples collected from the sidewalls of the excavation will include a designation of WL before the grid number. For example, the soil sample collected from the southwestern sidewall of grid G2 at 15 feet above msl on October 30, 2019 would be assigned the sample identifier WLG2-SW-15-103019.

5.3 QA/QC SAMPLES

QA/QC samples will be used to evaluate sample heterogeneity, laboratory homogenization procedures, and the potential for cross-contamination for volatile constituents, as appropriate and directed by the Farallon Project Manager. Field QA/QC samples will be documented on the Field Report forms and may include the collection of temperature blanks and trip blanks (for VOC samples). A description of the QA/QC samples that may be used for Block 38 West is provided in the following sections.

5.3.1 Trip Blanks

Analyses of trip blanks are performed to evaluate outside contributions of VOCs during transport of the sample containers to and/or from the laboratory. A trip blank is prepared by the laboratory and included in each sample cooler containing samples for analysis for VOCs.

5.3.2 Temperature Blanks

One temperature blank will be included in each cooler in which samples are stored and/or shipped. A temperature blank is prepared by the analytical laboratory and is prepared by pouring distilled/deionized water into a vial and tightly closing the lid.

5.3.3 Laboratory Duplicate Samples

OnSite will provide one laboratory duplicate result for each analysis within each analytical laboratory report. The laboratory duplicate samples used will either be taken from the laboratory-

homogenized samples collected from Block 38 West or from other samples analyzed within that sample batch at the laboratory.

6.0 SAMPLE HANDLING AND CHAIN-OF-CUSTODY PROCEDURES

This section discusses the sample handling and chain-of-custody procedures to be used during the cleanup action excavation. Analytical method-specific containers, preservation, and holding times are summarized in Section 7.1, Analytical Methodology.

6.1 SAMPLE PACKAGING AND SHIPMENT

Samples shipped for laboratory analysis will be packaged according to applicable regulations and the recommendations of the laboratory performing the analysis. Performance and confirmation soil samples will be transported by courier or by Farallon staff to the analytical laboratory within 1 working day of sample collection.

The following procedures (representing the minimum shipping and handling requirements) will be used for sample packaging:

- Bubble-wrap bags or an equivalent will be used to protect glass sample containers.
- Sample containers will be placed upright into a cooler and checked against the Chain of Custody form to ensure that all samples are listed and placed into the correct cooler.
- One copy of the Chain of Custody form will be detached and retained by the Farallon Field Scientist for submittal to the Farallon Project Manager with the daily field notes.
- Remaining paperwork will be sealed in a resealable plastic bag and taped to the inside of the cooler lid.
- One to three resealable bags will be filled with ice and included in the cooler. All ice will be double-bagged in heavy-duty bags.
- The cooler will be sealed with a chain-of-custody seal.
- The cooler will be taped shut using shipping tape.
- Extraneous stickers will be removed from the cooler.

6.2 CHAIN-OF-CUSTODY PROCEDURES

An important component of data collection is the ability to demonstrate that samples were obtained from the stated locations and that samples reached the laboratory or archive location without alteration. Evidence of collection, shipment, laboratory receipt, and laboratory custody until disposal or archive must be properly documented. Documentation will be accomplished through a Chain of Custody form that documents each sample and identifies the individuals responsible for sample collection, shipment, and receipt. A sample is considered in one's custody if at least one of the following criteria is met:

- The sample is in a person's actual possession or view;

- The sample is placed in a container and secured with an official seal (signed and dated by the custodian) such that the sample cannot be reached without the seal being broken;
- The sample is locked and only accessible by the custodian after having been in the person's actual possession; or
- The sample is in a secured area, restricted to authorized personnel (e.g., laboratory).

A laboratory typically will not accept samples for analysis without a correctly prepared Chain of Custody form. The Chain of Custody form must be signed by each individual who has the sample in his/her custody. A Chain of Custody form is to be prepared for each sample shipped to a laboratory for analysis. Information on this form correlates with other supporting documentation, including sample labels and sample collection logs.

The Chain of Custody form accounts for the elapsed time and custodians of the sample from the time of its collection. The individuals who have physically handled the sample or witnessed initial sample collection and packaging (e.g., a sample team member) must be identified on the form. A sample team member relinquishes the sample by signing the Chain of Custody form. Individuals who either relinquish or receive samples must include their complete names, company affiliation, and the date and time the samples were relinquished and received. The times the samples are relinquished and received by the next custodian should coincide, with the exception of transfer by commercial carriers. Commercial carriers will not be required to sign the Chain of Custody form; however, their waybill or shipment tracking number must be included on the Chain of Custody form as described below.

If a sample is to be stored for a period of time (e.g., overnight), measures are to be taken to secure the sample container in a manner that provides only the custodian of record with access. If samples are relinquished to a commercial carrier (e.g., UPS, Federal Express), the carrier waybill or shipment tracking number will be recorded and a copy of the waybill will be attached to the Chain of Custody form. These documents are maintained with other field documentation. The original Chain of Custody form will be sealed inside the shipping container with the samples.

If a correction is made to the Chain of Custody form, the correction should be made by the originator of the change, who will draw a single line through the error; initial and date the correction; and, if necessary, provide an explanation of the change. The documentation should have sufficient detail to clearly document the change to a third-party reviewer.

7.0 SAMPLE ANALYSIS

This section summarizes analytical laboratory methodology. OnSite has been selected as the analytical laboratory for this project. OnSite is Ecology-certified and meets Ecology and EPA QA/QC requirements.

7.1 ANALYTICAL METHODOLOGY

Analytical methods for performance and/or confirmation soil samples for constituents of concern for the cleanup action identified in the Cleanup Action Plan include:

- Total petroleum hydrocarbons as diesel-range organics and as oil-range organics by Northwest Method NWTPH-Dx;
- Total petroleum hydrocarbons as gasoline-range organics by Northwest Method NWTPH-Gx;
- Benzene by EPA Method 8021B;
- Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270D/SIM; and
- Total naphthalenes (a sum of naphthalene, 2-methylnaphthalene, and 1 methylnaphthalene) and cPAHs by EPA Method 8270D/SIM.

Farallon may perform additional laboratory analyses if unforeseen conditions are encountered (e.g., a previously unknown area of soil contamination is discovered) during the cleanup action excavation in order to adequately assess the soil for disposal. Any additional analysis of soil samples will be conducted in accordance with the sampling requirements described in MTCA (Table 830-1 of WAC 173-340-900).

Although the soil sample analytical turnaround times will vary depending on the cleanup action excavation schedule, most performance and confirmation soil samples will require expedited turnaround times to prevent potential construction delays.

Analytical method containers, preservation, and holding times for the planned analytical methods include the following:

- Total petroleum hydrocarbons as diesel-range organics and as oil-range organics by Northwest Method NWTPH-Dx:
    - Sample container: one 4-ounce, laboratory-supplied, clear wide-mouth jar;
    - Preservation: chilled to less than 6 degrees Celsius;
    - Holding time: 14 days to extraction and 40 days to analyze after extraction; and
    - Standard turnaround time: 5 working days.

- Total petroleum hydrocarbons as gasoline-range organics by Northwest Method NWTPH-Gx:
    - Sample container: one 4-ounce, laboratory-supplied, clear wide-mouth jar;
    - Preservation: chilled to less than 6 degrees Celsius;
    - Holding time: 14 days to analyze; and
    - Standard turnaround time: 5 working days.
- Benzene by EPA Method 8021B:
    - Sample containers: one 40-milliliter laboratory-supplied volatile organic analysis container without a stir bar; one 4-ounce, clear wide-mouth jar;
    - Preservation: chilled to less than 6 degrees Celsius;
    - Holding time: 14 days to analyze; and
    - Standard turnaround time: 5 working days.
- Total naphthalenes and cPAHs by EPA Method 8270D/SIM:
    - Sample container: one 4-ounce, laboratory-supplied, clear wide-mouth jar;
    - Preservation: chilled to less than 6 degrees Celsius;
    - Holding time: 14 days to extraction and 40 days to analyze after extraction; and
    - Standard turnaround time: 7 working days.

With laboratory pre-approval, it may be possible to collect one sample container for more than one analysis. If additional analyses are to be conducted for unforeseen conditions, contact the laboratory for specifics of the methods regarding containers, preservation, holding times, and standard turnaround times.

Reporting limits will be the analytical laboratory's practical quantitation limits, which are the lowest concentrations that can be reliable measured during routine laboratory operation conditions using approved methods.

Farallon will obtain analytical results from the laboratory in electronic format and the data will undergo a QA/QC review at the time of receipt by the Farallon QA/QC Manager. The analytical results will be compiled into the Farallon project database by the Farallon Data Manager, and plotted on draft Lift Maps as needed. Updated Lift Maps will be used to evaluate whether sufficient performance and/or confirmation soil samples have been collected to meet the requirements of MTCA and the Ecology Guidance.

7.2 ANALYTICAL LABORATORY QUALITY CONTROL CHECKS

Internal analytical laboratory QC checks will be used to monitor data integrity. These checks will include method blanks, internal standards, surrogate standards, and calibration standards.

Surrogate recoveries will be evaluated using laboratory control limits. Laboratory control charts will be used to determine long-term instrument trends.

Results of QC samples from each sample group will be reviewed by the laboratory immediately following sample group analysis. The QC sample results will then be evaluated to determine whether control limits have been exceeded. If control limits are grossly exceeded in the sample group, the Farallon QA/QC Manager will be contacted immediately and a corrective action (e.g., method modifications followed by reprocessing of the affected samples) will be initiated prior to processing a subsequent group of samples.

The primary chemical standards and standard solutions used in this project will be traceable to the National Institute of Standards and Technology, the Environmental Resource Associates, the National Research Council of Canada, or other documented and reliable commercial sources. Standards will be validated to determine their accuracy by comparison with an independent standard. Any impurities identified in a standard will be documented.

7.2.1 Method Blanks

Method blanks are analyzed to assess possible laboratory contamination at all stages of sample preparation and analysis. The method blank for analyses must be less than the method reporting limit of any single target analyte or compound. If a method blank exceeds this criterion for any analyte or compound and the concentration of the analyte or compound in the samples is less than 5 times the concentration found in the method blank (10 times for common contaminants), analysis must stop, and the source of contamination must be eliminated or reduced.

7.2.2 Surrogate Spikes

Surrogates are compounds that are unlikely to occur under natural conditions and have properties similar to the analytes of interest. Surrogates are added to the samples prior to purging or extraction and are used primarily for organic samples analyzed by gas chromatography and/or mass spectrometry methods. The surrogate spike provides broader insight into the proficiency and efficiency of an analytical method on a sample-specific basis. This control reflects analytical conditions that may not be attributable to the sample matrix. The project samples and associated sample QC to be analyzed by organic methods will be spiked with appropriate surrogate compounds as defined in the analytical methods.

7.2.3 Calibration Check Standards

Calibration check standards analyzed within a particular analytical series provide information regarding instrument stability and validate instrument calibration. The analytical frequency of calibration check standards is specified by the analytical method.

7.3 LABORATORY DELIVERABLES

The analytical laboratory will provide analytical results and associated documentation for each sample in a data package for each sample delivery group or analytical batch as specified in Section

4.2, Laboratory Data Reports. Laboratory data requested on expedited turnaround times may be submitted as draft results, with the final analytical data package and electronic deliverables to follow within a turnaround time of 1 business day from the time of sample receipt at the laboratory for performance and confirmation soil samples.

8.0 REFERENCE

Washington State Department of Ecology (Ecology). 2016. *Guidance for Remediation of Petroleum Contaminated Sites.* (Revised.) Publication No. 10-09-057. Washington State Department of Ecology Toxics Cleanup Program. June.

ATTACHMENT 1
FIELD FORMS

SAMPLING AND ANALYSIS PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

FIELD REPORT

Page ___ of ___

Date: _____ **Project #:** _____ **Task #:**_____

Project: _____ **Site Address:** _____

Client: _____ **Contractor:** _____

Weather: _____ **Temp:** _____

Equipment Used: _____

Hours: _____ _____ **Mileage:** _____ **Project Manager:** _____

Contractor *Staff*

Prepared By: _____ **Reviewed By:** _____

Comments:

FIELD REPORT (continued)

Page ___ of ___

Project: _____ Date: _____ Project #: _____ Task #:_____

FARALLON CONSULTING

Sheet____of____

Soil Sample Data Log

Date: _____ **Project Name:** _____ **Farallon P/N:** _____

PID Model & Serial No: _____ **Calibration Date/Standard:** _____

Headspace Container: ☐ 16 oz glass ☐ 8 oz glass ☐ Zip-loc ☐ Other

Sample Method: ☐ Hand auger ☐ Direct push ☐ Split spoon ☐ Corer ☐ Other

Equip Decon: ☐ Tap water wash ☐ DIST/DEION 1 Rinse ☐ Isopropanol ☐ Analyte-free final rinse ☐ Tap water final rinse

☐ Alconox wash ☐ Liquinox Wash ☐ DIST/DEION 2 rinse ☐ Other solvent ☐ DIST/DEION final rinse ☐Air Dry

Test Pit/Boring Location	Sample ID	Time	Depth	PID	Odor	Sheen Tare Weight	Staining Field Weight	Containers	Lithological Description Remarks

2 oz = two-ounce jars

4 oz = four-ounce jars

OnSite
Environmental Inc.

