FARALLON CONSULTING

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

FINAL CAPITAL INDUSTRIES PLANT 4 INTERIM ACTION - STAGE 1 IN-SITU CHEMICAL OXIDATION REPORT

West of 4th Group Site
Capital Industries, Inc.
5801 3rd Avenue South
Seattle, Washington

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

Farallon PN: 457-008

For:
West of 4th Avenue Group
Site Unit 2 Joint Deliverable
Capital Industries, Inc.
Blaser Die Casting Co.
Stericycle
Seattle, Washington

February 22, 2019

Prepared by:

Jennifer L. Moore
Senior Scientist

Reviewed by:

Jeffrey Kaspar, L.G., L.H.G.
Principal Geologist

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
Cascade	Cascade Technical Services
Cascade Report	*Remediation Field Services Report*, *Capital Industries, 5801 3rd Avenue South, Seattle, WA 98108* dated September 11, 2018, prepared by Cascade Technical Services
CI	Capital Industries, Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
COCs	constituents of concern
CVOCs	chlorinated volatile organic compounds
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
ISCO	in-situ chemical oxidation
ISCO Report	*Final Capital Industries Plant 4 Interim Action - Stage 1 In-Situ Chemical Oxidation Report* dated February 22, 2019, prepared by Farallon Consulting, L.L.C. (this document)
$KMnO_4$	potassium permanganate
PCE	tetrachloroethene
PCULs	preliminary cleanup levels
PNOD	permanganate natural oxidant demand
psi	pounds per square inch
RI	Remedial Investigation
Site	the West of 4th Group Site consisting of Site Unit 1 and Site Unit 2

Stage 1 FIWP	*Final Revised Capital Industries Plant 4 Stage 1 Field Implementation Work Plan, Site Unit 2, Seattle, Washington* dated July 26, 2018, prepared by Farallon Consulting, L.L.C.
SU2	Site Unit 2
SU2 FS Report	*West of Fourth Site Unit 2 Feasibility Study, Seattle, Washington* dated August 11, 2016, prepared by the West of Fourth Group and Pacific Groundwater Group
TCE	trichloroethene
West of 4th Group	Art Brass Plating, Inc.; Blaser Die Casting Co.; Capital Industries, Inc.; and Burlington Environmental, LLC

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this *Final Capital Industries Plant 4 Interim Action - Stage 1 In Situ Chemical Oxidation* [ISCO] *Report* (ISCO Report) on behalf of Art Brass Plating, Inc.; Blaser Die Casting Co.; Capital Industries, Inc. (CI); and Burlington Environmental, LLC[1] (collectively referred to herein as the West of 4th Group), which are the potentially liable parties for the West of 4th Group Site (herein referred to as the Site), which consists of Site Unit 1 and Site Unit 2 (SU2), depicted on Figure 1. The Art Brass Plating, Inc. property is located at Site Unit 1. The CI and Blaser Die Casting Co. properties are located at SU2. The CI property comprises five buildings identified as Plants 1 through 5 (Figure 2). The work summarized in this ISCO Report was part of an interim action pilot study at CI Plant 4 in SU2 as discussed in the *Final Capital Industries Plant 4 Interim Action Work Plan, West of 4th Group Site, Capital Industries, Inc., 5815 4th Avenue South, Washington* dated December 21, 2017, prepared by Farallon (2017) and is consistent with the evaluation of prospective remediation technologies presented in the *West of 4th Site Unit 2 Feasibility Study, Seattle, Washington* dated August 11, 2016, prepared by West of Fourth Group and Pacific Groundwater Group (2016) (SU2 FS Report).

This ISCO Report has been prepared in accordance with the requirements of Agreed Order No. DE 10402 entered into by the West of 4th Group and the Washington State Department of Ecology (Ecology) in April 2014; the First Amendment to Agreed Order No. DE 10402 dated November 20, 2017; and the Washington State Model Toxics Control Act Cleanup Regulation, as established in Chapter 173-340 of the Washington Administrative Code.

1.1 OBJECTIVES

The purpose of the ISCO Report is to provide a summary of the field procedures and, process and performance monitoring results for the Stage 1 ISCO injections conducted as a pilot test for an interim action at CI Plant 4. The Stage 1 ISCO injections and associated process and performance monitoring were conducted in accordance with the *Final Revised Capital Industries Plant 4 Stage 1 Field Implementation Work Plan* dated July 26, 2018, prepared by Farallon (Stage 1 FIWP). The ISCO technology that was used included direct injection of potassium permanganate ($KMnO_4$) into the subsurface to treat shallow soil and groundwater within the Water Table Interval (i.e., at depths of from 0 to 20 feet below ground surface [bgs]). The interim action objectives are tied to the remedial action objectives for the Site, described in the SU2 FS Report, and include:

- Reducing concentrations of chlorinated volatile organic compounds (CVOCs) in soil beneath CI Plant 4 to concentrations less than the preliminary cleanup levels (PCULs) for the Site to reduce inhalation risks to acceptable levels (Table 1; Figure 3) and eliminate the potential for future risk to groundwater; and

[1] Burlington Environmental, LLC, is a wholly owned subsidiary of PSC Environmental Services, LLC, which is a wholly owned subsidiary of Stericycle Environmental Solutions, Inc.

- Reducing concentrations of CVOCs in Water Table Interval groundwater that allegedly originated from CI Plant 4 to concentrations less than the PCULs for the Site.

1.2 ORGANIZATION

This ISCO Report summarizes pertinent background information and provides procedures and results associated with the Stage 1 ISCO injections conducted at CI Plant 4 in SU2. This ISCO Report is organized into the following sections:

- **Section 1, Introduction,** presents an overview of the Site, and the objectives and organization of the ISCO Report.

- **Section 2, Background,** presents background information, including a summary of previous investigations conducted at CI Plant 4, and a description of the constituents of concern (COCs) and affected media that were targeted during the interim action.

- **Section 3, ISCO Injections and Monitoring,** describes the ISCO injection work elements and associated process and performance monitoring.

- **Section 4, ISCO Distribution and Monitoring Results,** provides a summary of the subsurface distribution achieved during the injection of the $KMnO_4$ solution, process and performance monitoring results, and additional assessment conducted in the northwestern portion of CI Plant 4.

- **Section 5, Conclusions and Recommendations,** summarizes Farallon's findings and conclusions regarding the Stage 1 ISCO injections and recommendations regarding use of ISCO for future work.

- **Section 6, References,** lists the documents cited in this ISCO Report.

2.0 BACKGROUND

This section presents background information, including a summary of previous investigations conducted at CI Plant 4, and a description of COCs and affected media that were targeted during the interim action.

2.1 PREVIOUS INVESTIGATIONS AT CI PLANT 4

Former operations at the CI property allegedly have resulted in releases of tetrachloroethene (PCE) and/or trichloroethene (TCE) to soil and groundwater. Details of historical CI operations and the results from prior environmental investigations, including a Remedial Investigation (RI) conducted by Farallon, are presented in the *Revised Draft Remedial Investigation Report, Capital Industries, Inc., 5801 3rd Avenue South, Seattle, Washington, Agreed Order No. DE 5348* dated October 2012, prepared by Farallon (2012). A hot solvent degreaser historically was present in the south-central portion of CI Plant 4/Plant 4 canopy (Figure 3). The hot solvent degreaser was used in CI Plant 4 from approximately 1987 to 1992 and was removed in 1993. Prior to 1987, manual degreasing was conducted at CI Plant 4. CI reportedly stored TCE at the CI Plant 4 canopy area and the solvent was manually applied to the metal surfaces prior to painting at the CI Plant 4 paint booths. Two drum storage areas were present in the west-central portion of the CI Plant 4 canopy (Figure 3). The southernmost drum storage area was constructed in 1978, was in use until 1985, and currently is used as the paint storage area. The northernmost drum storage area was constructed in 1978 and currently is still in use.

During subsurface investigations conducted by Farallon (2012) at CI Plant 4 during the RI, neither TCE nor PCE was detected in soil samples collected from the boring/monitoring well locations at concentrations that accounted for the impacts to groundwater quality that occurred at and down-gradient of CI Plant 4. Concentrations of CVOCs detected in groundwater samples collected from the Water Table Interval (i.e., at depths of from 0 to 20 feet bgs) and/or the Shallow Interval (i.e., at depths from 20 to 40 feet bgs) near the suspected source areas previously identified at the CI property suggest there may be areas where concentrations of CVOCs in soil are greater than those detected during the RI. Therefore, Ecology required that additional investigation be conducted at CI Plant 4.

Farallon (2016) conducted passive soil gas and bulk soil sampling at CI Plant 4 and in the South Fidalgo Street right-of-way to assess the lateral and vertical distribution of PCE and TCE in soil beneath CI Plant 4 to resolve data gaps associated with the RI for the CI property, described in the revised data gap memorandum for Site Unit 2 (Farallon 2015).

The soil gas survey results indicated that the highest concentrations of PCE in soil gas were present in an area extending from the east-central portion to the south-southwestern portion of CI Plant 4. The areas with the highest concentrations of TCE in soil gas correlated with the areas with the highest concentrations of PCE in soil gas. Elevated concentrations of TCE were also detected in the approximate location of the northernmost/current drum storage area (Figure 3).

The highest concentration of cis-1,2-dichloroethene (cis-1,2-DCE) in soil gas was detected at the east-central portion of CI Plant 4, and correlates with the locations of the highest concentrations of PCE and TCE. The PCE, TCE, and cis-1,2-DCE data indicate potential releases at northernmost/current drum storage area at the west-central portion of the CI Plant 4 canopy, at the former degreaser location at the south-central portion of CI Plant 4, and at the east-central portion of CI Plant 4. Soil sampling at these locations was conducted to supplement existing soil data from the RI and further evaluate the nature and extent of COCs in soil (Table 1; Figure 3). Concentrations of PCE, TCE, and cis-1,2-DCE detected in soil gas at the east-central portion of CI Plant 4 could be the result of a release on the east-adjacent Pacific Food Systems property or encroachment of contamination from other areas beneath CI Plant 4. The specific source of CVOCs in soil gas on the Pacific Food Systems property is undetermined.

PCE was detected at concentrations exceeding the PCUL for air quality protection and/or the revised PCUL[2] for surface water quality protection in soil samples collected from borings P4-B6, P4-B7, P4-B8, and P4-B11. The maximum PCE concentration detected was 0.64 milligram per kilogram at boring P4-B6 in the southeastern portion of CI Plant 4, east of the former degreaser.

TCE was detected at concentrations exceeding the PCUL for air quality protection and/or the revised PCUL for surface water quality protection in soil samples collected from borings P4-B1, P4-B3 through P4-B9, and P4-B14. The maximum TCE concentration detected was 0.48 milligram per kilogram at boring P4-B7 in the central portion of CI Plant 4.

Cis-1,2-DCE, trans-1,2-dichloroethene, and vinyl chloride were not detected at concentrations exceeding PCULs in the soil samples collected at and proximate to CI Plant 4.

The soil analytical results indicated that the highest concentrations of CVOCs are present immediately beneath the CI Plant 4 building slab, and attenuated with depth. PCE and TCE were detected at low concentrations at CI Plant 4, which confirmed that there was not a significant or extensive release of PCE or TCE at CI Plant 4. The groundwater data from the RI Report (Farallon 2012) and post-RI sampling also supported the conclusions drawn from the soil data. The concentrations of COCs in the Water Table Interval are not indicative of a major release of PCE or TCE (Table 2; Figure 4). Neither PCE nor TCE was detected in either the Shallow or Intermediate Interval (i.e., at depths greater than 40 feet bgs), indicating that the release(s) of PCE and TCE that did occur were of insufficient mass and/or volume to affect deeper groundwater.

Sufficient data were collected at CI Plant 4 to evaluate potential cleanup technologies for soil and groundwater, described in the SU2 FS Report. The potential active cleanup technologies evaluated and the media to be remediated were:

- ISCO (soil and groundwater);

[2] Certain PCULs were revised in January 2017 to accommodate U.S. Environmental Protection Agency (EPA) revisions to surface water quality criteria.

- Soil excavation and off-Site disposal (soil);
- Soil vapor extraction/air sparging (soil and groundwater);
- Enhanced anaerobic biodegradation (groundwater); and
- In-situ chemical reduction (groundwater).

ISCO was the preferred cleanup technology for soil and groundwater due to its ability to be implemented with minimal interference with operations at CI Plant 4, and its ability to rapidly treat the low levels of CVOCs present in soil and groundwater (West of Fourth Group and Pacific Groundwater Group 2016).

2.2 CONSTITUENTS OF CONCERN FOR THE INTERIM ACTION

The COCs for soil are PCE and TCE. These COCs are a current and future risk to the soil-to-groundwater and soil-to-indoor-air pathways. The COCs for groundwater in the Water Table Interval are PCE and TCE. These COCs are a current and future risk to the groundwater-to-surface water and groundwater-to-indoor air pathways. PCE and TCE also have the potential to affect the Shallow Interval where anaerobic conditions exist and reductive dechlorination to vinyl chloride can occur. Oxidation of PCE and TCE in the Water Table Interval reduces the risk of vinyl chloride generation.

2.3 PRELIMINARY CLEANUP LEVELS

The PCULs for the Site are based on potential exposure pathways, and were defined in the Technical Memorandum regarding Revised Preliminary Cleanup Standards, W4 Joint Deliverable, Seattle, Washington dated September 12, 2014, from Farallon (2014) to Mr. Ed Jones of Ecology. The PCULs were updated on January 17, 2017 to reflect updates to human health criteria in the Clean Water Act promulgated by EPA on November 15, 2016. These PCULs also were included in the SU2 FS Report. The PCULs pertinent to the evaluation of the Stage 1 ISCO work are included in Tables 1, 2, 3, 6, and 7 for the process and performance monitoring data.

3.0 STAGE I ISCO INJECTION AND MONITORING

This section describes the ISCO injection work elements and associated process and performance monitoring. The work was conducted in general accordance with the criteria presented in the Stage 1 FIWP.

3.1 PERMITTING

Farallon obtained an Underground Injection Control permit from Ecology prior to initiating the Stage 1 ISCO injections (Appendix A), which indicated that the ISCO injection locations met the non-endangerment standard in accordance with Section 100 of Chapter 173-218 of the Washington Administrative Code. Ecology issued a State Environmental Policy Act threshold determination of non-significance for the interim action in 2017.

3.2 OBSERVATION WELL INSTALLATION AND BASELINE GROUNDWATER SAMPLING

One-inch-diameter observation wells OBW-1 and OBW-3 through OBW-5 were installed on June 16, 2018. One-inch-diameter observation well OBW-2 was installed on June 20, 2018. The purpose of the observation well installation was to provide process and performance monitoring data during and following the ISCO injection. Observation well diagrams are provided in Appendix B. The five new observation wells and monitoring wells MW-6 and MW-7 were sampled during a baseline groundwater monitoring event conducted on July 2, 2018. Baseline groundwater samples were collected and analyzed for the following parameters in accordance with the Sampling and Analysis Plan that was included with the Stage 1 FIWP:

- CVOCs by EPA Method 8260D;
- Dissolved arsenic by EPA Method 200.8;
- Dissolved and total chromium, manganese, cadmium, and lead by EPA Method 200.8;
- Total and dissolved iron by EPA Method 6010D;
- Total and dissolved mercury by EPA Methods 7470A/245.1;
- Total dissolved solids by Standard Method SM2540C; and
- Hexavalent chromium by Standard Method SM3500-CR B (monitoring well MW-7 only).

The baseline groundwater monitoring results for CVOCs are summarized in Table 2, and the results for metals are summarized in Table 3.

3.3 SPILL PREVENTION

Cascade Technical Services (Cascade) was subcontracted to perform the ISCO injections. Cascade's injection truck with onboard mixing vats was placed within secondary containment

compatible with the $KMnO_4$ solution and capable of holding 100 percent of the volume of the mixing vats. A spill kit with items capable of neutralizing, containing, and absorbing a potential spill was present when the 3-percent $KMnO_4$ solution was being mixed and injected into the subsurface.

Sudden changes in injection rates and pressure and visual observations are the first signs of oxidant surfacing during pressurized ISCO injection. When surfacing occurred, injection was stopped immediately and the $KMnO_4$ solution was neutralized with the prepared solution in the spill kit. The neutralized liquid was recovered, containerized, and disposed of in accordance with applicable federal, state, and local laws.

3.4 PROCESS MONITORING

Cascade provided process monitoring for injection pressures, flow rates, and injection volumes during injection of the $KMnO_4$ solution. A summary of Cascade's observations and measurements is included in the *Remediation Field Services Report*, *Capital Industries, 5801 3rd Avenue South, Seattle, WA 98108* dated September 11, 2018, prepared by Cascade (2018) (Cascade Report) (Appendix C). A Farallon Field Scientist monitored water levels and air pressures at nearby monitoring wells before, periodically during, and after each injection. Farallon's process monitoring results are provided in Table 4.

3.5 ISCO INJECTION

The Stage 1 ISCO injections were conducted at five locations from August 18 through August 22, 2018. Cascade injected the $KMnO_4$ solution to depths of up to 9 feet bgs in the vadose zone at locations B3, C5, D4, E5, and F5 (Figure 4). Cascade also injected the $KMnO_4$ solution into the Water Table Interval at location E5. ISCO injections into the vadose zone were conducted using a 2-foot injection screen, and into the saturated zone using a 5-foot injection screen.

Cascade hand-cleared each injection location for utilities with a hand-auger. Each borehole was then backfilled with bentonite chips that were hydrated and compressed in preparation for injection using a top-down approach. Initial injections at locations F5, E5, and B3 were attempted in the interval from 1 to 3 foot bgs to treat shallow CVOC concentrations in vadose zone soil immediately beneath the building slab. However, the $KMnO_4$ solution surfaced from the borehole upon initiation of flow and/or initial pressurization for injection. Surfacing did not occur at injection locations C5 and D4 where $KMnO_4$ injection was initiated at the interval from 2 to 4 feet bgs.

ISCO injection into initial injection location F5 (Figure 4) was conducted at low pressures of 0 to 31 pounds per square inch (psi) to assess the ability of the formation to accept the $KMnO_4$ solution. Cascade and Farallon began testing higher injection pressures ranging from 40 to 95 psi during injection at location E5 to further assess the formation's ability to accept the $KMnO_4$ solution and to maximize the distribution radius. Surfacing occurred at a nearby bollard that penetrated the building slab approximately 10 feet northwest of the injection location, through nearby floor cracks approximately 3 feet from the injection location, and into the well monument for monitoring well

MW-6 while injecting at the 5- to 7-foot depth interval at injection location E5. The daylighted $KMnO_4$ was neutralized and recovered upon observation and the injection pressure was reduced to 17 psi.

Injection pressures of 39 to 78 psi were achieved at injection location B3 without surfacing. Injection pressures of 16 to 94 psi were achieved at injection location D4 without surfacing. Higher injection pressures ranging from 67 to 179 psi were tested and achieved at injection location C5 without surfacing.

The Farallon Field Scientist periodically checked the groundwater in nearby monitoring wells for a pink or purple coloration associated with the presence of $KMnO_4$, and monitored air pressure inside the well casings to check for pressure increases in the vadose zone associated with the ISCO injections (Tables 4 and 5).

The boreholes for each injection location were abandoned with bentonite chips and hydrated to form a seal to within 6 inches of the ground surface. Each borehole was sealed with 6 inches of concrete to match the building slab.

3.6 PERFORMANCE MONITORING

The first of two rounds of performance borings were advanced north, southeast, and southwest of each injection location on August 23 and 24, 2018 after completion of the ISCO injections. The purpose of the first round performance borings was to assess the vertical and lateral distribution of the $KMnO_4$ solution and collect soil samples for analysis for CVOCs and $KMnO_4$. The distance of each of these borings varied from that proposed in the Stage 1 FIWP due to obstructions present within CI Plant 4 (Figures 5A through 5F). Select soil samples from each of the borings were analyzed for the following parameters in accordance with the Sampling and Analysis Plan provided in the Stage 1 FIWP:

- CVOCs by EPA Method 8260C; and
- Permanganate natural oxidant demand (PNOD) by ASTM International Method D7262-10, Test Method A.

The CVOCs results were used to assess the effectiveness of the $KMnO_4$ solution at reducing CVOC concentrations. The soil samples collected for $KMnO_4$ analysis could not be analyzed using the proposed method, which is a groundwater-only method. The PNOD analytical results were used to assess both the natural oxidant demand of the subsurface soil matrix and to evaluate whether a 3-percent $KMnO_4$ solution was sufficient to overcome the natural oxidant demand and destroy the CVOCs present.

The second round of performance borings were advanced within approximately 1.5 feet of first round performance borings where the purple or pink coloration associated with the $KMnO_4$ solution was observed to persist, indicating that the $KMnO_4$ solution had not been expended (Figures 6A through 6E). Soil samples were collected from the depth intervals where the $KMnO_4$

solution was observed in the first round borings and analyzed for CVOCs by EPA Method 8260C. PNOD analysis was not conducted during the second round of performance sampling since sufficient samples were collected during the initial round of sampling to evaluate the results of the ISCO injection.

TCE was detected at concentrations that exceeded PCULs in the first round performance borings at injection location B3. These TCE concentrations in soil were higher than those observed during previous remedial investigation work. Farallon advanced four additional borings (borings P4-15 through P4-18) in the northwestern portion of CI Plant 4 to assess the lateral distribution of TCE in soil (Figure 7).

Farallon conducted performance groundwater monitoring following completion of the ISCO injections per the schedule provided in the Stage 1 FIWP. Performance groundwater monitoring consisted of measuring the water levels in select monitoring and observation wells, collecting groundwater samples to observe coloration indicative of the presence of $KMnO_4$, and measuring the concentration of $KMnO_4$ in groundwater samples showing indications of the $KMnO_4$ solution using a Hach DR890 colorimetric analyzer. The performance groundwater monitoring was conducted daily for 5 days following completion of the injections and weekly until the $KMnO_4$ solution was no longer detected.

Groundwater samples were collected from monitoring wells showing indications of the $KMnO_4$ solution during the monitoring described above. The groundwater samples were submitted for analysis of the following:

- CVOCs by EPA Method 8260D;
- Total and dissolved chromium and manganese EPA Method 200.8;
- Total and dissolved iron by EPA Method 6010D;
- Total dissolved solids by Standard Method SM2540C; and
- Hexavalent chromium by Standard Method SM3500-CR B.

Hexavalent chromium was detected at a concentration of 100 micrograms per liter in the field duplicate sample collected from monitoring well MW-6 (Table 3). This concentration exceeded the Washington State Model Toxics Control Act Standard Method B cleanup level, so additional sampling was requested by Ecology. An additional groundwater monitoring event was conducted on October 17, 2018 to assess whether the hexavalent chromium was still present in groundwater proximate to monitoring well MW-6 and in observation wells OBW-4 and OBW-5. Details regarding the performance sampling results follow.

4.0 STAGE I ISCO DISTRIBUTION AND MONITORING RESULTS

The following section provides a summary of the results of the assessment of subsurface distribution achieved during the injection of the $KMnO_4$ solution, process and performance monitoring results for soil and groundwater, and evaluation of the lateral distribution of TCE conducted in the northwestern portion of the CI Plant 4 canopy at the northernmost/current drum storage area.

4.1 ISCO DISTRIBUTION

The performance borings completed around each injection location were used to evaluate the lateral and vertical distribution of the $KMnO_4$ solution. Visual observations of staining associated with the presence of the $KMnO_4$ solution were used to assess the lateral and vertical distribution of the $KMnO_4$ solution after injection (Figure 5A).

The distribution radii were more laterally uniform during lower-pressure injections into the vadose zone at injection locations F5 and E5 and while injecting into the Water Table Interval at injection location E5. The distribution radii were more irregular during injection at higher pressures at injection locations B3, C5, and D4. The irregular distribution may have been the result of hydraulic fracturing creating preferential pathways in the subsurface.

The vertical distribution of the $KMnO_4$ solution was irregular regardless of the injection pressures applied (Figures 5B through 5F; Appendix B). The vertical distribution observations indicated that the $KMnO_4$ solution was not distributed homogeneously throughout the formation. Further, the $KMnO_4$ solution was not distributed homogeneously within the shallow portion of the soil matrix from beneath the building slab to approximately 6 feet bgs, where the CVOC concentrations exceed the soil cleanup levels protective of the air pathway.

The $KMnO_4$ solution was observed as a bright purple color in monitoring well MW-6 beginning on August 23, 2018. The $KMnO_4$ solution was observed as a faint purple color in observation well OBW-5 beginning on September 5, 2018. The groundwater in monitoring well MW-6 and in observation well OBW-5 was observed to be brown during the September 12, 2018 performance groundwater monitoring event, indicating that the $KMnO_4$ solution had been expended.

4.2 ANALYTICAL RESULTS

Soil samples were collected from the second round of performance borings at depths and locations where the $KMnO_4$ solution was observed during the first round of performance borings. CVOC results from the first round of performance borings (Table 6) were used as baseline soil samples for comparison against CVOC results from the second round of performance borings (Table 7; Figures 6A through 6E). CVOC concentrations from the second round of performance borings indicated that injection of the 3-percent $KMnO_4$ solution was not successful at reducing concentrations of CVOCs in vadose zone soil.

PNOD analytical results were elevated in the poorly graded sand layer immediately below the concrete floor slab (Table 6), indicating that a significant volume of $KMnO_4$ solution, multiple injections, and/or higher concentration solution would be required to overcome the PNOD and effectively reduce CVOC concentrations. PNOD analytical results in the remaining soil types encountered below the poorly graded sand were within the range indicating that ISCO could be successful. However, the CVOC results confirmed the necessity for multiple injections, a higher-concentration $KMnO_4$ solution, or an alternative oxidant such as sodium permanganate or persulfate that can be more readily mixed at higher concentrations than $KMnO_4$.

PCE, TCE, and cis-1,2-DCE were detected at concentrations less than the PCULs during the baseline and performance groundwater monitoring events in observation wells OBW-01 through OBW-05 and in monitoring well MW-6 (Table 2; Figure 4). TCE was detected at a concentration of 7.6 micrograms per liter, which exceeds the PCUL established for the Site, in the groundwater sample collected from monitoring well MW-7 during the baseline groundwater monitoring event. The TCE concentration in the groundwater sample collected during the performance groundwater monitoring event was less than the PCUL.

Metals concentrations from the baseline groundwater monitoring event and from the performance groundwater monitoring event are summarized in Table 3. Hexavalent chromium was detected at a concentration of 100 micrograms per liter in the field duplicate sample collected from monitoring well MW-6 on September 18, 2018 (Table 3). This concentration exceeded the Model Toxics Control Act Standard Method B cleanup level, so additional sampling was requested by Ecology in a meeting between Farallon and Ecology on October 11, 2018. An additional groundwater monitoring event was conducted on October 17, 2018 to assess whether the hexavalent chromium was still present in groundwater proximate to monitoring well MW-6 and in observation wells OBW-4 and OBW-5. Hexavalent chromium was not detected at the laboratory practical quantitation limits in the groundwater samples collected on October 17, 2018.

Laboratory analytical reports are provided in Appendix D.

4.3 ADDITIONAL CI PLANT 4 TCE RESULTS

TCE concentrations ranging from 0.082 to 2.4 milligrams per kilogram were detected at a depth of approximately 2 feet bgs in performance borings B3-01, B3-02, and B3-03 proximate to injection location B3 (Table 6; Figure 7) and the northernmost/current drum storage area within the Plant 4 canopy. These TCE concentrations are higher than TCE concentrations previously detected (Table 1; Figure 3).

Four additional borings, borings P4-15 through P4-18, were advanced during a second round of performance borings to further assess the lateral and vertical distribution of TCE. TCE was only detected at boring location P4-16, at a depth of approximately 1 foot bgs (Table 8; Figure 7), indicating that the lateral and vertical limits of TCE-affected soil at the northernmost/current drum storage area could be estimated using the collective soil analytical obtained in 2015 and during the Stage 1 ISCO work.

5.0 CONCLUSIONS

The Stage I ISCO results indicate that ISCO or other injection-based technologies are not appropriate for cleanup of shallow soil with concentrations of PCE and/or TCE exceeding the PCULs protective of the air pathway. This conclusion is based on the following:

- The limited lateral and vertical distribution of the $KMnO_4$ solution, which indicates that a substantial number of injection borings would be necessary to introduce an oxidant solution throughout the soil matrix containing CVOCs at concentrations requiring treatment.

- The irregular and inconsistent lateral and vertical distribution regardless of injection pressures, which indicate that heterogeneity of the soil matrix likely will prohibit an oxidant from being distributed in a manner that will bring the oxidant in contact with CVOCs requiring treatment. The ISCO injection results also confirmed that the $KMnO_4$ solution could not be effectively distributed within the upper 2 feet bgs without surfacing.

- PNOD was high in the poorly graded sand layer immediately beneath the building slab where CVOCs at concentrations requiring treatment are present. Consequently, either multiple injections of a 3-percent $KMnO_4$ solution an alternative oxidant that could be readily mixed at a higher concentration than $KMnO_4$ would be required to overcome the PNOD and treat the CVOC concentrations.

Because an oxidant solution cannot be distributed in a manner that will allow it to come in contact with the CVOCs in the affected portions of the soil matrix, coupled with the likelihood of requiring multiple injections within a substantial number of borings, further application of this technology at CI Plant 4 is technically unfeasible and represents a cost disproportionate to a corresponding benefit. An alternative technology proposed in the Site Unit 2 Feasibility Study will need to be assessed.

The results of the Stage I ISCO work were also evaluated for the potential to apply ISCO as a technology to reduce or eliminate CVOC concentrations in groundwater. The results indicated that:

- CVOC concentrations at monitoring well MW-6 and observations wells OBW-01 through OBW-05 do not exceed the groundwater cleanup levels protective of the air pathway.
- A $KMnO_4$ solution greater than 3 percent would be required to effectively reduce CVOC concentrations in groundwater. Multiple injections also would be required.
- The distribution of the $KMnO_4$ solution within the saturated zone appeared more uniform and had the greatest distribution radius (injection location E5, Figure 5A).
- Hexavalent chromium was generated by the oxidation reaction. However, the hexavalent chromium reverted to trivalent chromium shortly following expenditure of the $KMnO_4$ solution. Continued application of ISCO could result in a hexavalent chromium plume.

Based on the groundwater analytical data, no further action is required for groundwater treatment at CI Plant 4.

6.0 REFERENCES

Cascade Technical Services (Cascade). 2018. *Remediation Field Services Report, Capital Industries, 5801 3rd Avenue South, Seattle, WA 98108*. Prepared for Farallon Consulting, L.L.C. September 11.

Farallon Consulting, L.L.C. (Farallon). 2012. *Revised Draft Remedial Investigation Report, Capital Industries, Inc., 5801 3rd Avenue South, Seattle, Washington, Agreed Order No. E 5348.* Prepared for Capital Industries, Inc. October.

———. 2014. Technical Memorandum Regarding Revised Preliminary Cleanup Standards, W4 Joint Deliverable, Seattle, Washington. From Farallon Consulting, L.L.C. To Ed Jones, Washington State Department of Ecology. September 12.

———. 2015. Technical Memorandum Regarding Revised Data Gap Memorandum for Site Unit 2, W4 Joint Deliverable, Seattle, Washington. From Farallon Consulting, L.L.C. and Pacific Groundwater Group. To Ed Jones, Washington State Department of Ecology. March 2.

———. 2016. *Appendix J, Remedial Investigation Data Gap Resolution Summary Report, Site Unit 2, Seattle, Washington.* Prepared for Capital Industries, Inc. August 11.

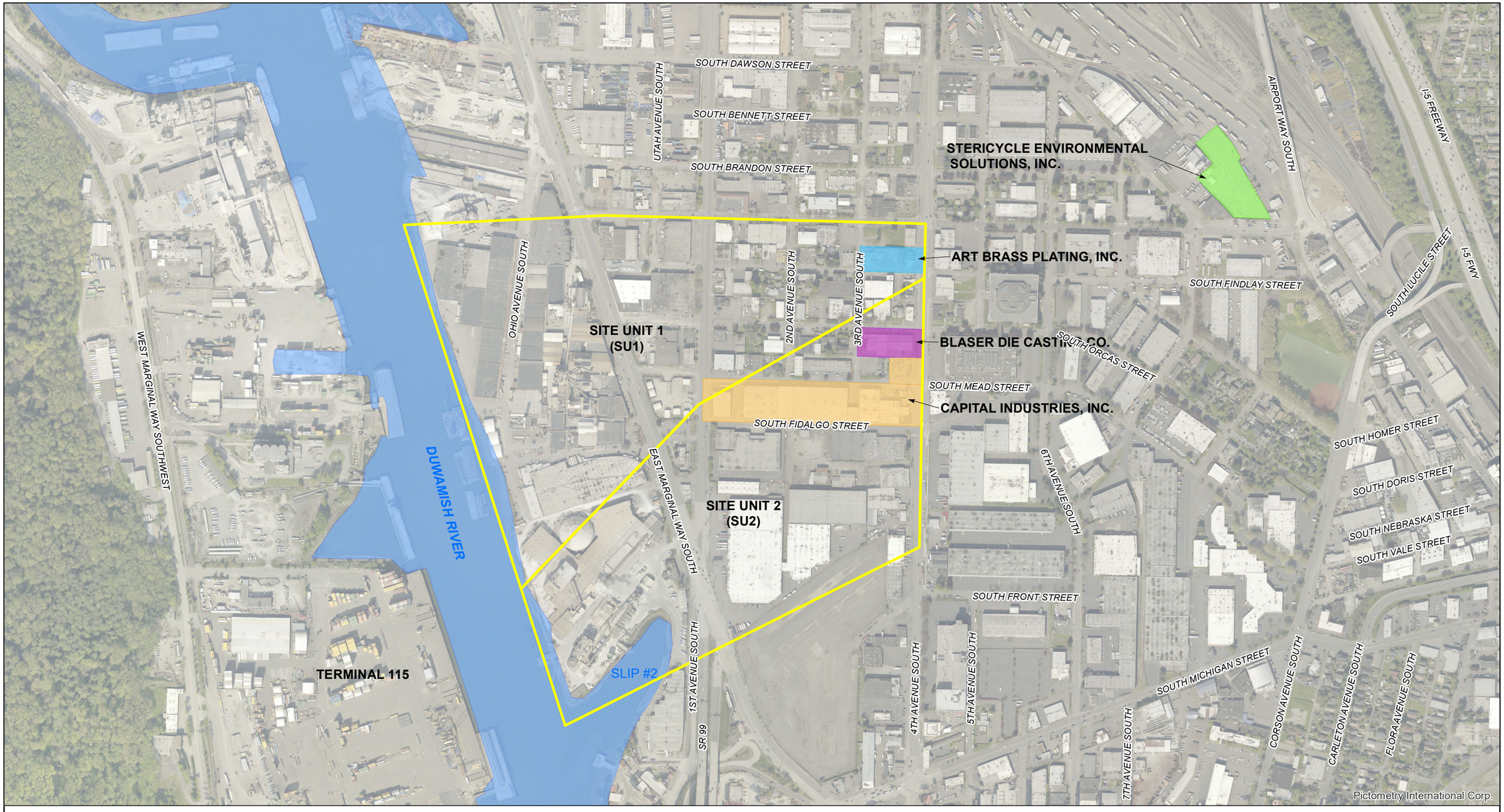
———. 2017. *Final Capital Industries Plant 4 Interim Action Work Plan, West of 4th Group Site, Capital Industries, Inc., 5815 4th Avenue South, Seattle, Washington*. Prepared for West of 4th Avenue Group, Site Unit 2 Joint Deliverable, Capital Industries, Inc., Blaser Die Casting Co., and Stericycle. December 21.

West of Fourth Group and Pacific Groundwater Group. 2016. *West of Fourth Site Unit 2 Feasibility Study, Seattle, Washington*. Prepared for West of Fourth Joint Agreed Order, Art Brass Plating, Blaser Die Casting, Capital Industries, and Stericycle. August 11.

FIGURES

FINAL CAPITAL INDUSTRIES PLANT 4 INTERIM ACTION – STAGE 1
IN-SITU CHEMICAL OXIDATION REPORT
West of 4th Group Site
5801 3rd Avenue South
Seattle, Washington

Farallon PN: 457-008



LEGEND

- ART BRASS PLATING, INC.
- BLASER DIE CASTING CO.
- CAPITAL INDUSTRIES, INC.
- STERICYCLE ENVIRONMENTAL SOLUTIONS, INC.
- SITE UNIT BOUNDARY

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

N

0 250 500

SCALE IN FEET

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

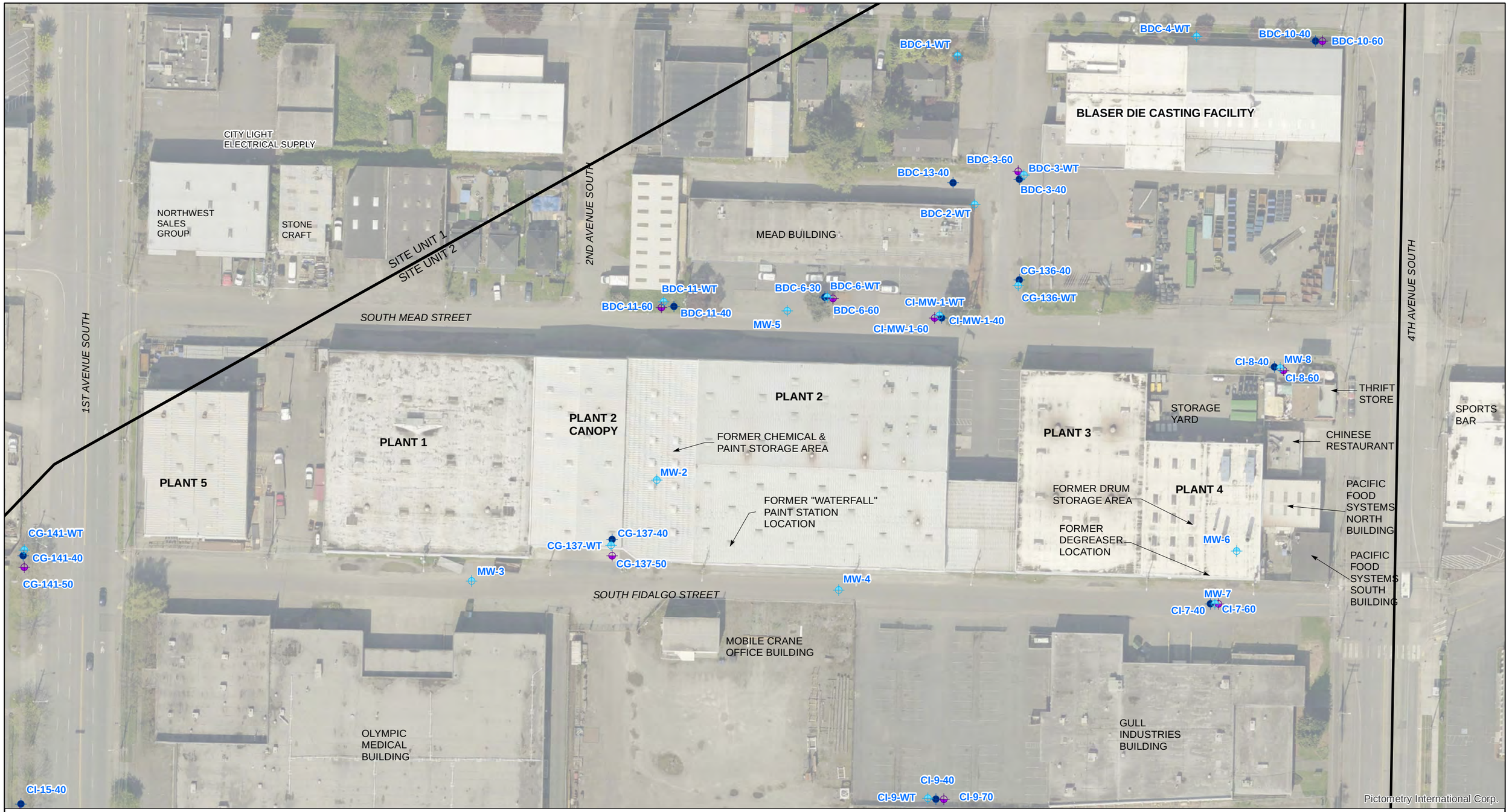
FIGURE 1

SITE DIAGRAM
WEST OF 4TH GROUP SITE
CAPITAL INDUSTRIES, INC.
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: tperrin | Checked By: JK | Date: 2/7/2019 | Disc Reference:

Document Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\InterimWorkPlan\Revision_20180507\Figure1_Sitemap.mxd



LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- SITE UNIT BOUNDARY
- BUILDINGS

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

N

0 40 80
SCALE IN FEET

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

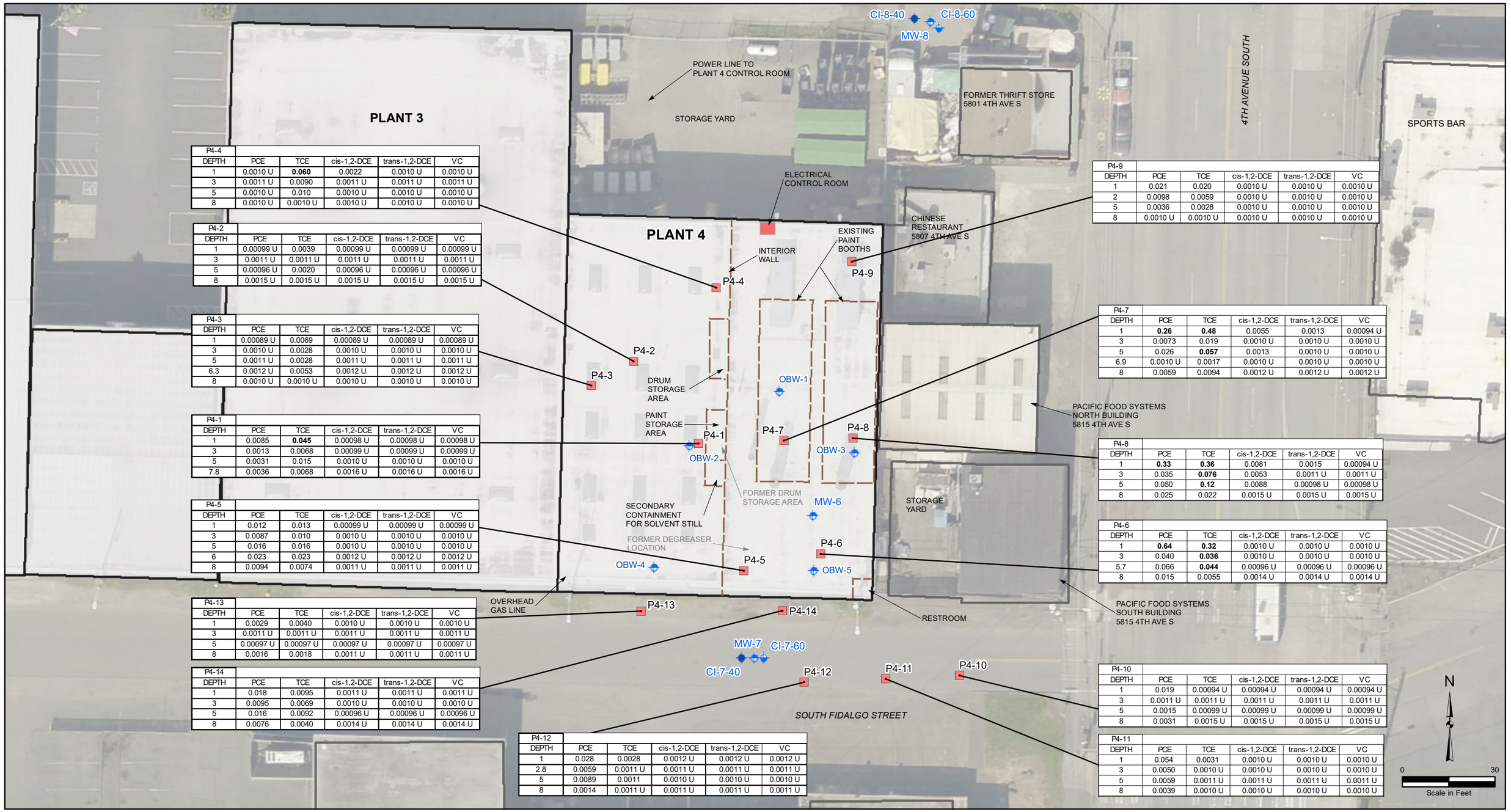
FIGURE 2

PROPERTY DIAGRAM
WEST OF 4TH GROUP SITE
CAPITAL INDUSTRIES, INC.
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: tperrin | Checked By: JK | Date: 2/7/2019 | Disc Reference:

Document Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\InterimWorkPlan\Revision_20180507\Figure2_PropertyDiagram.mxd



P4-4					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.0010 U	**0.060**	0.0022	0.0010 U	0.0010 U
3	0.0011 U	0.0090	0.0011 U	0.0011 U	0.0011 U
5	0.0010 U	0.010	0.0010 U	0.0010 U	0.0010 U
8	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

P4-2					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.00099 U	0.0039	0.00099 U	0.00099 U	0.00099 U
3	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
5	0.00096 U	0.0020	0.00096 U	0.00096 U	0.00096 U
8	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U

P4-3					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.00089 U	0.0069	0.00089 U	0.00089 U	0.00089 U
3	0.0010 U	0.0028	0.0010 U	0.0010 U	0.0010 U
5	0.0011 U	0.0028	0.0011 U	0.0011 U	0.0011 U
6.3	0.0012 U	0.0053	0.0012 U	0.0012 U	0.0012 U
8	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

P4-1					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.0085	**0.045**	0.00098 U	0.00098 U	0.00098 U
3	0.0013	0.0068	0.00099 U	0.00099 U	0.00099 U
5	0.0031	0.015	0.0010 U	0.0010 U	0.0010 U
7.8	0.0036	0.0068	0.0016 U	0.0016 U	0.0016 U

P4-5					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.012	0.013	0.00099 U	0.00099 U	0.00099 U
3	0.0087	0.010	0.0010 U	0.0010 U	0.0010 U
5	0.016	0.016	0.0010 U	0.0010 U	0.0010 U
6	0.023	0.023	0.0012 U	0.0012 U	0.0012 U
8	0.0094	0.0074	0.0011 U	0.0011 U	0.0011 U

P4-13					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.0029	0.0040	0.0010 U	0.0010 U	0.0010 U
3	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
5	0.00097 U	0.00097 U	0.00097 U	0.00097 U	0.00097 U
8	0.0016	0.0018	0.0011 U	0.0011 U	0.0011 U

P4-14					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.018	0.0095	0.0011 U	0.0011 U	0.0011 U
3	0.0095	0.0069	0.0010 U	0.0010 U	0.0010 U
5	0.016	0.0092	0.00096 U	0.00096 U	0.00096 U
8	0.0076	0.0040	0.0014 U	0.0014 U	0.0014 U

P4-12					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.028	0.0028	0.0012 U	0.0012 U	0.0012 U
2.8	0.0059	0.0011 U	0.0011 U	0.0011 U	0.0011 U
5	0.0089	0.0011	0.0010 U	0.0010 U	0.0010 U
8	0.0014	0.0011 U	0.0011 U	0.0011 U	0.0011 U

P4-9					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.021	0.020	0.0010 U	0.0010 U	0.0010 U
2	0.0098	0.0059	0.0010 U	0.0010 U	0.0010 U
5	0.0036	0.0028	0.0010 U	0.0010 U	0.0010 U
8	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

P4-7					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	**0.26**	**0.48**	0.0055	0.0013	0.00094 U
3	0.0073	0.019	0.0010 U	0.0010 U	0.0010 U
5	0.026	**0.057**	0.0013	0.0010 U	0.0010 U
6.9	0.0010 U	0.0017	0.0010 U	0.0010 U	0.0010 U
8	0.0059	0.0094	0.0012 U	0.0012 U	0.0012 U

P4-8					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	**0.33**	**0.36**	0.0081	0.0015	0.00094 U
3	0.035	**0.076**	0.0053	0.0011 U	0.0011 U
5	0.050	**0.12**	0.0088	0.00098 U	0.00098 U
8	0.025	0.022	0.0015 U	0.0015 U	0.0015 U

P4-6					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	**0.64**	**0.32**	0.0010 U	0.0010 U	0.0010 U
3	0.040	**0.036**	0.0010 U	0.0010 U	0.0010 U
5.7	0.066	**0.044**	0.00096 U	0.00096 U	0.00096 U
8	0.015	0.0055	0.0014 U	0.0014 U	0.0014 U

P4-10					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.019	0.00094 U	0.00094 U	0.00094 U	0.00094 U
3	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
5	0.0015	0.00099 U	0.00099 U	0.00099 U	0.00099 U
8	0.0031	0.0015 U	0.0015 U	0.0015 U	0.0015 U

P4-11					
DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
1	0.054	0.0031	0.0010 U	0.0010 U	0.0010 U
3	0.0050	0.0010 U	0.0010 U	0.0010 U	0.0010 U
5	0.0059	0.0011 U	0.0011 U	0.0011 U	0.0011 U
8	0.0039	0.0010 U	0.0010 U	0.0010 U	0.0010 U

LEGEND

- DIRECT-PUSH SOIL BORING
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- INJECTION GRID CELL

LEGEND

BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

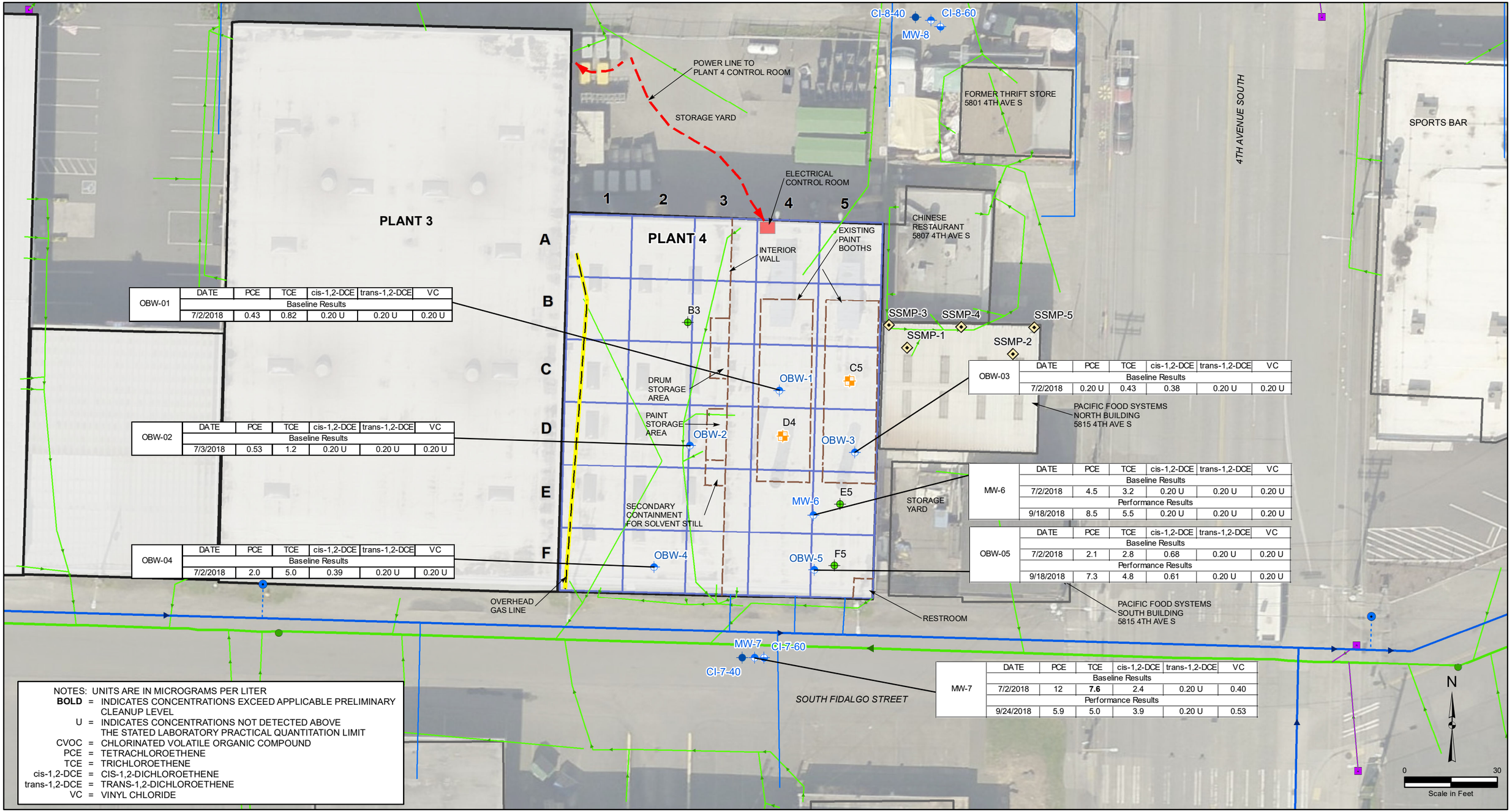
California
Oakland | Folsom | Irvine

FIGURE 3

CVOC RESULTS IN SOIL - 2015
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: tperrin
Checked By: JM
Date: 10/30/2018
Disc Reference:
Path: \\edgefs02\GIS\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-03_CVOC_2015_v2.mxd



OBW-01	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	Baseline Results					
	7/2/2018	0.43	0.82	0.20 U	0.20 U	0.20 U

OBW-02	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	Baseline Results					
	7/3/2018	0.53	1.2	0.20 U	0.20 U	0.20 U

OBW-04	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	Baseline Results					
	7/2/2018	2.0	5.0	0.39	0.20 U	0.20 U

OBW-03	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	Baseline Results					
	7/2/2018	0.20 U	0.43	0.38	0.20 U	0.20 U

MW-6	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	Baseline Results					
	7/2/2018	4.5	3.2	0.20 U	0.20 U	0.20 U
	Performance Results					
	9/18/2018	8.5	5.5	0.20 U	0.20 U	0.20 U

OBW-05	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	Baseline Results					
	7/2/2018	2.1	2.8	0.68	0.20 U	0.20 U
	Performance Results					
	9/18/2018	7.3	4.8	0.61	0.20 U	0.20 U

MW-7	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	Baseline Results					
	7/2/2018	12	**7.6**	2.4	0.20 U	0.40
	Performance Results					
	9/24/2018	5.9	5.0	3.9	0.20 U	0.53

NOTES: UNITS ARE IN MICROGRAMS PER LITER
BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- INJECTION GRID CELL

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

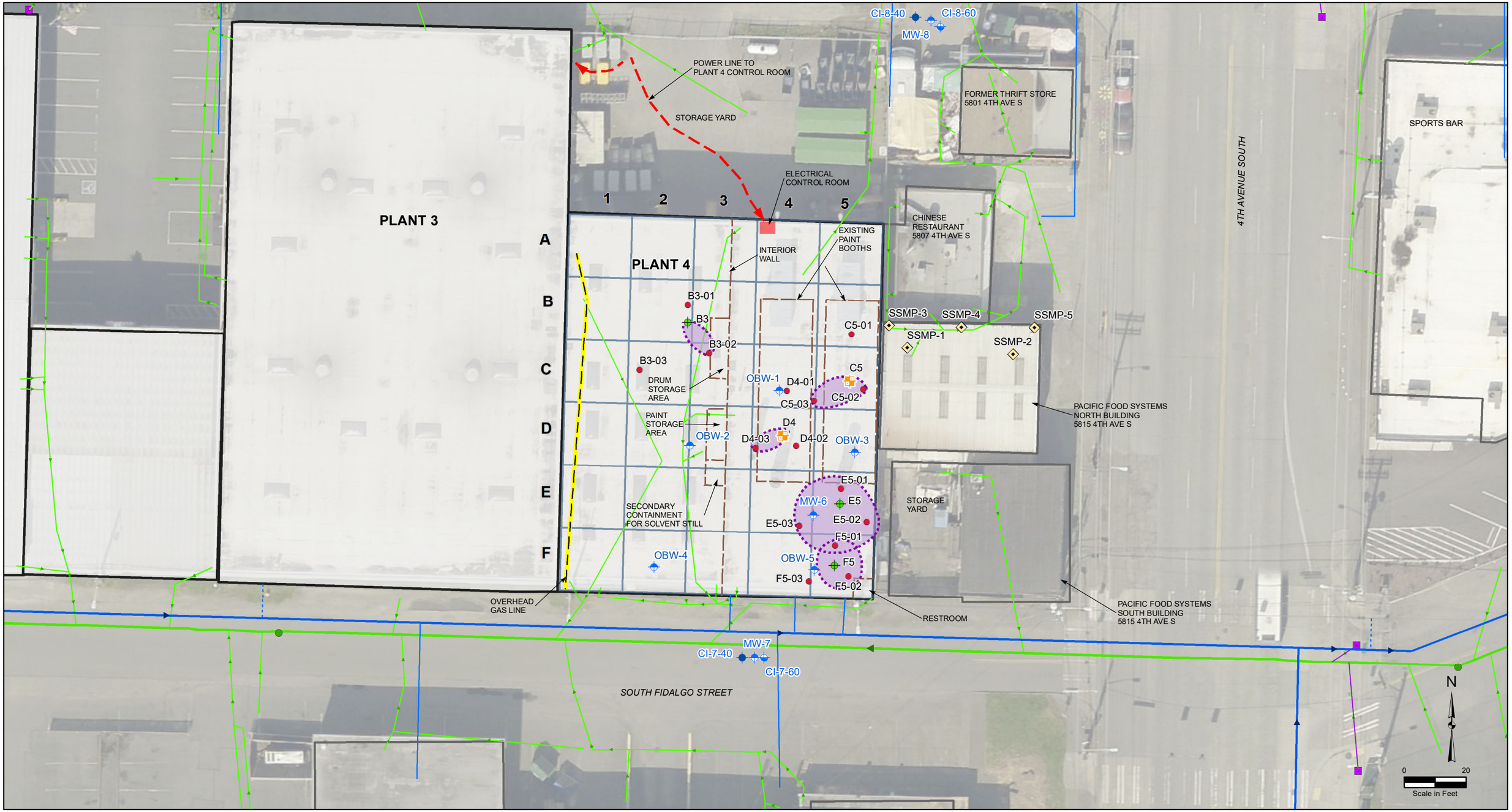
California
Oakland | Folsom | Irvine

FIGURE 4

STAGE 1 GROUNDWATER PERFORMANCE MONITORING RESULTS
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-04_CVOC_Monitoring_GW.mxd



LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

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

ISCO = IN SITU CHEMICAL OXIDATION

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

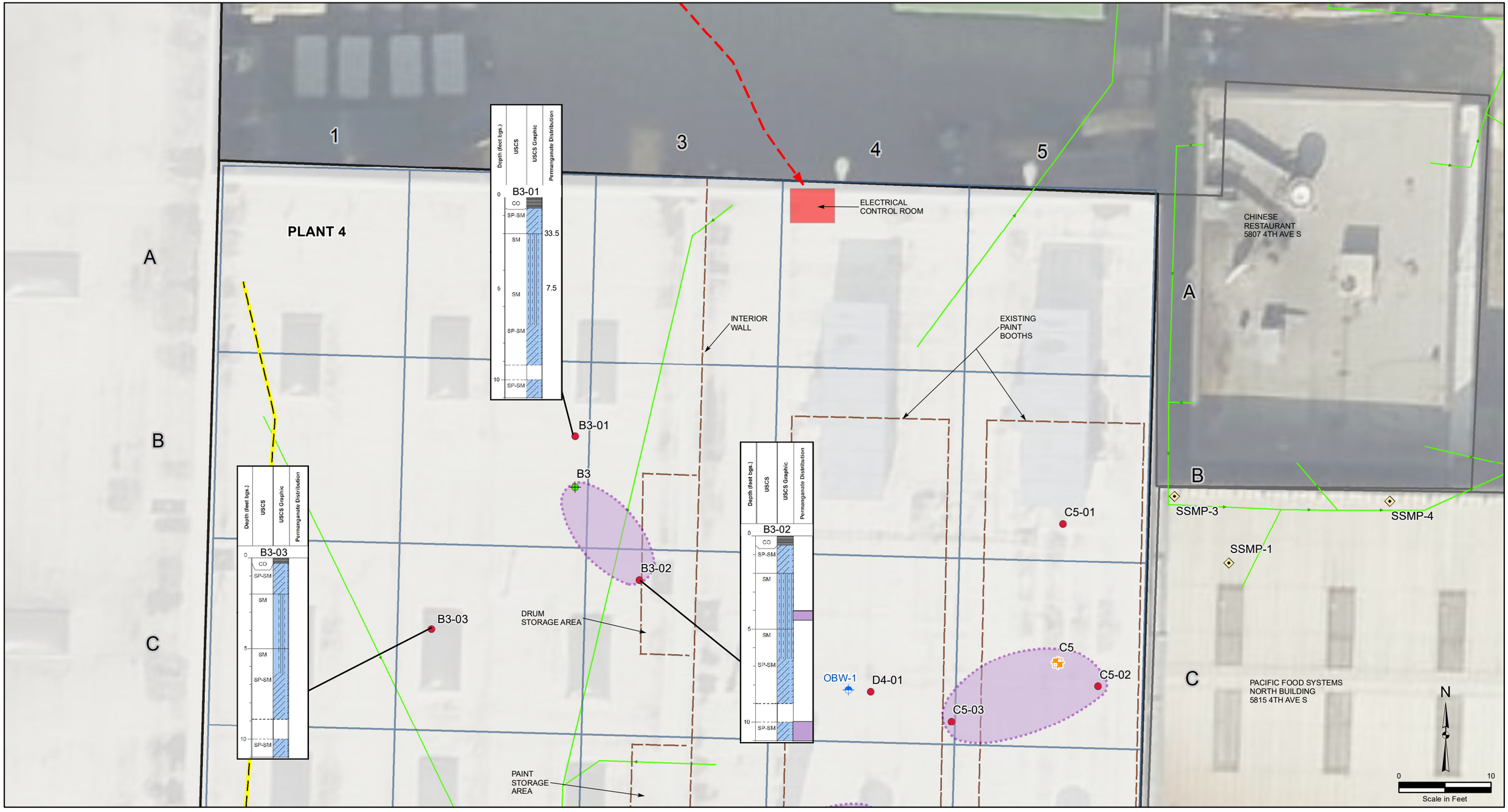
California
Oakland | Folsom | Irvine

FIGURE 5A

LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE - STAGE 1 ISCO INJECTIONS
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-05A_PotassiumPermDistribution.mxd



LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

BGS = BELOW GROUND SURFACE
CO = CONCRETE
ISCO = IN SITU CHEMICAL OXIDATION
PNOD = PERMANGANATE NATURAL OXIDANT DEMAND
SM = SILTY SAND
SP = POORLY GRADED SAND
SP-SP = POORLY GRADED SAND WITH SILT
USCS = UNIFIED SOIL CLASSIFICATION SYSTEM

NOTES:
ALL LOCATIONS ARE APPROXIMATE. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.
PERMANGANATE DISTRIBUTION NUMBER IS PNOD RESULT

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

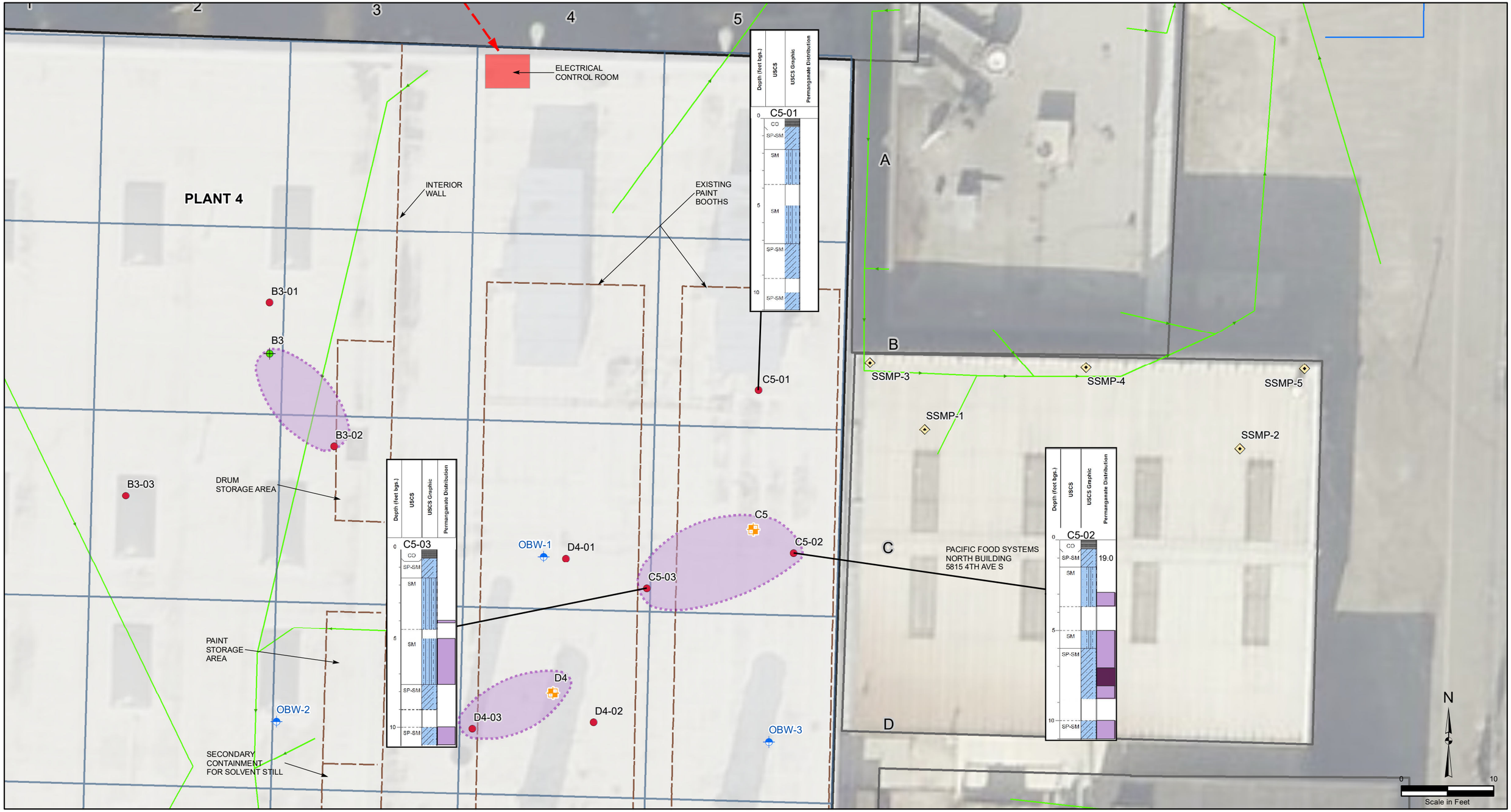
FIGURE 5B

LATERAL AND VERTICAL DISTRIBUTION OF POTASSIUM PERMANGANATE - INJECTION LOCATION B3
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018

Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-05B_PotPermDist_B.mxd



LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

BGS = BELOW GROUND SURFACE
CO = CONCRETE
ISCO = IN SITU CHEMICAL OXIDATION
PNOD = PERMANGANATE NATURAL OXIDANT DEMAND
SM = SILTY SAND
SP = POORLY GRADED SAND
SP-SP = POORLY GRADED SAND WITH SILT
USCS = UNIFIED SOIL CLASSIFICATION SYSTEM

NOTES:
ALL LOCATIONS ARE APPROXIMATE. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.
PERMANGANATE DISTRIBUTION NUMBER IS PNOD RESULT

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

FIGURE 5C

LATERAL AND VERTICAL DISTRIBUTION OF POTASSIUM PERMANGANATE - INJECTION LOCATION C5
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference: Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-05C_PotPermDist_C.mxd

PLANT 4

INTERIOR WALL

EXISTING PAINT BOOTHS

DRUM STORAGE AREA

PAINT STORAGE AREA

SECONDARY CONTAINMENT FOR SOLVENT STILL

B3-01

B3

B3-02

B3-03

C5-01

C5

C5-02

C5-03

OBW-1

D4-01

D4

D4-02

D4-03

OBW-2

OBW-3

E5-01

E5

E5-02

E5-03

MW-6

SSMP-1

SSMP-2

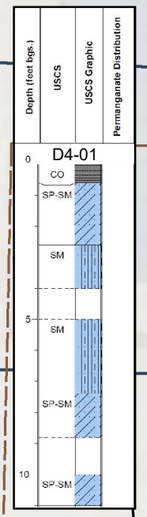
SSMP-3

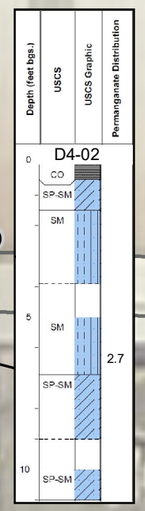
SSMP-4

SSMP-5

PACIFIC FOOD SYSTEMS
NORTH BUILDING
5815 4TH AVE S

STORAGE YARD





N

0 10

PACIFIC FOOD SYSTEMS

LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

BGS = BELOW GROUND SURFACE
CO = CONCRETE
ISCO = IN SITU CHEMICAL OXIDATION
PNOD = PERMANGANATE NATURAL OXIDANT DEMAND
SM = SILTY SAND
SP = POORLY GRADED SAND
SP-SP = POORLY GRADED SAND WITH SILT
USCS = UNIFIED SOIL CLASSIFICATION SYSTEM

NOTES:
ALL LOCATIONS ARE APPROXIMATE. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.
PERMANGANATE DISTRIBUTION NUMBER IS PNOD RESULT

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

FIGURE 5D

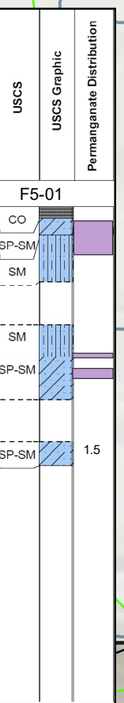
LATERAL AND VERTICAL DISTRIBUTION OF POTASSIUM PERMANGANATE - INJECTION LOCATION D4
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

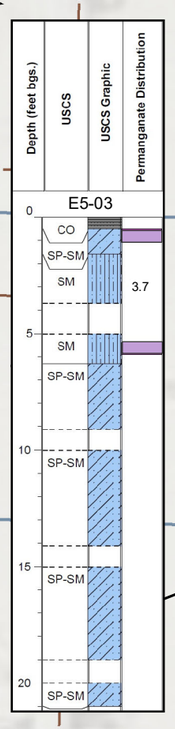
FARALLON PN: 457-008

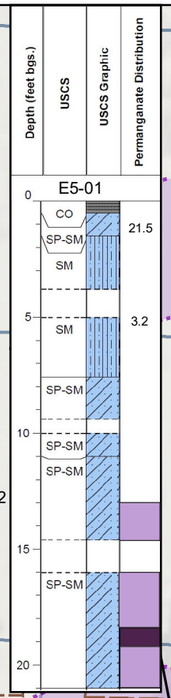
Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-05D_PotPermDist_D.mxd