14648 NE 95th Street
Redmond, WA 98052
(425) 883-3881

Client _____

Project _____

Sample ID _____

Date _____ Time _____

Analysis _____ Preservative _____

Chain of Custody

Page _____ of _____

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company:

Project Number:

Project Name:

Project Manager:

Sampled by:

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Day ☐ 3 Day

☐ Standard (7 working days)

☐ _____ (other)

Laboratory Number:

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH					% Moisture

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by					
Received by					
Relinquished by					
Received by					
Relinquished by					
Received by					

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Soil Disposal Tracking Sheet
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

											Farallon Field or Office
Date Transported	Time Leave Site	Transporter	Truck Identification	Container Identification (as applicable)	Bill of Lading	Destination Landfill	Field Classification (1, 2, 3, 3+)	Grid Location	Depth (feet below ground surface)	Elevation (feet relative to mean sea level)	Comments

APPENDIX H
HEALTH AND SAFETY PLAN

INTERIM ACTION WORK PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Baker City
California
Oakland | Folsom | Irvine

HEALTH AND SAFETY PLAN

CONSTRUCTION SUPPORT AND SOIL EXCAVATION
SOUTH LAKE UNION BLOCK 38 WEST PROPERTY
500 THROUGH 536 WESTLAKE AVENUE NORTH
SEATTLE, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 397-019

For:
City Investors IX LLC
c/o Vulcan Inc.
505 5th Avenue South, Suite 900
Seattle, Washington 98104

September 12, 2019

HEALTH AND SAFETY PLAN
REVIEW AND APPROVAL

Client: City Investors IX, LLC

Facility Name: South Lake Union Block 38 West Property

Type of Work: Construction support and soil excavation

Project No.: 397-019

Start Date: September 13, 2019

End Date: March 13, 2020

Plan Expiration Date: March 13, 2020 (Last day of expected field work or no longer than 6 months)

APPROVED BY:

Suzy Stumpf
Project Manager

Signature

September 12, 2019
Date

Joseph Rounds
Health and Safety Coordinator

Signature

September 12, 2019
Date

Clifford T. Schmitt
Principal-in-Charge

Signature

September 12, 2019
Date

This Health and Safety Plan (HASP) was written for the use of Farallon Consulting, L.L.C. (Farallon) and its employees. It may be used also by trained and experienced Farallon subcontractors as a guidance document. However, Farallon does not guarantee the health or safety of any person entering this site.

Due to the potentially hazardous nature of the site and the activities occurring thereon, it is not possible to discover, evaluate, or provide protection for all possible hazards that may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but does not eliminate, the potential for injury. The health and safety guidelines in this HASP were prepared specifically for this site, its conditions, purposes, dates of field work, and personnel, and must be amended if conditions change.

Farallon claims no responsibility for the use of this HASP by others. This HASP will provide useful information to subcontractors and will assist them in developing their own HASP, but it should not be construed as a substitute for their own HASP. Subcontractors should sign this HASP (see Attachment 1, *Health and Safety Plan Acknowledgment and Agreement Form*) as an acknowledgement of hazard information and as notice that this HASP does not satisfy their requirement to develop their own HASP.

CONTENTS

ATTACHMENTS

1.0 SITE-SPECIFIC INFORMATION

Information specifically pertaining to the project site, the scope of work for the project, and related safety concerns are discussed in this section.

1.1 BACKGROUND INFORMATION

Farallon Consulting, L.L.C. (Farallon) has prepared this Health and Safety Plan (HASP) for the property at 500 through 536 Westlake Avenue North in the South Lake Union area of Seattle, Washington comprising the western half of the block between Mercer Street to the north, an alley bisecting Block 38 to the east, Republican Street to the south, and Westlake Avenue North to the west, which is commonly known as the Block 38 West Property (herein referred to as the Site). The Site consists of King County Parcel Nos. 1983200196, 1983200180, and 1983200170, totaling 1.05 acres of land formerly occupied by an office building, a retail store, and a restaurant, which currently are being demolished.

Redevelopment of the Site is scheduled to begin in late 2019 and will entail construction of a multistory mixed-use building (the Building) with a preliminary design for five stories above street level and four levels of parking below street level. The planned finished floor elevation of the lowest level of parking is -2.5 feet North American Vertical Datum of 1988 (NAVD88). Construction of the Building will require mass excavation across the entirety of the Site. The excavation sidewalls will be retained using soldier pile and lagging shoring methods in conjunction with four rows of tiebacks. The bottom of the footing elevation for the majority of the foundation will be about -10 feet NAVD88, or approximately 39 to 49 feet below existing grade throughout the Site. Excavation for elevator cores likely will extend below the mass excavation subgrade.

Hazardous substances were detected in soil and groundwater samples collected from some locations at the Site during subsurface investigations at concentrations exceeding Method A cleanup levels specified in the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code. Construction of the Building will require managing soil and groundwater impacted with hazardous substances. Cleanup of impacted soil and groundwater will be conducted in conjunction with construction of the Building as an independent action in accordance with MTCA without direct oversight or approval by the Washington State Department of Ecology.

Farallon's role in the next phase of work is to provide soil sampling and stockpile segregation advice to the excavation contractor and to observe and collect soil or groundwater samples from borings and wells at the Site.

1.2 SCOPE OF WORK

This HASP was prepared for the use of Farallon personnel while performing the following tasks at the Site in accordance with the following documents (collectively referred to as the Scope of Work):

- *South Lake Union Block 38 West Property, Recommended Work Elements, City Investors IX LLC, Addendum No. 1*, undated, prepared by Farallon;

- *South Lake Union Block 38 West Property, Recommended Work Elements – Addendum No. 4*, undated, prepared by Farallon; and
- *South Lake Union Block 38 West Property, Recommended Work Elements – Addendum No. 5* dated September 6, 2019, prepared by Farallon.

The Scope of Work includes the following tasks pertinent to this HASP:

- Task 3: Phillips 66-Related Contamination. Task 3 has been developed to provide technical support during the installation of dewatering wells and excavation of the drill pit at Block 37, which is required for the installation of conveyance lines associated with the dewatering system for the redevelopment at the Site. Petroleum-impacted soil and groundwater is expected to be encountered during the excavation of the drill pit due to historical releases of petroleum at Block 37. Farallon will provide technical support to evaluate and profile impacted soil or groundwater encountered during the installation of dewatering wells and conveyance lines. The technical support will include the following work elements:
    - Planning and coordinating with Phillips 66 for the scheduled work activities.
    - Observing and collecting soil samples during the installation of dewatering wells at Block 37.
    - Providing technical assistance to profile and dispose of impacted soil that will be generated during the excavation for the conveyance lines at Block 37.
- Task 13: Construction Dewatering Support. Farallon will provide technical support during the design of certain components of the dewatering system (i.e., well heads, conveyance piping, treatment system for chlorinated volatile organic compounds), observation during installation of the dewatering conveyance pipe under Mercer Street and the dewatering wells at the Site. The activities for Task 13 include:
    - Collecting soil samples during installation of the dewatering conveyance pipe under Mercer Street either from cuttings as they are generated or from stockpiled material for laboratory analysis.
    - Collecting soil samples during drilling at select dewatering wells on the Site for lithologic logging and screening for indications of contamination.
- Task 14: Mass Excavation Support. Farallon will provide construction support and planning at the Site during the mass excavation. The activities for Task 14 will include the following:
    - Observing test-pitting activities that will include using a track-hoe to excavate to depths of approximately 15 feet below ground surface.
    - Collecting soil samples from the test pits for lithologic logging and screening for indications of contamination.
    - Observation of mass excavation of impacted soil during day shifts, with night shifts if necessary.
    - Collection of performance and confirmation soil samples during mass excavation activities.

The excavation subcontractor will be responsible for coordinating loading and off-Site disposal of each truck and/or container load of clean and impacted soil during construction. In addition, the general contractor will be responsible for setup, operation, maintenance, and reporting of wastewater discharges during the redevelopment project.

The tasks and subtasks will be conducted in a manner consistent with the methods and assumptions outlined in the Scope of Work.

1.3 SITE-SPECIFIC SAFETY CONCERNS

This phase of the project involves mass excavation of impacted soil, drilling and well installation, excavation dewatering, and the potential for monitoring well abandonment or underground storage tank (UST) removal. Specific hazards that the field employee(s) will encounter on this project include, but are not limited to:

- Working around heavy equipment;
- Working with hand tools and small mechanical equipment;
- Working in an open excavation with major redevelopment work;
- Working in an area where crane use is ongoing;
- Pedestrian traffic;
- Truck traffic;
- Pinch points;
- Work exclusion zone safety;
- Slips, trips, and falls;
- Loud noise;
- Chemical exposure related to impacted soil, groundwater, and windblown dust; and
- Environmental hazards, including exposure to sun, heat, and cold.

2.0 DRUG AND ALCOHOL POLICY

It is Farallon's policy to maintain a drug-free workplace. Farallon has a responsibility to all of its staff members to provide a safe and inoffensive work environment, and a responsibility to its clients to provide accurate and consistent service. For these reasons, Farallon prohibits the following behavior by staff members in the field:

- Use of tobacco in any form by any person at any time in sensitive or hazardous areas that may pose a health and safety or environmental risk. The Site Health and Safety Officer (SHSO) may designate an area away from hazards that is safe for tobacco use.
- Possession or consumption of alcohol and/or marijuana, or being under the influence of alcohol and/or marijuana during field activities.
- Abuse of prescription and/or over-the-counter drugs in such a manner as to negatively impact performance or field safety.
- Possession, use, sale, or being under the influence of illicit drugs while in the field or during any work hours.

Violation of any of the above codes of conduct is grounds for immediate removal from the project Site and discipline in accordance with Farallon company policy. If an incident occurs as a result of an employee's actions, drug and alcohol testing will be performed in accordance with Farallon company policy.

3.0 WEAPONS POLICY

Farallon employees, contractors, subcontractors, and their employees working at the Site are to ensure that they do not bring weapons onto the work site. Weapons include but are not limited to guns, knives, and explosives. Tools that are used during the course of field events, including but not limited to box knives, are exempt from this weapons policy. All vehicles and persons can be subjected to search while working at the property.

Failure to comply with the weapons policy can result in disciplinary action for the individual(s) involved in accordance with Farallon company policy.

4.0 INCIDENT PREPAREDNESS AND RESPONSE

Farallon employees and subcontractors working at the Site must be prepared to respond appropriately to an incident involving injury, illness, death, spills, or utility breaches. This section outlines the degree of preparedness required for employees at a work site, and describes the actions to be taken in the event of a health and safety incident.

4.1 HEALTH AND SAFETY PREPAREDNESS

All individuals working at the Site are required to be familiar with the contents of this HASP. Additionally, the items on the following health and safety preparedness list should be reviewed prior to the commencement of work and during daily health and safety meetings:

- The directions to the hospital (provided in Attachment 2);
- The locations of first aid kits, personal eye washes, and fire extinguishers (located in Site vehicles);
- The locations of the keys to Site vehicles; and
- Hand sign language providing for the immediate stoppage of work (such as a horizontal hand movement in front of the neck).

Additional topics for daily health and safety meetings are included in Attachment 3, Potential Topics for Daily Health and Safety Meeting. Participation in daily health and safety meetings should be documented in Attachment 4, Daily Health and Safety Briefing Log.

4.2 INJURY OR ILLNESS

If an injury or illness occurs, the following actions should be taken, regardless of the severity of the injury or illness:

- Stop work.
- Determine whether emergency response staff (e.g., fire, ambulance) are necessary. If so, dial 911 on a cell phone or the closest available telephone. Describe the location of the injured person and provide other details as requested. If an individual requires non-emergency medical care at a hospital, follow the directions to the nearest hospital, which are provided in Attachment 2. IF EMERGENCY MEDICAL CARE IS NEEDED, CALL 911.
- Administer first aid to the individual immediately, using the first aid kit provided in the Site vehicle. Use the bloodborne pathogens kit and personal eyewash, as needed.
- Notify the SHSO immediately. The SHSO is responsible for preparing and submitting an Incident Report form to Farallon's Health and Safety Coordinator (HSC) within 24 hours of the incident, and for notifying the employee's supervisor and the Principal-in-Charge. The Incident Report form is provided in Attachment 5.

- ***All incidents must be reported to the HSC within 24 hours; however, the actual investigation need not be completed within 24 hours***. **A telephone message that includes the date, time, and general incident circumstances should be left at one of the following numbers if the HSC cannot be reached directly**:
    - HSC work phone: (425) 295-0800
    - HSC cell phone: (206) 484-2748
    - If the HSC cannot be located, contact the Principal-in-Charge
- The SHSO will assume responsibility during a medical emergency until emergency response personnel arrive at the Site.

4.3 REPORTING PROCEDURES FOR MINOR CUTS, SCRATCHES, BRUISES, ETC.

Every occupational illness or injury is to be reported immediately by the employee to the SHSO. The SHSO is to complete the Incident Report form provided in Attachment 5, and report the incident to the HSC.

4.4 NEAR MISSES

A near miss is defined as an incident in which no personal injury is sustained and no property damage is incurred, but in which injury and/or property damage could have occurred under slightly different timing or location.

In the event of a near miss, the following actions are to be taken:

- Stop work if there is immediate danger of injury or property damage;
- Report the near miss to the SHSO as soon as practicable;
- Resume work upon satisfactory resolution of the near-miss condition, if work was stopped, and document the corrective action(s) taken by the SHSO; and
- Complete and submit the Near Miss Report and Safety Observation Report form in Attachment 6 to the HSC within 2 business days.

4.5 MEDICAL INCIDENTS NOT REQUIRING AMBULANCE SERVICE

Medical incidents not requiring ambulance services include injuries and conditions such as minor lacerations and sprains. In the event of an injury, an illness, or a condition that does not require ambulance service, the following actions are to be taken:

- Stop work.
- Administer first aid as necessary to stabilize the individual for transport to the hospital.
- The SHSO is to facilitate prompt transportation of the individual to the hospital. Directions to the nearest hospital are provided in Attachment 2.

- A representative of Farallon or the subcontractor is to drive the individual to the medical facility and remain at the facility until the individual is able to return to the work site, or arrangements for further care have been established.
- If the driver is not familiar with the route to the hospital, a second person who is familiar with the route is to accompany the driver and the injured employee to the hospital.
- If it is necessary for the SHSO to accompany the injured employee to a medical facility, provisions must be made for another employee who is trained and certified in first aid to act as the temporary SHSO before work at the work site can resume.
- If the injured employee is able to return to the work site the same day, he/she is to bring a statement from the doctor that provides the following information:
    - Date of incident
    - Employee's name
    - Diagnosis
    - Date he/she is able to return to work, and whether regular or light duty
    - Date he/she is to return to the doctor for a follow-up appointment, if necessary
    - Signature and address of doctor
- The SHSO is to complete the Incident Report form provided in Attachment 5, and report the incident to the HSC.
- If the injured employee is unable to return to the work site the same day, the employee who transported him/her should bring the statement from the doctor back to the work site. The information on this statement should be reported to the HSC immediately.

4.6 EMERGENCY CASES REQUIRING AMBULANCE SERVICE

In the event of an injury or illness that requires emergency response and transport to a hospital by ambulance the following actions should be taken:

- **Dial 911** to request ambulance service;
- Notify the SHSO;
- Administer first aid until the ambulance service arrives;
- One designated company representative should accompany the injured employee to the medical facility and remain there until final diagnosis, treatment plan, and other relevant information has been obtained; and
- The SHSO is to complete the Incident Report form provided in Attachment 5, and report the incident to the HSC immediately.

4.7 EMPLOYEE DEATH, OR HOSPITALIZATION OF ONE OR MORE EMPLOYEES

The procedures outlined in Section 6.2 should be followed in the event of an employee injury or illness. If an employee fatality occurs, the HSC, local emergency personnel, and the coroner must be notified **immediately**. **The HSC will initiate the required State of Washington Department of Labor and Industries and Occupational Safety and Health Administration (OSHA) notifications within 8 hours of a fatality or the hospitalization of one or more employees.**

4.8 RESPONSE TO SPILLS OR UTILITY BREACHES

The location of underground utilities (e.g., product, sewer, telephone, fiber optic) and facilities (e.g., USTs, septic tanks, utility vaults) is to be noted prior to commencement of intrusive subsurface work activities. Use the public and private locate services as required and complete the Utility Clearance Log (Attachment 7). If a utility line or tank is breached or a spill or release occurs, the event is to be documented on the Incident Report form provided in Attachment 5 as soon as possible. The date, time, name of the person(s) involved, actions taken, and discussions with other affected parties are to be included. The SHSO, Project Manager (PM), and client are to be notified immediately. The PM is to notify the regulatory authority and/or utility company, as necessary.

In the event of a spill or release, the following actions should be taken:

- Stay upwind of the spill or release.
- Don appropriate personal protective equipment (PPE).
- Turn off equipment and other sources of ignition.
- Turn off pumps and shut valves to stop the flow or leak.
- Plug the leak or collect drippings, if possible.
- Use sorbent pads to collect the product and impede its flow, if possible.
- Dial 911 or telephone the local fire department immediately if a fire or another emergency situation develops.
- Inform the Farallon PM of the situation.
- Determine whether the client would like Farallon to repair the damage or would rather use an emergency repair contractor.
- Advise the client of spill discharge notification requirements, and establish who will complete and submit the required forms. ***Do not report or submit information to an agency without the client's consent.*** Document each interaction with the client and regulators, and note in writing names, titles, authorizations, refusals, decisions, and commitments to any action.

- Do not transport or approve transportation of contaminated soils or product until proper manifests have been completed and approved. Be aware that soil and/or product may meet criteria for hazardous waste.
- Do not sign manifests as a generator of wastes. Contact the PM to discuss waste transportation.

4.9 NOTIFICATIONS

A spill or release requires completion of an Incident Report form (provided in Attachment 5) per Farallon's Health and Safety program. **The PM must involve the client and/or generator in the incident reporting process. The client and/or generator is under obligation to report the incident to the appropriate government agency(ies). If the spill extends into waterways, the Coast Guard and the National Response Center must be notified immediately by the client or with client permission (1-800-424-8802).**

4.10 SHUTOFF VALVES AND/OR SWITCHES FOR UTILITIES AND PRODUCTS

Before starting work, locate, discuss, and list on the Daily Health and Safety Briefing Log the locations of utility and product line shutoff valves and switches on the work site. Review the location of shutoff valves and switches with other field personnel before beginning work.

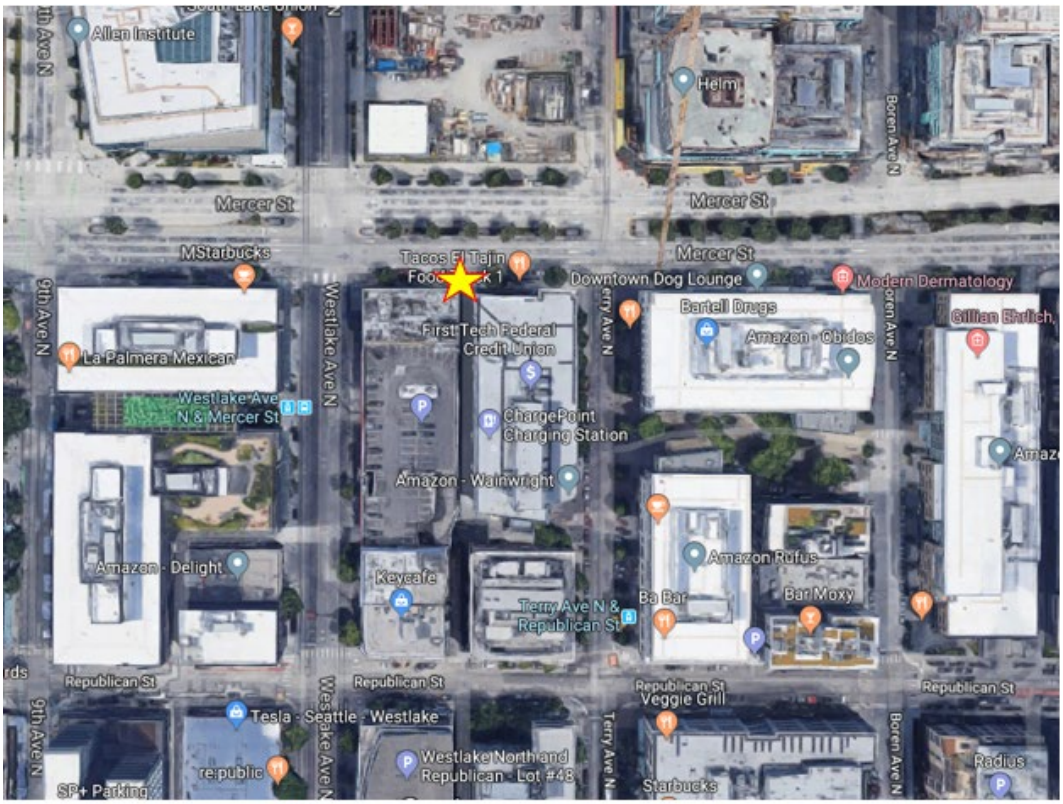
5.0 EMERGENCY RESPONSE AND EVACUATION PLAN

Farallon personnel and subcontractors working on the Site are to be aware of Site-specific emergency and evacuation procedures, including alarm systems and evacuation plans and routes. If an incident occurs that requires emergency response, such as a fire or spill, **CALL 911 and request assistance**. Farallon staff, subcontractors, and/or others working in an area where an emergency occurs are to evacuate to a safe location away from the incident area, preferably upwind, and take attendance.

For this project, the emergency evacuation gathering location is directly south of Mercer Street, on the northern boundary and at the northeast corner of the Block 38 West Property.

If the emergency causes the route to be obstructed, Farallon personnel and subcontractors are to move to an open area upwind of the hazard area, and remain there until instructed by emergency response personnel (e.g., police, fire, ambulance personnel, paramedics) to do otherwise.

Subcontractors have the responsibility to account for their own employees and provide requested information to emergency response personnel immediately upon request. Farallon staff, subcontractors, and/or contractors may not reenter the scene of the emergency without specific approval from emergency response personnel.



Emergency Meeting Location

6.0 LOCAL EMERGENCY CONTACT NAMES AND TELEPHONE NUMBERS

Local emergency response personnel can be contacted at the following numbers. Directions and a map to the hospital are included in Attachment 2.

Emergency Contact	Name and Location	Telephone No.
Hospital	Virginia Mason Hospital and Seattle Medical Center 1100 9th Avenue Seattle, Washington	(206) 223-6600
Police	Seattle Police Department – West Precinct 810 Virginia Street Seattle, Washington	**911** or (206) 625-5011
Fire	Seattle Fire Station 2 2320 4th Avenue Seattle, Washington	**911** or (206) 386-1400
National Response Center		**1-800-424-8802**
Washington State Department of Ecology		**(360) 407-6300**
Poison Control		**1-800-222-1222**

7.0 PROJECT PERSONNEL AND RELEVANT INFORMATION

The following section provides contact information for the project and the HSC and client-specific health and safety requirements. Farallon field personnel training and medical surveillance dates are included in Attachment 8.

7.1 PROJECT PERSONNEL CONTACT INFORMATION

Questions about this project that are posed by neighbors, the press, or other interested parties should be directed to the Principal-in-Charge at Farallon: (425) 295-0801.

PERSONNEL TITLE PERSONNEL NAME PERSONNEL CONTACT INFORMATION	GENERAL PROJECT RESPONSIBILITIES
Health and Safety Coordinator Joseph Rounds Office: (425) 295-0800 Cell: (206) 484-2748	Provide support in implementing HASP. Provide immediate support upon notice of any incident.
Principal-in-Charge Clifford Schmitt Office: (425) 295-0801 Cell: (425) 765-3365	Provide immediate support upon notice of any incident.
Project Manager Suzy Stumpf Office: (425) 394-4442 Cell: (303) 489-1032	Provide immediate support upon notice of any incident.
Client Contact Sean Biehl Office: (206) 342-2614	Provide known analytical data from work performed by others. Provide notice of Site hazards. Provide access to Site. Provide information regarding available emergency supplies at the Site.

8.0 POTENTIAL CHEMICAL EXPOSURE

Farallon employees working at the Site may become exposed to the chemicals listed in the table below. These chemicals are present either due to current Site activities or due to the presence of contamination. This table should be reviewed prior to the start of work and questions directed to the SHSO. Air monitoring may be required at the Site based on the scope of work for the project. The Farallon Project Manager and SHSO will let the Farallon Field Scientists know if air monitoring will be required for the scope of work.

The air monitoring table and forms are included in Attachment 9.