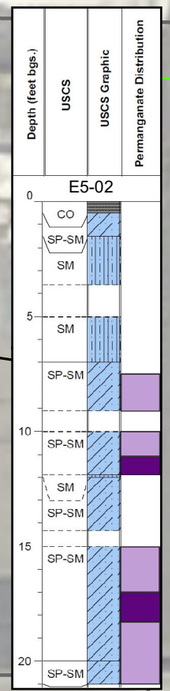
PLANT 4

B3-02
B3-03
DRUM STORAGE AREA
EXISTING PAINT BOOTHS
OBW-1
D4-01
PAINT STORAGE AREA
OBW-2
SECONDARY CONTAINMENT FOR SOLVENT STILL
D4
D4-03
D4-02
OBW-3
C5
C5-02
E5-01
E5
MW-6
E5-03
E5-02
F5-01
F5
OBW-5
F5-02
F5-03
OBW-4
SSMP-1
SSMP-2
C
D
E
F
PACIFIC FOOD SYSTEMS NORTH BUILDING 5815 4TH AVE S
STORAGE YARD
PACIFIC FOOD SYSTEMS SOUTH BUILDING 5815 4TH AVE S
RESTROOM
2
3
4
5









LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

BGS = BELOW GROUND SURFACE
CO = CONCRETE
ISCO = IN SITU CHEMICAL OXIDATION
PNOD = PERMANGANATE NATURAL OXIDANT DEMAND
SM = SILTY SAND
SP = POORLY GRADED SAND
SP-SP = POORLY GRADED SAND WITH SILT
USCS = UNIFIED SOIL CLASSIFICATION SYSTEM

NOTES:
ALL LOCATIONS ARE APPROXIMATE. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.
PERMANGANATE DISTRIBUTION NUMBER IS PNOD RESULT

N

0 10
Scale in Feet

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

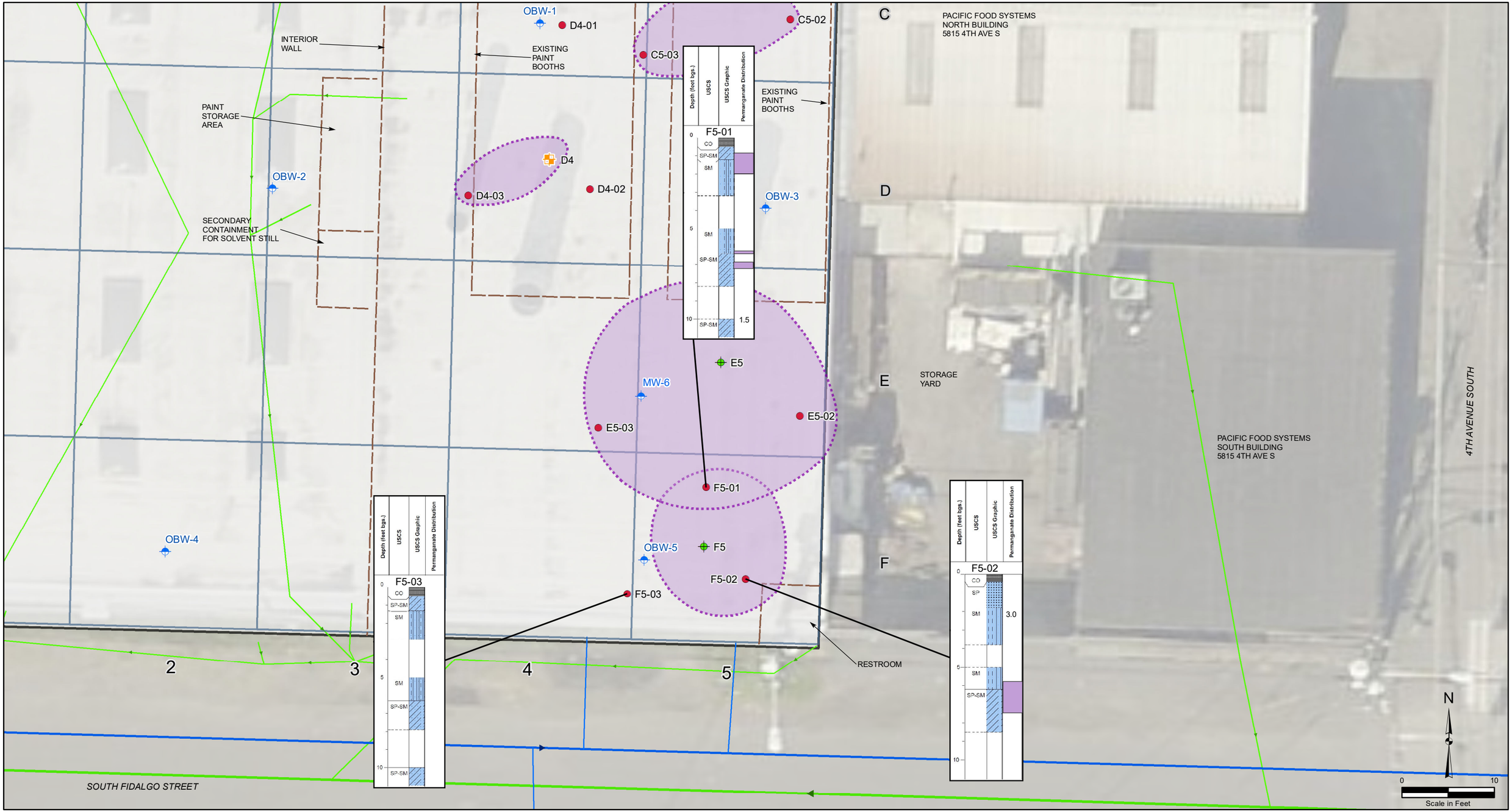
California
Oakland | Folsom | Irvine

FIGURE 5E

LATERAL AND VERTICAL DISTRIBUTION OF POTASSIUM PERMANGANATE - INJECTION LOCATION E5
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier
Checked By: JM
Date: 10/30/2018
Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-05E_PotPermDist_E.mxd



LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

BGS = BELOW GROUND SURFACE
CO = CONCRETE
ISCO = IN SITU CHEMICAL OXIDATION
PNOD = PERMANGANATE NATURAL OXIDANT DEMAND
SM = SILTY SAND
SP = POORLY GRADED SAND
SP-SP = POORLY GRADED SAND WITH SILT
USCS = UNIFIED SOIL CLASSIFICATION SYSTEM

NOTES:
ALL LOCATIONS ARE APPROXIMATE. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.
PERMANGANATE DISTRIBUTION NUMBER IS PNOD RESULT

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

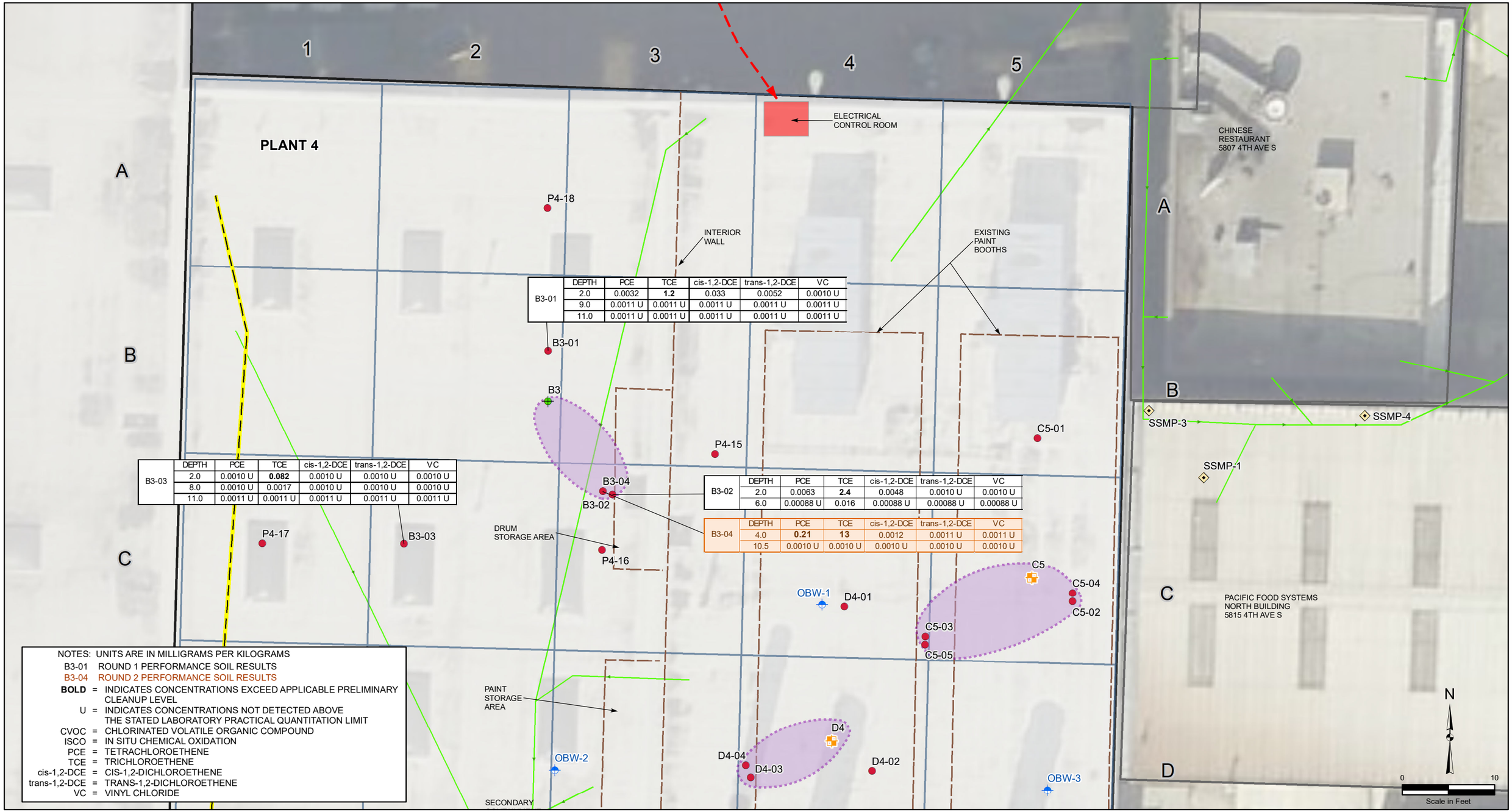
California
Oakland | Folsom | Irvine

FIGURE 5F

LATERAL AND VERTICAL DISTRIBUTION OF POTASSIUM PERMANGANATE - INJECTION LOCATION F5
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-05F_PotPermDist_F.mxd



	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
B3-01	2.0	0.0032	**1.2**	0.033	0.0052	0.0010 U
	9.0	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
	11.0	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U

	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
B3-03	2.0	0.0010 U	**0.082**	0.0010 U	0.0010 U	0.0010 U
	8.0	0.0010 U	0.0017	0.0010 U	0.0010 U	0.0010 U
	11.0	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U

	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
B3-02	2.0	0.0063	**2.4**	0.0048	0.0010 U	0.0010 U
	6.0	0.00088 U	0.016	0.00088 U	0.00088 U	0.00088 U

	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
B3-04	4.0	**0.21**	**13**	0.0012	0.0011 U	0.0011 U
	10.5	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

NOTES: UNITS ARE IN MILLIGRAMS PER KILOGRAMS
B3-01 ROUND 1 PERFORMANCE SOIL RESULTS
B3-04 ROUND 2 PERFORMANCE SOIL RESULTS
BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
ISCO = IN SITU CHEMICAL OXIDATION
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

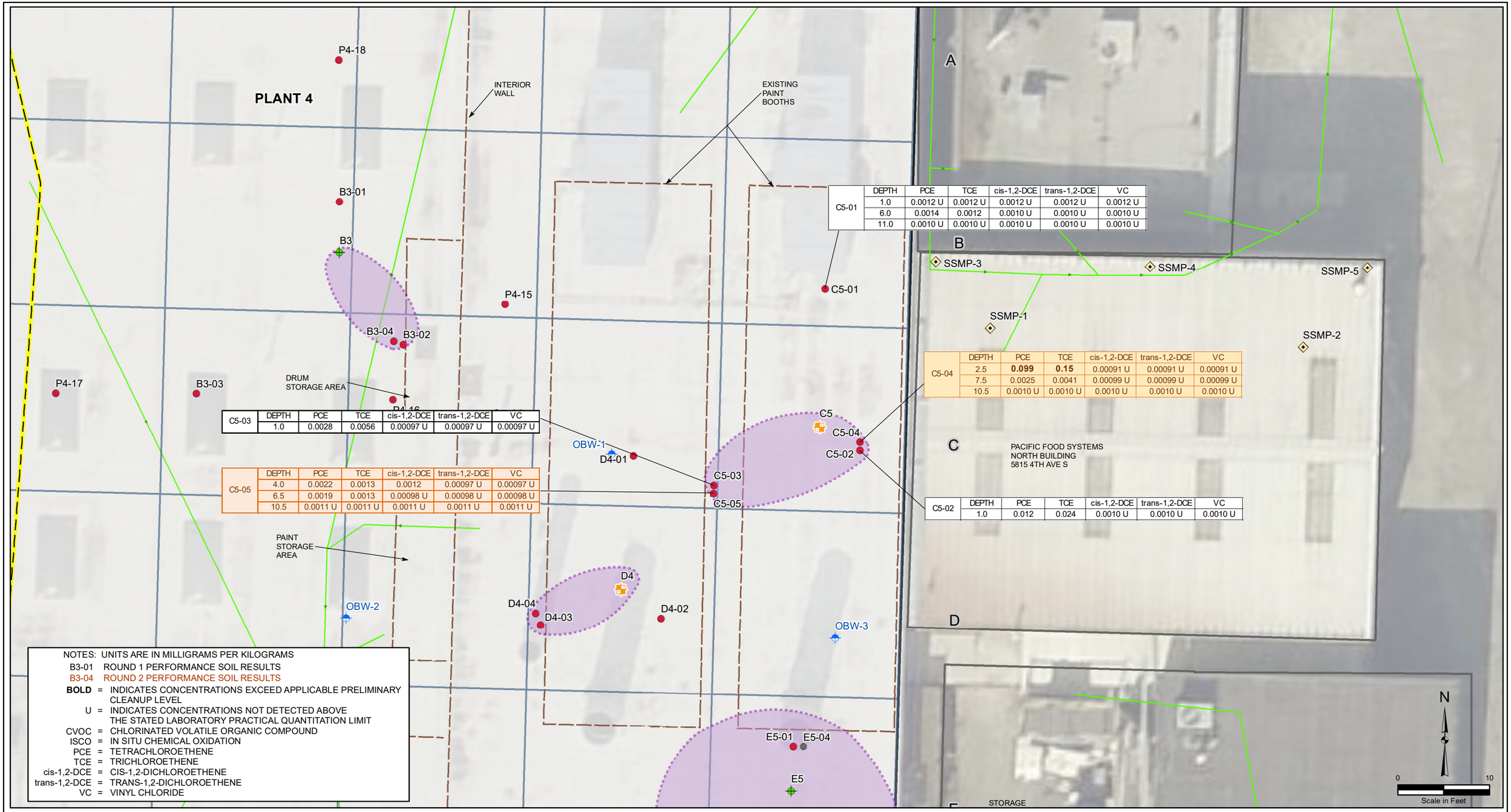
California
Oakland | Folsom | Irvine

FIGURE 6A

STAGE 1 PERFORMANCE MONITORING RESULTS
FOR CVOCs IN SOIL - 2018 - INJECTION LOCATION B3
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-06A_PotPermDist_B.mxd



	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
C5-01	1.0	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
	6.0	0.0014	0.0012	0.0010 U	0.0010 U	0.0010 U
	11.0	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
C5-04	2.5	**0.099**	**0.15**	0.00091 U	0.00091 U	0.00091 U
	7.5	0.0025	0.0041	0.00099 U	0.00099 U	0.00099 U
	10.5	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
C5-02	1.0	0.012	0.024	0.0010 U	0.0010 U	0.0010 U

	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
C5-03	1.0	0.0028	0.0056	0.00097 U	0.00097 U	0.00097 U

	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
C5-05	4.0	0.0022	0.0013	0.0012	0.00097 U	0.00097 U
	6.5	0.0019	0.0013	0.00098 U	0.00098 U	0.00098 U
	10.5	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U

NOTES: UNITS ARE IN MILLIGRAMS PER KILOGRAMS
B3-01 ROUND 1 PERFORMANCE SOIL RESULTS
B3-04 ROUND 2 PERFORMANCE SOIL RESULTS
BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
ISCO = IN SITU CHEMICAL OXIDATION
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 PERFORMANCE BORING CANCELED IN THE FIELD DUE TO PERSISTENCE OF OXIDANT
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

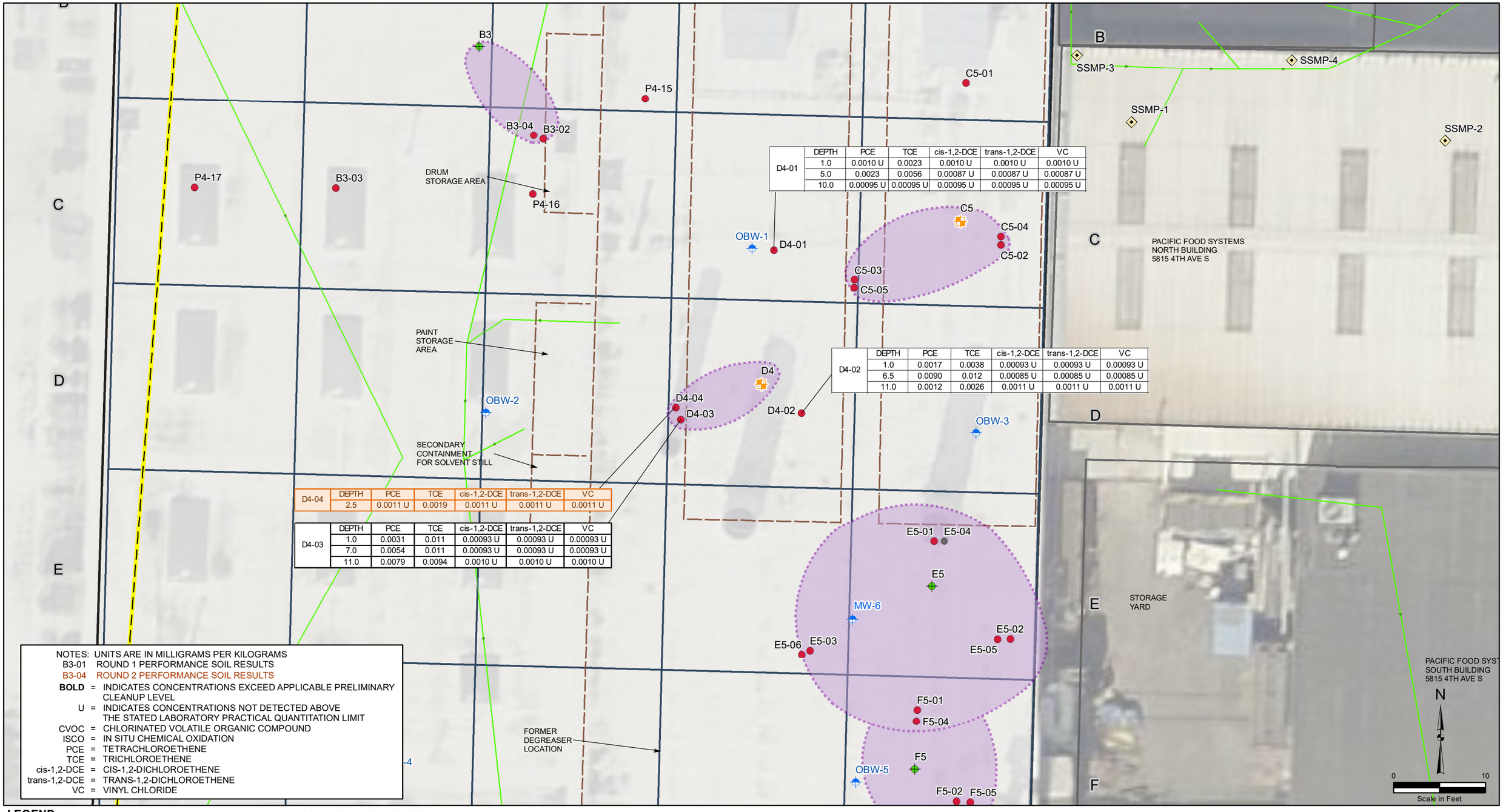
Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

FIGURE 6B

STAGE 1 PERFORMANCE MONITORING RESULTS FOR CVOCs IN SOIL - 2018 - INJECTION LOCATION C5
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON
FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-06B_PotPermDist_C.mxd



D4-01	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0010 U	0.0023	0.0010 U	0.0010 U	0.0010 U
	5.0	0.0023	0.0056	0.00087 U	0.00087 U	0.00087 U
	10.0	0.00095 U	0.00095 U	0.00095 U	0.00095 U	0.00095 U

D4-02	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0017	0.0038	0.00093 U	0.00093 U	0.00093 U
	6.5	0.0090	0.012	0.00085 U	0.00085 U	0.00085 U
	11.0	0.0012	0.0026	0.0011 U	0.0011 U	0.0011 U

D4-04	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	2.5	0.0011 U	0.0019	0.0011 U	0.0011 U	0.0011 U

D4-03	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0031	0.011	0.00093 U	0.00093 U	0.00093 U
	7.0	0.0054	0.011	0.00093 U	0.00093 U	0.00093 U
	11.0	0.0079	0.0094	0.0010 U	0.0010 U	0.0010 U

NOTES: UNITS ARE IN MILLIGRAMS PER KILOGRAMS
B3-01 ROUND 1 PERFORMANCE SOIL RESULTS
B3-04 ROUND 2 PERFORMANCE SOIL RESULTS
BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
ISCO = IN SITU CHEMICAL OXIDATION
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- WATER TABLE INTERVAL MONITORING
- SHALLOW INTERVAL MONITORING
- INTERMEDIATE INTERVAL MONITORING
- STAGE 1 PERFORMANCE BORING
- STAGE 1 PERFORMANCE BORING CANCELED IN THE FIELD DUE TO PERSISTENCE OF OXIDANT
- STAGE 1 LOW-PRESSURE ISCO INJECTION
- STAGE 1 HIGH-PRESSURE ISCO INJECTION
- EXISTING SUBSLAB MONITORING
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

FIGURE 6C

STAGE 1 PERFORMANCE MONITORING RESULTS FOR CVOCs IN SOIL - 2018 - INJECTION LOCATION D4
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-06C_PotPermDist_D.mxd

C5-03
C5-05

PAINT
STORAGE
AREA

D4
D4-04
D4-03
D4-02

OBW-2

OBW-3

SECONDARY
CONTAINMENT
FOR SOLVENT STILL

E5-01	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0044	0.0071	0.0010 U	0.0010 U	0.0010 U
	5.0	0.078	**0.076**	0.0030	0.00093 U	0.00093 U
	11.0	0.017	0.0074	0.0017 U	0.0017 U	0.0017 U

D

E5-01
E5-04
E5

MW-6

E

STORAGE
YARD

E5-03	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	3.0	0.049	**0.047**	0.0011 U	0.0011 U	0.0011 U
	9.0	**0.15**	**0.042**	0.0010 U	0.0010 U	0.0010 U
	14.0	0.0082	0.0047	0.0011 U	0.0011 U	0.0011 U
	19.0	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U

E5-03
E5-06

E5-02
E5-05

E5-02	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0043	0.0037	0.00092 U	0.00092 U	0.00092 U
	5.0	0.034	0.011	0.00096 U	0.00096 U	0.00096 U
	14.0	0.0011 U	0.0012	0.0011 U	0.0011 U	0.0011 U
	20.0	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

PACIFIC FOOD SYSTEMS
SOUTH BUILDING
5815 4TH AVE S

E5-06	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	5.5	0.043	**0.064**	0.0015	0.0011 U	0.0011 U

E5-05	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	8.0	0.0019	0.0012 U	0.0012 U	0.0012 U	0.0012 U

F5-01
F5-04
F5

OBW-4

OBW-5

F5-02
F5-05
F5-03

F

INTERIOR WALL

RESTROOM

2
3
4
5

NOTES: UNITS ARE IN MILLIGRAMS PER KILOGRAMS
B3-01 ROUND 1 PERFORMANCE SOIL RESULTS
B3-04 ROUND 2 PERFORMANCE SOIL RESULTS
BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
ISCO = IN SITU CHEMICAL OXIDATION
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

CI-7-40
CI-7-60
MW-7

N

0 10
Scale in Feet

LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 PERFORMANCE BORING CANCELED IN THE FIELD DUE TO PERSISTENCE OF OXIDANTS
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

FIGURE 6D

STAGE 1 PERFORMANCE MONITORING RESULTS FOR CVOCs IN SOIL - 2018 - INJECTION LOCATION E5
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON
FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-06D_PotPermDist_E.mxd

SECONDARY CONTAINMENT FOR SOLVENT STILL

OBW-3

E5-01 E5-04

E5

MW-6

E5-05 E5-02

E5-06 E5-03

F5-01

F5-04

OBW-4

OBW-5 F5

F5-02 F5-05

F5-03

E

STORAGE YARD

F

RESTROOM

PACIFIC FOOD SYSTEMS
SOUTH BUILDING
5815 4TH AVE S

4TH AVENUE SOUTH

F5-01	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	2.0	**0.16**	**0.11**	0.0010 U	0.0010 U	0.0010 U
	6.5	0.0015	0.00097 U	0.00097 U	0.00097 U	0.00097 U
	10.0	0.0078	0.0023	0.0011 U	0.0011 U	0.0011 U

F5-04	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	2.0	**0.16**	**0.13**	0.0010 U	0.0010 U	0.0010 U
	7.0	0.021	0.0080	0.0009 U	0.0009 U	0.0009 U

F5-05	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7.0	0.0014	0.0013 U	0.0013 U	0.0013 U	0.0013 U

F5-02	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	2.0	0.040	0.022	0.0012 U	0.0012 U	0.0012 U
	8.5	0.0073	0.0019	0.0010 U	0.0010 U	0.0010 U

F5-03	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0031	0.0047	0.00096 U	0.00096 U	0.00096 U
	5.0	0.042	**0.045**	0.0010 U	0.0010 U	0.0010 U
	10.0	0.014	0.0053	0.00087 U	0.00087 U	0.00087 U

2 3 4 5

SOUTH FIDALGO STREET

CI-7-40 CI-7-60

MW-7

NOTES: UNITS ARE IN MILLIGRAMS PER KILOGRAMS
B3-01 ROUND 1 PERFORMANCE SOIL RESULTS
B3-04 ROUND 2 PERFORMANCE SOIL RESULTS
BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
ISCO = IN SITU CHEMICAL OXIDATION
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

N

0 10

Scale in Feet

LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 PERFORMANCE BORING CANCELED IN THE FIELD DUE TO PERSISTENCE OF OXIDANTS
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

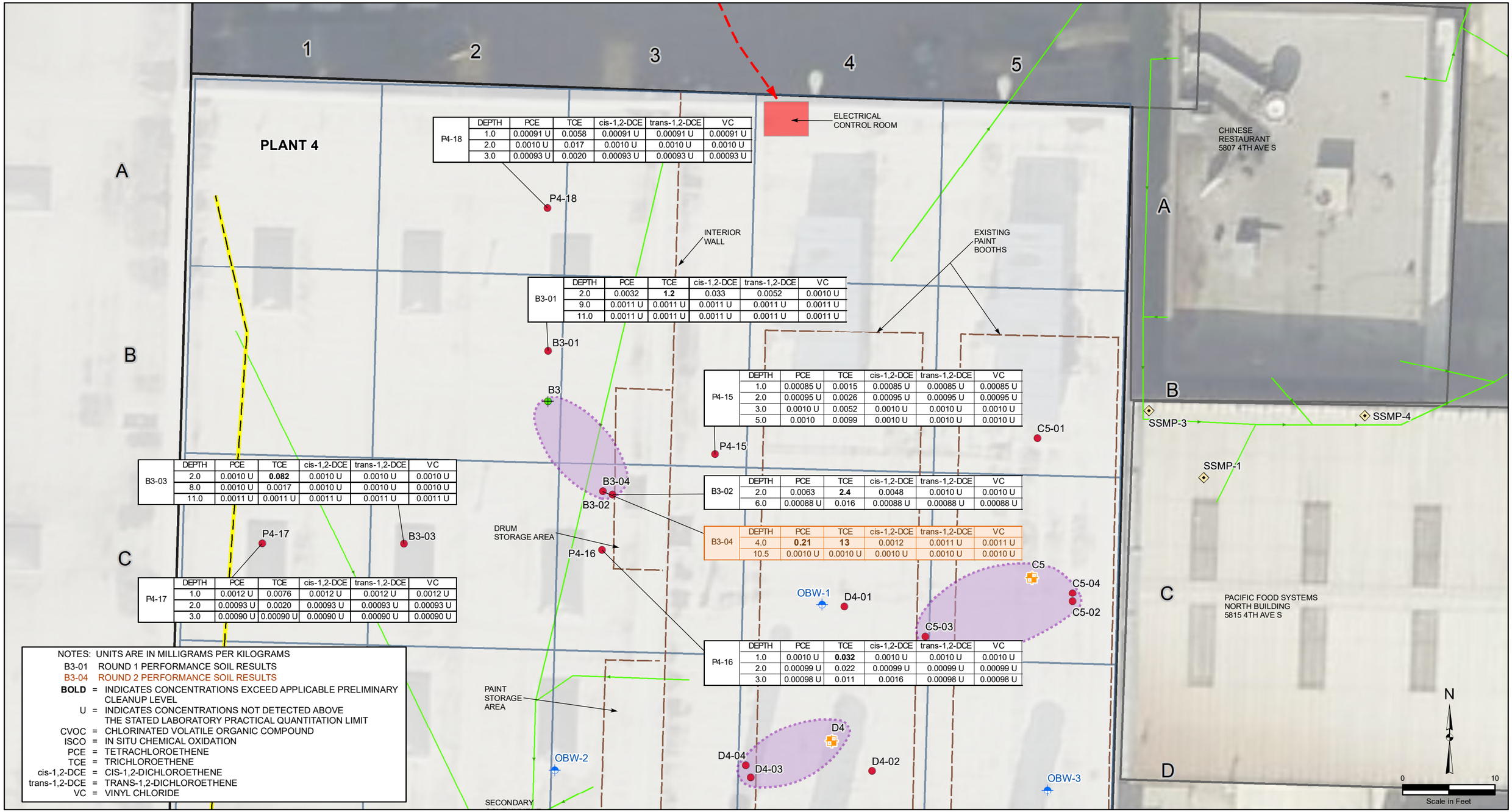
California
Oakland | Folsom | Irvine

FIGURE 6E

STAGE 1 PERFORMANCE MONITORING RESULTS FOR CVOCs IN SOIL - 2018 - INJECTION LOCATION F5
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier Checked By: JM Date: 10/30/2018 Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-06E_PotPermDist_F.mxd



P4-18	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.00091 U	0.0058	0.00091 U	0.00091 U	0.00091 U
	2.0	0.0010 U	0.017	0.0010 U	0.0010 U	0.0010 U
	3.0	0.00093 U	0.0020	0.00093 U	0.00093 U	0.00093 U

B3-01	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	2.0	0.0032	**1.2**	0.033	0.0052	0.0010 U
	9.0	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
	11.0	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U

P4-15	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.00085 U	0.0015	0.00085 U	0.00085 U	0.00085 U
	2.0	0.00095 U	0.0026	0.00095 U	0.00095 U	0.00095 U
	3.0	0.0010 U	0.0052	0.0010 U	0.0010 U	0.0010 U
	5.0	0.0010	0.0099	0.0010 U	0.0010 U	0.0010 U

B3-03	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	2.0	0.0010 U	**0.082**	0.0010 U	0.0010 U	0.0010 U
	8.0	0.0010 U	0.0017	0.0010 U	0.0010 U	0.0010 U
	11.0	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U

B3-02	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	2.0	0.0063	**2.4**	0.0048	0.0010 U	0.0010 U
	6.0	0.00088 U	0.016	0.00088 U	0.00088 U	0.00088 U

B3-04	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	4.0	**0.21**	**13**	0.0012	0.0011 U	0.0011 U
	10.5	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

P4-17	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0012 U	0.0076	0.0012 U	0.0012 U	0.0012 U
	2.0	0.00093 U	0.0020	0.00093 U	0.00093 U	0.00093 U
	3.0	0.00090 U	0.00090 U	0.00090 U	0.00090 U	0.00090 U

P4-16	DEPTH	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	1.0	0.0010 U	**0.032**	0.0010 U	0.0010 U	0.0010 U
	2.0	0.00099 U	0.022	0.00099 U	0.00099 U	0.00099 U
	3.0	0.00098 U	0.011	0.0016	0.00098 U	0.00098 U

NOTES: UNITS ARE IN MILLIGRAMS PER KILOGRAMS
B3-01 ROUND 1 PERFORMANCE SOIL RESULTS
B3-04 ROUND 2 PERFORMANCE SOIL RESULTS
BOLD = INDICATES CONCENTRATIONS EXCEED APPLICABLE PRELIMINARY CLEANUP LEVEL
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
CVOC = CHLORINATED VOLATILE ORGANIC COMPOUND
ISCO = IN SITU CHEMICAL OXIDATION
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = CIS-1,2-DICHLOROETHENE
trans-1,2-DCE = TRANS-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 PERFORMANCE BORING
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE
- PLANT 4 CURRENT INTERIOR FEATURES
- ESTIMATED LATERAL DISTRIBUTION OF POTASSIUM PERMANGANATE
- INJECTION GRID CELL

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Folsom | Irvine

FIGURE 7

TCE DELINEATION IN NORTHWESTERN PORTION OF PLANT 4
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier | Checked By: JM | Date: 10/30/2018 | Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\ISCO Report\Figure-07_PotPermDist_B_withP.mxd

TABLES

FINAL CAPITAL INDUSTRIES PLANT 4 INTERIM ACTION – STAGE 1
IN-SITU CHEMICAL OXIDATION REPORT
West of 4th Group Site
5801 3rd Avenue South
Seattle, Washington