POTENTIAL AIRBORNE CHEMICALS ON SITE FOR THIS PROJECT REVIEW THIS TABLE AND CONTACT THE SHSO WITH ANY QUESTION						
Chemical (or Class)	**OSHA PEL ACGIH TLV**	**Other Pertinent Limits**	**Properties**	**Routes of Exposure or Irritation**	**Acute Health Effects**	**Chronic Health Effects/ Target Organs**
Tetrachloroethene (perchloroethylene)	PEL – 100 ppm TLV – 25 ppm	PEL C – 200 ppm TLV STEL – 100 ppm IDLH – 150 ppm NIOSH considers this compound to be a carcinogen.	Colorless liquid with a mild, chloroform-like odor.	Inhalation; skin absorption; ingestion; eye contact.	Irritation to eyes, skin, nose, throat, respiratory system; nausea; flushed face, neck; vertigo (an illusion of movement); dizziness; lack of coordination; headache; skin erythema (redness).	Somnolence (sleepiness, unnatural drowsiness); liver damage; potential occupational liver carcinogen. **Target Organs:** Eyes, skin, respiratory system, liver, kidneys, CNS.
Toluene	PEL – 200 ppm TLV – 50 ppm	NIOSH REL – 100 ppm TWA; 150 ppm STEL ILDH – 500 ppm	Sweet, pungent, benzene-like odor.	Eye contact.	Skin (dermatitis); eye, respiratory tract irritant; headache; dizziness; weakness; fatigue.	CNS; liver; kidneys; skin.
Benzene	PEL – 1 ppm TLV – 0.5 ppm (skin)	PEL STEL – 5 ppm IDLH – 500 ppm	Characteristic benzene odor.	Inhalation; dermal; ingestion; eye contact.	Skin (dermatitis); eye, respiratory tract irritant; headache; dizziness; nausea.	Carcinogen; CNS; eye damage; bone marrow; blood; skin; leukemia.
Naphthalene	PEL – 10 ppm TLV – 10 ppm	TLV STEL – 15 ppm NIOSH REL – 10 ppm REL STEL – 15 ppm IDLH – 250 ppm	Mothball-like odor.	Inhalation; dermal; ingestion; eye contact.	Skin, eye, mucous membrane irritant, nausea.	Eyes, blood, skin, liver, kidney, RBC; CNS.

POTENTIAL AIRBORNE CHEMICALS ON SITE FOR THIS PROJECT REVIEW THIS TABLE AND CONTACT THE SHSO WITH ANY QUESTION						
Chemical (or Class)	**OSHA PEL ACGIH TLV**	**Other Pertinent Limits**	**Properties**	**Routes of Exposure or Irritation**	**Acute Health Effects**	**Chronic Health Effects/ Target Organs**
Xylenes	PEL – 100 ppm TLV – 100 ppm	TLV STEL – 500 ppm NIOSH REL – 100 ppm NIOSH REL STEL – 100 ppm IDLH – 900 ppm	Aromatic odor.	Inhalation; dermal; ingestion; eye contact.	Throat, skin irritant (dermatitis); headache; nausea; drowsiness; fatigue.	CNS, liver, kidneys, skin, gastrointestinal damage; eye damage.
Ethylbenzene	PEL – 100 ppm TLV – 100 ppm	PEL STEL – 125 ppm TLV STEL – 125 ppm NIOSH REL – 100 ppm REL STEL – 125 ppm IDLH – 800 ppm	Pungent, aromatic odor.	Inhalation; dermal; ingestion; eye contact.	Skin, eye, mucous membrane irritant; headache; dizziness; drowsiness.	Eyes; respiratory tract; skin; CNS; blood; kidneys; liver.
2-Butanone (methyl ethyl ketone)	PEL – 200 ppm TLV – 200 ppm	NIOSH REL – 200 ppm REL STEL – 300 ppm TLV STEL – 300 ppm	Colorless liquid with a moderately sharp, fragrant, mint- or acetone-like odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, skin, nose; headache; dizziness; vomiting; dermatitis.	Eyes; skin; respiratory system; CNS.
Lead	PEL – 0.05 mg/m^3 TLV – 0.05 mg/m^3	IDLH – 100 mg/m^3	A heavy, flexible, soft, gray solid.	Inhalation; dermal; ingestion; eye contact.	Lassitude (weakness, exhaustion); abdominal pain; gingival lead line; tremor; irritation to eyes; hypotension.	Insomnia; facial pallor; anorexia; weight loss; malnutrition; constipation; colic; anemia; paralysis of wrist, ankles; kidney disease; encephalopathy; potential for damage to eyes, gastrointestinal tract, CNS, kidneys, blood, gingival tissue.

POTENTIAL AIRBORNE CHEMICALS ON SITE FOR THIS PROJECT REVIEW THIS TABLE AND CONTACT THE SHSO WITH ANY QUESTION						
Chemical (or Class)	**OSHA PEL ACGIH TLV**	**Other Pertinent Limits**	**Properties**	**Routes of Exposure or Irritation**	**Acute Health Effects**	**Chronic Health Effects/ Target Organs**
Vinyl chloride	PEL – 1 ppm TLV – 1 ppm	NIOSH considers this material to be a carcinogen.	Liquid with a pleasant odor at high concentrations.	Inhalation; dermal; eye contact.	Weakness; abdominal pain; pallor or cyanosis of extremities; liquid frostbite.	Gastrointestinal bleeding; enlarged liver; potential occupational liver carcinogen; damage to CNS, blood, respiratory system, lymphatic system.
Trichloroethene (trichloroethylene)	PEL – 100 ppm TLV – 50 ppm	PEL C – 200 ppm NIOSH considers trichloroethylene to be a carcinogen.	Colorless liquid (unless dyed blue) with a chloroform-like odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, skin; headache; vertigo (an illusion of movement); visual disturbance; fatigue; giddiness; tremor; nausea; somnolence (sleepiness, unnatural drowsiness); vomiting; dermatitis.	Cardiac arrhythmias; paresthesia; liver injury; potential occupational carcinogen of liver, kidney.

NOTES:
°F = degrees Fahrenheit
ACGIH = American Conference of Governmental Industrial Hygienists
AIHA = American Industrial Hygiene Association
AIHA WEEL = AIHA-set workplace environmental exposure limits
C = ceiling limit
CNS = central nervous system
CVS = cardiovascular system
IDLH = immediately dangerous to life or health
mg/m3 = milligrams per cubic meter
NIOSH = National Institute for Occupation Safety and Health
OSHA = Occupation Safety and Health Administration
PEL = permissible exposure limit
ppm = parts per million
RBC = red blood cells
REL = recommended exposure limit set by NIOSH
Skin = skin absorption
STEL = short-term exposure limit
TLV = threshold limit value set by ACGIH
TWA = time-weighted average

9.0 POTENTIAL SITE HAZARDS AND APPROPRIATE PRECAUTIONS

Activities listed may be associated with work performed by others. The information contained in this section is for the use of Farallon personnel and not intended for use by others. The following tables list potential hazards and appropriate precautions associated with planned field work.

The following are a few basic guidelines to remember while performing field work at the Site:

- No eating, drinking, or smoking on the Site;
- No wearing contact lenses on the Site;
- No facial hair that will interfere with proper respirator fit when respirators are required; and
- A safety meeting will be held every day, even if only one person is working on the project on a given day.

9.1 ENVIRONMENTAL DRILLING

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Clear drilling locations.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Traffic hazards. Overhead or underground installations. Product releases. Property damage. Occupant inconvenience.	• Refer to Utility Clearance Log (**Attachment 7**). • Coordinate with Site Manger (or designee) to minimize potential conflicts. • Review proposed locations against available construction drawings and known utilities, tanks, product lines, etc. • Mark out the proposed borehole locations. • Call underground utility locating service for public line location clearance and obtain a list of utilities being contacted. If necessary, coordinate private line locator for private property. • Maintain minimum distance of 5 feet from marked utilities. • Develop a traffic control plan with the client and local agencies, as applicable, which may include use of cones, barrier tape, jersey barriers, etc.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Mobilize with equipment/supplies suitable for drilling.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Vehicle accident. Lifting hazards. Delay or improper performance of work due to improper equipment on Site.	• Begin each work day with tailgate safety meeting. • Follow safe driving procedures. • Employ safe lifting procedures. • Verify that subcontractors are aware of their responsibilities for labor, equipment, and supplies. • Review permit conditions.
Visually clear proposed drilling locations.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Underground or overhead installations.	• Complete Utilities and Structures checklist on the Utility Clearance Log (provided in **Attachment 7**) and adjust drilling locations as necessary. • If drilling within 3 feet of marked utilities, must daylight utility to verify location.
Set up necessary traffic control.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Struck by vehicle during placement. Vehicle accident resulting from improper placement of traffic control equipment.	• Use buddy system for implementing traffic control plan, such as setting out cones and tape to define the safety area.
Assist with setup of rig.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Vehicle accident during rig movement. Damage caused by rig while accessing set-up location. Contact with overhead installations. Soft terrain. Unexpected rig movement.	• All staff should know the location of the kill switch for the drilling rig. • Verify a clear pathway to the drilling location and clearance for raising mast. • Provide hand signals and guidance to the driver, as needed, to place rig. • Visually inspect rig (e.g., fire extinguisher on board, no oil or other fluid leaks, cabling and associated equipment in good condition, pressurized hoses secured with whip-checks or adequate substitute, jacks in good condition). • Use wooden blocks under jacks to spread load, if necessary. Chock wheels.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Set up exclusion zone(s) and work stations (drilling and logging and/or sample collection).	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Struck by vehicle during setup. Slip or fall hazards.	• Implement exclusion zone setup. Set up work stations with clear walking paths to and from rig. Use safety tape and cone(s).
Clear upper 5 feet of drilling location using post-hole digger or hand auger.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, and work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, and chemical-resistant apron as required.	Back strain. Exposure to chemical hazards. Hitting an underground utility. Repetitive motion.	• Keep full-face respirator with organic vapor cartridges readily accessible. • Initiate air quality monitoring in accordance with the air monitoring protocol presented in **Attachment 9**. • Stand upwind to avoid exposure when possible. • Use the organic vapor monitor aggressively to track the airborne concentration of contaminants close to potential sources such as the core when it is raised from the hole, the core when opened, etc. • Evaluate any soil samples inside a resealable plastic bag at arm's length. DO NOT EVALUATE THE SAMPLE IN THE OPEN, IN ORDER TO AVOID UNNECESSARY EXPOSURE. • Use correct lifting techniques and tools. • Complete the Pre-Drilling section of the Borehole Clearance Review form.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Drilling.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Heat or cold. Eye injury. Noise. Exposure to chemical hazards. Breaching an underground utility. Trip or fall. Equipment failure.	• Stand clear of operating equipment. • Use correct lifting techniques. • Monitor air quality in accordance with the air monitoring protocol presented in **Attachment 9**. • Monitor drilling progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of drill rig.
Collect samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Heat or cold. Eye injury. Noise. Exposure to chemical hazards. Breaching an underground utility. Trip or fall. Equipment failure.	• Stand clear of operating equipment. • Use correct lifting techniques. • Monitor air quality in accordance with the air monitoring protocol presented in **Attachment 9**. • Monitor drilling progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of drill rig.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Manage cuttings.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Heat or cold. Eye injury. Noise. Exposure to chemical hazards. Breaching an underground utility. Trip or fall. Equipment failure.	• Stand clear of operating equipment. • Use correct lifting techniques. • Monitor air quality in accordance with the air monitoring protocol presented in **Attachment 9**. • Monitor drilling progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of drill rig.
Backfill borehole.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Trip hazards. Eye injury from splashing or release of pressurized grout.	• Mix grout to specification and completely fill the hole. • Use proper lifting techniques. • Keep work area clear of tripping hazards. • Verify presence of and/or authorization by required grouting inspectors.
Develop well.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Physical injury from mechanical failure, drill rig, or air compressor. Trip hazards. Exposure to contaminants. Electric shock.	• Verify that equipment is in good working order and that pressurized hoses are whip-checked. • Keep full-face respirator with organic cartridges readily accessible. • Keep work area orderly. • Any generators must be equipped with a ground fault circuit interrupter.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Gauge water levels and product thickness in wells, where applicable.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Inhalation or dermal exposure to chemical hazards. Repetitive motion.	• Have full-face respirator with organic cartridges readily accessible. • Conduct air quality monitoring in accordance with the protocol presented in **Attachment 9.** • Maintain a safe distance from the well head. • Bend at knees rather than at the waist.
Purge well(s) and collect purge water.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Inhalation or dermal exposure to chemical hazards. Slip or fall. Contaminated water spill.	• Use proper lifting techniques. • Use PPE, and adhere to air monitoring guidelines as presented in **Attachment 9**. • Keep work area clear of tripping or slipping hazards. • Store purge water in appropriate containers.
Collect groundwater samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cross-contamination. Back strain. Inhalation or dermal exposure to chemical hazards. Slip or fall. Improper labeling or storage of samples. Injury from broken sample bottle (cuts or acid burns).	• Decontaminate sampling equipment between each well (unless disposable). • Use proper lifting techniques. • Have full-face respirator with organic cartridges within 3 to 5 feet of working location, and readily accessible. • Label samples in accordance with sampling plan. • Keep samples stored in appropriate containers, at correct temperature, and away from work area. • Handle bottles carefully.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Dispose of or store any purge water on the Site.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Exposure to contaminants.	• Use suitable equipment to transport water (e.g., pumps, drum dollies). • Have full-face respirator with organic cartridges within 3 to 5 feet of working location, and readily accessible. • Label storage containers properly, and locate in an isolated area away from traffic and other Site functions. • Coordinate off-Site disposal (where applicable).
Clean the Site; demobilize.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Traffic. Lifting hazards.	• Use buddy system to remove traffic control, as necessary. • Leave the Site clear of refuse and debris. • Clearly mark or barricade any borings that need topping off or curing at a later time. • Notify Site personnel of departure, final well locations, and any cuttings and/or purge water left on the Site. • Use proper lifting techniques.
Package and deliver samples to laboratory.		Back strain. Traffic accidents.	• Handle and pack bottles carefully (e.g., bubble wrap bags). • Use proper lifting techniques. • Apply safe driving practices.
Typical work.	Steel-toed and -shank shoes, hard hat, safety glasses with side shields, hearing protection, reflective safety vest, leather gloves for non-chemical aspects of work. Chemical-resistant gloves and apron if chemical exposure is suspected.	Weather-related incidents: automobile accidents, slips or falls.	• Check weather reports daily. Project visits are not to be performed during inclement weather. Sampling may be performed during light rain mist. Wear raincoats. • Drive at speed limit or less, as needed, to keep a safe distance from vehicle in front. Avoid short stops.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Typical work.		Cold stress.	• For temperatures below 40°F, adequate insulating clothing must be worn. If the temperature is below 20°F, workers will be allowed to enter a heated shelter at regular intervals. Warm, sweet drinks should be available. Coffee intake should be limited. • No one should begin work or return to work from a heated shelter with wet clothes. • Workers should be aware of signs of cold stress, such as heavy shivering, pain in fingers or toes, drowsiness, or irritability. Onset of any of these signs is an indication that immediate return to a heated shelter is needed. • Refer to ACGIH TLV Booklet for the section on Cold Stress.
Typical work.		Heat stress.	• Discuss health effects and symptoms during daily health and safety meetings. • Drink water regularly (at least one cup every 20 to 30 minutes, depending upon level of effort and the PPE worn). • Refer to ACGIH TLV booklet for heat stress guidance, especially regarding PPE, type of work, and frequency of breaks. • Breaks should be taken in an area cooler than the work area. • Monitor temperature and relative humidity using a wetbulb globe temperature meter.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
A safety meeting will be held every day, even if only one person is working on the project on a given day.			• Topics are to always include the work scheduled for the day and restatement of hazards and the means to avoid them. Other topics may include sampling in general, and advances in technology and how they may be applied to the project. • Use the *Daily Health and Safety Briefing Log* in **Attachment 4** to log the topics discussed.

9.2 EXCAVATION ACTIVITIES

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Clear excavation locations.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Traffic hazards. Overhead and underground installations. Product releases. Property damage. Dealer inconvenience.	• Refer to Utility Clearance Log. • Coordinate with facility contact (or designee) to minimize potential conflicts. • Review proposed locations against available construction drawings and known utilities, tanks, product lines, etc. • Mark out the proposed excavation locations. • Call the underground utility locating service for public line location clearance. Obtain a list of utilities being contacted. If necessary, coordinate private line locator for private property. • Maintain minimum distance of 5 feet from marked utilities.
Set up necessary traffic control.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Being struck by vehicle during placement. Vehicle accident as a result of improper traffic control equipment placement.	• Use buddy system to place traffic control. • Implement traffic control plan as required.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Set up exclusion zone(s) and stockpile area and establish work areas/heavy equipment pathways.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Injury or exposure to public or other Site personnel. Slip or fall hazards. On-Site vehicular accident with heavy equipment.	• Implement exclusion zone set-up instructions. • Establish clear walking paths between work stations.
Hand digging/post-holing where necessary to expose and protect underground installations as needed.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Damage to lines and associated physical hazards or property damage. Back strain. Injury or vehicle damage from falling into a hole.	• Use hand tools whenever possible. • Use proper lifting techniques. • Barricade or cover holes until job has been completed.
Assist with setup of heavy equipment.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Damage caused by heavy equipment while accessing set-up location. Being struck by equipment.	• Verify a clear pathway to excavation and stockpiling locations. • Provide hand signals and guidance to driver as needed to place rig. • Visually inspect equipment (e.g., fire extinguisher on board, no oil or other fluid leaks, cabling and associated equipment in good condition, pressurized hoses secured with whip-checks or adequate substitute, jacks in good condition). • Maintain eye contact with operator.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Commence excavation.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Heat or cold exposure. Exposure to chemical hazards. Hitting an underground or overhead utility. Flammable or oxygen-deficient atmosphere from accumulated vapors. Trip or fall. Side wall cave-in. Equipment failure. Noise.	• Monitor weather conditions and take breaks as needed for cold or hot weather. • Conduct air monitoring as presented in **Attachment 9.** Include Lower Explosive Limit (LEL) and oxygen (O_2) monitoring. If >10% LEL or O_2 <19.5%, discontinue work or ventilate area with explosion-proof equipment. • Maintain required excavation set-backs for workers and equipment. • Monitor condition of side walls and surrounding ground conditions. • Keep work area clear of tripping or slipping hazards. Perform periodic visual inspections of heavy equipment and keep equipment a minimum of 5 feet from excavation edge, or 1 foot away from the edge for every foot of depth, if greater than 5 feet deep. • Perform necessary soil classification. Slope or bench walls, or shore excavation to prevent cave-in. Keep all spoils more than 2 feet from excavation edge. Keep excavation entry controlled and equipped with required ladders and crosswalks.
Collect samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cave-in of side wall if entering excavation. Injury from heavy equipment. Exposure to Site contaminants.	• Stay out of excavation whenever possible (collect samples from backhoe bucket). • Use agreed-upon hand signals with heavy equipment operators. • Monitor air around excavation in accordance with the protocol presented in **Attachment 9**.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Store excavated materials according to Site-specific requirements.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Exposure to public. Traffic hazard, obstruction, or inconvenience to business operation. Improper storage or disposal.	• Have necessary storage containment and labeling available on the Site. • Place materials in isolated location away from traffic and other Site functions. • Stockpile excavated materials on suitable plastic or in appropriately designed container. Cover with plastic, and barricade access to waste in accordance with local regulations. • Coordinate proper disposal off the Site, where applicable.
Backfill excavation.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Being struck by heavy equipment. Side wall collapse. Damage or accidents resulting from subsequent subsidence.	• Use agreed-upon hand signals with heavy equipment operators. • Compact soils to meet specifications. • Maintain eye contact with equipment operators.
Clean the Site; demobilize.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Traffic. Safety hazard left on the Site. Lifting hazards.	• Use buddy system to remove traffic control, as necessary. • Leave Site clear of refuse and debris. • Notify business personnel of departure. • Use proper lifting techniques or use mechanical assistance.
Package and deliver samples to laboratory.		Back strain. Traffic accidents.	• Handle and pack bottles carefully (e.g., bubble wrap bags). • Use proper lifting techniques. • Apply safe driving practices.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
General			
Typical work.	Steel-toed and -shank shoes, hard hat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for non-chemical aspects of the work. If equipment contamination is suspected, wear chemical-resistant gloves during decontamination of equipment.	Weather-related incidents: automobile accidents, slips or falls.	• Check weather reports daily. Project visits are not to be performed during inclement weather. Sampling may be performed during light rain mist. Wear raincoats. • Drive at the speed limit or less as needed to keep safe distance from vehicle in front. Avoid short stops.
A safety meeting will be held each day, even if only one person is working on the project on any given day.			• Topics are always to include the work scheduled for that day, and restatement of hazards and the means to avoid them. Other topics may include sampling in general, and advances in technology and how they may be applied to the project. • Use the *Daily Health and Safety Briefing Log* provided in **Attachment 4** to log the topics discussed.

9.3 UNDERGROUND STORAGE TANK DECOMMISSIONING

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Eliminate all potential sources of ignition.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire.	• Ban smoking. • Shut down all open-flame and spark-producing equipment within vapor hazard. • Use only explosion-proof equipment in hazard area. • Ground heavy equipment that will or may touch the UST.

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Clear overburden (e.g., concrete, pavement, rebar).	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Release of product. Injury from heavy equipment. Back strain. Hand, eye, or foot injury from hand tools. Trip or fall. Noise. Traffic hazards.	• Watch for underground utilities and product piping. • Keep clear of heavy equipment. • Use agreed-upon hand signals. • Keep area as clear of loose debris and other trip hazards, as possible. • Heed vehicle backup alarm. Establish eye contact with operator.
Disconnect and drain product lines and vent lines.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Product spill. Chemical exposure.	• Use non-sparking tools. • Place containment (e.g., bucket) under points where lines will be disconnected or cut. • Cap or remove lines. • Conduct air monitoring for previous contents in accordance with **Attachment 9**.
Remove product and residues from UST.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Product spill. Chemical exposure.	• Locate vacuum truck and other vehicles upwind of UST and outside probable path of vapor dispersion. • Keep area vapor-free. • Discharge vacuum pump exhaust through a hose directed downwind of the tank area. • Use explosion-proof or air-driven pumps. Bond (or otherwise ground) pump motors and suction hoses to the tank. Avoid using plastic (PVC) or other non-conductive pick-up tubes on vacuum trucks to minimize static charge build-up.

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Purge UST vapors rather than inerting them.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Inhalation of vapors (for both workers and the public).	• Frequently test the percentage of the Lower Explosion Limit (LEL) in the bottom, middle, and top of tank. O_2 must be <10% in tank. • Bond drop tube (if not already connected) to UST. • Use hot water spray rather than steam to clean UST to minimize static build up. If using steam, bond or ground all isolated conductors and objects, including discharge hose, that are subject to impingement or condensation. • Vent purged UST fumes a minimum of 12 feet above ground and/or 3 feet above adjacent rooflines.
Inert UST vapors rather than purging them.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Inhalation of vapors (for both workers and the public). Skin burns from dry ice. Injury from compressed gas (nitrogen) cylinder failure. Bottled carbon dioxide (CO_2) condensation causing static electricity and associated explosion and/or fire hazard. Slip, trip, or fall when accessing tank. Risks from climbing ladder to access UST.	• Frequently test the percentage of O_2 in the bottom, middle, and top of tank. O_2 must be <10% in UST. • Carbon dioxide (dry ice): Avoid skin contact. Wear resistant gloves and long sleeves. • Nitrogen gas: Keep compressed gas cylinders secured; use correct regulators and cylinder caps. Introduce nitrogen, which is lighter than air, near bottom of UST to get effective purge. Bond or ground cylinder nozzle. • CO_2 (bottled gas): Not recommended because of condensation formation. If CO_2 is used, follow the precautions for nitrogen gas bottles. • Vent exhaust vapors a minimum of 12 feet above ground and/or 3 feet above adjacent rooflines.

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Prepare UST for removal from excavation.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Product spill. Slip or fall from top of UST.	• Plug or cap all accessible holes. One plug should have a 0.125-inch vent hole to allow for pressure changes.
Excavate around UST.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Injury from heavy equipment. Cave in of excavation walls. Explosion. Fire. Slip or fall due to uneven work surfaces. Struck by excavator.	• Maintain safe distance from equipment and excavation—a minimum of 1 foot away from the edge of the excavation for each foot of depth. • Stay in sight lines of operators. Use agreed-upon hand signals. Heed equipment backup alarm. Establish eye contact with operator. • Monitor air for LEL conditions and wind direction. Ventilate as needed.
Remove UST.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Snapping cables/straps. Injury from heavy equipment. Explosion. Fire. Product spill. Exposure to vapors.	• Inspect cables and strapping. • Stay clear of equipment and tank removal pathway. • Monitor air for LEL conditions, personnel exposure, and wind direction. Ventilate as needed. • Stay away from UST ends in particular, the weakest point in the event of an explosion. • Have spill containment available.

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Collect samples according to sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Collapse of side walls. Injury from heavy equipment. Slip or fall due to uneven terrain.	• Stay out of excavation. Collect samples from backhoe bucket at safe distance from edge of excavation. • Keep footing secure.
Load and transport UST and associated piping.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Material falling from truck. Explosion. Fire. Risks from equipment backing up.	• Verify that all material is secured to truck. • Recheck vapor concentrations in UST and vent as needed. • Heed backup alarms on vehicles.