Farallon PN: 457-008

Table 1
Plant 4 - 2015 Soil Analytical Results for CVOCs
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]				
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
P4-1	P4-B1-1.0	Farallon	10/17/2015	1.0	0.0085	**0.045**	< 0.00098	< 0.00098	< 0.00098
	P4-B1-3.0	Farallon	10/17/2015	3.0	0.0013	0.0068	< 0.00099	< 0.00099	< 0.00099
	P4-B1-5.0	Farallon	10/17/2015	5.0	0.0031	0.015	< 0.0010	< 0.0010	< 0.0010
	P4-B1-7.8	Farallon	10/17/2015	7.8	0.0036	0.0068	< 0.0016	< 0.0016	< 0.0016
P4-2	P4-B2-1.0	Farallon	10/17/2015	1.0	< 0.00099	0.0039	< 0.00099	< 0.00099	< 0.00099
	P4-B2-3.0	Farallon	10/17/2015	3.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	P4-B2-5.0	Farallon	10/17/2015	5.0	< 0.00096	0.0020	< 0.00096	< 0.00096	< 0.00096
	P4-B2-8.0	Farallon	10/17/2015	8.0	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
P4-3	P4-B3-1.0	Farallon	10/17/2015	1.0	< 0.00089	0.0069	< 0.00089	< 0.00089	< 0.00089
	P4-B3-3.0	Farallon	10/17/2015	3.0	< 0.0010	0.0028	< 0.0010	< 0.0010	< 0.0010
	P4-B3-5.0	Farallon	10/17/2015	5.0	< 0.0011	0.0028	< 0.0011	< 0.0011	< 0.0011
	P4-B3-6.3	Farallon	10/17/2015	6.3	< 0.0012	0.0053	< 0.0012	< 0.0012	< 0.0012
	P4-B3-8.0	Farallon	10/17/2015	8.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
P4-4	P4-B4-1.0	Farallon	10/17/2015	1.0	< 0.0010	**0.060**	0.0022	< 0.0010	< 0.0010
	P4-B4-3.0	Farallon	10/17/2015	3.0	< 0.0011	0.0090	< 0.0011	< 0.0011	< 0.0011
	P4-B4-5.0	Farallon	10/17/2015	5.0	< 0.0010	0.010	< 0.0010	< 0.0010	< 0.0010
	P4-B4-8.0	Farallon	10/17/2015	8.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
P4-5	P4-B5-1.0	Farallon	10/17/2015	1.0	0.012	0.013	< 0.00099	< 0.00099	< 0.00099
	P4-B5-3.0	Farallon	10/17/2015	3.0	0.0087	0.010	< 0.0010	< 0.0010	< 0.0010
	P4-B5-5.0	Farallon	10/17/2015	5.0	0.016	0.016	< 0.0010	< 0.0010	< 0.0010
	P4-B5-6.0	Farallon	10/17/2015	6.0	0.023	0.023	< 0.0012	< 0.0012	< 0.0012
	P4-B5-8.0	Farallon	10/17/2015	8.0	0.0094	0.0074	< 0.0011	< 0.0011	< 0.0011
Preliminary Cleanup Levels for Soil					**0.08[3]/0.044[4]**	**0.03[3]/0.006[4]**	**160[5]**	**0.59[3]/6[4]**	**0.002[3]/0.001[4]**

Table 1
Plant 4 - 2015 Soil Analytical Results for CVOCs
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]				
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
P4-6	P4-B6-1.0	Farallon	10/17/2015	1.0	**0.64**	**0.32**	< 0.0010	< 0.0010	< 0.0010
	P4-B6-3.0	Farallon	10/17/2015	3.0	0.040	**0.036**	< 0.0010	< 0.0010	< 0.0010
	P4-B6-5.7	Farallon	10/17/2015	5.7	0.066	**0.044**	< 0.00096	< 0.00096	< 0.00096
	P4-B6-8.0	Farallon	10/17/2015	8.0	0.015	0.0055	< 0.0014	< 0.0014	< 0.0014
P4-7	P4-B7-1.0	Farallon	10/17/2015	1.0	**0.26**	**0.48**	0.0055	0.0013	< 0.00094
	P4-B7-3.0	Farallon	10/17/2015	3.0	0.0073	0.019	< 0.0010	< 0.0010	< 0.0010
	P4-B7-5.0	Farallon	10/17/2015	5.0	0.026	**0.057**	0.0013	< 0.0010	< 0.0010
	P4-B7-6.9	Farallon	10/17/2015	6.9	< 0.0010	0.0017	< 0.0010	< 0.0010	< 0.0010
	P4-B7-8.0	Farallon	10/17/2015	8.0	0.0059	0.0094	< 0.0012	< 0.0012	< 0.0012
P4-8	P4-B8-1.0	Farallon	10/17/2015	1.0	**0.33**	**0.36**	0.0081	0.0015	< 0.00094
	P4-B8-3.0	Farallon	10/17/2015	3.0	0.035	**0.076**	0.0053	< 0.0011	< 0.0011
	P4-B8-5.0	Farallon	10/17/2015	5.0	0.050	**0.12**	0.0088	< 0.00098	< 0.00098
	P4-B8-8.0	Farallon	10/17/2015	8.0	0.025	0.022	< 0.0015	< 0.0015	< 0.0015
P4-9	P4-B9-1.0	Farallon	10/17/2015	1.0	0.021	0.020	< 0.0010	< 0.0010	< 0.0010
	P4-B9-2.0	Farallon	10/17/2015	2.0	0.0098	0.0059	< 0.0010	< 0.0010	< 0.0010
	P4-B9-5.0	Farallon	10/17/2015	5.0	0.0036	0.0028	< 0.0010	< 0.0010	< 0.0010
	P4-B9-8.0	Farallon	10/17/2015	8.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
P4-10	P4-B10-1.0	Farallon	10/17/2015	1.0	0.019	< 0.00094	< 0.00094	< 0.00094	< 0.00094
	P4-B10-3.0	Farallon	10/17/2015	3.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	P4-B10-5.0	Farallon	10/17/2015	5.0	0.0015	< 0.00099	< 0.00099	< 0.00099	< 0.00099
	P4-B10-8.0	Farallon	10/17/2015	8.0	0.0031	< 0.0015	< 0.0015	< 0.0015	< 0.0015
Preliminary Cleanup Levels for Soil					**0.08[3]/0.044[4]**	**0.03[3]/0.006[4]**	**160[5]**	**0.59[3]/6[4]**	**0.002[3]/0.001[4]**

Table 1
Plant 4 - 2015 Soil Analytical Results for CVOCs
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]				
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
P4-11	P4-B11-1.0	Farallon	10/17/2015	1.0	0.054	0.0031	< 0.0010	< 0.0010	< 0.0010
	P4-B11-3.0	Farallon	10/17/2015	3.0	0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	P4-B11-5.0	Farallon	10/17/2015	5.0	0.0059	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	P4-B11-8.0	Farallon	10/17/2015	8.0	0.0039	< 0.0010	< 0.0010	< 0.0010	< 0.0010
P4-12	P4-B12-1.0	Farallon	10/17/2015	1.0	0.028	0.0028	< 0.0012	< 0.0012	< 0.0012
	P4-B12-2.8	Farallon	10/17/2015	2.8	0.0059	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	P4-B12-5.0	Farallon	10/17/2015	5.0	0.0089	0.0011	< 0.0010	< 0.0010	< 0.0010
	P4-B12-8.0	Farallon	10/17/2015	8.0	0.0014	< 0.0011	< 0.0011	< 0.0011	< 0.0011
P4-13	P4-B13-1.0	Farallon	10/17/2015	1.0	0.0029	0.0040	< 0.0010	< 0.0010	< 0.0010
	P4-B13-3.0	Farallon	10/17/2015	3.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	P4-B13-5.0	Farallon	10/17/2015	5.0	< 0.00097	< 0.00097	< 0.00097	< 0.00097	< 0.00097
	P4-B13-8.0	Farallon	10/17/2015	8.0	0.0016	0.0018	< 0.0011	< 0.0011	< 0.0011
P4-14	P4-B14-1.0	Farallon	10/17/2015	1.0	0.018	0.0095	< 0.0011	< 0.0011	< 0.0011
	P4-B14-3.0	Farallon	10/17/2015	3.0	0.0095	0.0069	< 0.0010	< 0.0010	< 0.0010
	P4-B14-5.0	Farallon	10/17/2015	5.0	0.016	0.0092	< 0.00096	< 0.00096	< 0.00096
	P4-B14-8.0	Farallon	10/17/2015	8.0	0.0076	0.0040	< 0.0014	< 0.0014	< 0.0014
Preliminary Cleanup Levels for Soil					**0.08[3]/0.044[4]**	**0.03[3]/0.006[4]**	**160[5]**	**0.59[3]/6[4]**	**0.002[3]/0.001[4]**

NOTES:

Results in **bold** denote reporting limits that exceed the most conservative preliminary cleanup level protective of indoor air.

< 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 Method 8260B.

[3]Soil cleanup levels for protection of air quality. These are preliminary values only. Values calculated using Model Toxics Control Act (MTCA) Equation 747-1 where the potable Method B groundwater cleanup level was used as C_w. Concentrations of hazardous substances in soil that meet the potable groundwater protection standard currently are considered sufficiently protective of the air pathway for unrestricted and industrial land uses.

[4]Soil cleanup levels for protection of surface water quality. These are preliminary values only. Values are calculated using MTCA Equation 747-1 where the groundwater cleanup level protective of surface water in this table was used as C_w.

[5]Cleanup level is based on standard MTCA Method B (unrestricted land use) values from the Cleanup and Risk Calculation tables. <https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

PCE = tetrachloroethene

TCE = trichloroethene

CVOCs = chlorinated volatile organic compounds

Table 2
Groundwater Analytical Results for CVOCs
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]				
			PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Baseline Groundwater Results							
OBW-01	7/2/2018	OBW-01-070218	0.43	0.82	< 0.20	< 0.20	< 0.20
OBW-02	7/3/2018	OBW-02-070218	0.53	1.2	< 0.20	< 0.20	< 0.20
OBW-03	7/2/2018	OBW-03-070218	< 0.20	0.43	0.38	< 0.20	< 0.20
OBW-04	7/2/2018	OBW-04-070218	2.0	5.0	0.39	< 0.20	< 0.20
OBW-05	7/2/2018	OBW-05-070218	2.1	2.8	0.68	< 0.20	< 0.20
MW-6	7/2/2018	MW-06-070218	4.5	3.2	< 0.20	< 0.20	< 0.20
MW-7	7/2/2018	MW-07-070218	12	**7.6**	2.4	< 0.20	0.40
Performance Groundwater Results							
OBW-05	9/18/2018	OBW-5-091818	7.3	4.8	0.61	< 0.20	< 0.20
MW-6	9/18/2018	MW6-091818	8.5	5.5	< 0.20	< 0.20	< 0.20
	9/18/2018	MW60-091818	8.3	5.1	< 0.20	< 0.20	< 0.20
MW-7	9/24/2018	MW-7-092418	5.9	5.0	3.9	< 0.20	0.53
Preliminary Cleanup Levels-Water Table Zone			**116[2]**	**6.9[2]**	**NR[3]**	**559[2]**	**1.3[2]**

NOTES:

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

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

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

[2]Groundwater cleanup levels protective of the air pathway for unrestricted land use (residential and commercial sites) and industrial land use were derived using the following equation: Gwcul = Aircul/GIVF.

[3]NR denotes "not researched," which indicates that no regulatory standards or toxicity information are available for the constituent of concern to derive a cleanup level for the medium of potential concern.

PCE = tetrachloroethene

TCE = trichloroethene

CVOCs = chlorinated volatile organic compounds

Table 3
Groundwater Analytical Results for Metals
West of 4th Group Site
Capital Industries, Inc.tion
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]														Analytical Results (milligrams per liter)
			Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Hexavalent Chromium[2]	Total Iron	Dissolved Iron	Total Lead	Dissolved Lead	Total Manganese	Dissolved Manganese	Total Mercury	Dissolved Mercury	Total Dissolved Solids[3]
Baseline Groundwater Results																	
OBW-01	7/2/2018	OBW-01-070218	< 3.0	< 4.4	< 4.0	12	< 10	---	8,500	570	1.9	1.0	150	86	< 0.50	< 0.50	150
OBW-02	7/3/2018	OBW-02-070218	< 3.0	< 4.4	< 4.0	12	< 10	---	10,000	82	2.1	< 1.0	100	64	< 0.50	< 0.50	130
OBW-03	7/2/2018	OBW-03-070218	< 3.0	< 4.4	< 4.0	14	< 10	---	8,300	1,200	15	1.0	130	82	< 0.50	< 0.50	130
OBW-04	7/2/2018	OBW-04-070218	< 3.0	< 4.4	< 4.0	< 11	< 10	---	4,400	1,500	< 1.1	< 1.0	170	150	< 0.50	< 0.50	190
OBW-05	7/2/2018	OBW-05-070218	< 3.0	< 4.4	< 4.0	< 11	< 10	---	6,200	3,300	< 1.1	< 1.0	260	220	< 0.50	< 0.50	270
MW-6	7/2/2018	MW-06-070218	< 3.0	< 4.4	< 4.0	< 11	< 10	---	1,200	< 56	< 1.1	< 1.0	130	120	< 0.50	< 0.50	220
MW-7	7/2/2018	MW-07-070218	< 3.0	< 4.4	< 4.0	< 11	< 10	< 50	**56,000**	2,800	< 1.1	< 1.0	270	180	< 0.50	< 0.50	230
Performance Groundwater Results																	
OBW-04	10/17/2018	OBW-4-101718	---	---	---	**---**	---	< 50	---	---	---	---	**---**	**---**	---	---	---
OBW-05	9/18/2018	OBW-5-091818	---	---	---	**170**	37	< 50	1,000	250	---	---	**4,600**	**4,700**	---	---	560
	10/17/2018	OBW-5-101718	---	---	---	**---**	---	< 50	---	---	---	---	**---**	**---**	---	---	---
MW-6	9/18/2018	MW6-091818	---	---	---	**110**	50	< 50	3,300	< 56	---	---	**9,500**	1,800	---	---	670
	9/18/2018	MW60-091818	---	---	---	**460**	**110**	**100**	**100,000**	< 56	---	---	**280,000**	12	---	---	690
	10/17/2018	MW-6-101718	---	---	---	**---**	---	< 50	---	---	---	---	**---**	**---**	---	---	---
	10/17/2018	MW60-101718	---	---	---	**---**	---	< 50	---	---	---	---	**---**	**---**	---	---	---
Cleanup Levels for Groundwater			**5[4]**	**5[4]**		**50[4]**		**48[5]**	**11,200[5]**		**15[4]**		**2,240[5]**		**2[4]**		**NE**

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.
NE = not established
Baseline groundwater samples were collected during one sampling event that spanned the evening of July 2, 2018 and early morning of July 3, 2018.
[1]Analyzed by U.S. Environmental Protection Agency Method 200.8/6010D/7470A, unless otherwise noted.
[2]Analyzed by Standard Method 3500-Cr B.
[3]Analyzed by Standard Method 2540C.
[4]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.
[5]Washington State Model Toxics Control Act Cleanup Regulation Cleanup Levels and Risk Calculations (CLARC), Standard Method B Values for Groundwater, https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx

Table 4
Process Monitoring at Monitoring and Observation Wells
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Injection Location	Date	Observation Well	Time	Depth to Water (feet below top of casing)	Pressure (Inches of Water)	Comments
F5	8/18/2018	OBW-1	1130	9.27	NA	Initial
		OBW-3	1130	9.20	NA	Initial
			1558	9.19	0.020	
			1615	9.19	0.020	
			1640	9.19	0.025	
		OWB-5	1130	8.22	NA	Initial
			1510	9.19	0.017	
			1540	9.19	0.062	
			1605	9.19	0.070	
			1630	9.19	0.070	
			1650	9.19	0.081	
			1732	9.19	0.081-0.083	
		MW-6	1130	9.08	NA	Initial
			1555	9.09	NA	
			1623	9.09	NA	
			1645	9.09	NA	
		MW-7	1130	8.73	NA	Initial
	8/19/2018	OBW-1	810	9.28	NA	Initial
		OBW-3	810	9.18	NA	Initial
		OBW-5	810	9.19	NA	Initial
		MW-6	810	9.11	NA	Initial
		MW-7	810	8.71	NA	Initial
			1305	8.70	0.010	
E5	8/19/2018	OBW-1	810	9.28	NA	Initial
		OBW-2	1525	8.74	0.009	
		OBW-3	810	9.18	NA	Initial
		OBW-5	810	9.19	NA	Initial
		MW-6	810	9.11	NA	Initial
		MW-7	810	8.71	NA	Initial
			1305	8.70	0.010	
	8/20/2018	OBW-1	1622	9.20	0.000	Initial
			1740	9.18	0.000	
			1815	9.23	0.000	
			1915	9.23	0.000	
			1940	9.20	0.000	
			2015	9.20	0.000	
			2212	9.20	0.000	
			2227	9.18	0.000	
			2255	9.15	0.000	
		OBW-3	1620	9.20	0.000	Initial
			1744	9.14	0.019	
			1807	9.12	0.015	
			1843	9.08	0.008	
			1910	9.08	0.000	
			1945	9.07	0.000	
			2012	9.07	-0.005	
			2218	9.06	0.009	
			2252	9.03	0.018	
		OBW-5	1615	9.2	0.000	Initial
			1750	9.15	0.016	
			1802	9.13	0.015	
			1845	9.10	0.014	
			1905	9.10	0.007	
			1947	9.10	0.005	
			2005	9.07	0.003	
			2215	9.08	0.013	
			2250	9.05	0.016	
			2308	9.07	0.008	
		MW-6	1618	9.11	NA	Initial
			1748	8.96	NA	
			1805	8.93	NA	
			1838	8.88	NA	
			1908	8.87	NA	
			1942	8.86	NA	
			2010	8.86	NA	
			2216	8.86	NA	
			2248	8.88	NA	
			2300	8.88	NA	

Table 4
Process Monitoring at Monitoring and Observation Wells
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Injection Location	Date	Observation Well	Time	Depth to Water (feet below top of casing)	Pressure (Inches of Water)	Comments
E5	8/21/2018	OBW-1	1618	9.32	-0.012	Initial
			1718	9.27	0.010	
			1818	9.23	0.000	
			1843	9.21	0.117	
			1934	9.20	-0.009	Injection stopped at 7:31 p.m.
		OBW-3	1612	9.21	-0.014	Initial
			1726	9.11	0.022	
			1814	9.07	0.000	
			1848	9.08	0.021	
			1928	9.08	-0.054	
		OBW-5	1608	9.21	0.000	Initial
			1730	9.14	0.000	
			1810	9.11	0.000	
			1850	9.10	0.000	
			1924	9.08	0.000	
		MW-6	1610	9.13	NA	Initial
			1725	8.96	NA	
			1812	8.91	NA	
			1845	8.93	NA	
			1926	8.87	NA	
B3	8/19/2018	OBW-1	810	9.28	NA	Initial
		OBW-2	1525	8.74	0.009	
		OBW-3	810	9.18	NA	Initial
		OBW-5	810	9.19	NA	Initial
		MW-6	810	9.11	NA	Initial
		MW-7	810	8.71	NA	Initial
	8/20/2018	OBW-1	1622	9.20	0.000	Initial
			1740	9.18	0.000	
			1815	9.23	0.000	
			1915	9.23	0.000	
			1940	9.20	0.000	
			2015	9.20	0.000	
			2212	9.20	0.000	
			2227	9.18	0.000	
			2255	9.15	0.000	
		OBW-3	1620	9.20	0.000	Initial
			1744	9.14	0.019	
			1807	9.12	0.002	
			1843	9.08	0.008	
			1910	9.08	0.000	
			1945	9.07	0.000	
			2012	9.07	0.005	
			2218	9.06	0.009	
			2252	9.03	0.018	
		OBW-5	1615	9.20	0.000	Initial
			1750	9.15	0.018	
			1802	9.13	0.015	
			1845	9.10	0.014	
			1905	9.10	0.007	
			1947	9.10	0.005	
			2005	9.07	0.003	
			2215	9.08	0.013	
			2250	9.05	0.016	
			2308	9.07	0.008	
		MW-6	1618	9.11	NA	Initial
			1748	8.96	NA	
			1805	8.93	NA	
			1838	8.88	NA	
			1908	8.87	NA	
			1942	8.86	NA	
			2010	8.86	NA	
			2216	8.86	NA	
			2248	8.88	NA	
			2300	8.88	NA	

Table 4
Process Monitoring at Monitoring and Observation Wells
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Injection Location	Date	Observation Well	Time	Depth to Water (feet below top of casing)	Pressure (Inches of Water)	Comments
B3	8/21/2018	OBW-1	1618	9.32	-0.012	Initial
			1718	9.27	0.010	
			1818	9.23	0.000	Injection stopped at 6:00 p.m.
		OBW-3	1612	9.21	-0.014	Initial
			1726	9.11	0.022	
			1814	9.07	0.000	Injection stopped at 6:00 p.m.
		OBW-5	1608	9.21	0.000	Initial
			1730	9.14	0.000	
			1810	9.11	0.000	Injection stopped at 6:00 p.m.
		MW-6	1610	9.13	NA	Initial
			1725	8.96	NA	
			1812	8.91	NA	Injection stopped at 6:00 p.m.
D4	8/21/2018	OBW-1	1618	9.32	-0.012	Initial
			1843	9.21	0.117	
			1934	9.20	-0.009	
			2132	9.25	0.064	
			2220	9.25	0.082	
			2300	9.25	0.064	
			2328	9.25	0.102	
		OBW-3	1612	9.21	-0.014	Initial
			1848	9.08	0.021	
			1928	9.08	-0.054	
			2154	9.18	-0.007	
			2218	9.18	0.016	
			2305	9.18	0.046	
			2325	9.18	0.030	
		OBW-5	1608	9.21	0.000	Initial
			1850	9.10	0.000	
			1924	9.08	0.000	
			2158	9.18	0.000	
			2214	9.18	0.000	
			2326	9.18	0.000	
		MW-6	1610	9.13	NA	Initial
			1845	8.93	NA	
			1926	8.87	NA	
			2140	8.88	NA	
			2215	9.08	NA	
			2302	9.08	NA	
			2328	9.08	NA	
C5	8/21/2018	OBW-1	1705	9.31	0.004	
			1850	9.28	0.105	
			1950	9.28	0.016	
			2010	9.28	0.078	
			2025	9.28	0.081	
		OBW-3	1708	9.22	0.000	
			1848	9.20	0.065	
			1956	9.20	0.027	
			2006	9.18	0.060	
			2027	9.17	0.053	
		OBW-5	1710	9.23	0.000	
		MW-6	1706	9.14	NA	
			1849	9.11	NA	
			1954	9.11	NA	
			2008	9.11	NA	
			2028	9.11	NA	

NOTES:
NA = not applicable

Table 5
Stage 1 Groundwater Performance Monitoring
Depth to Groundwater and MnO_4 Concentrations
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Date	Depth to Water (feet)[1]	Color	MnO_4 Concentration (milligrams per liter)[2]
OBW-1	8/23/2018	9.34	Clear	NM
	8/24/2018	9.38	Clear	NM
	8/27/2018	9.44	Clear	NM
	8/28/2018	9.49	Clear	NM
	8/29/2018	9.53	Clear	NM
	9/5/2018	9.56	Clear	NM
	9/12/2018	9.52	Clear	NM
OBW-3	8/23/2018	9.20	Clear	NM
	8/24/2018	9.28	Clear	NM
	8/27/2018	9.36	Clear	NM
	8/28/2018	9.43	Clear	NM
	8/29/2018	9.45	Clear	NM
	9/5/2018	9.63	Clear	NM
	9/12/2018	9.45	Clear	NM
OBW-5	8/23/2018	9.26	Clear	NM
	8/24/2018	9.28	Clear	NM
	8/27/2018	9.37	Clear	NM
	8/28/2018	9.43	Clear	NM
	8/29/2018	9.44	Clear	NM
	9/5/2018	9.58	Purple	71.44
	9/12/2018	9.44	Light Brown/ Slightly Turbid	0.00
MW-6	8/23/2018	9.16	Purple	152.10
	8/24/2018	9.20	Purple	152.30
	8/27/2018	9.27	Purple	152.10
	8/28/2018	9.32	Purple	151.70
	8/29/2018	9.37	Purple	152.00
	9/5/2018	9.50	Purple	152.10
	9/12/2018	9.37	Moderately Brown/ Moderately Turbid	0.00

NOTES:

[1]Measured in feet below top of casing.

[2]Concentration measured in the field using a Hach DR 890.

NM = not measured

MnO_4 = permanganate

Table 6
Stage 1 Round 1 Performance Soil Analytical Results
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					PNOD Analytical Results (grams per kilogram)[3]			
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	PNOD Average	PNOD Replicate 1	PNOD Replicate 2	PNOD Replicate 3
B3-01	B3-01-2.0-082318	Farallon	8/23/2018	2.0	0.0032	**1.2**	0.033	0.0052	< 0.0010	33.5	34.9	33.2	32.4
	B3-01-5.0-082318	Farallon	8/23/2018	5.0	---	**---**	---	---	---	7.5	7.9	7.1	7.4
	B3-01-9.0-082318	Farallon	8/23/2018	9.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
	B3-01-11.0-082318	Farallon	8/23/2018	11.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
B3-02	B3-02-2.0-082318	Farallon	8/23/2018	2.0	0.0063	**2.4**	0.0048	< 0.0010	< 0.0010	---	---	---	---
	B3-02-6.0-082318	Farallon	8/23/2018	6.0	< 0.00088	0.016	< 0.00088	< 0.00088	< 0.00088	---	---	---	---
B3-03	B3-03-2.0-082318	Farallon	8/23/2018	2.0	< 0.0010	**0.082**	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	B3-03-8.0-082318	Farallon	8/23/2018	8.0	< 0.0010	0.0017	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	B30-03-8.0-082318	Farallon	8/23/2018	8.0	< 0.0011	0.0042	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
	B3-03-11.0-082318	Farallon	8/23/2018	11.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
C5-01	C5-01-1.0-082418	Farallon	8/24/2018	1.0	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	---	---	---	---
	C5-01-6.0-082418	Farallon	8/24/2018	6.0	0.0014	0.0012	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	C5-01-11.0-082418	Farallon	8/24/2018	11.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
C5-02	C5-02-1.0-082418	Farallon	8/24/2018	1.0	0.012	0.024	< 0.0010	< 0.0010	< 0.0010	19.0	19.4	19.8	17.9
C5-03	C5-03-1.0-082418	Farallon	8/24/2018	1.0	0.0028	0.0056	< 0.00097	< 0.00097	< 0.00097	---	---	---	---
	C50-03-1.0-082418	Farallon	8/24/2018	1.0	0.0039	0.0081	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
D4-01	D4-01-1.0-082318	Farallon	8/23/2018	1.0	< 0.0010	0.0023	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	D4-01-5.0-082318	Farallon	8/23/2018	5.0	0.0023	0.0056	< 0.00087	< 0.00087	< 0.00087	---	---	---	---
	D4-01-10.0-082318	Farallon	8/23/2018	10.0	< 0.00095	< 0.00095	< 0.00095	< 0.00095	< 0.00095	---	---	---	---
D4-02	D4-02-1.0-082418	Farallon	8/24/2018	1.0	0.0017	0.0038	< 0.00093	< 0.00093	< 0.00093	---	---	---	---
	D4-02-6.5-082418	Farallon	8/24/2018	6.5	0.0090	0.012	< 0.00085	< 0.00085	< 0.00085	2.7	2.8	2.7	2.6
	D4-02-11.0-082418	Farallon	8/24/2018	11.0	0.0012	0.0026	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
D4-03	D4-03-1.0-082418	Farallon	8/24/2018	1.0	0.0031	0.011	< 0.00093	< 0.00093	< 0.00093	17.5	18.3	18.3	15.9
	D4-03-7.0-082418	Farallon	8/24/2018	7.0	0.0054	0.011	< 0.00093	< 0.00093	< 0.00093	---	---	---	---
	D4-03-11.0-082418	Farallon	8/24/2018	11.0	0.0079	0.0094	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
E5-01	E5-01-1.0-082318	Farallon	8/23/2018	1.0	0.0044	0.0071	< 0.0010	< 0.0010	< 0.0010	21.5	20.1	21.6	22.8
	E5-01-5.0-082318	Farallon	8/23/2018	5.0	0.078	**0.076**	0.0030	< 0.00093	< 0.00093	3.2	3.1	3.5	3.1
	E5-01-11.0-082318	Farallon	8/23/2018	11.0	0.017	0.0074	< 0.0017	< 0.0017	< 0.0017	---	---	---	---
Preliminary Cleanup Levels for Soil					**0.08[4]/0.044[5]**	**0.03[4]/0.006[5]**	**160[6]**	**0.59[4]/6[5]**	**0.002[4]/0.001[5]**	**NE**	**NE**	**NE**	**NE**

Table 6
Stage 1 Round 1 Performance Soil Analytical Results
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					PNOD Analytical Results (grams per kilogram)[3]			
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	PNOD Average	PNOD Replicate 1	PNOD Replicate 2	PNOD Replicate 3
E5-02	E5-02-1.0-082318	Farallon	8/23/2018	1.0	0.0043	0.0037	< 0.00092	< 0.00092	< 0.00092	---	---	---	---
	E5-02-5.0-082318	Farallon	8/23/2018	5.0	0.034	0.011	< 0.00096	< 0.00096	< 0.00096	---	---	---	---
	E5-02-14.0-082318	Farallon	8/23/2018	14.0	< 0.0011	0.0012	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
	E5-02-20.0-082318	Farallon	8/23/2018	20.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
E5-03	E5-03-3.0-082318	Farallon	8/23/2018	3.0	0.049	**0.047**	< 0.0011	< 0.0011	< 0.0011	3.7	3.7	3.5	3.7
	E5-03-9.0-082318	Farallon	8/23/2018	9.0	**0.15**	**0.042**	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	E5-03-14.0-082318	Farallon	8/23/2018	14.0	0.0082	0.0047	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
	E5-03-19.0-082318	Farallon	8/23/2018	19.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
F5-01	F5-01-2.0-082218	Farallon	8/22/2018	2.0	**0.16**	**0.11**	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	F5-01-6.5-082218	Farallon	8/22/2018	6.5	0.0015	< 0.00097	< 0.00097	< 0.00097	< 0.00097	---	---	---	---
	F5-01-10.0-082218	Farallon	8/22/2018	10.0	0.0078	0.0023	< 0.0011	< 0.0011	< 0.0011	1.5	1.5	1.8	1.1
F5-02	F5-02-2.0-082218	Farallon	8/22/2018	2.0	0.04	0.022	< 0.0012	< 0.0012	< 0.0012	3.0	2.8	2.4	3.7
	F5-02-8.5-082218	Farallon	8/22/2018	8.5	0.0073	0.0019	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
F5-03	F5-03-1.0-082218	Farallon	8/22/2018	1.0	0.0031	0.0047	< 0.00096	< 0.00096	< 0.00096	---	---	---	---
	F5-03-5.0-082218	Farallon	8/22/2018	5.0	0.042	**0.045**	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	F5-03-10.0-082218	Farallon	8/22/2018	10.0	0.014	0.0053	< 0.00087	< 0.00087	< 0.00087	---	---	---	---
Preliminary Cleanup Levels for Soil					**0.08[4]/0.044[5]**	**0.03[4]/0.006[5]**	**160[6]**	**0.59[4]/6[5]**	**0.002[4]/0.001[5]**	**NE**	**NE**	**NE**	**NE**

NOTES:

Results in **bold** denote reporting limits that exceed the most conservative preliminary cleanup level protective of indoor air.
< 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 U.S. Environmental Protection Agency Method 8260B.
[3]Analyzed by ASTM D7262-10 Test Method A. PNOD samples analyzed three times (Replicates 1 through 3) and averaged.
[4]Soil cleanup levels for protection of air quality. These are preliminary values only. Values calculated using Model Toxics Control Act (MTCA) Equation 747-1 where the potable Method B groundwater cleanup level was used as C_w. Concentrations of hazardous substances in soil that meet the potable groundwater protection standard currently are considered sufficiently protective of the air pathway for unrestricted and industrial land uses.
[5]Soil cleanup levels for protection of surface water quality. These are preliminary values only. Values are calculated using MTCA Equation 747-1 where the groundwater cleanup level protective of surface water in this table was used as C_w.
[6]Cleanup level is based on standard MTCA Method B (unrestricted land use) values from the Cleanup and Risk Calculation tables. <https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>
[7]Information obtained from the Remediation Report on the subject RemOx® S ISCO Reagent Permanganate Natural Oxidant Demand dated September 4, 2018 anfrom T. Lizer and T. Colgan of Carus Remediation Technologies to Jen Moore of Farallon, L.L.C.

ISCO = in situ chemical oxidation
PCE = tetrachloroethene
PNOD = permanganate natural oxidant demand
TCE = trichloroethene

Correlation of PNOD Results[7]

PNOD (grams per kilogram)	Rank	Comment
<10	Low	ISCO with MnO_4^- is recommended. Soil contribution to PNOD is low.
10-20	Moderate	ISCO with MnO_4^- is recommended. Soil contribution to PNOD is moderate. Economics should be considered.
>20	High	ISCO with MnO_4^- is technically feasible. Other technologies may provide lower cost alternatives.

Table 7
Stage 1 Round 1 and Corresponding Round 2 Performance Soil Analytical Results
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					PNOD Analytical Results (grams per kilogram)[3]			
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	PNOD Average	PNOD Replicate 1	PNOD Replicate 2	PNOD Replicate 3
B3-02	B3-02-2.0-082318	Farallon	8/23/2018	2.0	0.0063	**2.4**	0.0048	< 0.0010	< 0.0010	---	---	---	---
	B3-02-6.0-082318	Farallon	8/23/2018	6.0	< 0.00088	0.016	< 0.00088	< 0.00088	< 0.00088	---	---	---	---
B3-04	B3-04-4.0-091918	Farallon	9/19/2018	4.0	**0.21**	**13**	0.0012	< 0.0011	< 0.0011	---	---	---	---
	B3-04-10.5-091918	Farallon	9/19/2018	10.5	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
C5-02	C5-02-1.0-082418	Farallon	8/24/2018	1.0	0.012	0.024	< 0.0010	< 0.0010	< 0.0010	19.0	19.4	19.8	17.9
C5-04	C5-04-2.5-092018	Farallon	9/20/2018	2.5	**0.099**	**0.15**	< 0.00091	< 0.00091	< 0.00091	---	---	---	---
	C5-04-7.5-092018	Farallon	9/20/2018	7.5	0.0025	0.0041	< 0.00099	< 0.00099	< 0.00099	---	---	---	---
	C5-04-10.5-092018	Farallon	9/20/2018	10.5	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
C5-03	C5-03-1.0-082418	Farallon	8/24/2018	1.0	0.0028	0.0056	< 0.00097	< 0.00097	< 0.00097	---	---	---	---
	C50-03-1.0-082418	Farallon	8/24/2018	1.0	0.0039	0.0081	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
C5-05	C5-05-4.0-092018	Farallon	9/20/2018	4.0	0.0022	0.0013	0.0012	< 0.00097	< 0.00097	---	---	---	---
	C5-05-6.5-092018	Farallon	9/20/2018	6.5	0.0019	0.0013	< 0.00098	< 0.00098	< 0.00098	---	---	---	---
	C5-05-10.5-092018	Farallon	9/20/2018	10.5	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
D4-03	D4-03-1.0-082418	Farallon	8/24/2018	1.0	0.0031	0.011	< 0.00093	< 0.00093	< 0.00093	17.5	18.3	18.3	15.9
	D4-03-7.0-082418	Farallon	8/24/2018	7.0	0.0054	0.011	< 0.00093	< 0.00093	< 0.00093	---	---	---	---
	D4-03-11.0-082418	Farallon	8/24/2018	11.0	0.0079	0.0094	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
D4-04	D4-04-2.5-092018	Farallon	9/20/2018	2.5	< 0.0011	0.0019	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
E5-02	E5-02-1.0-082318	Farallon	8/23/2018	1.0	0.0043	0.0037	< 0.00092	< 0.00092	< 0.00092	---	---	---	---
	E5-02-5.0-082318	Farallon	8/23/2018	5.0	0.034	0.011	< 0.00096	< 0.00096	< 0.00096	---	---	---	---
	E5-02-14.0-082318	Farallon	8/23/2018	14.0	< 0.0011	0.0012	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
	E5-02-20.0-082318	Farallon	8/23/2018	20.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
E5-05	E5-05-8.0-091918	Farallon	9/19/2018	8.0	0.0019	< 0.0012	< 0.0012	< 0.0012	< 0.0012	---	---	---	---
E5-03	E5-03-3.0-082318	Farallon	8/23/2018	3.0	0.049	**0.047**	< 0.0011	< 0.0011	< 0.0011	3.7	3.7	3.5	3.7
	E5-03-9.0-082318	Farallon	8/23/2018	9.0	**0.15**	**0.042**	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	E5-03-14.0-082318	Farallon	8/23/2018	14.0	0.0082	0.0047	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
	E5-03-19.0-082318	Farallon	8/23/2018	19.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	---	---
E5-06	E5-06-5.5-091918	Farallon	9/19/2018	5.5	0.043	**0.064**	0.0015	< 0.0011	< 0.0011	---	---	---	---
Preliminary Cleanup Levels for Soil					**0.08[4]/0.044[5]**	**0.03[4]/0.006[5]**	**160[6]**	**0.59[4]/6[5]**	**0.002[4]/0.001[5]**	**NE**	**NE**	**NE**	**NE**

Table 7
Stage 1 Round 1 and Corresponding Round 2 Performance Soil Analytical Results
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					PNOD Analytical Results (grams per kilogram)[3]			
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	PNOD Average	PNOD Replicate 1	PNOD Replicate 2	PNOD Replicate 3
F5-01	F5-01-2.0-082218	Farallon	8/22/2018	2.0	**0.16**	**0.11**	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	F5-01-6.5-082218	Farallon	8/22/2018	6.5	0.0015	< 0.00097	< 0.00097	< 0.00097	< 0.00097	---	---	---	---
	F5-01-10.0-082218	Farallon	8/22/2018	10.0	0.0078	0.0023	< 0.0011	< 0.0011	< 0.0011	1.5	1.5	1.8	1.1
F5-04	F5-04-2.0-091918	Farallon	9/19/2018	2.0	**0.16**	**0.13**	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
	F5-04-7.0-091918	Farallon	9/19/2018	7.0	0.021	0.0080	< 0.00090	< 0.00090	< 0.00090	---	---	---	---
F5-02	F5-02-2.0-082218	Farallon	8/22/2018	2.0	0.04	0.022	< 0.0012	< 0.0012	< 0.0012	3.0	2.8	2.4	3.7
	F5-02-8.5-082218	Farallon	8/22/2018	8.5	0.0073	0.0019	< 0.0010	< 0.0010	< 0.0010	---	---	---	---
F5-05	F5-05-7.0-091918	Farallon	9/19/2018	7.0	0.0014	< 0.0013	< 0.0013	< 0.0013	< 0.0013	---	---	---	---
Preliminary Cleanup Levels for Soil					**0.08[4]/0.044[5]**	**0.03[4]/0.006[5]**	**160[6]**	**0.59[4]/6[5]**	**0.002[4]/0.001[5]**	**NE**	**NE**	**NE**	**NE**

NOTES:

Results in **bold** denote reporting limits that exceed the most conservative preliminary cleanup level protective of indoor air.
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
— denotes sample not analyzed.
Black text represents Round 1 performance soil results from intervals where oxidant was not observed during Round 1.
Orange text represents Round 2 performance soil results from intervals where oxidant was observed during Round 1.