9.4 MONITORING WELL SAMPLING/GAUGING

Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Mobilize with equipment/supplies suitable for sampling.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Vehicle accident. Lifting hazards. Delay or unsafe performance of work due to lack of necessary equipment on Site. Cross-contamination of wells.	• Follow safe driving procedures. • Use proper lifting techniques. • Review work plan to determine equipment/supply needs. • Verify that all sampling/gauging equipment has been decontaminated. • Bring ice for sample storage. • Review the HASP. • Gather the necessary PPE.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Set up necessary traffic control.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Struck by vehicle during placement. Vehicle accident as a result of improper traffic-control equipment placement.	• Use buddy system for placing traffic control. Refer to the traffic control plan section of the HASP (which may include specific requirements based on encroachment permit).
Set up exclusion zone(s).	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Struck by vehicle. Slip or fall hazards to workers.	• Face incoming traffic. • Implement exclusion zone setup instructions of the HASP (e.g., barricades, caution tape, cones). • Set up work area free of trip hazards.
Gauge water levels and product thickness (where applicable) in wells.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Inhalation of, or dermal exposure to, chemical hazards. Repetitive motion.	• Wear required PPE. • Initiate air quality monitoring in accordance with the HASP. • Maintain a safe distance from wellhead. • Bend at knees rather than at waist.
Purge well(s) and collect purge water.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cross-contamination. Back strain. Inhalation of, or dermal exposure to, chemical hazards. Slip or fall. Contaminated water spill.	• Decontaminate purging equipment between each sampling location. • Use proper lifting techniques. • Use PPE and conduct monitoring in accordance with the HASP. • Keep work area clear of tripping or slipping hazards. • Store purge water in appropriate containers.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Collect samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cross-contamination. Back strain. Inhalation of, or dermal exposure to, chemical hazards. Slip or fall. Improper labeling or storage. Injury from broken sample bottle (e.g., cut or acid burn).	• Decontaminate sampling equipment between each well (unless disposable equipment). • Use proper lifting techniques. • Use PPE in accordance with the HASP. • Label samples in accordance with sampling plan. • Keep samples stored in suitable containers, at correct temperature, and away from work area. • Handle bottles carefully.
Dispose of or store purge water on the Site.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Exposure to contaminants. Damage or injury from improper use of on-Site treatment system equipment. Improper storage or disposal.	• Use suitable equipment to transport water (e.g., pumps, drum dollies). • Wear PPE in accordance with the HASP. • Review any necessary instructions for use of on-Site treatment systems. • Label storage containers properly and locate in an isolated area away from traffic and other Site functions. • Coordinate off-Site disposal, where applicable.
Clean the Site; demobilize.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Traffic. Safety hazard left on the Site. Lifting hazard.	• Use buddy system to remove traffic control, as necessary. • Leave the Site clear of refuse and debris. • Notify business personnel of departure, and of any purge water left on the Site. • Use proper lifting techniques.
Package and deliver samples to laboratory.		Bottle breakage. Back strain.	• Handle and pack bottles carefully (e.g., bubble wrap bags). • Use proper lifting techniques.

10.0 WASTE CHARACTERISTICS

Waste anticipated to be generated on the Site:

Type(s): ☒ Liquid ☒ Solid ☐ Sludge ☐ Other _____

The approximate volume for each anticipated waste stream:

Waste: Contaminated soil Approximate Volume: Unknown

Waste: Groundwater Approximate Volume: Unknown

Characteristics:

☐ Corrosive ☐ Flammable/Ignitable ☐ Radioactive ☒ Toxic

☐ Reactive ☐ Unknown ☐ Other *(specify)*_____

11.0 TRAFFIC CONTROL

Work on the Site will be conducted in areas where access is primarily controlled. An exclusion zone will be placed around the work area to prevent undesirable interface between pedestrian traffic and project workers and equipment. These devices may include:

- Cones;
- Tubular markers; and
- Barricade tape.

Cones/tubular markers and barricade tape will be used to inhibit access to the work area in locations where pedestrians will be encountered.

ATTACHMENT 1
HEALTH AND SAFETY PLAN ACKNOWLEDGEMENT AND AGREEMENT FORM

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM

(All Farallon and subcontractor personnel must sign on a daily basis.)

This Health and Safety Plan (HASP) has been developed for the purpose of informing Farallon employees of the hazards they are likely to encounter on the project site, and the precautions they should take to avoid those hazards. Subcontractors and other parties at the site must develop their own HASP to address the hazards faced by their own employees. Farallon will make a copy of this HASP available to subcontractors and other interested parties to fully disclose hazards we may be aware of, and to satisfy Farallon's responsibilities under the Occupational Safety and Health Administration (OSHA) Hazard Communication standard. Similarly, subcontractors and others on site are required to inform Farallon of any hazards they are aware of or that their work on site might possibly pose to Farallon employees, including but not limited to Material Safety Data Sheets for chemicals brought on site. This plan should NOT be understood by contractors to provide information pertaining to all of the hazards that a contractor's employees may be exposed to as a result of their work.

All parties conducting site activities are required to coordinate their activities and practices with the project Site Health and Safety Officer (SHSO). Your signature below affirms that you have read and understand the hazards discussed in this HASP, and that you understand that subcontractors and other parties working on site must develop their own HASP for their employees. Your signature also affirms that you understand that you could be prohibited by the SHSO or other Farallon personnel from working on this project for not complying with any aspect of this HASP. The SHSO will be noted on the sheet below on a daily basis.

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM					
Check for SHSO	**Name**	**Title**	**Signature**	**Company**	**Date**

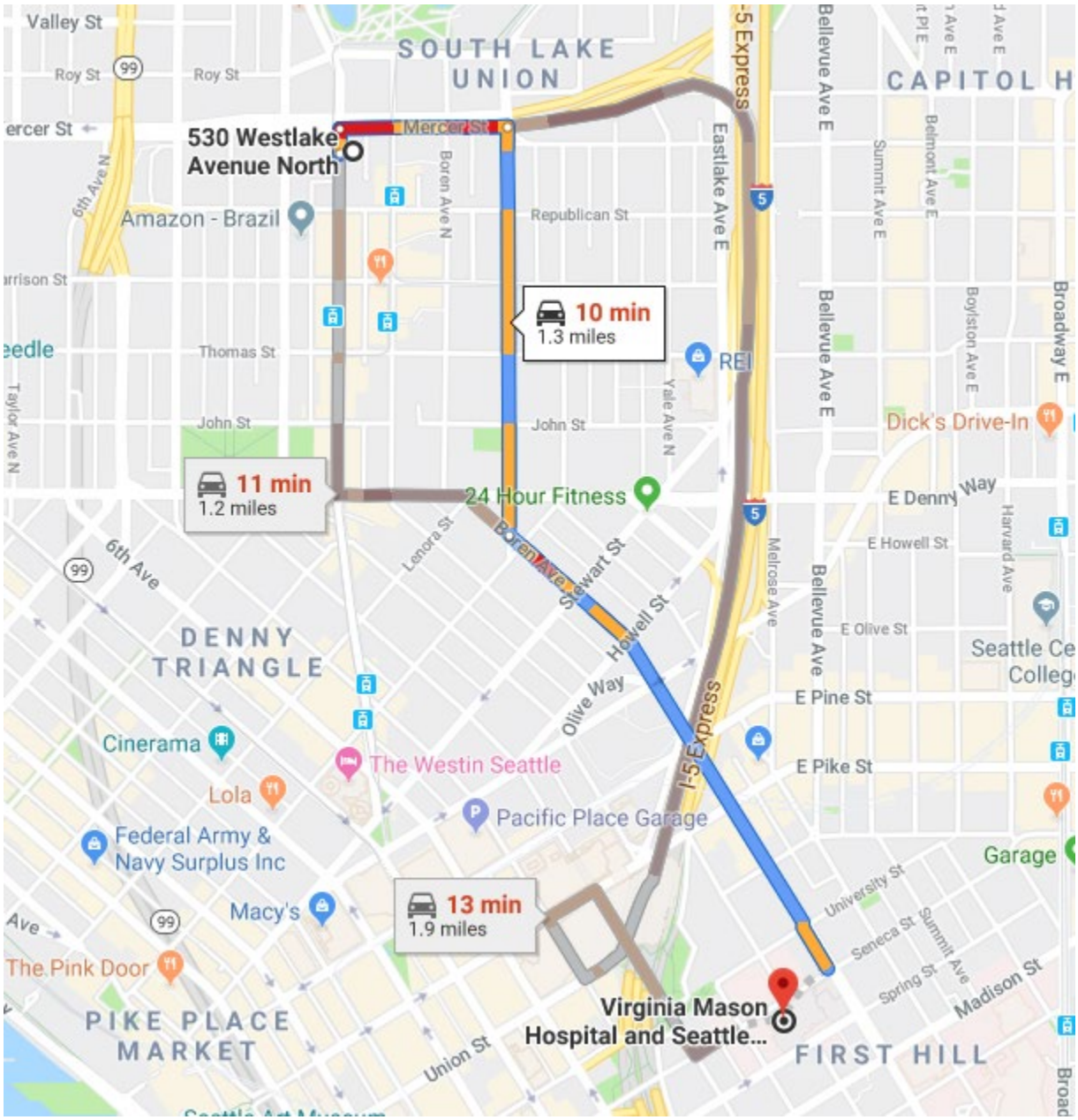
HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM					
Check for SHSO	**Name**	**Title**	**Signature**	**Company**	**Date**

ATTACHMENT 2
DIRECTIONS TO HOSPITAL

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

DIRECTIONS TO HOSPITAL



530 Westlake Ave N

Seattle, WA 98109

1. Head north on Westlake Ave N toward Mercer St

154 ft

2. Turn right at the 1st cross street onto Mercer St

0.2 mi

3. Turn right onto Fairview Ave N

0.5 mi

4. Use any lane to turn left onto Boren Ave

0.6 mi

Virginia Mason Hospital and Seattle Medical Center

1100 9th Ave, Seattle, WA 98101

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

ATTACHMENT 3
POTENTIAL TOPICS FOR DAILY HEALTH AND SAFETY MEETING

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

POTENTIAL TOPICS FOR DAILY HEALTH AND SAFETY MEETING

- ☐ Emergency response plan, emergency vehicle (full of fuel) and muster point
- ☐ Route to medical aid (hospital or other facility)
- ☐ Work hours. Is night work planned?
- ☐ Hand signals around heavy equipment
- ☐ Traffic control
- ☐ Pertinent legislation and regulations
- ☐ Above- and below-ground utilities (energized or de-energized)
- ☐ Material Safety Data Sheets
- ☐ Reporting an incident: to whom, what, why, and when to report
- ☐ Fire extinguisher and first aid kit locations
- ☐ Excavations, trenching, sloping, and shoring
- ☐ Personal protective equipment and training
- ☐ Safety equipment and training
- ☐ Emergency telephone location(s) and telephone numbers (in addition to 911)
- ☐ Eye wash stations and washroom locations
- ☐ Energy lock-out/tag-out procedures. Location of “kill switches,” etc.
- ☐ Weather restrictions
- ☐ Site security. Site hazards. Is special waste present?
- ☐ Traffic and people movement
- ☐ Working around machinery (both static and mobile)
- ☐ Sources of ignition, static electricity, etc.
- ☐ Stings, bites, large animals, and other nature-related injuries and conditions
- ☐ Working above grade
- ☐ Working at isolated sites
- ☐ Decontamination procedures (for both personnel and equipment)
- ☐ How to prevent falls, trips, sprains, and lifting injuries
- ☐ Right to refuse unsafe work
- ☐ Adjacent property issues (e.g., residence, business, school, daycare center)

ATTACHMENT 4
DAILY HEALTH AND SAFETY BRIEFING LOG

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

DAILY HEALTH AND SAFETY BRIEFING LOG

PROJECT INFORMATION	
Farallon PN:	Project Name:
Site Address:	City/State:
MEETING INFORMATION	
Conducted By:	Weather:
Major Job Task:	Date:

DAILY EQUIPMENT CHECKLIST

☐ Site Check In	☐ First Aid Kit Location(s)	☐ Ear Plugs (if required)
☐ Proper ID/Safety Credentials	☐ Fire Extinguisher Location(s)	☐ Hand Protection (if required)
☐ Hard Hat	☐ Eye Wash Station	☐ Face Shield (if required)
☐ Safety Glasses	☐ Traffic Control (if needed)	☐ Respirator (if required)
☐ Orange Reflective Vest (H or X back BNSF)		☐ _____
☐ Safety Toe Boots (lace up and leather BNSF)		☐ _____

HEALTH AND SAFETY BRIEFING

☐ Head Count (No. of employees:)	☐ Chemical/Contaminant Hazards
☐ Emergency Response	☐ Health Hazards
☐ Who will...? (Provide names below.)	☐ Environmental Hazards
Call 911:	☐ Physical Hazards
Alternate to call 911:	☐ Slips, Trips, and Falls
Provide First Aid/CPR:	☐ Utility Locates
☐ Emergency Exits/Rally Points/Hospital Route	☐ Utility/Product Shut-Off Valves/Switches
☐ Site Security and Exclusion Zone	☐ Near Miss Reporting (reminder to look)
☐ Vehicle/Equipment-Specific Safety Practices	☐ Incident Reporting (procedures and forms)
☐ Stop Work Authority	☐ Traffic Control
☐ Excavation Safety (if applicable)	☐ HASP Reviewed and Signed

OTHER SITE-SPECIFIC HEALTH AND SAFETY ISSUES DISCUSSED

1)
2)
3)
4)
5)

DAILY HEALTH AND SAFETY BRIEFING ATTENDEES

NAME	COMPANY	SIGNATURE

ATTACHMENT 5
INCIDENT REPORT FORM

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

INCIDENT REPORT FORM

This report must be completed by the employee or Health and Safety Coordinator (HSC) immediately upon learning of the incident. The completed report must be reviewed and signed by Project Principal, within 24 hours of the incident, even if the employee is not available to review and sign. The employee or employee's doctor must submit a copy of the doctor's report to Joe Rounds within 24 hours of the initial exam and any subsequent exams. After hours or weekends, please call Joe Rounds: Mobile (206) 484-2748. Document the incident with photographs if possible. For environmental releases, discuss possible regulatory spill reporting with the Project Principal.

EMPLOYEE INFORMATION

Employee Name:	Employee Title:
Employment Status: ☐ Full-Time ☐ Part-Time ☐ Hourly-As-Needed	Years Employed at Farallon Consulting, L.L.C. (Farallon)?

INCIDENT TYPE

☐ Fatality	☐ Industrial Non-Recordable	☐ Spill/Leak	☐ General Liability
☐ Lost Workday (LW)	☐ Non-Industrial	☐ Product Integrity	☐ Vandalism/Criminal Activity
☐ Restricted Duty	☐ Off-the-Job Injury	☐ Equipment	☐ Notice of Violation
☐ OSHA Medical or Illness w/o LW	☐ Motor Vehicle Accident	☐ Business Interruption	☐ Other
☐ First Aid	☐ Fire		

INCIDENT DESCRIPTION

Date of incident, injury, or onset of illness: Click or tap to enter a date.	Time of incident, injury or onset of illness: ☐AM ☐ PM
Brief description of incident. Provide full incident details on Page 2.	
Describe the equipment, materials, or chemicals that directly harmed the party (e.g., the machine employee struck against or which struck employee; the vapor inhaled, or material swallowed; what the employee was lifting, pulling, etc.):	
Date employer notified: Click or tap to enter a date.	Time employer notified: ☐ AM ☐ PM
To whom reported?	

INJURY OR ILLNESS INFORMATION

Exact Location of Incident (address, geographical location, floor, building, etc.):	
County:	On Employer's premises? ☐ Yes ☐ No
Describe the specific injury or illness (e.g., puncture, cut, contusion, strain, fracture, skin rash, etc.):	
Body part(s) affected (e.g., back, left wrist, right eye, etc.):	
Name and address of Health Care Provider:	Phone No.:
Treated in Emergency Room: ☐ Yes ☐ No	Hospitalized Overnight as Inpatient: ☐ Yes ☐ No

Injury/Illness Severity	**Time Loss (Check all that apply.)**	**Workday Phase**
☐ No treatment required.	☐ No time loss.	☐ Performing normal work duties.
	☐ Return to work the next day.	☐ During meal period.
☐ First aid only.	☐ Restricted activity.	☐ During rest period.
	Begin date:	☐ Entering/leaving work area or site.
☐ Professional medical treatment.	Return date:	☐ Chronic exposure.
	☐ Lost workday, not at work.	☐ Other, specify:
☐ Fatality. Enter date: Click or tap to enter a date.	Begin date:	
	Return date:	

MOTOR VEHICLE ACCIDENT (MVA)			
Professional Driver? ☐ Yes ☐ No	Total Years Driving:		Company Vehicle? ☐ Yes ☐ No
Vehicle Type:	Vehicle Owner (not Farallon):		Vehicle License Plate:
No. of Vehicles Towed:	No. of Injuries:	No. of Fatalities:	
Insurance information for other driver(s):			
Witness Name:	Address:	Phone No.:	
Witness Name:	Address:	Phone No.:	

THIRD PARTY PROPERTY DAMAGE (INCLUDING UTILITIES – PLEASE PROVIDE PHOTOS)		
Owner Name for Damaged Property:	Address:	Phone No.:
Description of Damage:		
Property Owner Insurance information:		
Witness Name:	Address:	Phone No.:
Witness Name:	Address:	Phone No.:

Detailed Description of Events
(Use space below to provide full detailed description of incident. Include Specific Activity During Incident (Lifting, Pushing, Walking, etc.)

SIGNATURES OF EMPLOYEE AND REVIEWERS			
Name (print):	**Signature:**	**Title:**	**Date:**
Employee:			
Employee's Group Manager:			
Regional Operations Manager:			
Farallon Corporate Health and Safety Coordinator:			
Entered into Database By:	**Date:**		

ATTACHMENT 6
NEAR MISS AND SAFETY OBSERVATION REPORT

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

NEAR MISS AND SAFETY OBSERVATION REPORT

This report is to be filled out by any employee involved in or witnessing a near miss, or making a safety observation. A near miss is an occurrence that did not result in any personal injury, property damage, environmental release, or production interruption, but could have under slightly different circumstances. A safety observation is witnessing any activity that places a person or property at risk of injury, accident, or damage but does not fit the definition of a near miss. These are very important indicators of potentially harmful future accidents, and provide valuable insights to preventing personal injury and/or property damage.

PROJECT INFORMATION	
Farallon PN:	Project Name:
Site Address:	City/State:
NEAR MISS/SAFETY OBSERVATION INFORMATION	
Employee Completing Report:	
Date: Click or tap to enter a date.	Time: ☐AM ☐ PM
Near Miss Category: Choose an item.	
Exact Location:	
Description of Potential Incident or Hazard:	
Corrective Action Taken:	
Lessons Learned:	
SIGNATURES AND NOTIFICATIONS	
Date employer notified: Click or tap to enter a date.	Time employer notified: ☐ AM ☐ PM
To whom reported?	
Employee Signature:	Date:
HSC Signature:	Date:
Entered into Database By:	Date:

ATTACHMENT 7
UTILITY CLEARANCE LOGS

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

UTILITY CLEARANCE LOG

Project Name: _____ **Project Number:** _____

Location: _____ **Date of Work:** _____

Instructions. This log must be completed by a Farallon staff member **before** any Farallon-directed excavation (e.g., test pit excavation) or drilling operation.

DRILLING OR EXCAVATION WORK MAY NOT COMMENCE UNTIL UTILITY LOCATES HAVE BEEN COMPLETED (see the One-Call Utility Locate Request Procedure on the following page)

Farallon is responsible for having underground utilities and structures located and marked when drilling or directing test pit excavation operations. Drilling locations should be a minimum of 5 feet from marked utilities if possible. Any excavation within 3 feet of a marked utility must be done with hand tools. Any drilling within 3 feet of marked utilities must include exposing the utility to confirm its location.

Owners of underground utilities are required by law to mark underground facilities on public and private property. Owners of underground utilities are **not required** to mark existing service laterals or appurtenances. Utility owners in Washington are required to subscribe to the One-Call service.

Private utility locate services must be hired to locate service laterals and other buried utilities (e.g., on-Site electric distribution lines, irrigation pipes) on private property.

Re-mark after 10 days or maintain as appropriate.

Utility Locate Checklist

☐ Attach map showing drilling and/or excavation sites and known utilities

☐ Attach copy of One-Call Utility Notification Ticket (http://www.searchandstatus.com/)

One-Call Utility Notification Ticket Number: _____

☐ Attach copy of Side Sewer Card (available for City of Seattle; check municipality for availability)

☐ Attach copy of Private Locate Receipt

☐ Photograph all excavation and/or drilling locations and download to project file

☐ Review utilities with Site Contact:

Name:_____ Phone: _____

Utilities and Structures

Utility Type	Utility Name	Public Utilities Marked (Y/N)	Private Utilities/Laterals Marked (Y/N)	Marking Method (flags, wooden stakes, paint on pavement, etc.)
Petroleum product lines				
Natural gas line				
Water line				
Sewer line				
Storm drain				
Telephone cable				
Electric power line				
Product tank				
Septic tank/drain field				
Other				

Farallon Consulting, L.L.C.

Field Team Leader: _____ Date: _____

Electric = **RED**	*Gas-Oil-Steam =* **YELLOW**	*Comm-CATV =* **ORANGE**	*Water =* **BLUE/PURPLE**	*Sewer =* **GREEN**	*Temp Survey =* **PINK**

ONE-CALL UTILITY LOCATE REQUEST PROCEDURE

THE ONE-CALL UTILITY NOTIFICATION CENTER REQUIRES 48 HOURS NOTICE TO MARK UTILITIES BEFORE YOU CAN DIG OR DRILL

Washington: 1-800-424-5555

Washington state law states that "before commencing **any** excavation," the excavator or driller must provide notice to all owners of underground utilities by use of the One-Call locator service, and that the excavator or driller shall not dig or drill until all known utilities are marked. To fully comply with the law, you **must** take the following steps:

1. **Call before you dig or drill:** Notify the One-Call Utility Notification Center (OCUNC) a minimum of 48 hours (2 full business days) before digging or drilling. Provide the following **required** information:
    a. Your name and phone number, company name and mailing address, and Farallon Account Number 25999.
    b. The type of work being done.
    c. Who the work is being done for.
    d. The county and city where the work is being done.
    e. The address or street where the work is being done.
    f. Marking Instructions: "Generally locate entire site including rights-of-way and easements."

    Provide the following information <u>if applicable or requested</u>:
    a. The name and phone number of an alternate contact person.
    b. If the work is being done within 10 feet of any overhead power lines.
    c. The nearest cross street.
    d. The distance and direction of the work site from the intersection.
    e. Township, range, section, and quarter section of the work site.
2. **Record the utilities that will be notified:** OCUNC will tell you the utilities that are on or adjacent to the work site, based on their database. Record the name(s) of the utility on the reverse side of this form.
3. **After the 48-hour waiting period, confirm that the utility locations have been marked:** Before digging or drilling, walk the work site and confirm that the utility companies have marked the utility locations in the field.
4. **If a locate appears to be missing:** If a utility locate appears to be missing and the utility company has not notified you that there are no utilities in the area, call OCUNC and:
    a. Provide the OCUNC locate number.
    b. Clearly state which utility has not been marked. The call is being recorded.
    c. Ask for a contact person at that utility.
    d. Call the contact person for the missing utility locate: Determine why there is no utility locate in the field.

Electric = **RED**	*Gas-Oil-Steam =* **YELLOW**	*Comm-CATV =* **ORANGE**	*Water =* **BLUE/PURPLE**	*Sewer =* **GREEN**	*Temp Survey =* **PINK**

e. **Record the reason(s) for the missing locate(s):** There are valid reasons that locates do not appear in the field (e.g., there are no utilities located on the work site or the utility has been abandoned). However, IF THEY ARE LATE, **YOU MUST WAIT** TO DRILL OR DIG. If the utility fails to mark a locate within the required 48 hours (2 full business days), the utility is liable for delay costs.

5. **Hand dig within 3 feet of a marked utility:** When digging or drilling within 3 feet of any marked utility, the utility must be exposed first by using hand tools.

6. **Record reason(s) for missing locate(s)**: There may be reasons that locates do not appear in the field (e.g., no utilities are located on the site, utility has been abandoned). Record the reason given. IF THEY ARE LATE – YOU WAIT TO DRILL OR DIG. If the utility failed to mark within the required two days, they are liable for delay costs.

FARALLON CONSULTING, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington
98027

TELEPHONE CONVERSATION
Date: _____ **Time:** _____
Project Name: _____
Job No.: _____
Phone No.: 1-800-424-5555
Prepared By/Initials: _____
Call: ☐ **Placed** ☐ **Received**

Contact/Title: _____

Agency/Region: One-Call Utility Notification Center

PROJECT: _____

1. Your name and the Farallon Account No. #25999: _____

2. What is the type of work being conducted (e.g., environmental drilling, test pit excavation)?

_____

3. Who is the property owner? _____

4. County and city were work is being done? _____

5. Address or street where work is taking place? _____

_____

6. Nearest cross street? _____

7. Distance and direction of the work site from the intersection? _____

8. Marking Instructions (generally locate on entire Site, including rights-of-way and easements): _____

_____

_____

9. What time and date will the locate be completed? _____

10. Utility Locate Request Number? _____

11. Utilities that will be notified? _____

_____

12. Any Overhead Concerns? _____

_____

_____

cc:_____ **Page**_____ **of**_____

Note: Bold indicates required information.