[1]Depth in feet below ground surface.

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

[3]Analyzed by ASTM D7262-10 Test Method A. PNOD samples analyzed three times (Replicates 1 through 3) and averaged.

[4]Soil cleanup levels for protection of air quality. These are preliminary values only. Values calculated using Model Toxics Control Act (MTCA) Equation 747-1 where the potable Method B groundwater cleanup level was used as C_w. Concentrations of hazardous substances in soil that meet the potable groundwater protection standard currently are considered sufficiently protective of the air pathway for unrestricted and industrial land uses.

[5]Soil cleanup levels for protection of surface water quality. These are preliminary values only. Values are calculated using MTCA Equation 747-1 where the groundwater cleanup level protective of surface water in this table was used as C_w.

[6]Cleanup level is based on standard MTCA Method B (unrestricted land use) values from the Cleanup and Risk Calculation tables. <https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

[7]Information obtained from the Remediation Report on the subject RemOx® S ISCO Reagent Permanganate Natural Oxidant Demand dated September 4, 2018 anfrom T. Lizer and T. Colgan of Carus Remediation Technologies to Jen Moore of Farallon, L.L.C.

ISCO = in situ chemical oxidation
PCE = tetrachloroethene
PNOD = permanganate natural oxidant demand
TCE = trichloroethene

Correlation of PNOD Results [7]

PNOD (grams per kilogram)	Rank	Comment
<10	Low	ISCO with MnO_4^- is recommended. Soil contribution to PNOD is low.
10-20	Moderate	ISCO with MnO_4^- is recommended. Soil contribution to PNOD is moderate. Economics should be considered.
>20	High	ISCO with MnO_4^- is technically feasible. Other technologies may provide lower cost alternatives.

Table 8
CVOC Soil Analytical Results
Northwestern Portion of Plant 4
West of 4th Group Site
Capital Industries, Inc.
Seattle, Washington
Farallon PN: 457-008

Sample Location	Sample Identification	Sampled By	Sample Date	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]				
					PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
P4-15	P4-15-1.0-092018	Farallon	9/20/2018	1.0	< 0.00085	0.0015	< 0.00085	< 0.00085	< 0.00085
	P4-15-2.0-092018	Farallon	9/20/2018	2.0	< 0.00095	0.0026	< 0.00095	< 0.00095	< 0.00095
	P4-15-3.0-092018	Farallon	9/20/2018	3.0	< 0.0010	0.0052	< 0.0010	< 0.0010	< 0.0010
	P4-15-5.0-092018	Farallon	9/20/2018	5.0	0.0010	0.0099	< 0.0010	< 0.0010	< 0.0010
P4-16	P4-16-1.0-091918	Farallon	9/19/2018	1.0	< 0.0010	**0.032**	< 0.0010	< 0.0010	< 0.0010
	P4-16-2.0-091918	Farallon	9/19/2018	2.0	< 0.00099	0.022	< 0.00099	< 0.00099	< 0.00099
	P4-16-3.0-091918	Farallon	9/19/2018	3.0	< 0.00098	0.011	0.0016	< 0.00098	< 0.00098
P4-17	P4-17-1.0-091918	Farallon	9/19/2018	1.0	< 0.0012	0.0076	< 0.0012	< 0.0012	< 0.0012
	P4-17-2.0-091918	Farallon	9/19/2018	2.0	< 0.00093	0.0020	< 0.00093	< 0.00093	< 0.00093
	P4-17-3.0-091918	Farallon	9/19/2018	3.0	< 0.00090	< 0.00090	< 0.00090	< 0.00090	< 0.00090
P4-18	P4-18-1.0-091918	Farallon	9/19/2018	1.0	< 0.00091	0.0058	< 0.00091	< 0.00091	< 0.00091
	P4-18-2.0-091918	Farallon	9/19/2018	2.0	< 0.0010	0.017	< 0.0010	< 0.0010	< 0.0010
	P4-18-3.0-091918	Farallon	9/19/2018	3.0	< 0.00093	0.0020	< 0.00093	< 0.00093	< 0.00093
Preliminary Cleanup Levels for Soil					**0.08[3]/0.044[4]**	**0.03[3]/0.006[4]**	**160[5]**	**0.59[3]/6[4]**	**0.002[3]/0.001[4]**

NOTES:

Results in **bold** denote reporting limits that exceed the most conservative preliminary cleanup level protective of indoor air.

< 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 Method 8260B.

[3]Soil cleanup levels for protection of air quality. These are preliminary values only. Values calculated using Model Toxics Control Act (MTCA) Equation 747-1 where the potable Method B groundwater cleanup level was used as C_w. Concentrations of hazardous substances in soil that meet the potable groundwater protection standard currently are considered sufficiently protective of the air pathway for unrestricted and industrial land uses.

[4]Soil cleanup levels for protection of surface water quality. These are preliminary values only. Values are calculated using MTCA Equation 747-1 where the groundwater cleanup level protective of surface water in this table was used as C_w.

[5]Cleanup level is based on standard MTCA Method B (unrestricted land use) values from the Cleanup and Risk Calculation tables. <https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

CVOC = chlorinated volatile organic compound

PCE = tetrachloroethene

TCE = trichloroethene

APPENDIX A
WASHINGTON STATE DEPARTMENT OF ECOLOGY UNDERGROUND INJECTION CONTROL AUTHORIZATION LETTER

FINAL CAPITAL INDUSTRIES PLANT 4 INTERIM ACTION – STAGE 1
IN-SITU CHEMICAL OXIDATION REPORT
West of 4th Group Site
5801 3rd Avenue South
Seattle, Washington

Farallon PN: 457-008

DEPARTMENT OF ECOLOGY State of Washington

Underground Injection Control

View Friendly

Automatically Meet the Nonendangerment Standard For Class V wells that automatically meet the non endangerment standard in accordance with WAC 173-218-100.

Registration Status

Site Number: 34067
Authorization Status: Rule-Authorized
Comments:

Facility/Site Information

Facility Name: Capital Industries Inc Plant 4
Address: 5801 3rd Ave S
PO Box/Suite/Building:
City: Seattle
State: WA **ZIP:** 98108
Phone: 206-762-8585
County: King
Facility Site ID: 11598755

Contact Information

Well Owner

Name: Ron Taylor
Organization: Capital Industries Inc.
Address: 5801 3rd Ave S
PO Box/Suite/Building:
City: Seattle
State: WA **ZIP:** 98108
E-mail: rtaylor@capitalind.com
Phone: 206-762-8585

Property Owner

Name: Ron Taylor
Organization: Capital Industries Inc.
Address: 5801 3rd Ave S
PO Box/Suite/Building:
City: Seattle
State: WA **ZIP:** 98108
E-mail: rtaylor@capitalind.com
Phone: 206-762-8585

Technical Contact

Name: Jennifer Moore
Organization: Farallon Consulting LLC
Address: 975 5th Ave NW

PO Box:
City: Issaquah
State: WA **ZIP:** 98027
E-mail: jmoore@farallonconsulting.com
Phone: 425-295-0800

Main Well Information

Well Name	UIC Well Type From Section C (1-12)	Construction Date	EPA Well Type	Status	Depth of UIC Well (ft.)	Latitude	Longitude
C3-C5,D3-D5, E3-E5,F3-F5	12	12/1/2018	5B6 - Aquifer remediation	Active	25	47.550540	-122.330250
A3-A5, B2-B5, D2,E2	12	12/1/2108	5B6 - Aquifer remediation	Active	8	47.550650	-122.330250

Main Well Information (continued)

Well Name	Permit Type	Permit ID	Permit Issuer
C3-C5,D3-D5, E3-E5,F3-F5	MTCA	AO DE 10402	Ecology
A3-A5, B2-B5, D2,E2	MTCA	AO DE 10402	Ecology

APPENDIX B
OBSERVATION WELL DIAGRAMS AND BORING LOGS

FINAL CAPITAL INDUSTRIES PLANT 4 INTERIM ACTION – STAGE 1
IN-SITU CHEMICAL OXIDATION REPORT
West of 4th Group Site
5801 3rd Avenue South
Seattle, Washington

Farallon PN: 457-008

Log of Boring: OBW-1

Client: Capital Industries, Inc.
Project: Capital Industries, Inc.
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	6/16/2018@ 1100	**Sampler Type:**	NA
Date/Time Completed:	6/16/2018@ 1144	**Drive Hammer (lbs.):**	NA
Equipment:	GeoProbe	**Depth of Water ATD (ft bgs):**	NA
Drilling Company:	Holocene	**Total Boring Depth (ft bgs):**	18.0
Drilling Foreman:	Keven Doyle	**Total Well Depth (ft bgs):**	18.0
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.46': Concrete.	CO							Monument
		0.46-18.0': Soil not logged or sampled.								Casing
5										Concrete
										Sand Pack
10										
15										Screen

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	12/20 Sand	**Ground Surface Elevation (ft):**	17.98
Casing Diameter (inches):	1.0	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	17.77
Screen Slot Size (inches):	0.010	**Annular Seal:**	Concrete	**Surveyed Location:**	**X:** 1270799.83
Screened Interval (ft bgs):	8.0-18.0	**Boring Abandonment:**	NA		**Y:** 204469.09

FARALLON CONSULTING

Log of Boring: OBW-2

Client: Capital Industries, Inc.
Project: Capital Industries, Inc.
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	6/20/2018@ 1534	**Sampler Type:**	NA
Date/Time Completed:	6/20/2018@ 1610	**Drive Hammer (lbs.):**	NA
Equipment:	GeoProbe	**Depth of Water ATD (ft bgs):**	NA
Drilling Company:	Holocene	**Total Boring Depth (ft bgs):**	18.0
Drilling Foreman:	Keven Doyle	**Total Well Depth (ft bgs):**	18.0
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete.	CO							Monument
		0.5-18.0': Soil not logged or sampled.								Casing
5										Concrete
										Sand Pack
10										
15										Screen

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	12/20 Sand	**Ground Surface Elevation (ft):**	17.63
Casing Diameter (inches):	1.0	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	17.20
Screen Slot Size (inches):	0.010	**Annular Seal:**	Concrete	**Surveyed Location:**	**X:** 1270771.16
Screened Interval (ft bgs):	8.0-18.0	**Boring Abandonment:**	NA		**Y:** 204451.06

FARALLON CONSULTING

Log of Boring: OBW-3

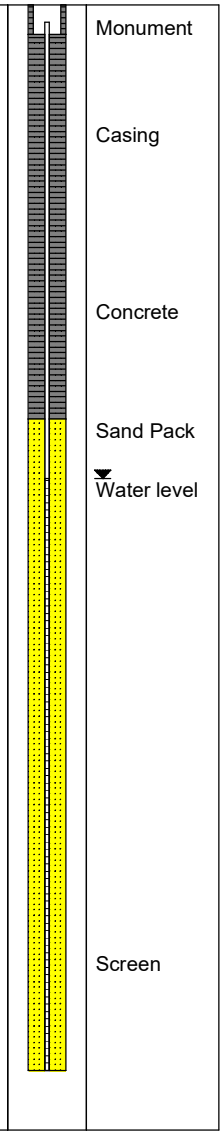
Client: Capital Industries, Inc.
Project: Capital Industries, Inc.
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	6/16/2018@ 0828	**Sampler Type:**	NA
Date/Time Completed:	6/16/2018@ 1030	**Drive Hammer (lbs.):**	NA
Equipment:	GeoProbe	**Depth of Water ATD (ft bgs):**	8.0
Drilling Company:	Holocene	**Total Boring Depth (ft bgs):**	18.0
Drilling Foreman:	Keven Doyle	**Total Well Depth (ft bgs):**	18.0
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS
0	0.0-0.5': Concrete. Hand auger to 5.0 bgs to clear for utilities.	CO
	0.5-2.0': Poorly graded sand with silt (90% sand, 10% silt), fine to coarse sand, brown, moist, no odor.	SP-SM
	2.0-4.0': Silty sand (60% sand, 40% silt), fine sand, dark brown, moist, no odor.	SM
5	4.0-5.0': Silty sand (70% sand, 30% silt), fine sand, dark brown, moist, no odor. Some mottling.	SM
	5.0-8.0': Sandy silt (80% silt, 20% sand), fine sand, dark brown, wet, no odor. Some mottling. Water at 8.0 ft bgs	ML
	8.0-10.0': Sandy silt (95% silt, 5% sand), fine to medium sand, grey, wet, no odor. Mottling.	ML
10	10.0-10.8': Sandy silt (95% silt, 5% sand), fine to medium sand, light brown, moist, no odor.	ML
	10.8-18.0': Poorly graded sand (95% sand, 5% silt), fine to medium sand, dark grey, moist to wet, no odor.	SP
15		



Well Construction Information

Monument Type: Flush
Casing Diameter (inches): 1.0
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 8.0-18.0

Filter Pack: 12/20 Sand
Surface Seal: Concrete
Annular Seal: Concrete
Boring Abandonment: NA

Ground Surface Elevation (ft): 17.96
Top of Casing Elevation (ft): 17.70
Surveyed Location: X: 1270824.09
Y: 204448.78

Log of Boring: OBW-4

Client: Capital Industries, Inc.
Project: Capital Industries, Inc.
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	6/16/2018@ 1315	**Sampler Type:**	NA
Date/Time Completed:	6/16/2018@ 1450	**Drive Hammer (lbs.):**	NA
Equipment:	GeoProbe	**Depth of Water ATD (ft bgs):**	NA
Drilling Company:	Holocene	**Total Boring Depth (ft bgs):**	18.0
Drilling Foreman:	Keven Doyle	**Total Well Depth (ft bgs):**	18.0
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.46': Concrete.	CO							Monument
		0.46-18.0': Soil not logged or sampled.								Casing
5										Concrete
										Sand Pack
10										
15										Screen

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	12/20 Sand	**Ground Surface Elevation (ft):**	17.81
Casing Diameter (inches):	1.0	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	17.51
Screen Slot Size (inches):	0.010	**Annular Seal:**	Concrete	**Surveyed Location:**	**X:** 1270759.15
Screened Interval (ft bgs):	8.0-18.0	**Boring Abandonment:**	NA		**Y:** 204411.76

Log of Boring: OBW-5

Client: Capital Industries, Inc.
Project: Capital Industries, Inc.
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	6/16/2018@ 1155	**Sampler Type:**	NA
Date/Time Completed:	6/16/2018@ 1245	**Drive Hammer (lbs.):**	NA
Equipment:	GeoProbe	**Depth of Water ATD (ft bgs):**	NA
Drilling Company:	Holocene	**Total Boring Depth (ft bgs):**	18.0
Drilling Foreman:	Keven Doyle	**Total Well Depth (ft bgs):**	18.0
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.46': Concrete.	CO							Monument
		0.46-18.0': Soil not logged or sampled.								Casing
5										Concrete
										Sand Pack
10										
15										Screen

Well Construction Information

Monument Type:	Flush	**Filter Pack:**	12/20 Sand	**Ground Surface Elevation (ft):**	17.93
Casing Diameter (inches):	1.0	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	17.66
Screen Slot Size (inches):	0.010	**Annular Seal:**	Concrete	**Surveyed Location:**	**X:** 1270811.06
Screened Interval (ft bgs):	8.0-18.0	**Boring Abandonment:**	NA		**Y:** 204411.27

Log of Boring: B3-01

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/23/18 1640	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 2150	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.6': Concrete, cored. Hand clear to 5' for utilities.	CO							Concrete
		0.6-2.0': Poorly graded SAND with silt (90% sand, 10% silt), brown, moist, no odor.	SP-SM							
		2.0-5.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM					B3-01-2.0-082318	X	Bentonite
5		5.0-7.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, wet at 5.5', no odor.	SM		84			B3-01-5.0-082318	X	Water Level
		7.0-9.2': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM					B3-01-9.0-082318	X	
		9.2-10.0': No Recovery.								
10		10.0-11.0': Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM		100			B3-01-11.0-082318	X	
15										

Well Construction Information

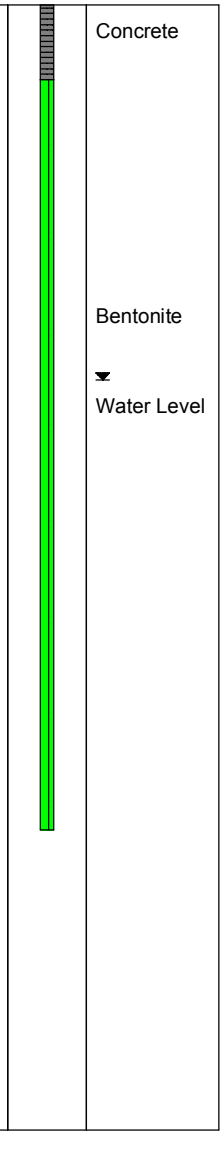
Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**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

Log of Boring: B3-02

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/23/18 1705	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 2235	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Sample ID	Sample Analyzed
0	0.0-0.5': Concrete, cored. Hand clear to 5.0' for utilities.	CO			
	0.5-2.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM			
	2.0-5.0': Silty SAND (70% sand, 30% silt), fine sand, brown, minor purple staining at 4.0', moist, wet at 5.0'.	SM		B3-02-2.0-082318	X
				B3-02-4.0-082318	X
5	5.0-6.6': Silty SAND (70% sand, 30% silt), fine sand, brown, wet.	SM	90	B3-02-6.0-082318	X
	6.6-9.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM			
	9.0-10.0': No Recovery.				
10	10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, purple staining throughout, wet, no odor.	SP-SM	100	B3-02-10.5-082318 B30-02-10.5-082318	X X
15					



Well Construction Information

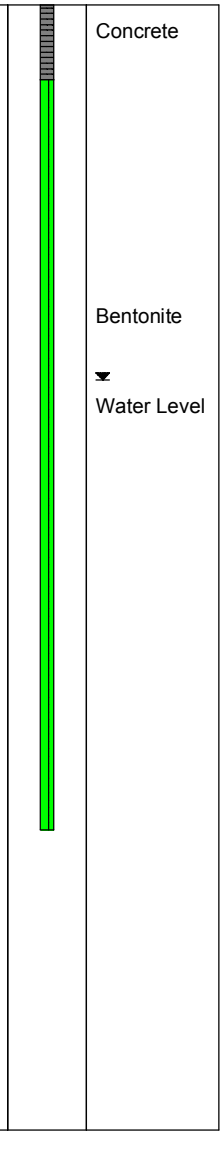
Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**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

Log of Boring: B3-03

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/23/18 1725	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 2300	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Sample ID	Sample Analyzed
0	0.0-0.3': Concrete, cored. Hand cleared to 5.0' for utilities.	CO			
	0.3-2.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM			
	2.0-5.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM		B3-03-2.0-082318	X
5	5.0-6.4': Silty SAND (70% sand, 30% silt), fine sand, brown, wet, no odor.	SM	78	B3-03-5.0-082318	X
	6.4-8.9': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM		B3-03-8.0-082318 B30-03-8.0-082318	
	8.9-10.0': No Recovery.				
10	10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM	100	B3-03-11.0-082318	X
15					



Well Construction Information

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

Log of Boring: B3-04

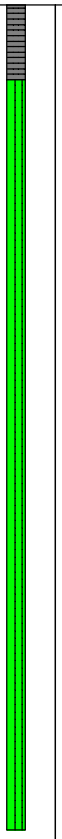
Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 2000	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/19/18 @ 2100	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-.05': Concrete core.	CO					
	0.5-1.5': Silty SAND with gravel (60% sand, 20% silt, 20% gravel), fine sand, fine gravel, brown, moist, no odor.	SM					
	1.5-5.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM	100			B3-04-4.0-091918	X
5	5.0-8.0': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, brown, wet, no odor.	SP-SM	60				
	8.0-10.0': No Recovery.						
10	10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, brown, wet, no odor.	SP-SM	100			B3-04-10.5-091918	X
15							



Well Construction Information

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

Log of Boring: C5-01

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/24/18 1755	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/24/18 1830	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.7
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete, cored.	CO		76					Concrete
		0.5-1.8': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM					C5-01-1.0-082418	X	
		1.8-3.8': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM							
		3.8-5.0': No Recovery.								Bentonite
5		5.0-7.2': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, wet at 5.7', no odor.	SM		84			C5-01-6.0-082418	X	Water Level
		7.2-9.2': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM							
		9.2-10.0': No Recovery.								
10		10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM		100			C5-01-11.0-082418	X	
15										

Well Construction Information

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

Log of Boring: C5-02

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/24/18 1755	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/24/18 1850	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete, cored.	CO		74					Concrete
		0.5-1.5': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM					C5-02-1.0-082418	X	
		1.5-3.7': Silty SAND (60% sand, 40% silt), fine sand, brown, purple staining from 2.9-3.7', moist, no odor.	SM					C5-02-3.0-082418	X	
		3.7-5.0': No Recovery.								
5		5.0-6.0': Silty SAND (60% sand, 40% silt), fine sand, brown, minor purple staining throughout, moist, no odor.	SM		76					Bentonite
		6.0-8.8': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, minor purple staining throughout, intense staining from 7.1-8.1', moist, no odor.	SP-SM					C5-02-7.5-082418	X	
		8.8-10.0': No Recovery.								
10		10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, minor purple staining throughout, moist, no odor.	SP-SM		100			C5-02-11.0-082418	X	
15										

Well Construction Information

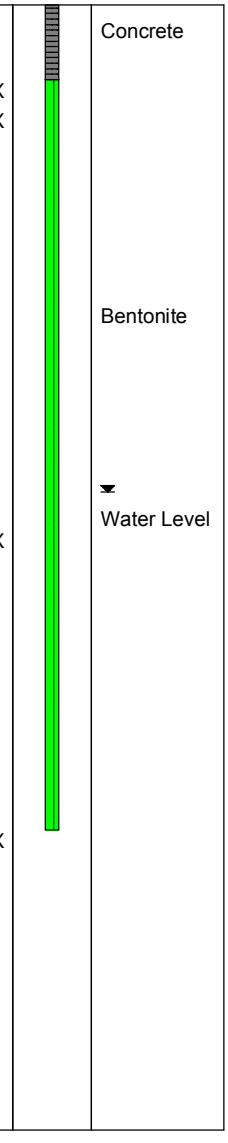
Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**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

Log of Boring: C5-03

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/24/18 1850	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/24/18 1915	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	6.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Sample ID	Sample Analyzed
0	0.0-0.5': Concrete, cored.	CO	90		
	0.5-1.6': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM		C5-03-1.0-082418	X
				C50-03-1.0-082418	X
	1.6-4.5': Silty SAND (60% sand, 40% silt), fine sand, brown, lens of purple staining at 4.0-4.1', moist, no odor.	SM			
5	4.5-5.0': No Recovery.		80		
	5.0-7.6': Silty SAND (60% sand, 40% silt), fine sand, brown, purple staining throughout, moist, wet at 6.5', no odor.	SM		C5-03-7.0-082418	X
	7.6-9.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM			
	9.0-10.0': No Recovery.				
10	10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, purple staining throughout, moist, no odor.	SP-SM	100	C5-03-11.0-082418	X
15					



Well Construction Information

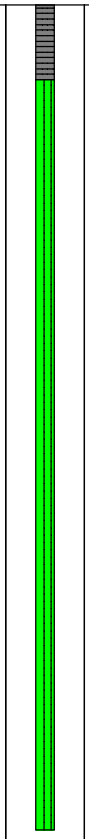
Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**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

Log of Boring: C5-04

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: Greg Peters

Date/Time Started:	9/20/18 @ 1845	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/20/18 @ 1855	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-0.5': Concrete core.	CO				
	0.5-1.9': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM				
	1.9-2.9': Silty SAND (80% sand, 20% silt), fine sand, dark brown, moist, no odor. Charcoal debris.	SM	58	1.4	C5-04-2.5-092018	X
	2.9-5.0': No Recovery.					
5	5.0-7.0': Silty SAND (60% sand, 40% silt), fine sand, brown, wet, no odor.	SM	68			
	7.0-8.4': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, dark brown, wet, no odor.	SP-SM		1.2	C5-04-7.5-092018	X
	8.4-10.0': No Recovery.					
10	10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, dark brown, wet, no odor.	SP-SM	100	0.6	C5-04-10.5-092018	X
15						



Well Construction Information

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

Log of Boring: C5-05

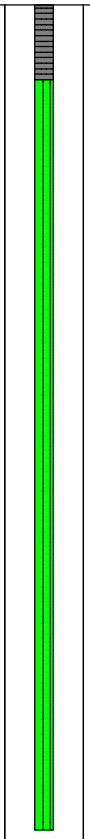
Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	9/20/18 @ 1900	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/20/18 @ 1920	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-0.5': Concrete core.	CO				
	0.5-1.4': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM				
	1.4-5.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM	100	0.9	C5-05-4.0-092018	X
5	5.0-7.0': Silty SAND (60% sand, 40% silt), fine sand, brown, wet, no odor.	SM	80	0.8	C5-05-6.5-092018	X
	7.0-8.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM				
	8.0-10.0': No Recovery.					
10	10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM	100	0.7	C5-05-10.5-092018	X
15						



Well Construction Information

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

FARALLON CONSULTING

Log of Boring: D4-01

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/23/18 2315	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 2330	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.6': Concrete, cored.	CO		90					Concrete
		0.6-2.6': Poorly graded SAND with silt and gravel (80% sand, 10% silt, 10% gravel).	SP-SM					D4-01-1.0-082318	X	
		2.6-4.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM							Bentonite
		4.0-5.0': No Recovery.								
5		5.0-7.4': Silty SAND (70% sand, 30% silt), fine sand, brown, wet, no odor.	SM		76			D4-01-5.0-082318	X	Water Level
		7.4-8.8': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM							
		8.8-10.0': No Recovery.								
10		10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM		100			D4-01-10.0-082318	X	
15										

Well Construction Information

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

Log of Boring: D4-02

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/24/18 1555	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/24/18 1625	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	6.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Sample ID	Sample Analyzed
0	0.0-0.5': Concrete, cored.	CO	78		
	0.5-1.5': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM		D4-02-1.0-082418	X
	1.5-3.9': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM			
	3.9-5.0': No Recovery.				
5	5.0-6.9': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, wet at 6.0', no odor.	SM	90	D4-02-6.5-082418	X
	6.9-9.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM			
	9.0-10.0': No Recovery.				
10	10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM	100	D4-02-11.0-082418	X
15					

Boring/Well Construction Details: Concrete; Bentonite; Water Level

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: D4-03

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/24/18 1625	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/24/18 1710	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.7
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete, cored.	CO		74					Concrete
		0.5-1.6': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM					D4-03-1.0-082418	X	
		1.6-2.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM							
		2.0-2.9': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, purple staining from 2.4-2.9', moist, no odor.	SP-SM					D4-03-2.5-082418	X	
		2.9-3.7': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM							Bentonite
		3.7-5.0': No Recovery.								
5		5.0-7.7': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, wet at 5.7', no odor.	SM		92					Water Level
								D4-03-7.0-082218	X	
		7.7-9.6': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM							
10		9.6-10.0': No Recovery.								
		10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM		100			D4-03-11.0-082218	X	
15										

Well Construction Information

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

Log of Boring: D4-04

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: Greg Peters

Date/Time Started:	9/20/18 @ 1930	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/20/18 @ 1945	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete, cored.	CO							Concrete
		0.5-1.2': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM							
		1.2-3.9': Silty SAND (60% sand, 40% silt), fine sand, brown, moist to wet, no odor.	SM		78		0.5	D4-04-2.5-092018	X	
		3.9-5.0': No Recovery.								
5		5.0-7.5': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM		50					Bentonite
		7.5-10.0': No Recovery.								
10		10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist to wet, no odor.	SP-SM		100					
15										

Well Construction Information

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

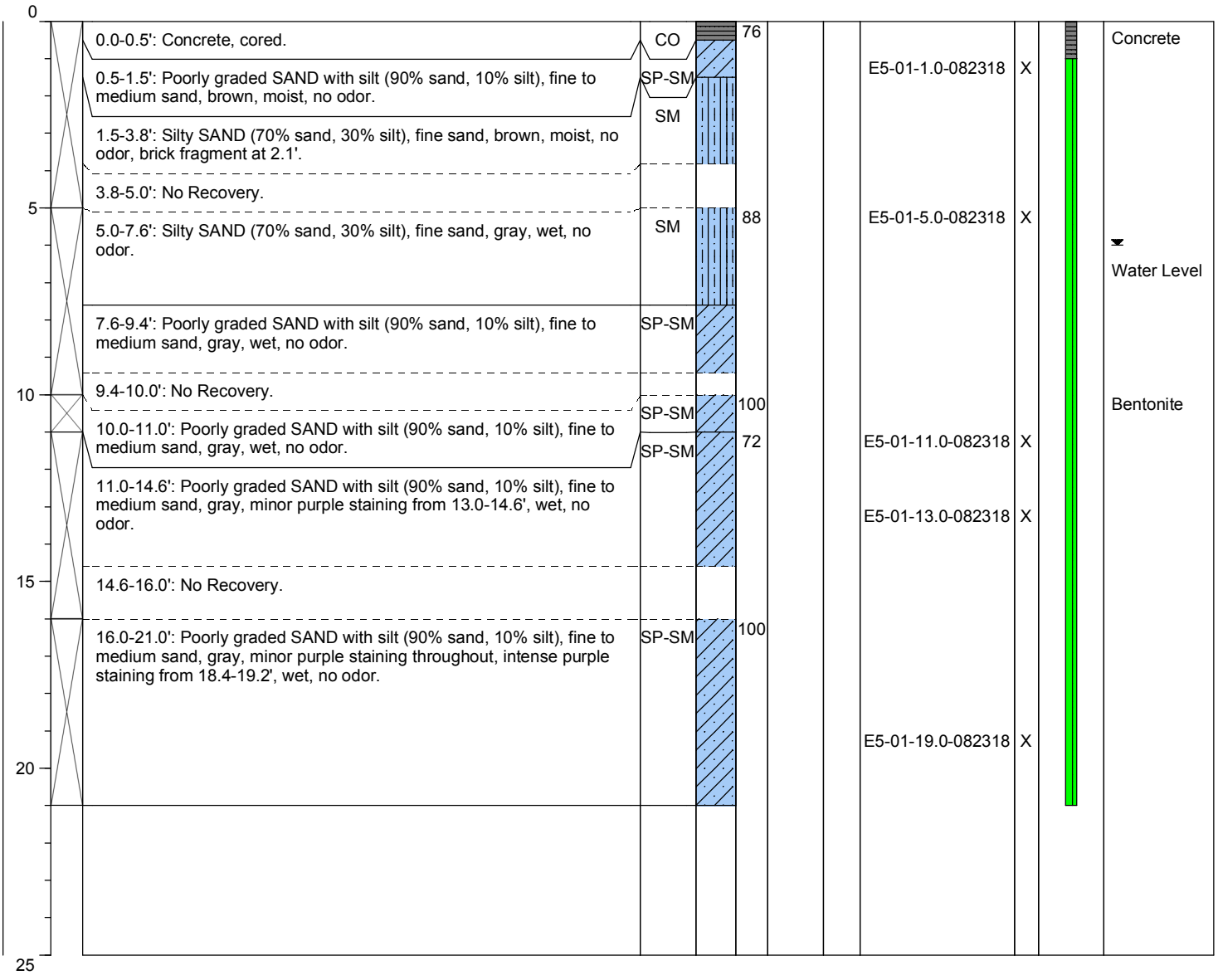
Log of Boring: E5-01

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA

Farallon PN: 457-008

Logged By: R. Ostrom

Date/Time Started:	8/23/18 1745	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 1830	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	6.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	21
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		



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: E5-02

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/23/18 1830	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 1945	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	21
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete, cored.	CO		72					Concrete
		0.5-1.5': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM					E5-02-1.0-082318	X	
		1.5-3.6': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM							
		3.6-5.0': No Recovery.								
5		5.0-7.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, wet at 5.5', no odor.	SM		82			E5-02-5.0-082318	X	Water Level
		7.0-9.1': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, minor purple staining from 7.5-9.1'.	SP-SM					E5-02-8.0-082318	X	
		9.1-10.0': No Recovery.								
10		10.0-11.9': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, minor purple staining throughout, intense purple staining from 11.1-11.9'.	SP-SM		86			E5-02-11.5-082318	X	Bentonite
		11.9-12.0': Silty SAND (70% sand, 30% silt), fine sand, brown, wet, no odor.	SM							
		12.0-14.3': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray.	SP-SM					E5-02-14.0-082318	X	
15		14.3-15.0': No Recovery.	SP-SM		100					
		15.0-20.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, minor purple staining from 15.0-17.0', intense purple staining from 17.0-18.3'.						E5-02-18.0-082318	X	
20		20.0-21.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, purple staining throughout.	SP-SM		100			E5-02-20.0-082318	X	
25										

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: E5-03

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/23/18 1945	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 2035	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	21
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete, cored.	CO		74					Concrete
		0.5-1.6': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, rock from 1.4-1.6', purple staining from 0.5-1.1.	SP-SM					E5-03-1.0-082318	X	
		1.6-3.7': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM					E5-03-3.0-082318	X	
		3.7-5.0': No Recovery.								
5		5.0-6.3': Silty SAND (70% sand, 30% silt), fine sand, poorly graded, brown, purple staining from 5.4-5.9', wet, no odor.	SM		82			E5-03-5.5-082318	X	Water Level
		6.3-9.1': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM							
		9.1-10.0': No Recovery.						E5-03-9.0-082318	X	
10		10.0-14.1': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM		88					Bentonite
		14.1-15.0': No Recovery.						E5-03-14.0-082318	X	
15		15.0-19.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM		80					
		19.0-20.0': No Recovery.						E5-03-19.0-082318	X	
20		20.0-21.0": Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, wet, no odor.	SP-SM		100					
25										

Well Construction Information

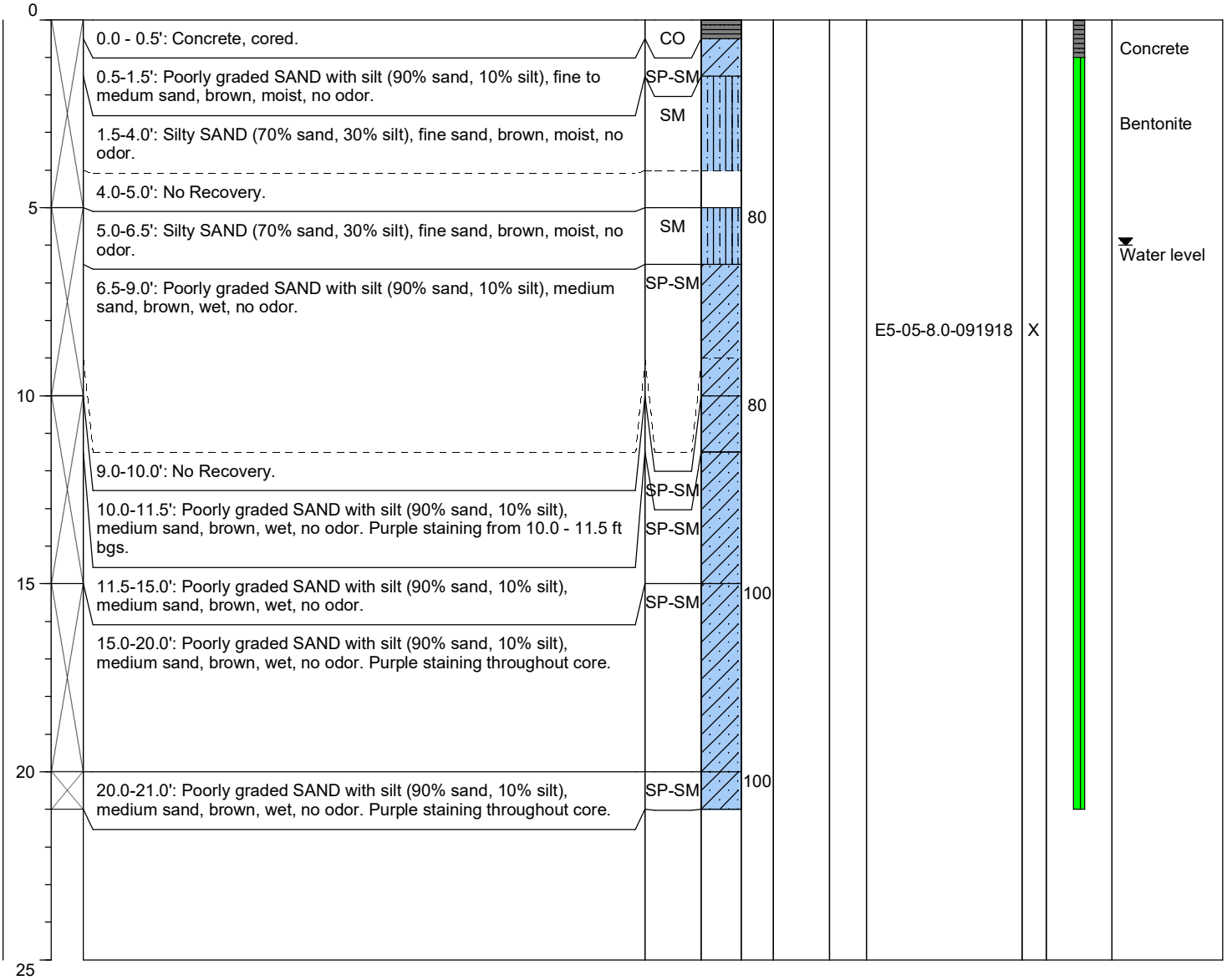
Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**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

Log of Boring: E5-05

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 1835	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/19/18 @ 1907	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	6.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	21.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0	0.0 - 0.5': Concrete, cored.	CO					
	0.5-1.5': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM					
	1.5-4.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM					
	4.0-5.0': No Recovery.						
5	5.0-6.5': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM	80				
	6.5-9.0': Poorly graded SAND with silt (90% sand, 10% silt), medium sand, brown, wet, no odor.	SP-SM				E5-05-8.0-091918	X
10	9.0-10.0': No Recovery.	SP-SM	80				
	10.0-11.5': Poorly graded SAND with silt (90% sand, 10% silt), medium sand, brown, wet, no odor. Purple staining from 10.0 - 11.5 ft bgs.	SP-SM					
15	11.5-15.0': Poorly graded SAND with silt (90% sand, 10% silt), medium sand, brown, wet, no odor.	SP-SM	100				
	15.0-20.0': Poorly graded SAND with silt (90% sand, 10% silt), medium sand, brown, wet, no odor. Purple staining throughout core.						
20	20.0-21.0': Poorly graded SAND with silt (90% sand, 10% silt), medium sand, brown, wet, no odor. Purple staining throughout core.	SP-SM	100				
25							



Well Construction Information

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

Log of Boring: E5-06

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 1740	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/19/18 @ 1830	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	6.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	21.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.5': Concrete cored.	CO						Concrete
	0.5-1.3': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, purple staining from 0.5-1.3 ft bgs, moist, no odor.	SP-SM						
	1.3-2.5': Silty SAND (70% sand, 30% silt), fine sand, brown, wet, no odor.	SM						Bentonite
5	2.5-5.0': Silty SAND (70% sand, 30% silt), fine sand, brown, wet, no odor.	SM	100			E5-06-5.5-091918	X	
	5.0-7.0': Silty SAND (70% sand, 30% silt), fine sand, brown, wet, no odor.	SM						Water level
	7.0-9.0': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, dark brown, wet, no odor.	SP-SM						
	9.0-10.0': No Recovery.							
10	10.0-13.0': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, dark brown, wet, no odor.	SP-SM	80					
	13.0-15.0': No Recovery.							
15	15.0-20.0': Silty SAND (80% sand, 20% silt), fine sand, brown, wet, no odor.	SM	60					
20	20.0-21.0': Silty SAND (80% sand, 20% silt), fine sand, gray, wet, no odor. Wood debris at 19.0 ft bgs.	SP-SM	100					
25								

Well Construction Information

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

Log of Boring: F5-01

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/22/18 2130	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/22/18 2230	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.2
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-0.5': Concrete, cored.	CO	54			Concrete
	0.5-1.2': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, brown, purple staining from 0.9-1.2', moist, no odor.	SP-SM		F5-01-1.0-082218	X	
	1.2-3.2': Silty SAND (60% sand, 40% silt), fine sand, poorly graded, brown, purple staining from 1.2-2.0', moist, no odor.	SM		F5-01-2.0-082218		
	3.2-5.0': No Recovery.					Bentonite
5	5.0-6.4': Silty SAND (60% sand, 40% silt), fine sand, poorly graded, light gray, purple staining from 6.3-6.4', moist, wet at 5.2', no odor.	SM	64	F5-01-5.5-082218	X	▼ Water Level
	6.4-8.2': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, dark gray, purple staining from 6.9-7.2', moist, no odor.	SP-SM		F5-01-6.5-082218		
	8.2-10.0': No Recovery.					
10	Poorly-graded SAND with silt (90% sand, 10% silt), fine to medium sand, dark gray, minor orange staining throughout, wet.	SP-SM	100	F5-01-10.0-082218	X	
15						

Well Construction Information

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

Log of Boring: F5-02

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/22/18 2240	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/22/18 2315	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.4': Concrete	CO		76					Concrete
		0.4-1.8': Poorly graded SAND (90% sand, 10% silt), fine to medium sand, gray, moist, no odor.	SP							
		1.8-3.8': Silty SAND (70% sand, 30% silt), fine sand, dark brown, moist, no odor.	SM					F5-02-2.0-082218	X	
		3.8-5.0': No Recovery.								
5		5.0-6.2': Silty SAND (70% sand, 30% silt), fine sand, dark brown, purple staining from 5.7-6.2', moist, no odor.	SM		70			F5-02-5.0-082218	X	Bentonite
		6.2-8.5': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, purple staining from 6.2-7.4', moist, no odor.	SP-SM							
		8.5-11.0': No Recovery.						F5-02-8.5-082218	X	
10										
15										

Well Construction Information

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

Log of Boring: F5-03

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: R. Ostrom

Date/Time Started:	8/22/18 2320	**Sampler Type:**	5' Macrocore
Date/Time Completed:	8/23/18 0000	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	6.3
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Jeff Tucker	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete.	CO		58					Concrete
		0.5-1.3': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, gray, moist, no odor.	SP-SM					F5-03-1.0-082218	X	
		1.3-2.9': Silty SAND (75% sand, 25% silt), fine sand, dark brown, moist, no odor.	SM							
		2.9-5.0': No Recovery.								
5		5.0-6.3': Silty SAND (65% sand, 35% silt), fine sand, gray, wet, no odor.	SM		58			F5-03-5.0-082218	X	Bentonite
		6.3-7.9': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, dark gray, wet, no odor.	SP-SM							Water Level
		7.9-10.0': No Recovery.								
10		10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine to medium sand, dark gray, wet, no odor.	SP-SM		100			F5-03-10.0-082218	X	
15										

Well Construction Information

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

Log of Boring: F5-04

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 1650	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/19/18 @ 1720	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete cored.	CO							Concrete
		0.5-1.7': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, brown, moist, no odor.	SP-SM							
		1.7-5.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist to wet, no odor.	SM		100			F5-04-2.0-091918	X	
5		5.0-8.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist to wet, no odor.	SM		100			F5-04-7.0-091918	X	Water level Bentonite
		8.0-10.0': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, brown, wet, no odor.	SP-SM							
10		10.0-11.0': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, brown, wet, no odor.	SP-SM		100					
15										

Well Construction Information

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

Log of Boring: F5-05

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 1613	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/19/18 @ 1715	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	5.0
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete core.	CO							Concrete
		0.5-2.5': Silty SAND (80% sand, 15% silt, 5% gravel), fine sand, fine gravel, brown, dry to moist, no odor.	SM							
		2.5-5.0': Silty SAND (60% sand, 40% silt), fine sand, fine gravel, brown, moist to wet, no odor.	SM		100					
5		5.0-6.3': Silty SAND (70% sand, 30% silt), fine sand, fine gravel, brown, moist, no odor.	SM		100					Water level
		6.3-10.0': Poorly graded SAND (90% sand, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM					F5-05-7.0-091918	X	Bentonite
10		10.0-11.0': Poorly graded SAND (90% sand, 10% silt), fine to medium sand, brown, wet, no odor.	SP-SM		100					
15										

Well Construction Information

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

FARALLON CONSULTING

Log of Boring: P4-15

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA
Farallon PN: 457-008
Logged By: Greg Peters

Date/Time Started:	9/20/18 @ 1745	**Sampler Type:**	Auger
Date/Time Completed:	09/20/18 @ 1825	**Drive Hammer (lbs.):**	NA
Equipment:	Hand auger	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	5.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hand 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 core.	CO							Concrete
		0.5-1.0: Poorly graded SAND (80% sand, 10% silt, 10% gravel), fine to medium sand, fine gravel, brown, moist, no odor.	SP-SM				0.6	P4-15-1.0-092018	X	
		1.0-2.0: Silty SAND (70% sand, 30% silt), fine to medium sand, brown, moist, no odor.	SM				0.6	P4-15-2.0-092018	X	
		2.0-3.0': Silty SAND (70% sand, 30% silt), fine to medium sand, brown, moist, no odor.	SM		100		0.7	P4-15-3.0-092018	X	Bentonite
		3.0-4.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM				0.7	P4-15-5.0-092018	X	
5		4.0-5.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM							
10										

Well Construction Information

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

Log of Boring: P4-16

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 2110	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/19/18 @ 2150	**Drive Hammer (lbs.):**	NA
Equipment:	Hand Auger	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	5.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete. Hand auger to clear for utilities.	CO							Concrete
		0.5-1.0: Poorly graded SAND (90% sand, 10% silt), fine sand, brown, moist, no odor.	SP-SM							
		1.0-2.0: Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM				1.0	P4-16-1.0-091918	X	
		2.0-3.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM		100		1.9	P4-16-2.0-091918	X	Bentonite
		3.0-4.0': Silty SAND (70% sand, 30% silt), fine sand, brown, moist, no odor.	SM				1.3	P4-16-3.0-091918	X	
		4.0-5.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM							
5							0.6	P4-16-5.0-091918	X	
10										

Well Construction Information

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

Log of Boring: P4-17

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 2240	**Sampler Type:**	5' Macrocore
Date/Time Completed:	09/19/18 @ 2250	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7720DT	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	5.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete core.	CO							Concrete
		0.5-1.0: Poorly graded SAND (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM							
		1.0-2.0: Silty SAND (70% sand, 30% silt), fine to medium sand, brown, moist, no odor.	SM				0.4	P4-17-1.0-091918	X	
		2.0-3.0': Silty SAND (70% sand, 30% silt), fine to medium sand, brown, moist, no odor.	SM		100		1.9	P4-17-2.0-091918	X	Bentonite
		3.0-4.0': Silty SAND (70% sand, 30% silt), fine to medium sand, brown, moist, no odor.	SM				1.6	P4-17-3.0-091918	X	
		4.0-5.0': Silty SAND (60% sand, 40% silt), fine sand, brown, wet, no odor.	SM							
5							2.0	P4-17-5.0-091918	X	
10										

Well Construction Information

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

FARALLON CONSULTING

Log of Boring: P4-18

Client: Capital Industries
Project: Capital Industries
Location: Seattle, WA

Farallon PN: 457-008

Logged By: Greg Peters

Date/Time Started:	9/19/18 @ 2200	**Sampler Type:**	Auger
Date/Time Completed:	09/19/18 @ 2230	**Drive Hammer (lbs.):**	NA
Equipment:	Hand auger	**Depth of Water ATD (ft bgs):**	NE
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	5.0
Drilling Foreman:	Tim Watson	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hand 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 core. Hand auger to clear for utilities	CO							Concrete
		0.5-1.0: Poorly graded SAND (90% sand, 10% silt), fine to medium sand, brown, moist, no odor.	SP-SM				0.5	P4-18-1.0-091918	X	
		1.0-2.0: Silty SAND (70% sand, 30% silt), fine to medium sand, brown, moist, no odor.	SM				0.5	P4-18-2.0-091918	X	
		2.0-3.0': Silty SAND (70% sand, 30% silt), fine to medium sand, brown, moist, no odor.	SM		100		0.5	P4-18-3.0-091918	X	Bentonite
		3.0-4.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM				0.6	P4-18-5.0-091918	X	
5		4.0-5.0': Silty SAND (60% sand, 40% silt), fine sand, brown, moist, no odor.	SM							
10										

Well Construction Information

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

APPENDIX C
REMEDIATION FIELD SERVICES REPORT

FINAL CAPITAL INDUSTRIES PLANT 4 INTERIM ACTION – STAGE 1
IN-SITU CHEMICAL OXIDATION REPORT
West of 4th Group Site
5801 3rd Avenue South
Seattle, Washington

Farallon PN: 457-008

REMEDIATION FIELD SERVICES REPORT

Capital Industries
5801 3rd Avenue South
Seattle, WA 98108

Date:
September 11, 2018

Project Number:
306-18-1146

Prepared For:
Farallon Consulting, L.L.C.
975 5th Avenue NW Issaquah,
Washington 98027

Prepared by:
Cascade Technical Services
13600 SE Ambler RD
Clackamas Oregon 97015

CASCADE
DRILLING | TECHNICAL SERVICES

September 11, 2018
Project No. 306-18-1146

Mrs. Jennifer Moore
Farallon Consulting, L.L.C.
975 5th Avenue NW
Issaquuah, Washington 98027

Subject: Remediation Field Services Report
Capital Industries Seattle, WA Injection/DPT Project

Dear Mrs. Moore,

In accordance with your request and authorization, Cascade Technical Services has performed remediation field services for the subject site. The field services were performed in general accordance with Cascade's proposal dated August 3, 2018.

Cascade appreciates the opportunity to provide our services to you. If you have any questions or comments regarding this report, please contact the undersigned at your convenience.

Respectfully submitted,
CASCADE Technical Services

Chris Lacko
SR Project Manager

John McAssey
Operations Director-
Remediation West

Distribution: (1) Addressee (via e-mail)
JM/CL/JM/HR/

Table of Contents

Appendices

1 INTRODUCTION

Farallon Consulting, L.L.C.(Farallon) subcontracted Cascade Technical Services (Cascade) to perform remediation field services at the subject site located at 5801 3rd Avenue South, Seattle, WA. Field services were conducted in general accordance with Cascade's proposal dated August 3 2018.

2 REMEDIATION APPROACH

Utilizing the top-down injection method, a 1.75-inch diameter 2-foot and 5-foot length injection screen were driven into the subsurface using a Geoprobe® direct push technology track mounted rig. A 3% wt/wt solution of RemOx S ISCO potassium permanganate was injected into each of the temporary direct push injection locations. The solution was injected through the tooling into the subsurface in two foot Intervals at depths ranging from 2 ft to 19 ft below ground surface. (see injection logs for details). The solution was mixed onsite on a custom built injection platform.

3 PROJECT ACTIVITIES

The following sections describe the field activities conducted at the site. The activities were conducted from August 18 to August 22, 2018.

3.1 PRE-MOBILIZATION ACTIVITIES

A site-specific health and safety plan was prepared to address worker and general public safety. Washington One Call) was notified at least 48 hours prior to the commencement of field activities and inquiry identification number 18351972 was obtained for Cascade's scope of work.

3.2 ONSITE ACTIVITIES

On August 18, 2018, Cascade mobilized a custom built injection platform and a Geoprobe® track mounted DPT drill rig to the site. Prior to the commencement of field activities, a tailgate safety meeting was performed. The safety meeting was followed by a site walk to review the proposed injection locations marked by the client. The injection platform was placed inside a secondary containment berm and site control measures consisting of traffic cones and caution tape were implemented to delineate the work area. Spill kits and portable vacuums were placed within the work area for immediate deployment. Transportation and handling of injection materials were coordinated by Cascade.

The scope of work performed by Cascade included a water injection test performed at location F5 with 25 gallons of potable water to establish flow rates and pressures. The injection of a 3% wt/wt solution of RemOx S ISCO potassium permanganate solution was into five direct push injection locations at depths of 2 to 19 feet below ground surface (bgs). Four of the direct push injection locations received 3792 gallons of the 3% solution. One location, E5, received 7044 Gallons of the 3% solution.

Daylighting was observed at most injection locations at the upper interval at 1-3 ft. at a pressure of 12-14 pounds per square inch (psi). As a result, the tooling was advanced to the next Interval and injection activities resumed.

Upon completion of the injection of the 3% solution, the injection lines were flushed with potable water (see injection logs for details). Total volume injected into the four direct push locations was approximately 22,221 gallons (22,201 gallons of the 3% solution and 20 gallons of potable flush water).

Remediation activities were successfully completed on August 22, 2018. Confirmation soil cores were taken around each of the Injection locations.

3.3 SITE RESTORATION

Upon completion of injection activities, the boreholes were backfilled with hydrated bentonite chips. The upper portions of the boreholes (approximately 6-inches) were filled to match the existing surface.

Investigation-derived waste was not generated during remediation activities at the site. Other waste (i.e. personal protective equipment, packaging materials, etc.) were collected in large trash bags and disposed as municipal solid waste.

4 LIMITATIONS

The implementation of the scope of work was performed in accordance with the clients design specification as described above (Sections 1.1) and supporting injection logs (Appendix A). Cascade bears no responsibility for remediation results or impact to existing conditions.

APPENDIX A

Injection Summary and Logs

WEEKLY PROJECT SUMMARY

PROJECT NAME/NUMBER: Farallon Capital Industries 306-18-1146

Day	Date	On-site Time	Off-site Time	Wells Completed	% Solution		% Solution Injected (Gallons)	Flush Water Injected	Total Injected (Gallons)
					P Mag (Pounds)	Water (Gallons)			
Saturday	8/18/2018	7:15 AM	6:00 PM	0.0	315.2	1,264.0	1,264.0	0.0	1,264.0
Sunday	8/19/2018	7:00 AM	5:45 PM	1.0	1,391.5	5,581.0	5,581.0	20.0	5,601.0
Monday	8/20/2018	2:15 PM	1:00 AM	0.0	1,346.4	5,400.0	5,400.0	0.0	5,400.0
Tuesday	8/21/2018	2:45 PM	1:00 AM	3.0	1,536.9	6,164.0	6,164.0	0.0	6,164.0
Wednesday	8/22/2018	2:45 PM	1:00 AM	1.0	945.5	3,792.0	3,792.0	0.0	3,792.0
			Totals	**5.0**	**5,535.4**	**22,201.0**	**22,201.0**	**20.0**	**22,221.0**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: Farallon Capital Industries

LEAD OPERATOR: Kyle King

SCOPE OF WORK: Mob to Seattle WA. Set up Injection system. Hand clear locations to 5' bgs. Install injection tooling at 5 locations. Inject 22212 Gls and complete 15 soil borings. Seal all locations and restore surface

INJECTION APPROACH: 2' and 5' Perforated Screen

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									P Mag (Pounds)	Water (Gallons)					
F-5	8/18/2018	3:17 PM	8/18/2018	5:23 PM	3.0 to 5.0	0	31	10.0	315.2	1,264.0	1,264.0	0.0	1,264.0	X	Hand cleared to 5' and backfilled with bentonite chips to seal boring before installing injection tooling. First interval 1'-3' surfaced instantly from annulus. No pressure reading. Advancing 2' to
	8/19/2018	8:40 AM	8/19/2018	10:20 AM	5.0 to 7.0	20	26	12.6	315.2	1,264.0	1,264.0	0.0	1,264.0		Started Injection at 6.5 GPM for 5 min. Turned up to 10.5 GPM 20 PSI. At 950 GLs injected- 10.6 GPM at 26 PSI.
	8/19/2018	10:45 AM	8/19/2018	11:55 AM	7.0 to 9.0	10	21	10.7	187.0	750.0	750.0	0.0	750.0		Initial GPM 8.5 at 10 PSI. At 300 GLs injected increased GPM to 10.5 at 24 PSI
	8/19/2018	12:49 PM	8/19/2018	1:33 PM	9.0 to 9.0	19	30	11.9	128.0	514.0	514.0	10.0	524.0		Point Completed. Sealed boring before continuing injection on E-5
					TOTALS				945.3	3,792.0	3,792.0	10.0	3,802		
E-5	8/19/2018	10:45 AM	8/19/2018	11:55 AM	3.0 to 5.0	14	18	10.7	187.0	750.0	750.0	0.0	750.0		Hand cleared to 5', Pre sealed with bentonite before installing injection tooling. Attempted to inject at 1'-3', instant surfacing from annulus. Pushing down to next interval 3'-5'. Initial GPM 8.5 at 14 PSI. At 300 GLs injected increased GPM to 10.5 at 18 PSI
	8/19/2018	12:49 PM	8/19/2018	1:33 PM	3.0 to 5.0	16	16	11.7	128.0	514.0	514.0	0.0	514.0	X	Noticed very minor surfacing 2' N NW of injection point. Small amount that does not affect injection volume or GPM.
	8/19/2018	2:10 PM	8/19/2018	4:23 PM	5.0 to 7.0	40	8	9.6	315.2	1,264.0	1,264.0	10.0	1,274.0	X	Attempted to Inject at higher GPM. Bumped up to 16 GPM at 48 PSI, Injected 200 GLs before surfacing around bollard apprx. 8' NW from injection point. Slowed flow to 10.5 GPM at 17 PSI. Slowed flow to 8 GPM 10 PSI at 450 GLs injected. At 675 GLs injected slowed flow to 6.5 GPM 6 PSI, Encountering surfacing from cracks within a 10' radius of point. Still minor surfacing but there is an increase in surfacing areas.
	8/20/2018	5:31 PM	8/20/2018	8:22 PM	9.0 to 14.0	43	84	9.5	315.2	1,264.0	1,626.0	0.0	1,626.0		
	8/20/2018	9:33 PM	8/20/2018	10:29 PM	9.0 to 14.0	56	87	11.3	157.5	632.0	632.0	0.0	632.0		
	8/20/2018	10:48 PM	8/20/2018	11:38 PM	14.0 to 19.0	58	95	11.5	143.3	575.0	575.0	0.0	575.0		
	8/21/2018	5:01 PM	8/21/2018	5:23 PM	14.0 to 19.0	47	90	76.5	419.6	1,683.0	1,683.0	0.0	1,683.0		
					TOTALS				1,665.8	6,682.0	7,044.0	10.0	7,054		
B-3	8/19/2018	3:22 PM	8/19/2018	4:23 PM	3.0 to 5.0	40	45	8.8	130.9	525.0	525.0	10.0	535.0		Hand cleared and sealed to 5' with bentonite. Attempted interval 1'-3' surfaced instantly. Advancing to second interval. Slightly higher pressure on this point.
	8/20/2018	5:31 PM	8/20/2018	6:48 PM	3.0 to 5.0	8	44	9.6	184.5	740.0	740.0	0.0	740.0		
	8/20/2018	7:05 PM	8/20/2018	8:22 PM	5.0 to 7.0	34	45	9.3	178.0	714.0	714.0	0.0	714.0		
	8/20/2018	9:33 PM	8/20/2018	10:24 PM	5.0 to 7.0	40	39	10.8	137.0	550.0	550.0	0.0	550.0		
	8/20/2018	10:48 PM	8/20/2018	11:38 PM	7.0 to 9.0	44	78	11.5	143.3	575.0	575.0	0.0	575.0		
	8/21/2018	5:01 PM	8/21/2018	6:00 PM	7.0 to 9.0	50	68	11.7	171.8	689.0	689.0	0.0	689.0		
					TOTALS				945.5	3,793.0	3,793.0	10.0	3,803		
D-4	8/21/2018	6:36 PM	8/21/2018	7:31 PM	2.0 to 4.0	12	16	10.9	149.6	600.0	600.0	0.0	600.0		Started injection slow and gradually increased flow to prevent surfacing from annulus
	8/21/2018	9:03 PM	8/21/2018	9:42 PM	2.0 to 4.0	29	65	17.0	165.5	664.0	664.0	0.0	664.0		
	8/21/2018	10:00 PM	8/21/2018	10:43 PM	4.0 to 6.0	96	94	29.4	315.2	1,264.0	1,264.0	0.0	1,264.0		Increased flow substantially. Steady PSI throughout injection.
	8/21/2018	10:58 PM	8/21/2018	11:44 PM	6.0 to 8.0	95	93	27.5	315.2	1,264.0	1,264.0	0.0	1,264.0		
					TOTALS				945.5	3,792.0	3,792.0	0.0	3,792		

CASCADE
DRILLING | TECHNICAL SERVICES

INJECTION FIELD LOG

PROJECT NUMBER/NAME: Farallon Capital Industries

LEAD OPERATOR: Kyle King

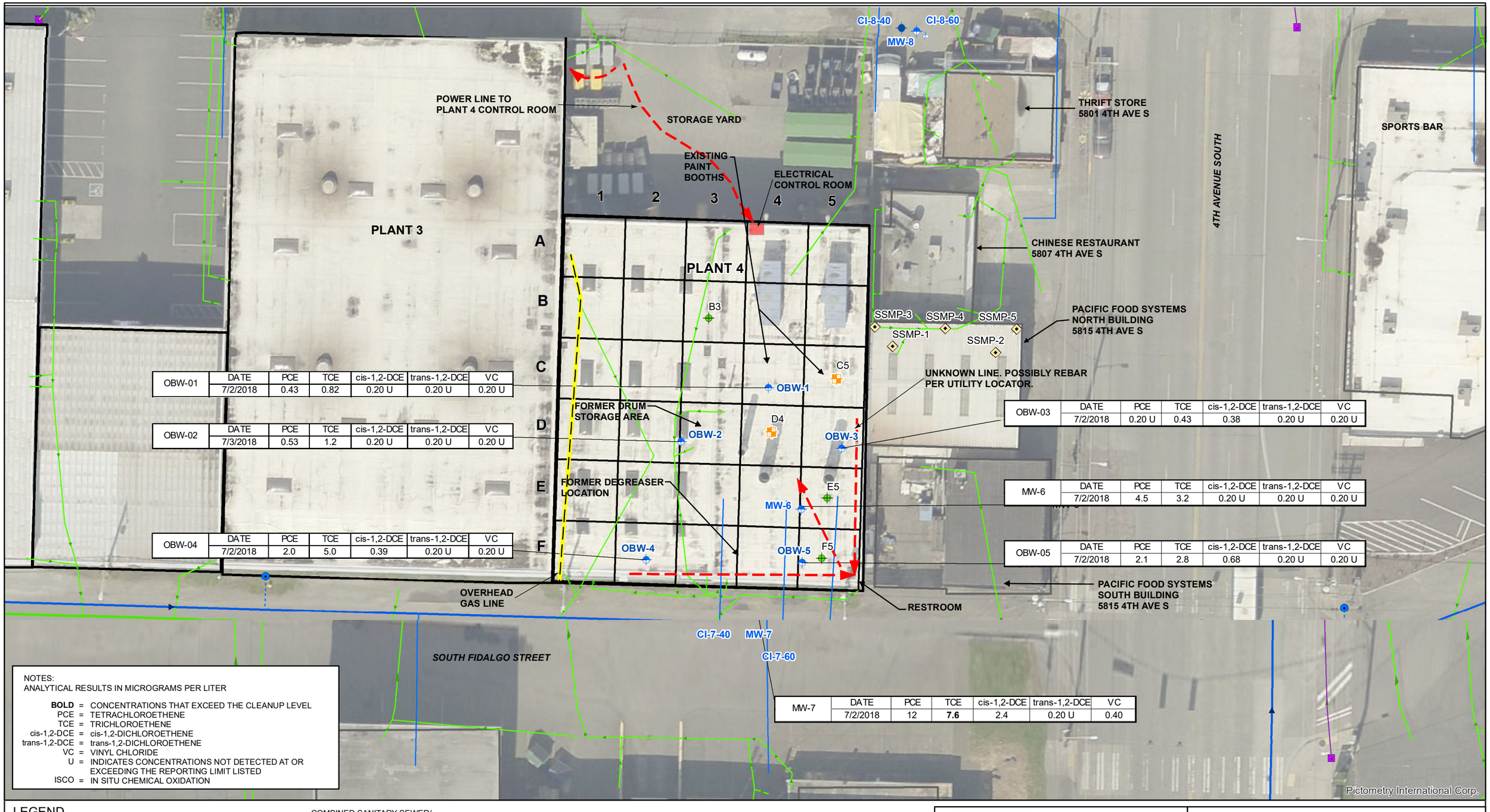
SCOPE OF WORK: Mob to Seattle WA. Set up Injection system. Hand clear locations to 5' bgs. Install injection tooling at 5 locations. Inject 22212 Gls and complete 15 soil borings. Seal all locations and restore surface

INJECTION APPROACH: 2' and 5' Perforated Screen

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
											P Mag (Pounds)	Water (Gallons)					
C-5	8/22/2018	5:00 PM	8/22/2018	5:05 PM	2.0	to	4.0	67	97	15.0	18.7	75.0	75.0	0.0	75.0		Stopped to allow time to check well pressures
	8/22/2018	5:24 PM	8/22/2018	6:06 PM	2.0	to	4.0	105	156	28.3	296.5	1,189.0	1,189.0	0.0	1,189.0		High flow injection point. Gradually increased GPM
	8/22/2018	6:45 PM	8/22/2018	7:27 PM	4.0	to	6.0	163	170	30.1	315.2	1,264.0	1,264.0	0.0	1,264.0		High output with no unusual readings
	8/22/2018	7:57 PM	8/22/2018	8:37 PM	6.0	to	8.0	179	172	31.6	315.2	1,264.0	1,264.0	0.0	1,264.0		
										TOTALS	**945.6**	**3,792.0**	**3,792.0**	**0.0**	**3,792**		

CASCADE
DRILLING | TECHNICAL SERVICES

APPENDIX B
Site Map



OBW-01	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7/2/2018	0.43	0.82	0.20 U	0.20 U	0.20 U

OBW-02	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7/3/2018	0.53	1.2	0.20 U	0.20 U	0.20 U

OBW-03	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7/2/2018	0.20 U	0.43	0.38	0.20 U	0.20 U

MW-6	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7/2/2018	4.5	3.2	0.20 U	0.20 U	0.20 U

OBW-04	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7/2/2018	2.0	5.0	0.39	0.20 U	0.20 U

OBW-05	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7/2/2018	2.1	2.8	0.68	0.20 U	0.20 U

MW-7	DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	7/2/2018	12	**7.6**	2.4	0.20 U	0.40

NOTES:
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

BOLD = CONCENTRATIONS THAT EXCEED THE CLEANUP LEVEL
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-1,2-DCE = cis-1,2-DICHLOROETHENE
trans-1,2-DCE = trans-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE
U = INDICATES CONCENTRATIONS NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
ISCO = IN SITU CHEMICAL OXIDATION

LEGEND

- WATER TABLE INTERVAL MONITORING WELL
- SHALLOW INTERVAL MONITORING WELL
- INTERMEDIATE INTERVAL MONITORING WELL
- STAGE 1 LOW-PRESSURE ISCO INJECTION POINTS
- STAGE 1 HIGH-PRESSURE ISCO INJECTION POINTS
- EXISTING SUBSLAB MONITORING PORT
- COMBINED SANITARY SEWER/ STORMWATER MANHOLE
- COMBINED SANITARY SEWER/STORMWATER MAIN LINE AND FLOW DIRECTION
- SANITARY SEWER LATERAL AND FLOW DIRECTION
- STORMWATER CATCH BASIN
- STORMWATER SIDE SEWER/LATERAL
- INJECTION GRID CELL
- HYDRANT
- WATER VALVE
- WATER FITTING
- WATER DISTRIBUTION MAIN
- WATER SERVICE LINE
- HYDRANT LATERAL
- OVERHEAD GAS LINE
- ELECTRICAL LINE

BASELINE GROUNDWATER SAMPLES WERE COLLECTED DURING ONE SAMPLING EVENT THAT SPANNED THE EVENING AND EARLY MORNING OF 7/2/18 AND 7/3/18.