ATTACHMENT 8
FARALLON FIELD PERSONNEL TRAINING DATES

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

Health and Safety
Certifications and Training

Name	Medical Monitoring		Annual/Biennial	Resp. Clearance	Respirator Fit Test	CPR	First Aid	Fire Extinguisher Training	Expiration Dates		Harassment Training	GHS Training		8 Hour Supervisor	40 Hour Training Taken (Initial)	8 Hour Refresher
	Date of Last Exam	Next Exam Due							BNSF E-Railsafe (Bi-annual)	BNSF Contractor Orientation (Annual)			Lead Awareness			
Bailey, Amber	04/08/19	04/08/21	B	04/19/17	04/08/19	11/02/18	11/02/18	06/16/16	12/06/19	11/28/19	06/04/18		02/07/19	10/30/17	11/22/13	02/07/19
Bakouros, Apostolis	06/19/19			06/19/19				07/01/19			NA					
Banfield, Chantal	10/15/18	10/15/20	B	10/15/18		11/02/18	11/02/18	06/14/17	06/14/19	11/13/19	10/16/18		01/25/19		10/11/18	01/25/19
Bowser, Matthew	04/05/19	04/05/21	B	04/12/17	07/25/19	11/02/18	11/02/18	05/16/16	07/21/19	07/30/19	05/11/18		01/29/19	10/30/17	06/11/15	01/29/19
Brown, Stuart	05/02/19	05/02/21	B	08/23/18	05/02/19	01/11/17	01/11/17	06/28/11			05/09/18		01/25/19	06/28/11	09/08/08	01/25/19
Burns, Anastasia	04/26/18	04/25/20	B	04/26/18	07/01/16	11/02/18	11/02/18	05/16/16	01/25/20	04/25/19	05/08/18		04/19/19	10/30/17	09/15/14	04/19/19
Charney, Ryan	02/12/19	02/12/21	B	02/12/19	02/12/19			02/11/19			02/11/19		02/22/19	02/06/18	01/03/15	02/22/19
Cordell, Phil	08/27/18	08/27/20	B	08/27/18		04/05/17	04/05/17	09/17/18			09/11/18		01/25/19	06/20/08	11/15/05	01/25/19
Emahiser, Parker	04/30/19	04/30/21	B	04/18/17	04/30/19	12/21/17	12/21/17	05/16/16			06/07/18		01/25/19		02/17/13	01/25/19
Ferreira, Gabriela	03/19/18	03/18/20	B	03/19/18		01/04/18	01/04/18	03/26/18			05/10/18		01/31/19		09/18/15	01/31/19
Fisco, Gavin	08/08/18	08/07/20	B	08/08/18	08/08/18	09/26/16	09/26/16	05/18/16			05/17/18		01/25/19	12/12/14	05/04/07	01/25/19
Garvin, Paul	03/13/18	03/12/20	B	03/13/18		09/22/17	09/22/17	08/29/16	12/04/19	01/29/19	07/13/18		01/25/19	10/30/17	06/22/12	01/25/19
Gehring, Megan	07/10/19	07/10/21	B	07/10/19	07/15/19											
Loeb, Steffany	07/10/19	07/10/21		07/10/19												
Luiten, Russell	N/A	N/A	B	04/19/17	04/12/17	11/02/18	11/02/18	05/17/16	11/15/19	12/29/18	09/13/18		01/25/19	12/19/17	6/2012?	01/25/19
Ostrom, Ryan	04/15/19	04/15/21	B	04/11/17	04/15/19	11/02/18	11/02/18	06/06/16	11/15/19	07/31/18	05/07/18		01/25/19	10/30/17	05/09/13	01/25/19
Pehlivan, Yusuf	04/26/19	04/26/21	B	05/13/17	05/03/17	10/19/17	10/19/17	05/04/17			06/29/18		01/25/19	02/02/13	10/17/09	01/25/19
Peters, Greg	05/28/19	05/28/21	B	06/07/19	05/28/19	11/02/18	11/02/18	06/12/17	01/31/20	01/30/19	05/08/18		01/25/19		03/12/17	01/25/19
Rayl, Katie	10/17/17	10/17/19	B	10/17/17	10/17/17	10/10/16	10/10/16	10/26/17			05/08/18		01/25/19		11/19/14	01/25/19
Roskamp, Melissa	12/20/18	12/19/20	B	12/20/18				04/18/19			01/02/19		01/25/19		07/26/13	01/25/19
Scott, Ken	01/18/18	01/18/20	B	01/18/18	04/14/17	11/02/18	11/02/18	09/02/16	04/19/19	05/22/19	05/09/18		01/25/19	02/17/05	09/01/95	01/25/19
Smith, Julia	06/19/19			06/19/19	06/21/19			06/23/19			NA					
Taylor, Brenden	04/24/18	04/23/20	B	04/24/18		03/01/18	03/01/18	08/23/16		05/11/17	05/22/18		01/25/19	04/17/09	07/18/06	01/25/19
Thompson, Lisa	11/30/18	11/29/20	B	11/30/18		10/07/18	10/07/18	11/29/18	12/11/20	12/12/19	11/28/18		02/05/19		12/07/18	02/05/19
Train, Brittany	06/19/19	06/19/21	B	06/19/19				06/14/19			06/14/19					
Turpen, Nate	05/30/19	05/30/21	B	06/14/17	05/30/19	01/16/18	01/16/18	06/14/17	10/24/19	11/19/19	07/06/18		01/25/19	02/19/19	06/09/17	01/25/19
Wishnoff, Benjamin						11/24/15	04/16/16	06/24/16			06/29/18		01/25/19	06/09/15	05/29/07	01/25/19

ATTACHMENT 9
AIR MONITORING TABLE AND FORMS

HEALTH AND SAFETY PLAN
South Lake Union Block 38 West Property
500 Through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

ACTION LEVEL TABLE FOR AIR MONITORING

The Air Monitoring table (following page) presents protocol for monitoring ambient air for constituents of concern and other parameters that may affect worker safety. Please note the following with respect to use of this table:

- The Level for Respirator Use indicates the concentration at which a respirator must be donned. It does not require that the job stop. The respirator is a piece of equipment that is to be used while determining why a concentration has reached that level. Implement engineering controls such as water mist, spray foam, plastic cover, etc. to reduce the concentration.
- The Level for Work Stoppage indicates the concentration at which work on the job must stop. Determine why a concentration has reached that level, and how it can be decreased. Site evacuation is not necessary at this level. Stopping work does not imply that the concentration level will decrease. Implement engineering controls to reduce the concentration; resume work when it is safe to do so.
- These values can be modified under particular Site conditions and with specific knowledge of the contaminant(s). Should such conditions arise, contact Farallon's Health and Safety Officer at (425) 295-0800.

AIR MONITORING

Chemical (or Class)	Monitoring Equipment	Task	Monitoring Frequency and Location	Level for Respirator Use	Level for Work Stoppage
Volatile Organic Vapors	Flame ionization detector (FID)/photoionization detector (PID) as appropriate for chemicals of concern. Read manual to determine. Draeger Tube for vinyl chloride (Model 1/a; Part Number 67 28031). Draeger Tube for benzene (Model 0.5/a).	From start of mobilization to completion and demobilization.	Sampling should be continuous during the project while disturbing potentially contaminated soil, uncovering and/or removing tanks and piping, or drilling —at least every 15 minutes in the breathing zone. Sample at the exclusion zone boundaries every 30 minutes. Continuously sample during each soil and groundwater sampling interval. If 10 parts per million (ppm) in breathing zone, collect a Draeger Tube for benzene and/or vinyl chloride (depending upon contaminants of concern).	20 ppm above background sustained in breathing zone for 2 minutes, and no benzene and/or vinyl chloride tube discoloration. If a color change appears on the tube for benzene or vinyl chloride at 10 ppm on FID/PID, don respirator. If no Draeger Tube is available, the level for respirator use is to be 5 ppm.	50 ppm above background in breathing zone and no vinyl chloride or benzene tube discoloration. Stop work if tube indicates > 1 ppm for benzene or vinyl chloride. If no Draeger Tube is available, stop work at 25 ppm.
Metals (Dust and Particulates)	XRF Spectrometer as appropriate for metals of concerns. Read manual to determine. Laboratory analysis for specific metals known to potentially be at levels exceeding respiratory protection requirements.	From start of mobilization to completion and demobilization.	Sampling should be continuous during the project while disturbing potentially contaminated soil at least every 15 minutes in the breathing zone. Sample at the exclusion zone boundaries every 30 minutes. Continuously during each sampling interval or excavation lift (as possible).	1 mg/m3 for mercury. Any detectable concentration of cadmium less than the PEL of 0.005 mg/m3. 0.5 mg/m3 for lead.	2.5 mg/m3 for mercury. Any concentration exceeding 0.005 mg/m3 for cadmium. 50 mg/m3 for lead.

AIR MONITORING EQUIPMENT CALIBRATION/CHECK LOG

Date	Instrument/ Model No.	Serial No.	Battery Check OK?	Zero Adjust OK?	Calibration Gas (ppm)	Reading (ppm)	Leak Check	Performed By	Comments

AIR MONITORING LOG

Date	Time	Location	Source/Area/ Breathing Zone	Instrument	Concentration/Units	Sampled by

APPENDIX I
CONSTRUCTION DEWATERING GROUNDWATER MONITORING PROGRAM

INTERIM ACTION WORK PLAN
Block 38 West Property
500 through 536 Westlake Avenue North
Seattle, Washington

Farallon PN: 397-019

LEGEND

- SHALLOW WATER-BEARING ZONE WELL
- INTERMEDIATE WATER-BEARING ZONE WELL
- INTERMEDIATE "A" WATER-BEARING ZONE WELL
- INTERMEDIATE "B" WATER-BEARING ZONE WELL
- DEEP OUTWASH AQUIFER WELL
- INTERCEPTION WELL
- PROPERTY BOUNDARY
- KING COUNTY PARCEL BOUNDARY

N

0 150

SCALE IN FEET

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

DRAFT

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FIGURE 1

CONSTRUCTION DEWATERING MONITORING WELLS
SOUTH LAKE UNION AREA
SEATTLE, WASHINGTON

FARALLON PN: 397-019

Drawn By: tperrin | Checked By: CS | Date: 10/17/2019 | Disc Reference:

Document Path: Q:\Projects\397 VULCAN\019_Block38\Maps\files\IAWP_App\Figure-01_Construct_Wells_DW.mxd

Table 1
Construction Dewatering Groundwater Monitoring Program
Block 38 West Property
Seattle, Washington
Farallon PN: 397-019

Well No.	Well Classification	Static Condition Event (September)	Startup Event (September)[1]	November	December	January	February	March	April	May	June	July	Final Event (August)	Transducer Monitoring
BMR-Dexter Monitoring Wells														
MW113	Deep		X	X	X	X	X	X		X			X	
MW119	Intermediate		X	X	X	X	X	X		X			X	
MW128	Deep		X		X		X		X		X		X	
Vulcan or Vulcan-Affiliated Entity Monitoring Wells														
FMW-129	Deep		X	X	X	X	X	X		X			X	X
FMW-131	Deep		X										X	X
FMW-137	Deep	X	X										X	X
FMW-138	Deep	X	X										X	X
FMW-140	Deep		X	X	X	X	X	X		X			X	X
FMW-141	Intermediate		X	X	X	X	X	X		X			X	X
FMW-142	Intermediate													
FMW-143	Shallow													
GEI-2	Intermediate		X	X	X	X	X	X	X	X	X	X	X	X
Vulcan-Affiliated Entity Interim Action Wells														
IA-1 [2]	Deep		X	X	X	X	X	X	X	X	X	X	X	
IA-4 [2]	Deep		X		X		X		X		X		X	
City Investors Dewatering Wells														
DW-16 [3]	Dewatering		X	X	X	X	X	X	X	X	X	X	X	
DW-17 [3]	Dewatering		X	X	X	X	X	X	X	X	X	X	X	
DW-18 [3]	Dewatering		X	X	X	X	X	X	X	X	X	X	X	

NOTES:
[1] Schedule assumes dewatering starts in late September 2019 at Block 37 and late October 2019 at Block 38.
[2] Low-flow samples to be collected ta top, middle, and bottom of dewatering screen (60-foot total installed length).
[3] Sample from near the bottom of the dewatering well screened interval.