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

N

0 30
Scale in Feet

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

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

FIGURE 1

BASELINE GROUNDWATER RESULTS
CAPITAL INDUSTRIES, INC.
PLANT 4 INTERIM ACTION
5801 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

FARALLON PN: 457-008

Drawn By: sgaynier
Checked By: JM
Date: 8/7/2018
Disc Reference:
Path: Q:\Projects\457 CapitalIndust\008 PilotStudy\Mapfiles\InterimWorkPlan\Plant4_20180720\Figure1_P4IA_Baseline_OBW.mxd

APPENDIX D
LABORATORY ANALYTICAL REPORTS

FINAL CAPITAL INDUSTRIES PLANT 4 INTERIM ACTION – STAGE 1
IN-SITU CHEMICAL OXIDATION REPORT
West of 4th Group Site
5801 3rd Avenue South
Seattle, Washington

Farallon PN: 457-008

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

July 12, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1807-006

Dear Jen:

Enclosed are the analytical results and associated quality control data for samples submitted on July 3, 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: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

Case Narrative

Samples were collected on July 2, 2018 and received by the laboratory on July 3, 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.

Hexavalent Chromium SM 3500-Cr B Analysis

The practical quantitation limit is elevated due to interferences present in 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: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

DISSOLVED METALS
EPA 200.8/7470A/6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-07-070218**					
Laboratory ID:	07-006-01					
Arsenic	**ND**	3.0	EPA 200.8	7-3-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-3-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-3-18	7-5-18	
Iron	**2800**	56	EPA 6010D	7-3-18	7-10-18	
Lead	**ND**	1.0	EPA 200.8	7-3-18	7-5-18	
Manganese	**180**	11	EPA 6010D	7-3-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-3-18	7-6-18	
Client ID:	**MW-06-070218**					
Laboratory ID:	07-006-02					
Arsenic	**ND**	3.0	EPA 200.8	7-3-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-3-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-3-18	7-5-18	
Iron	**ND**	56	EPA 6010D	7-3-18	7-10-18	
Lead	**ND**	1.0	EPA 200.8	7-3-18	7-5-18	
Manganese	**120**	11	EPA 6010D	7-3-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-3-18	7-6-18	
Client ID:	**OBW-01-070218**					
Laboratory ID:	07-006-03					
Arsenic	**ND**	3.0	EPA 200.8	7-3-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-3-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-3-18	7-5-18	
Iron	**570**	56	EPA 6010D	7-3-18	7-10-18	
Lead	**1.0**	1.0	EPA 200.8	7-3-18	7-5-18	
Manganese	**86**	11	EPA 6010D	7-3-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-3-18	7-6-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

DISSOLVED METALS
EPA 200.8/7470A/6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-02-070218**					
Laboratory ID:	07-006-04					
Arsenic	**ND**	3.0	EPA 200.8	7-5-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-5-18	7-5-18	
Iron	**82**	56	EPA 6010D	7-5-18	7-10-18	
Lead	**ND**	1.0	EPA 200.8	7-5-18	7-5-18	
Manganese	**64**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-6-18	
Client ID:	**OBW-03-070218**					
Laboratory ID:	07-006-05					
Arsenic	**ND**	3.0	EPA 200.8	7-3-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-3-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-3-18	7-5-18	
Iron	**1200**	56	EPA 6010D	7-3-18	7-10-18	
Lead	**1.0**	1.0	EPA 200.8	7-3-18	7-5-18	
Manganese	**82**	11	EPA 6010D	7-3-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-3-18	7-6-18	
Client ID:	**OBW-04-070218**					
Laboratory ID:	07-006-06					
Arsenic	**ND**	3.0	EPA 200.8	7-3-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-3-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-3-18	7-5-18	
Iron	**1500**	56	EPA 6010D	7-3-18	7-10-18	
Lead	**ND**	1.0	EPA 200.8	7-3-18	7-5-18	
Manganese	**150**	11	EPA 6010D	7-3-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-3-18	7-6-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

DISSOLVED METALS
EPA 200.8/7470A/6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-05-070218**					
Laboratory ID:	07-006-07					
Arsenic	**ND**	3.0	EPA 200.8	7-3-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-3-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-3-18	7-5-18	
Iron	**3300**	56	EPA 6010D	7-3-18	7-10-18	
Lead	**ND**	1.0	EPA 200.8	7-3-18	7-5-18	
Manganese	**220**	11	EPA 6010D	7-3-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-3-18	7-6-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

DISSOLVED METALS
EPA 200.8/7470A/6010D
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0703F1					
Arsenic	**ND**	3.0	EPA 200.8	7-3-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-3-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-3-18	7-5-18	
Lead	**ND**	1.0	EPA 200.8	7-3-18	7-5-18	
Laboratory ID:	MB0703F1					
Iron	**ND**	56	EPA 6010D	7-3-18	7-10-18	
Manganese	**ND**	11	EPA 6010D	7-3-18	7-10-18	
Laboratory ID:	MB0703F1					
Mercury	**ND**	0.50	EPA 7470A	7-3-18	7-6-18	
Laboratory ID:	MB0705F1					
Arsenic	**ND**	3.0	EPA 200.8	7-5-18	7-5-18	
Cadmium	**ND**	4.0	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	10	EPA 200.8	7-5-18	7-5-18	
Lead	**ND**	1.0	EPA 200.8	7-5-18	7-5-18	
Laboratory ID:	MB0705F1					
Iron	**ND**	56	EPA 6010D	7-5-18	7-10-18	
Manganese	**ND**	11	EPA 6010D	7-5-18	7-10-18	
Laboratory ID:	MB0705F1					
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-6-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

DISSOLVED METALS
EPA 200.8/7470A/6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-006-02										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	07-006-02										
Iron	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Manganese	**118**	**114**	NA	NA		NA		NA	3	20	
Laboratory ID:	07-006-02										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-006-02										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**185**	**200**	200	200	ND	**92**	**100**	75-125	8	20	
Cadmium	**175**	**188**	200	200	ND	**88**	**94**	75-125	7	20	
Chromium	**166**	**176**	200	200	ND	**83**	**88**	75-125	6	20	
Lead	**193**	**199**	200	200	ND	**96**	**99**	75-125	3	20	
Laboratory ID:	07-006-02										
Iron	**22500**	**22500**	22200	22200	ND	**102**	**102**	75-125	0	20	
Manganese	**687**	**688**	556	556	118	**102**	**103**	75-125	0	20	
Laboratory ID:	07-006-02										
Mercury	**12.1**	**11.7**	12.5	12.5	ND	**97**	**93**	75-125	3	20	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

TOTAL METALS
EPA 200.8/7470A/6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-07-070218**					
Laboratory ID:	07-006-01					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Iron	**56000**	560	EPA 6010D	7-5-18	7-10-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Manganese	**270**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	
Client ID:	**MW-06-070218**					
Laboratory ID:	07-006-02					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Iron	**1200**	56	EPA 6010D	7-5-18	7-10-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Manganese	**130**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	
Client ID:	**OBW-01-070218**					
Laboratory ID:	07-006-03					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**12**	11	EPA 200.8	7-5-18	7-5-18	
Iron	**8500**	56	EPA 6010D	7-5-18	7-10-18	
Lead	**1.9**	1.1	EPA 200.8	7-5-18	7-5-18	
Manganese	**150**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	
Client ID:	**OBW-02-070218**					
Laboratory ID:	07-006-04					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**12**	11	EPA 200.8	7-5-18	7-5-18	
Iron	**10000**	56	EPA 6010D	7-5-18	7-10-18	
Lead	**2.1**	1.1	EPA 200.8	7-5-18	7-5-18	
Manganese	**100**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

TOTAL METALS
EPA 200.8/7470A/6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-03-070218**					
Laboratory ID:	07-006-05					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**14**	11	EPA 200.8	7-5-18	7-5-18	
Iron	**8300**	56	EPA 6010D	7-5-18	7-10-18	
Lead	**15**	1.1	EPA 200.8	7-5-18	7-5-18	
Manganese	**130**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	
Client ID:	**OBW-04-070218**					
Laboratory ID:	07-006-06					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Iron	**4400**	56	EPA 6010D	7-5-18	7-10-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Manganese	**170**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	
Client ID:	**OBW-05-070218**					
Laboratory ID:	07-006-07					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Iron	**6200**	56	EPA 6010D	7-5-18	7-10-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Manganese	**260**	11	EPA 6010D	7-5-18	7-10-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

TOTAL METALS
EPA 200.8/7470A/6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0705WM1					
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Laboratory ID:	MB0705WM1					
Iron	**ND**	56	EPA 6010D	7-5-18	7-10-18	
Manganese	**ND**	11	EPA 6010D	7-5-18	7-10-18	
Laboratory ID:	MB0705W1					
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	07-006-02									
	ORIG	DUP								
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	07-006-02									
Iron	**1180**	**1220**	NA	NA		NA	NA	3	20	
Manganese	**128**	**129**	NA	NA		NA	NA	1	20	
Laboratory ID:	07-005-01									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	
MATRIX SPIKES										
Laboratory ID:	07-006-02									
	MS	MSD	MS	MSD		MS	MSD			
Cadmium	**228**	**235**	222	222	ND	**103**	**106**	75-125	3	20
Chromium	**211**	**216**	222	222	ND	**95**	**97**	75-125	2	20
Lead	**219**	**221**	222	222	ND	**99**	**100**	75-125	1	20
Laboratory ID:	07-006-02									
Iron	**23800**	**24100**	22200	22200	1180	**102**	**103**	75-125	1	20
Manganese	**358**	**360**	222	222	128	**104**	**105**	75-125	1	20
Laboratory ID:	07-005-01									
Mercury	**11.1**	**10.6**	12.5	12.5	ND	**89**	**85**	75-125	4	20

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

HEXAVALENT CHROMIUM
SM 3500-Cr B

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-07-070218**					
Laboratory ID:	07-006-01					
Hexavalent Chromium	**ND**	50	SM 3500-Cr-B	7-3-18	7-3-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

HEXAVALENT CHROMIUM
SM 3500-Cr B
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0703F2					
Hexavalent Chromium	**ND**	10	SM 3500-Cr-B	7-3-18	7-3-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-006-01										
	ORIG	DUP									
Hexavalent Chromium	**ND**	**ND**	NA		NA	NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-006-01										
	MS	MSD	MS	MSD		MS	MSD				
Hexavalent Chromium	**454**	**438**	500	500	ND	91	88	75-125	4	20	
SPIKE BLANK											
Laboratory ID:	SB0703F2										
	SB		SB			SB					
Hexavalent Chromium	**105**		100		NA	105		80-120	NA	NA	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-07-070218**					
Laboratory ID:	07-006-01					
Vinyl Chloride	0.40	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	0.26	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	2.4	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	7.6	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	12	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*101*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-06-070218**					
Laboratory ID:	07-006-02					
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	3.2	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	4.5	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*101*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-01-070218**					
Laboratory ID:	07-006-03					
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	0.82	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	0.43	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-02-070218**					
Laboratory ID:	07-006-04					
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	1.2	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	0.53	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*104*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-03-070218**					
Laboratory ID:	07-006-05					
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	0.38	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	0.43	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*112*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-04-070218**					
Laboratory ID:	07-006-06					
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	0.39	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	5.0	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	2.0	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*101*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-05-070218**					
Laboratory ID:	07-006-07					
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	0.68	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	2.8	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	2.1	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*103*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0705W1					
Vinyl Chloride	ND	0.20	EPA 8260C	7-5-18	7-5-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
Trichloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
Tetrachloroethene	ND	0.20	EPA 8260C	7-5-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*101*	*78-125*				

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

VOLATILES by 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:	SB0705W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**11.5**	**10.7**	10.0	10.0	115	107	62-129	7	15	
Benzene	**11.1**	**10.5**	10.0	10.0	111	105	77-127	6	15	
Trichloroethene	**10.7**	**9.77**	10.0	10.0	107	98	70-120	9	15	
Toluene	**11.2**	**10.3**	10.0	10.0	112	103	82-123	8	15	
Chlorobenzene	**10.8**	**10.0**	10.0	10.0	108	100	79-120	8	15	
Surrogate:										
Dibromofluoromethane					*101*	*102*	*75-127*			
Toluene-d8					*100*	*99*	*80-127*			
4-Bromofluorobenzene					*101*	*99*	*78-125*			

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

TOTAL DISSOLVED SOLIDS
SM 2540C

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-07-070218**					
Laboratory ID:	07-006-01					
Total Dissolved Solids	**230**	13	SM 2540C	7-5-18	7-6-18	
Client ID:	**MW-06-070218**					
Laboratory ID:	07-006-02					
Total Dissolved Solids	**220**	13	SM 2540C	7-5-18	7-6-18	
Client ID:	**OBW-01-070218**					
Laboratory ID:	07-006-03					
Total Dissolved Solids	**150**	13	SM 2540C	7-5-18	7-6-18	
Client ID:	**OBW-02-070218**					
Laboratory ID:	07-006-04					
Total Dissolved Solids	**130**	13	SM 2540C	7-5-18	7-6-18	
Client ID:	**OBW-03-070218**					
Laboratory ID:	07-006-05					
Total Dissolved Solids	**130**	13	SM 2540C	7-5-18	7-6-18	
Client ID:	**OBW-04-070218**					
Laboratory ID:	07-006-06					
Total Dissolved Solids	**190**	13	SM 2540C	7-5-18	7-6-18	
Client ID:	**OBW-05-070218**					
Laboratory ID:	07-006-07					
Total Dissolved Solids	**270**	13	SM 2540C	7-5-18	7-6-18	

Date of Report: July 12, 2018
Samples Submitted: July 3, 2018
Laboratory Reference: 1807-006
Project: 457-008

TOTAL DISSOLVED SOLIDS
SM 2540C
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0705W1					
Total Dissolved Solids	**ND**	13	SM 2540C	7-5-18	7-6-18	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	07-006-01								
	ORIG	DUP							
Total Dissolved Solids	**228**	**217**	NA	NA	NA	NA	5	17	
SPIKE BLANK									
Laboratory ID:	SB0705W1								
	SB		SB		SB				
Total Dissolved Solids	**477**		500	NA	95	86-115	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

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

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

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

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

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

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

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

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

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

Y - The calibration verification for this analyte exceeded the 20% drift specified in 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: Favallon Consulting
Project Number: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
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: 07-006

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~~ dissolved and total Cr, Mn, Pb, Cd	HEM (oil and grease) 1664A	Hexavalent chromium	CVOCs 8260D	Dissolved Arsenic 200.8	Total and dissolved iron	Total and dissolved mercury	~~Total~~ Total dissolved Solids
1	MW-07-070218	07/2/18	1630	Water	7																X	X	X	X	X	X	X	X
2	MW-06-070218	07/2/18	2251		6																X		X	X	X	X	X	X
3	OBW ~~MW~~-01-070218	07/2/18	2145		6																X		X	X	X	X	X	X
4	OBW ~~OW~~-02-070218	07/3/18	0042		6																X		X	X	X	X	X	X
5	OBW ~~OW~~-03-070218	07/2/18	1842		6																X		X	X	X	X	X	X
6	OBW ~~OW~~-04-070218	07/2/18	2338		6																X		X	X	X	X	X	X
7	OBW ~~OW~~-05-070218	07/2/18	2014		6																X		X	X	X	X	X	X

	Signature	Company	Date	Time
Relinquished		Favallon Consulting	07/3/18	0825
Received		OBE	7/3/18	1050
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please analyse for the following CVOCs:
- PCE; TCE; 1,1-DCE; trans-1,2-DCE; Vinyl Chloride, cis-1,2-DCE
- Sample MW-07-070218 will be analyzed for Hexavalent Chromium with 24Hr hold time

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

Carus Remediation Technologies
Remediation Report

4th September, 2016

Customer: Farallon
975 5th Ave NW
Issaquah, WA 98027

Attention: Jen Moore

From: T. Lizer
Cc: T. Colgan

TECH # 18-167

Subject: RemOx® S ISCO Reagent Permanganate Natural Oxidant Demand

Summary
The overall average RemOx® S ISCO reagent permanganate natural oxidant demand (PNOD) at 48 hours for the soil samples was determined to be 11.31 g/kg. The average demands ranged from 1.5 g/kg to 33.5 g/kg. These values are calculated on a weight as potassium permanganate ($KMnO_4$) per dry weight of soil.

Background
Thirty soil samples were received from Farallon from the Capital Industries project located in Seattle, WA. Of the thirty samples, ten were analyzed (Sample identification seen in Table 1). The samples were analyzed for permanganate natural oxidant demand. The measurement of the permanganate natural oxidant demand is used to estimate the concentration of permanganate that will be consumed by the natural reducing agents during a given time period of 48 hours.

Experimental
The samples were analyzed for permanganate natural oxidant demand following ASTM D7262-10 Test Method A. A brief summary is as follows:

To determine the PNOD, the soil was baked at 105°C for 24 hours then allowed to cool to room temperature. The soil was then blended and passed through a U.S. 10 sieve (2 mm). Reactors were loaded with 50 grams of soil and 100 mL of 20 g/L $KMnO_4$ for an initial dose of 40 g/kg $KMnO_4$ on a dry soil weight basis at a 1:2 soil to aqueous reagent ratio. Each soil dose was performed in triplicate. The reaction vessels were inverted once to mix the reagents. Residual permanganate (MnO_4^-) was determined at 48 hours. The demands were calculated on a dry weight basis.

Results
The permanganate demand is the amount of permanganate consumed in a given amount of time. It should be noted that in a soil or groundwater sample, the oxidation of any compound by permanganate is dependent on the initial dose of permanganate and the reaction time available. As the permanganate dose is increased, the reaction rate and oxidant consumption may also increase. Some compounds that are not typically oxidized by permanganate under low doses can become

reactive with permanganate at higher concentrations. The 48-hour PNOD results can be seen in Table 1 (on a dry soil basis).

Table 1: 48-Hour PNOD *

Soil Sample Identification	Average and Standard Deviation (g/kg)	Replicate 1 (g/kg)	Replicate 2 (g/kg)	Replicate 3 (g/kg)
E5-01-5.0-082318	3.2 ± 0.24	3.1	3.5	3.1
E5-03-3.0-082318	3.7 ± 0.10	3.7	3.5	3.7
E5-01-1.0-082318	21.5 ± 1.33	20.1	21.6	22.8
F5-01-10.0-082218	1.5 ± 0.32	1.5	1.8	1.1
F5-02-2.0-082218	3.0 ± 0.70	2.8	2.4	3.7
C5-02-1.0-082418	19.0 ± 0.98	19.4	19.8	17.9
D4-02-6.5-082418	2.7 ± 0.11	2.8	2.7	2.6
D4-03-1.0-082418	17.5 ± 1.35	18.3	18.3	15.9
B3-01-2.0-082318	33.5 ± 1.30	34.9	33.2	32.4
B3-01-5.0-082318	7.5 ± 0.41	7.9	7.1	7.4
Overall Average	11.31			

*Demands were calculated on a weight $KMnO_4$/dry soil weight basis from an initial dose of 40.0 g/kg $KMnO_4$ initial dose at a 1:2 soil to aqueous solution ratio.

Conclusions

For this application the amount of permanganate needed will be dependent on the reaction time allowed. On average, the soil samples had a 48-hour permanganate demand value of 11.31 g/kg. The average demands ranged from 1.5 g/kg to 33.5 g/kg. Generally, remediation sites with a soil demand of less than 20.0 g/kg at the time of interest are favorable for *in situ* chemical oxidation with permanganate (see Table 2 for additional information).

Table 2: Correlation of Permanganate Natural Oxidant Demand Results*

PNOD (g/kg)	**Rank**	Comment
<10	Low	ISCO with MnO_4^- is recommended. Soil contribution to MnO_4^- demand is low.
10-20	Moderate	ISCO with MnO_4^- is recommended. Soil contribution to MnO_4^- demand is moderate. Economics should be considered.
>20	High	ISCO with MnO_4^- is technically feasible. Other technologies may provide lower cost alternatives.

*Dry Weight Basis

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

August 28, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1808-268

Dear Jennifer:

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: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

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: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-01-2.0-082218**					
Laboratory ID:	08-268-01					
Vinyl Chloride	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	
(trans) 1,2-Dichloroethene	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	
Trichloroethene	0.11	0.0010	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.16	0.0010	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-139*				
Toluene-d8	*100*	*79-128*				
4-Bromofluorobenzene	*90*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-01-6.5-082218**					
Laboratory ID:	08-268-02					
Vinyl Chloride	ND	0.00097	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.00097	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.00097	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.00097	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	ND	0.00097	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.0015	0.00097	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-139*				
Toluene-d8	*107*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-01-10.0-082218**					
Laboratory ID:	08-268-03					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	0.0023	0.0011	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.0078	0.0011	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*107*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-02-2.0-082218**					
Laboratory ID:	08-268-04					
Vinyl Chloride	ND	0.0012	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	0.022	0.0012	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.040	0.0012	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*102*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-02-8.5-082218**					
Laboratory ID:	08-268-05					
Vinyl Chloride	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	
(trans) 1,2-Dichloroethene	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	
Trichloroethene	0.0019	0.0010	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.0073	0.0010	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*117*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-03-1.0-082218**					
Laboratory ID:	08-268-06					
Vinyl Chloride	ND	0.00096	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.00096	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.00096	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.00096	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	0.0047	0.00096	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.0031	0.00096	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-03-5.0-082218**					
Laboratory ID:	08-268-07					
Vinyl Chloride	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	
(trans) 1,2-Dichloroethene	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	
Trichloroethene	0.045	0.0010	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.042	0.0010	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*101*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-03-10.0-082218**					
Laboratory ID:	08-268-08					
Vinyl Chloride	ND	0.00087	EPA 8260C	8-24-18	8-24-18	
1,1-Dichloroethene	ND	0.00087	EPA 8260C	8-24-18	8-24-18	
(trans) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	8-24-18	8-24-18	
(cis) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	8-24-18	8-24-18	
Trichloroethene	0.0053	0.00087	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	0.014	0.00087	EPA 8260C	8-24-18	8-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0824S1					
Vinyl Chloride	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	
(trans) 1,2-Dichloroethene	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	
Trichloroethene	ND	0.0010	EPA 8260C	8-24-18	8-24-18	
Tetrachloroethene	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: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

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: August 28, 2018
Samples Submitted: August 23, 2018
Laboratory Reference: 1808-268
Project: 457-008

% MOISTURE

Date Analyzed: 8-24-18

Client ID	Lab ID	% Moisture
F5-01-2.0-082218	08-268-01	20
F5-01-6.5-082218	08-268-02	13
F5-01-10.0-082218	08-268-03	18
F5-02-2.0-082218	08-268-04	20
F5-02-8.5-082218	08-268-05	20
F5-03-1.0-082218	08-268-06	9
F5-03-5.0-082218	08-268-07	23
F5-03-10.0-082218	08-268-08	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: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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

Laboratory Number: 08-268

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	CVOCs				% Moisture
1	F5-01-2.0-082218	8/22/18	2148	S	5																		X				X
2	F5-01-6.5-082218		2215																								
3	F5-01-10.0-082218		2225																								
4	F5-02-2.0-082218		2248																								
5	F5-02-8.5-082218		2314																								
6	F5-03-1.0-082218		2325																								
7	F5-03-5.0-082218		2340																								
8	F5-03-10.0-082218		2350																								

	Signature	Company	Date	Time
Relinquished	Jennifer Moore	Farallon Consulting	8/23	1220
Received		CORE	8/23/18	1420
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
CVOCs include: PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCE; vinyl chloride

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 29, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1808-291

Dear Jen:

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: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

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.

Volatiles EPA 8260C Analysis

Stir bars were not detected in the VOA vials provided for sample E5-01-5.0-082318.

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: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-01-2.0-082318**					
Laboratory ID:	08-291-01					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	0.0052	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	0.033	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	1.2	0.061	EPA 8260C	8-28-18	8-28-18	
Tetrachloroethene	0.0032	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*96*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-02-2.0-082318**					
Laboratory ID:	08-291-02					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	0.0048	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	2.4	0.065	EPA 8260C	8-28-18	8-28-18	
Tetrachloroethene	0.0063	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*82*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-03-2.0-082318**					
Laboratory ID:	08-291-03					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.082	0.0010	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*101*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-01-1.0-082318**					
Laboratory ID:	08-291-04					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.0071	0.0010	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	0.0044	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*112*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-01-5.0-082318**					
Laboratory ID:	08-291-05					
Vinyl Chloride	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	0.0030	0.00093	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.076	0.00093	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.078	0.00093	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*68-139*				
Toluene-d8	*111*	*79-128*				
4-Bromofluorobenzene	*111*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-01-11.0-082318**					
Laboratory ID:	08-291-06					
Vinyl Chloride	ND	0.0017	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0017	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0017	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0017	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.0074	0.0017	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	0.017	0.0017	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*110*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-02-1.0-082318**					
Laboratory ID:	08-291-07					
Vinyl Chloride	ND	0.00092	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.00092	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.00092	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.00092	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.0037	0.00092	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	0.0043	0.00092	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-02-5.0-082318**					
Laboratory ID:	08-291-08					
Vinyl Chloride	ND	0.00096	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.00096	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.00096	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.00096	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.011	0.00096	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	0.034	0.00096	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-02-14.0-082318**					
Laboratory ID:	08-291-09					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.0012	0.0011	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-02-20.0-082318**					
Laboratory ID:	08-291-10					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*107*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-03-3.0-082318**					
Laboratory ID:	08-291-11					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.047	0.0011	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	0.049	0.0011	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-03-9.0-082318**					
Laboratory ID:	08-291-12					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.042	0.0010	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	0.15	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*99*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-03-14.0-082318**					
Laboratory ID:	08-291-13					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.0047	0.0011	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	0.0082	0.0011	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-03-19.0-082318**					
Laboratory ID:	08-291-14					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-01-9.0-082318**					
Laboratory ID:	08-291-15					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*111*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-01-11.0-082318**					
Laboratory ID:	08-291-16					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*111*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-02-6.0-082318**					
Laboratory ID:	08-291-17					
Vinyl Chloride	ND	0.00088	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.00088	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.00088	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.016	0.00088	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.00088	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*107*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-03-11.0-082318**					
Laboratory ID:	08-291-20					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-01-1.0-082318**					
Laboratory ID:	08-291-21					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	0.0023	0.0010	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*111*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-01-5.0-082318**					
Laboratory ID:	08-291-22					
Vinyl Chloride	ND	0.00087	EPA 8260C	8-28-18	8-28-18	
1,1-Dichloroethene	ND	0.00087	EPA 8260C	8-28-18	8-28-18	
(trans) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	8-28-18	8-28-18	
(cis) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	8-28-18	8-28-18	
Trichloroethene	0.0056	0.00087	EPA 8260C	8-28-18	8-28-18	
Tetrachloroethene	0.0023	0.00087	EPA 8260C	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-01-10.0-082318**					
Laboratory ID:	08-291-23					
Vinyl Chloride	ND	0.00095	EPA 8260C	8-28-18	8-28-18	
1,1-Dichloroethene	ND	0.00095	EPA 8260C	8-28-18	8-28-18	
(trans) 1,2-Dichloroethene	ND	0.00095	EPA 8260C	8-28-18	8-28-18	
(cis) 1,2-Dichloroethene	ND	0.00095	EPA 8260C	8-28-18	8-28-18	
Trichloroethene	ND	0.00095	EPA 8260C	8-28-18	8-28-18	
Tetrachloroethene	ND	0.00095	EPA 8260C	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0827S2					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-27-18	8-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*107*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0828S1					
Vinyl Chloride	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	
(trans) 1,2-Dichloroethene	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	
Trichloroethene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-28-18	8-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*109*	*71-132*				

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

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:	SB0827S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0509**	**0.0523**	0.0500	0.0500	102	105	53-141	3	17	
Benzene	**0.0486**	**0.0498**	0.0500	0.0500	97	100	70-130	2	15	
Trichloroethene	**0.0515**	**0.0507**	0.0500	0.0500	103	101	74-122	2	16	
Toluene	**0.0516**	**0.0529**	0.0500	0.0500	103	106	76-130	2	15	
Chlorobenzene	**0.0496**	**0.0501**	0.0500	0.0500	99	100	75-120	1	14	
Surrogate:										
Dibromofluoromethane					*98*	*98*	*68-139*			
Toluene-d8					*108*	*105*	*79-128*			
4-Bromofluorobenzene					*106*	*109*	*71-132*			

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

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:	SB0828S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0502**	**0.0520**	0.0500	0.0500	100	104	53-141	4	17	
Benzene	**0.0489**	**0.0484**	0.0500	0.0500	98	97	70-130	1	15	
Trichloroethene	**0.0502**	**0.0501**	0.0500	0.0500	100	100	74-122	0	16	
Toluene	**0.0538**	**0.0515**	0.0500	0.0500	108	103	76-130	4	15	
Chlorobenzene	**0.0494**	**0.0481**	0.0500	0.0500	99	96	75-120	3	14	
Surrogate:										
Dibromofluoromethane					*95*	*97*	*68-139*			
Toluene-d8					*111*	*107*	*79-128*			
4-Bromofluorobenzene					*111*	*108*	*71-132*			

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

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:	SB0829S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0544**	**0.0551**	0.0500	0.0500	109	110	53-141	1	17	
Benzene	**0.0524**	**0.0522**	0.0500	0.0500	105	104	70-130	0	15	
Trichloroethene	**0.0531**	**0.0512**	0.0500	0.0500	106	102	74-122	4	16	
Toluene	**0.0551**	**0.0549**	0.0500	0.0500	110	110	76-130	0	15	
Chlorobenzene	**0.0501**	**0.0508**	0.0500	0.0500	100	102	75-120	1	14	
Surrogate:										
Dibromofluoromethane					*99*	*100*	*68-139*			
Toluene-d8					*110*	*110*	*79-128*			
4-Bromofluorobenzene					*110*	*108*	*71-132*			

Date of Report: August 29, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291
Project: 457-008

% MOISTURE

Date Analyzed: 8-27-18

Client ID	Lab ID	% Moisture
B3-01-2.0-082318	08-291-01	19
B3-02-2.0-082318	08-291-02	21
B3-03-2.0-082318	08-291-03	10
F5-01-1.0-082318	08-291-04	23
F5-01-5.0-082318	08-291-05	21
F5-01-11.0-082318	08-291-06	22
F5-02-1.0-082318	08-291-07	11
F5-02-5.0-082318	08-291-08	23
F5-02-14.0-082318	08-291-09	24
F5-02-20.0-082318	08-291-10	23
F5-03-3.0-082318	08-291-11	23
F5-03-9.0-082318	08-291-12	21
F5-03-14.0-082318	08-291-13	25
F5-03-19.0-082318	08-291-14	22
B3-01-9.0-082318	08-291-15	19
B3-01-11.0-082318	08-291-16	20
B3-02-6.0-082318	08-291-17	14
B3-03-11.0-082318	08-291-20	25
D4-01-1.0-082318	08-291-21	14
D4-01-5.0-082318	08-291-22	13
D4-01-10.0-082318	08-291-23	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: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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

Laboratory Number: 08-291

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	CVOCs *				% Moisture
1	B3-01-2.0-082318	8/23/18	1650	S	5																		X				X
2	B3-02-2.0-082318		1720		5																		X				
3	B3-03-2.0-082318		1730		5																		X				
4	E5-01-1.0-082318		1755		5																		X				
5	E5-01-5.0-082318		1805		5																		X				
6	E5-01-11.0-082318		1825		5																		X				
7	E5-02-1.0-082318		1840		5																		X				
8	E5-02-5.0-082318		1855		5																		X				
9	E5-02-14.0-082318		1915		5																		X				
10	E5-02-20.0-082318		1940		5																		X				

	Signature	Company	Date	Time
Relinquished	J. Moore	Farallon Consulting	8/24/18	1136
Received		ORE	8/24/18	1740
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Only Analyze for the Following: PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCE; Vinyl Chloride.

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: Farallon
Project Number: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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

Laboratory Number: 08-291

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	cVOCs*				% Moisture
11	ES-03-3.0-082318	8/23/18	1950	S	5																		X				X
12	ES-03-9.0-082318		2005		5																		X				
13	ES-03-14.0-082318		2015		5																		X				
14	ES-03-19.0-082318		2025		5																		X				
15	B3-01-9.0-082318		2145		5																		X				
16	B3-01-11.0-082318		2200		5																		X				
~~17~~	~~B3-02-2.0-082318~~ RO																										
18 (17)	B3-02-6.0-082318		2215		5																		X				X
18	B3-03-8.0-082318		2245		5																						
19	B30-03-8.0-082318	↓	2250	↓	5																						

	Signature	Company	Date	Time
Relinquished	[signature]	Farallon consulting	8/24/18	1136
Received	[signature]	OSE	8/24/18	1740
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* See Page 1 For Analyses

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

Chain of Custody

Page 3 of 3

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: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-291

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	CVOCs *				% Moisture
20	B3-03-11.0-082318	8/23/18	2255	S	5																		X				X
21	D4-01-1.0-082318	↓	2320	↓	5																		X				↓
22	D4-01-5.0-082318		2330		5																		X				
23	D4-01-10.0-082318		2345		5																		X				

	Signature	Company	Date	Time
Relinquished	[signature]	Farallon Consulting	8/24/18	1136
Received	[signature]	OTE	8/24/18	1740
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* See page 1 For Analyses.

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

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1808-291B

Dear Jen:

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 4, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291B
Project: 457-008

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.

Date of Report: September 4, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291B
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-03-8.0-082318**					
Laboratory ID:	08-291-18					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
Trichloroethene	0.0017	0.0010	EPA 8260C	8-31-18	8-31-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*68-139*				
Toluene-d8	*101*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291B
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B30-03-8.0-082318**					
Laboratory ID:	08-291-19					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-31-18	8-31-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-31-18	8-31-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-31-18	8-31-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-31-18	8-31-18	
Trichloroethene	0.0042	0.0011	EPA 8260C	8-31-18	8-31-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	8-31-18	8-31-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-139*				
Toluene-d8	*102*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291B
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0831S1					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-31-18	8-31-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*93*	*68-139*				
Toluene-d8	*102*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: September 4, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291B
Project: 457-008

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:	SB0831S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0542**	**0.0524**	0.0500	0.0500	108	105	53-141	3	17	
Benzene	**0.0616**	**0.0608**	0.0500	0.0500	123	122	70-130	1	15	
Trichloroethene	**0.0593**	**0.0598**	0.0500	0.0500	119	120	74-122	1	16	
Toluene	**0.0604**	**0.0622**	0.0500	0.0500	121	124	76-130	3	15	
Chlorobenzene	**0.0538**	**0.0535**	0.0500	0.0500	108	107	75-120	1	14	
Surrogate:										
Dibromofluoromethane					*98*	*100*	*68-139*			
Toluene-d8					*102*	*108*	*79-128*			
4-Bromofluorobenzene					*108*	*112*	*71-132*			

Date of Report: September 4, 2018
Samples Submitted: August 24, 2018
Laboratory Reference: 1808-291B
Project: 457-008

% MOISTURE

Date Analyzed: 8-31-18

Client ID	Lab ID	% Moisture
B3-03-8.0-082318	08-291-18	18
B30-03-8.0-082318	08-291-19	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

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: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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

Laboratory Number: 08-291

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	CVOCs *				% Moisture
1	B3-01-2.0-082318	8/23/18	1650	S	5																		X				X
2	B3-02-2.0-082318		1720		5																		X				
3	B3-03-2.0-082318		1730		5																		X				
4	E5-01-1.0-082318		1755		5																		X				
5	E5-01-5.0-082318		1805		5																		X				
6	E5-01-11.0-082318		1825		5																		X				
7	E5-02-1.0-082318		1840		5																		X				
8	E5-02-5.0-082318		1855		5																		X				
9	E5-02-14.0-082318		1915		5																		X				
10	E5-02-20.0-082318		1940		5																		X				

	Signature	Company	Date	Time
Relinquished	J. Moore	Farallon Consulting	8/24/18	1136
Received		OSE	8/24/18	1740
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Only Analyze for the Following: PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCE; Vinyl Chloride.
(X) Added 8/30/18. DB (2 day TAT)

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: Farallon
Project Number: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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

Laboratory Number: 08-291

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	cVOCs *				% Moisture
11	E5-03-3.0-082318	8/23/18	1950	S	5																		X				X
12	E5-03-9.0-082318		2005		5																		X				
13	E5-03-14.0-082318		2015		5																		X				
14	E5-03-19.0-082318		2025		5																		X				
15	B3-01-9.0-082318		2145		5																		X				
16	B3-01-11.0-082318		2200		5																		X				
~~17~~	~~B3-02-2.0-082318~~ RO																										
18 17	B3-02-6.0-082318		2215		5																		X				X
18	B3-03-8.0-082318		2245		5																		X				X
19	B30-03-8.0-082318	↓	2250	↓	5																		X				X

	Signature	Company	Date	Time
Relinquished		Farallon consulting	8/24/18	1136
Received		OSE	8/24/18	1740
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* See Page 1 For Analyses

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: Farallon
Project Number: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-291

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	cVOCs *				% Moisture
20	B3-03-11.0-082318	8/23/18	2255	S	5																		X				X
21	D4-01-1.0-082318	"	2320	"	5																		X				↓
22	D4-01-5.0-082318	"	2330	"	5																		X				
23	D4-01-10.0-082318	"	2345	"	5																		X				

	Signature	Company	Date	Time
Relinquished	[signature]	Farallon Consulting	8/24/18	1136
Received	[signature]	OTE	8/24/18	1740
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* See page 1 For Analytes.

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 30, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1808-306

Dear Jen:

Enclosed are the analytical results and associated quality control data for samples submitted on August 27, 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 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

Case Narrative

Samples were collected on August 24, 2018 and received by the laboratory on August 27, 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: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-02-1.0-082418**					
Laboratory ID:	08-306-01					
Vinyl Chloride	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.0038	0.00093	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0017	0.00093	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*110*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-02-6.5-082418**					
Laboratory ID:	08-306-02					
Vinyl Chloride	ND	0.00085	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.00085	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.012	0.00085	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0090	0.00085	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*112*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-02-11.0-082418**					
Laboratory ID:	08-306-03					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.0026	0.0011	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0012	0.0011	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-139*				
Toluene-d8	*112*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-03-1.0-082418**					
Laboratory ID:	08-306-04					
Vinyl Chloride	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.011	0.00093	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0031	0.00093	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*110*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-03-7.0-082418**					
Laboratory ID:	08-306-05					
Vinyl Chloride	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.011	0.00093	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0054	0.00093	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*109*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-03-11.0-082418**					
Laboratory ID:	08-306-06					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.0094	0.0010	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0079	0.0010	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*108*	*79-128*				
4-Bromofluorobenzene	*110*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-01-1.0-082418**					
Laboratory ID:	08-306-07					
Vinyl Chloride	ND	0.0012	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.0012	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.0012	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*108*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-01-6.0-082418**					
Laboratory ID:	08-306-08					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.0012	0.0010	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0014	0.0010	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*111*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-01-11.0-082418**					
Laboratory ID:	08-306-09					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*68-139*				
Toluene-d8	*112*	*79-128*				
4-Bromofluorobenzene	*111*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-02-1.0-082418**					
Laboratory ID:	08-306-10					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.024	0.0010	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.012	0.0010	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-139*				
Toluene-d8	*111*	*79-128*				
4-Bromofluorobenzene	*107*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-03-1.0-082418**					
Laboratory ID:	08-306-11					
Vinyl Chloride	ND	0.00097	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.00097	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.00097	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.00097	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.0056	0.00097	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0028	0.00097	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*113*	*79-128*				
4-Bromofluorobenzene	*111*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C50-03-1.0-082418**					
Laboratory ID:	08-306-12					
Vinyl Chloride	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	0.0081	0.0011	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	0.0039	0.0011	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*111*	*79-128*				
4-Bromofluorobenzene	*112*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0829S1					
Vinyl Chloride	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Trichloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	8-29-18	8-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*109*	*71-132*				

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

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:	SB0829S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0544**	**0.0551**	0.0500	0.0500	109	110	53-141	1	17	
Benzene	**0.0524**	**0.0522**	0.0500	0.0500	105	104	70-130	0	15	
Trichloroethene	**0.0531**	**0.0512**	0.0500	0.0500	106	102	74-122	4	16	
Toluene	**0.0551**	**0.0549**	0.0500	0.0500	110	110	76-130	0	15	
Chlorobenzene	**0.0501**	**0.0508**	0.0500	0.0500	100	102	75-120	1	14	
Surrogate:										
Dibromofluoromethane					*99*	*100*	*68-139*			
Toluene-d8					*110*	*110*	*79-128*			
4-Bromofluorobenzene					*110*	*108*	*71-132*			

Date of Report: August 30, 2018
Samples Submitted: August 27, 2018
Laboratory Reference: 1808-306
Project: 457-008

% MOISTURE

Date Analyzed: 8-29-18

Client ID	Lab ID	% Moisture
D4-02-1.0-082418	08-306-01	8
D4-02-6.5-082418	08-306-02	12
D4-02-11.0-082418	08-306-03	19
D4-03-1.0-082418	08-306-04	8
D4-03-7.0-082418	08-306-05	21
D4-03-11.0-082418	08-306-06	18
C5-01-1.0-082418	08-306-07	29
C5-01-6.0-082418	08-306-08	23
C5-01-11.0-082418	08-306-09	22
C5-02-1.0-082418	08-306-10	21
C5-03-1.0-082418	08-306-11	7
C50-03-1.0-082418	08-306-12	22

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 2

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

Company: Farallon
Project Number: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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: 08-306

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	D4-02-1.0-082418	8/24/18	1605	S	5
2	D4-02-6.5-082418		1620		5
3	D4-02-11.0-082418		1625		5
4	D4-03-1.0-082418		1630		5
5	D4-03-7.0-082418		1645		5
6	D4-03-11.0-082418		1705		5
7	C5-01-1.0-082418		1800		5
8	C5-01-6.0-082418		1810		5
9	C5-01-11.0-082418		1820		5
10	C5-02-1.0-082418		1830		5

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	CVOCs*				% Moisture
																	X				10
																	X				
																	X				
																	X				
																	X				
																	X				
																	X				
																	X				
																	X				
																	X				

	Signature	Company	Date	Time
Relinquished	Ryan Ostrom	Farallon	8/27/18	1735
Received		OSE	8/27/18	1735
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* Only Analyze For the Following:
PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCE; Vinyl Chloride

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: Farallon
Project Number: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
Sampled by: Ryan Ostrom

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: 08-306

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	cVOCs *				% Moisture
11	C5-03-1.0-082418	8/24/18	1855	S	5																		X				
12	C50-03-1.0-082418	↓	1900	↓	5																		X				

	Signature	Company	Date	Time
Relinquished	Ryan Ostrom	Farallon	8/27/18	1735
Received			8/27/18	1735
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* See Page 1 for Analyses.

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 27, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1809-176

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on September 19, 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 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

Case Narrative

Samples were collected on September 18, 2018 and received by the laboratory on September 19, 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.

Hexavalent Chromium SM 3500-Cr B Analysis

The practical quantitation limit is elevated due to interferences present in the samples.

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 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6-091818**					
Laboratory ID:	09-176-01					
Vinyl Chloride	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Trichloroethene	5.5	0.20	EPA 8260C	9-19-18	9-19-18	
Tetrachloroethene	8.5	0.20	EPA 8260C	9-19-18	9-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW60-091818**					
Laboratory ID:	09-176-02					
Vinyl Chloride	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Trichloroethene	5.1	0.20	EPA 8260C	9-19-18	9-19-18	
Tetrachloroethene	8.3	0.20	EPA 8260C	9-19-18	9-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-5-091818**					
Laboratory ID:	09-176-03					
Vinyl Chloride	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(cis) 1,2-Dichloroethene	0.61	0.20	EPA 8260C	9-19-18	9-19-18	
Trichloroethene	4.8	0.20	EPA 8260C	9-19-18	9-19-18	
Tetrachloroethene	7.3	0.20	EPA 8260C	9-19-18	9-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	09-176-04					
Vinyl Chloride	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Trichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*94*	*78-125*				

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0919W1					
Vinyl Chloride	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Trichloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-19-18	9-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*113*	*75-127*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

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:	SB0919W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**11.2**	**11.4**	10.0	10.0	112	114	62-129	2	15	
Benzene	**10.6**	**11.1**	10.0	10.0	106	111	77-127	5	15	
Trichloroethene	**9.95**	**10.1**	10.0	10.0	100	101	70-120	1	15	
Toluene	**10.2**	**10.4**	10.0	10.0	102	104	82-123	2	15	
Chlorobenzene	**9.52**	**9.67**	10.0	10.0	95	97	79-120	2	15	
Surrogate:										
Dibromofluoromethane					*111*	*115*	*75-127*			
Toluene-d8					*105*	*104*	*80-127*			
4-Bromofluorobenzene					*102*	*102*	*78-125*			

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

TOTAL DISSOLVED SOLIDS
SM 2540C

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6-091818**					
Laboratory ID:	09-176-01					
Total Dissolved Solids	**670**	13	SM 2540C	9-20-18	9-21-18	
Client ID:	**MW60-091818**					
Laboratory ID:	09-176-02					
Total Dissolved Solids	**690**	13	SM 2540C	9-20-18	9-21-18	
Client ID:	**OBW-5-091818**					
Laboratory ID:	09-176-03					
Total Dissolved Solids	**560**	13	SM 2540C	9-20-18	9-21-18	

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

TOTAL DISSOLVED SOLIDS
SM 2540C
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0920W1					
Total Dissolved Solids	**ND**	13	SM 2540C	9-20-18	9-21-18	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-176-02								
	ORIG	DUP							
Total Dissolved Solids	**687**	**707**	NA	NA	NA	NA	3	17	
SPIKE BLANK									
Laboratory ID:	SB0920W1								
	SB		SB		SB				
Total Dissolved Solids	**472**		500	NA	94	86-115	NA	NA	

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

TOTAL METALS
EPA 200.8/6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6-091818**					
Laboratory ID:	09-176-01					
Chromium	**110**	110	EPA 200.8	9-25-18	9-27-18	
Iron	**3300**	50	EPA 6010D	9-24-18	9-24-18	
Manganese	**9500**	220	EPA 200.8	9-25-18	9-27-18	
Client ID:	**MW60-091818**					
Laboratory ID:	09-176-02					
Chromium	**460**	110	EPA 200.8	9-25-18	9-27-18	
Iron	**100000**	250	EPA 6010D	9-24-18	9-25-18	
Manganese	**280000**	11000	EPA 200.8	9-25-18	9-27-18	
Client ID:	**OBW-5-091818**					
Laboratory ID:	09-176-03					
Chromium	**170**	110	EPA 200.8	9-25-18	9-27-18	
Iron	**1000**	50	EPA 6010D	9-24-18	9-24-18	
Manganese	**4600**	110	EPA 200.8	9-25-18	9-27-18	

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

TOTAL METALS
EPA 200.8/6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0924WH1					
Iron	**ND**	50	EPA 6010D	9-24-18	9-24-18	
Laboratory ID:	MB0925WM1					
Chromium	**ND**	11	EPA 200.8	9-25-18	9-27-18	
Manganese	**ND**	11	EPA 200.8	9-25-18	9-27-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-196-02										
	ORIG	DUP									
Iron	**1100**	**1070**	NA	NA		NA		NA	3	20	
Laboratory ID:	08-385-04										
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Manganese	**608**	**618**	NA	NA		NA		NA	2	20	
MATRIX SPIKES											
Laboratory ID:	09-196-02										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**19500**	**20200**	20000	20000	1100	**92**	**96**	75-125	4	20	
Laboratory ID:	08-385-04										
Chromium	**201**	**202**	222	222	ND	**91**	**91**	75-125	1	20	
Manganese	**809**	**796**	222	222	608	**91**	**85**	75-125	2	20	

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

DISSOLVED METALS
EPA 200.8/6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6-091818**					
Laboratory ID:	09-176-01					
Chromium	**50**	10	EPA 200.8	9-19-18	9-26-18	
Iron	**ND**	56	EPA 6010D	9-19-18	9-24-18	
Manganese	**1800**	100	EPA 200.8	9-19-18	9-26-18	
Client ID:	**MW60-091818**					
Laboratory ID:	09-176-02					
Chromium	**110**	10	EPA 200.8	9-19-18	9-26-18	
Iron	**ND**	56	EPA 6010D	9-19-18	9-24-18	
Manganese	**12**	10	EPA 200.8	9-19-18	9-26-18	
Client ID:	**OBW-5-091818**					
Laboratory ID:	09-176-03					
Chromium	**37**	10	EPA 200.8	9-19-18	9-26-18	
Iron	**250**	56	EPA 6010D	9-19-18	9-24-18	
Manganese	**4700**	100	EPA 200.8	9-19-18	9-26-18	

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

DISSOLVED METALS
EPA 200.8/6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0919F1					
Iron	**ND**	56	EPA 6010D	9-19-18	9-24-18	
Laboratory ID:	MB0919F1					
Chromium	**ND**	10	EPA 200.8	9-19-18	9-26-18	
Manganese	**ND**	10	EPA 200.8	9-19-18	9-26-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-176-01										
	ORIG	DUP									
Iron	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	09-176-02										
Chromium	**108**	**103**	NA	NA		NA		NA	5	20	
Manganese	**11.7**	**10.7**	NA	NA		NA		NA	9	20	
MATRIX SPIKES											
Laboratory ID:	09-176-01										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**25900**	**24400**	22200	22200	ND	**117**	**110**	75-125	6	20	
Laboratory ID:	09-176-02										
Chromium	**438**	**438**	400	400	108	**82**	**82**	75-125	0	20	
Manganese	**345**	**347**	400	400	11.7	**83**	**84**	75-125	0	20	

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

HEXAVALENT CHROMIUM
SM 3500-Cr B

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6-091818**					
Laboratory ID:	09-176-01					
Hexavalent Chromium	**ND**	50	SM 3500-Cr B	9-19-18	9-19-18	
Client ID:	**MW60-091818**					
Laboratory ID:	09-176-02					
Hexavalent Chromium	**100**	50	SM 3500-Cr B	9-19-18	9-19-18	
Client ID:	**OBW-5-091818**					
Laboratory ID:	09-176-03					
Hexavalent Chromium	**ND**	50	SM 3500-Cr B	9-19-18	9-19-18	

Date of Report: September 27, 2018
Samples Submitted: September 19, 2018
Laboratory Reference: 1809-176
Project: 457-008

HEXAVALENT CHROMIUM
SM 3500-Cr B
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0919W1					
Hexavalent Chromium	**ND**	10	SM 3500-Cr B	9-19-18	9-19-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-176-02										
	ORIG	DUP									
Hexavalent Chromium	**99.5**	**91.0**	NA		NA	NA		NA	9	20	
MATRIX SPIKES											
Laboratory ID:	09-176-02										
	MS	MSD	MS	MSD		MS	MSD				
Hexavalent Chromium	**624**	**605**	500	500	99.5	105	101	75-125	3	20	
SPIKE BLANK											
Laboratory ID:	SB0919W1										
	SB		SB			SB					
Hexavalent Chromium	**99.1**		100		NA	99		85-115	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

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

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

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

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

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

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

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

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

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

Y - The calibration verification for this analyte exceeded the 20% drift specified in 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: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
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: 09-176

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	* CVOCs EPA 8260D	~~Dissolved Arsenic EPA 200.8~~ Cancelled 9/20	Total dissolved Solids SM2540C	Total and dissolved-Cr, Fe, Mn	~~Chromium~~ Hexavalent Chromium
1	MW6-091818	09/18/18	1709	Water	7																		X	X	+	+	+
2	MW60-091818	09/18/18	1730	Water	7																		X	X	+	+	+
3	OBW-3-091818	09/18/18	1825	Water	7																		X	X	+	X	+
4	TRIP BLANK	9/18/18	—	Water	3																		X				

* PCE, TCE, cis/trans-DCE V.C.

	Signature	Company	Date	Time
Relinquished		Farallon	9/18/18	1936
Received	Kristee Lizzi	OSE	9/18/18	1901
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
~~Please Confirm listed analyses with project Manager. Also Confirm the turn around time with Project Manager.~~ JB

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 28, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1809-210

Dear Jen:

Enclosed are the analytical results and associated quality control data for samples submitted on September 20, 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 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

Case Narrative

Samples were collected on September 19, 2018 and received by the laboratory on September 20, 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 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-04-4.0-091918**					
Laboratory ID:	09-210-01					
Vinyl Chloride	ND	0.0011	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	0.0012	0.0011	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	13	0.080	EPA 8260C	9-21-18	9-25-18	
Tetrachloroethene	0.21	0.080	EPA 8260C	9-21-18	9-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*68-139*				
Toluene-d8	*106*	*79-128*				
4-Bromofluorobenzene	*99*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B3-04-10.5-091918**					
Laboratory ID:	09-210-02					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-05-8.0-091918**					
Laboratory ID:	09-210-03					
Vinyl Chloride	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	0.0019	0.0012	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**E5-06-5.5-091918**					
Laboratory ID:	09-210-04					
Vinyl Chloride	ND	0.0011	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	0.0015	0.0011	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.064	0.0011	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	0.043	0.0011	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-05-7.0-091918**					
Laboratory ID:	09-210-05					
Vinyl Chloride	ND	0.0013	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	ND	0.0013	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	0.0014	0.0013	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-04-2.0-091918**					
Laboratory ID:	09-210-06					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.13	0.0010	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	0.16	0.0010	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*93*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**F5-04-7.0-091918**					
Laboratory ID:	09-210-07					
Vinyl Chloride	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.0080	0.00090	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	0.021	0.00090	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*101*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-16-1.0-091918**					
Laboratory ID:	09-210-08					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.032	0.0010	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*106*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-16-2.0-091918**					
Laboratory ID:	09-210-09					
Vinyl Chloride	ND	0.00099	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.00099	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.022	0.00099	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.00099	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*101*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-16-3.0-091918**					
Laboratory ID:	09-210-10					
Vinyl Chloride	ND	0.00098	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.00098	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.00098	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	0.0016	0.00098	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.011	0.00098	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.00098	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*100*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-17-1.0-091918**					
Laboratory ID:	09-210-12					
Vinyl Chloride	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.0076	0.0012	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.0012	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*68-139*				
Toluene-d8	*103*	*79-128*				
4-Bromofluorobenzene	*93*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-17-2.0-091918**					
Laboratory ID:	09-210-13					
Vinyl Chloride	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.0020	0.00093	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*68-139*				
Toluene-d8	*103*	*79-128*				
4-Bromofluorobenzene	*99*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-17-3.0-091918**					
Laboratory ID:	09-210-14					
Vinyl Chloride	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.00090	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*68-139*				
Toluene-d8	*103*	*79-128*				
4-Bromofluorobenzene	*101*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-18-1.0-091918**					
Laboratory ID:	09-210-16					
Vinyl Chloride	ND	0.00091	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.00091	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.00091	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.00091	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.0058	0.00091	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.00091	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*68-139*				
Toluene-d8	*102*	*79-128*				
4-Bromofluorobenzene	*100*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-18-2.0-091918**					
Laboratory ID:	09-210-17					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
Trichloroethene	0.017	0.0010	EPA 8260C	9-25-18	9-25-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*68-139*				
Toluene-d8	*107*	*79-128*				
4-Bromofluorobenzene	*89*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-18-3.0-091918**					
Laboratory ID:	09-210-18					
Vinyl Chloride	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	0.0020	0.00093	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.00093	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*68-139*				
Toluene-d8	*101*	*79-128*				
4-Bromofluorobenzene	*112*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0921S2					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Trichloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-21-18	9-21-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*68-139*				
Toluene-d8	*103*	*79-128*				
4-Bromofluorobenzene	*102*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0925S2					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
Trichloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-25-18	9-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*68-139*				
Toluene-d8	*107*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

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:	SB0925S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0540**	**0.0530**	0.0500	0.0500	108	106	53-141	2	17	
Benzene	**0.0542**	**0.0538**	0.0500	0.0500	108	108	70-130	1	15	
Trichloroethene	**0.0510**	**0.0517**	0.0500	0.0500	102	103	74-122	1	16	
Toluene	**0.0536**	**0.0544**	0.0500	0.0500	107	109	76-130	1	15	
Chlorobenzene	**0.0441**	**0.0453**	0.0500	0.0500	88	91	75-120	3	14	
Surrogate:										
Dibromofluoromethane					*106*	*105*	*68-139*			
Toluene-d8					*107*	*106*	*79-128*			
4-Bromofluorobenzene					*102*	*104*	*71-132*			

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

VOLATILE ORGANICS EPA 8260C
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:	09-210-14										
	MS	MSD	MS	MSD		MS	MSD				
1,1-Dichloroethene	**0.0357**	**0.0336**	0.0348	0.0375	ND	103	90	57-132	6	22	
Benzene	**0.0326**	**0.0371**	0.0348	0.0375	ND	94	99	64-125	13	24	
Trichloroethene	**0.0298**	**0.0332**	0.0348	0.0375	ND	86	88	58-130	11	21	
Toluene	**0.0317**	**0.0359**	0.0348	0.0375	ND	91	96	59-130	12	34	
Chlorobenzene	**0.0274**	**0.0311**	0.0348	0.0375	ND	79	83	53-131	13	30	
Surrogate:											
Dibromofluoromethane						*105*	*99*	*68-139*			
Toluene-d8						*106*	*101*	*79-128*			
4-Bromofluorobenzene						*101*	*96*	*71-132*			

Date of Report: September 28, 2018
Samples Submitted: September 20, 2018
Laboratory Reference: 1809-210
Project: 457-008

% MOISTURE

Date Analyzed: 9-21-18

Client ID	Lab ID	% Moisture
B3-04-4.0-091918	09-210-01	28
B3-04-10.5-091918	09-210-02	20
E5-05-8.0-091918	09-210-03	10
E5-06-5.5-091918	09-210-04	22
F5-05-7.0-091918	09-210-05	19
F5-04-2.0-091918	09-210-06	14
F5-04-7.0-091918	09-210-07	21
P4-16-1.0-091918	09-210-08	10
P4-16-2.0-091918	09-210-09	20
P4-16-3.0-091918	09-210-10	23
P4-17-1.0-091918	09-210-12	10
P4-17-2.0-091918	09-210-13	19
P4-17-3.0-091918	09-210-14	21
P4-18-1.0-091918	09-210-16	8
P4-18-2.0-091918	09-210-17	21
P4-18-3.0-091918	09-210-18	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 2

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

Company: Favallon
Project Number: 457-008
Project Name: Capitol Industries
Project Manager: Jen Moore
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: 09-210

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	CVOCs by EPA 8260C	HOLD		% Moisture
1	B3-04-4.0-091918	9/19/18	2028	Soil	5																		X			X
2	B3-04-10.5-091918		2040																				X			
3	E5-05-8.0-091918		1850																				X			
4	E5-06-5.5-091918		1809																				X			
5	F5-05-7.0-091918		1630																				X			
6	F5-04-2.0-091918		1720																				X			
7	F5-04-7.0-091918		1730																				X			
8	P4-16-1.0-091918		2140																				X			
9	P4-16-2.0-091918		2145																				X			
10	P4-16-3.0-091918		2150																				X			

	Signature	Company	Date	Time
Relinquished				
Received	Kathee Lieser	GSE	9/20/18	1015
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please Analyze Samples for:
PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE and Vinyl chloride

Data Package: Standard ☐ Level III ☐ Level IV ☐

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

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

Chain of Custody

Laboratory Number: 09-210

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)
☐ ________ (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	CVOCs EPA 8260C.		HOLD		% Moisture
11	P4-16-5.0-091918	9/19/18	2155	Soil	5																		~~X~~		X		~~X~~ no
12	P4-17-1.0-091918	|	2240	|	5																		X				|
13	P4-17-2.0-091918	|	2245	|	5																		X				|
14	P4-17-3.0-091918	|	2247	|	10																		X				|
15	P4-17-5.0-091918	|	2250	|	5																		~~X~~		X		~~|~~ no
16	P4-18-1.0-091918	|	2210	|	5																		X				|
17	P4-18-2.0-091918	|	2215	|	5																		X				|
18	P4-18-3.0-091918	|	2220	|	5																		X				|
19	P4-18-5.0-091918	|	2230	|	5																		~~X~~		X		~~|~~ no

	Signature	Company	Date	Time
Relinquished	[signature]	Farallon	9/20/18	0126
Received	[signature]	OSE	9/20/18	1015
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
The extra Containers for sample P4-17-3.0 are for MS/MSD.

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

October 1, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1809-225

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on September 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: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

Case Narrative

Samples were collected on September 20, 2018 and received by the laboratory on September 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: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-15-1.0-092018**					
Laboratory ID:	09-225-01					
Vinyl Chloride	ND	0.00085	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.00085	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.00085	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0015	0.00085	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	ND	0.00085	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-15-2.0-092018**					
Laboratory ID:	09-225-02					
Vinyl Chloride	ND	0.00095	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.00095	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.00095	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.00095	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0026	0.00095	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	ND	0.00095	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*114*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*102*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-15-3.0-092018**					
Laboratory ID:	09-225-03					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0052	0.0010	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P4-15-5.0-092018**					
Laboratory ID:	09-225-04					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0099	0.0010	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	0.0010	0.0010	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*68-139*				
Toluene-d8	*102*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-04-2.5-092018**					
Laboratory ID:	09-225-05					
Vinyl Chloride	ND	0.00091	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.00091	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.00091	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.00091	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.15	0.00091	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	0.099	0.00091	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*68-139*				
Toluene-d8	*106*	*79-128*				
4-Bromofluorobenzene	*89*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-04-7.5-092018**					
Laboratory ID:	09-225-06					
Vinyl Chloride	ND	0.00099	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.00099	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0041	0.00099	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	0.0025	0.00099	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*116*	*68-139*				
Toluene-d8	*107*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-04-10.5-092018**					
Laboratory ID:	09-225-07					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-05-4.0-092018**					
Laboratory ID:	09-225-08					
Vinyl Chloride	ND	0.00097	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.00097	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.00097	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	0.0012	0.00097	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0013	0.00097	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	0.0022	0.00097	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*68-139*				
Toluene-d8	*104*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-05-6.5-092018**					
Laboratory ID:	09-225-09					
Vinyl Chloride	ND	0.00098	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.00098	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.00098	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.00098	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0013	0.00098	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	0.0019	0.00098	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*68-139*				
Toluene-d8	*103*	*79-128*				
4-Bromofluorobenzene	*101*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**C5-05-10.5-092018**					
Laboratory ID:	09-225-10					
Vinyl Chloride	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*68-139*				
Toluene-d8	*102*	*79-128*				
4-Bromofluorobenzene	*102*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**D4-04-2.5-092018**					
Laboratory ID:	09-225-11					
Vinyl Chloride	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	0.0019	0.0011	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	ND	0.0011	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*68-139*				
Toluene-d8	*106*	*79-128*				
4-Bromofluorobenzene	*103*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0924S2					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Trichloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-24-18	9-24-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*68-139*				
Toluene-d8	*105*	*79-128*				
4-Bromofluorobenzene	*104*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0927S1					
Vinyl Chloride	ND	0.0010	EPA 8260C	9-27-18	9-27-18	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	9-27-18	9-27-18	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-27-18	9-27-18	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	9-27-18	9-27-18	
Trichloroethene	ND	0.0010	EPA 8260C	9-27-18	9-27-18	
Tetrachloroethene	ND	0.0010	EPA 8260C	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*68-139*				
Toluene-d8	*110*	*79-128*				
4-Bromofluorobenzene	*105*	*71-132*				

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

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:	SB0924S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0564**	**0.0543**	0.0500	0.0500	113	109	53-141	4	17	
Benzene	**0.0560**	**0.0537**	0.0500	0.0500	112	107	70-130	4	15	
Trichloroethene	**0.0519**	**0.0511**	0.0500	0.0500	104	102	74-122	2	16	
Toluene	**0.0563**	**0.0548**	0.0500	0.0500	113	110	76-130	3	15	
Chlorobenzene	**0.0472**	**0.0468**	0.0500	0.0500	94	94	75-120	1	14	
Surrogate:										
Dibromofluoromethane					*104*	*104*	*68-139*			
Toluene-d8					*107*	*103*	*79-128*			
4-Bromofluorobenzene					*104*	*105*	*71-132*			

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

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:	SB0927S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0530**	**0.0526**	0.0500	0.0500	106	105	53-141	1	17	
Benzene	**0.0555**	**0.0547**	0.0500	0.0500	111	109	70-130	1	15	
Trichloroethene	**0.0509**	**0.0493**	0.0500	0.0500	102	99	74-122	3	16	
Toluene	**0.0535**	**0.0539**	0.0500	0.0500	107	108	76-130	1	15	
Chlorobenzene	**0.0448**	**0.0442**	0.0500	0.0500	90	88	75-120	1	14	
Surrogate:										
Dibromofluoromethane					*106*	*108*	*68-139*			
Toluene-d8					*105*	*107*	*79-128*			
4-Bromofluorobenzene					*105*	*107*	*71-132*			

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

VOLATILE ORGANICS EPA 8260C
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:	09-225-11										
	MS	MSD	MS	MSD		MS	MSD				
1,1-Dichloroethene	**0.0452**	**0.0399**	0.0414	0.0422	ND	109	95	57-132	14	22	
Benzene	**0.0454**	**0.0502**	0.0414	0.0422	ND	110	119	64-125	8	24	
Trichloroethene	**0.0407**	**0.0437**	0.0414	0.0422	0.0017	94	100	58-130	6	21	
Toluene	**0.0428**	**0.0453**	0.0414	0.0422	ND	103	107	59-130	4	34	
Chlorobenzene	**0.0349**	**0.0362**	0.0414	0.0422	ND	84	86	53-131	2	30	
Surrogate:											
Dibromofluoromethane						*111*	*117*	*68-139*			
Toluene-d8						*106*	*107*	*79-128*			
4-Bromofluorobenzene						*106*	*103*	*71-132*			

Date of Report: October 1, 2018
Samples Submitted: September 21, 2018
Laboratory Reference: 1809-225
Project: 457-008

% MOISTURE

Date Analyzed: 9-24-18

Client ID	Lab ID	% Moisture
P4-15-1.0-092018	09-225-01	9
P4-15-2.0-092018	09-225-02	18
P4-15-3.0-092018	09-225-03	21
P4-15-5.0-092018	09-225-04	21
C5-04-2.5-092018	09-225-05	13
C5-04-7.5-092018	09-225-06	21
C5-04-10.5-092018	09-225-07	21
C5-05-4.0-092018	09-225-08	22
C5-05-6.5-092018	09-225-09	20
C5-05-10.5-092018	09-225-10	25
D4-04-2.5-092018	09-225-11	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: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
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: 09-225

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	CVOCs by 8260C				% Moisture
1	P4-15-1.0-092018	9/20/18	1825	Soil	5																		X				10
2	P4-15-2.0-092018		1830		5																		X				
3	P4-15-3.0-092018		1835		5																		X				
4	P4-15-5.0-092018		1840		5																		X				
5	CS-04-2.5-092018		1905		5																		X				
6	CS-04-7.5-092018		1910		5																		X				
7	CS-04-10.5-092018		1920		5																		X				
8	CS-05-4.0-092018		1950		5																		X				
9	CS-05-6.5-092018		2000		5																		X				
10	CS-05-10.5-092018		2010		5																		X				

	Signature	Company	Date	Time
Relinquished		Farallon	9/20/18	2300
Received		CSE	9/21/18	1020
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please analyze Samples for the followings
- PCE
- TCE
- cis-1,2-DCE
- trans-1,2-DCE
- 1,1-DCE
- Vinyl Chloride

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)
☐ _____ (other)

Laboratory Number: 09-225

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	cVOCs by 8260C				% Moisture
11	D4-04-2.5-092018	9/20/18	2040	Soil	10																		X				X

	Signature	Company	Date	Time
Relinquished			9/20/18	2300
Received		CRC	9/21/18	1020
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* Note: The extra containers for Sample D4-04-2.5-092018 is for the MS/MSD.

- Analyze Sample for: PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE & Vinyl chloride.

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

October 26, 2018

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

Re: Analytical Data for Project 457-008
Laboratory Reference No. 1810-233

Dear Jen:

Enclosed are the analytical results and associated quality control data for samples submitted on October 18, 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: October 26, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-233
Project: 457-008

Case Narrative

Samples were collected on October 17, 2018 and received by the laboratory on October 18, 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.

Hexavalent Chromium SM 3500-Cr B Analysis

The practical quantitation limit is elevated due to interferences present in the samples OBW-4-101718 (10-233-01), OBW-5-101718 (10-233-02), MW-6-101718 (10-233-03), and MW60-101718 (10-233-04).

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: October 26, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-233
Project: 457-008

HEXAVALENT CHROMIUM
SM 3500-Cr D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**OBW-4-101718**					
Laboratory ID:	10-233-01					
Hexavalent Chromium	**ND**	50	SM 3500-Cr B	10-18-18	10-18-18	
Client ID:	**OBW-5-101718**					
Laboratory ID:	10-233-02					
Hexavalent Chromium	**ND**	50	SM 3500-Cr B	10-18-18	10-18-18	
Client ID:	**MW-6-101718**					
Laboratory ID:	10-233-03					
Hexavalent Chromium	**ND**	50	SM 3500-Cr B	10-18-18	10-18-18	
Client ID:	**MW60-101718**					
Laboratory ID:	10-233-04					
Hexavalent Chromium	**ND**	50	SM 3500-Cr B	10-18-18	10-18-18	

Date of Report: October 26, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-233
Project: 457-008

HEXAVALENT CHROMIUM
SM 3500-Cr D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018W2					
Hexavalent Chromium	**ND**	10	SM 3500-Cr B	10-18-18	10-18-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-233-01										
	ORIG	DUP									
Hexavalent Chromium	**ND**	**ND**	NA		NA	NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	10-233-01										
	MS	MSD	MS	MSD		MS	MSD				
Hexavalent Chromium	**461**	**426**	500	500	ND	92	85	75-125	8	20	
SPIKE BLANK											
Laboratory ID:	SB1018W2										
	SB		SB			SB					
Hexavalent Chromium	**98.4**		100		NA	98		85-115	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

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

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

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

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

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

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

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

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

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

Y - The calibration verification for this analyte exceeded the 20% drift specified in 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

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

Chain of Custody

Page 1 of 1

Company: FARALLON
Project Number: 457-008
Project Name: Capital Industries
Project Manager: Jen Moore
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: 10-233

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	OBW-4-101718	10/17/18	1514	Water	1
2	OBW-5-101718	|	1548	|	1
3	MW-6-101718	|	1619	|	1
4	MW60-101718	⊥	1625	⊥	1

Lab ID	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	HEXAVALENT CHROMIUM				% Moisture
1																		X				
2																		X				
3																		X				
4																		X				

	Signature	Company	Date	Time
Relinquished	[signature]	Farallon	10/17/18	1745
Received	Kallee Lisbow	OSE	10/18/18	929
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Hexavalent Chromium Samples 24 hr hold time -

Data Package: Standard ☐ Level III ☐ Level IV ☐

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