FOCUSED REMOVAL ACTION
WORK PLAN

N Bradford Street / Union Pacific Railroad Right-of-Way

Portland, Oregon

ODEQ ECSI#: 6480

Prepared for:

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List of Acronyms and Abbreviations

BES	Bureau of Environmental Services, City of Portland
bgs	below ground surface
City	City of Portland
client	Peninsula Iron Works
CMMP	Contaminated Media Management Plan
COC	chain of custody
DU	decision unit
ECSI	Environmental Cleanup and Site Information
ENW	EVREN Northwest, Inc.
EPA	US Environmental Protection Agency
F&BI	Friedman & Bruya, Inc.
FSSI	Focused Surface Soil Investigation
HASP	Health and Safety Plan
IDW	Investigation Derived Waste
IS	incremental sample
ISM	Incremental Sample Methodology
ITRC	Interstate Technology and Regulatory Council
JSCS	Joint Source Control Strategy
LCS	laboratory control sample
MFA	Maul Foster Alongi
mg/Kg	milligrams per Kilogram
MRL	method reporting limit
MS	matrix spike
ODEQ	Oregon Department of Environmental Quality
PCBs	polychlorinated biphenyls
PID	photoionization detector
PIW	Peninsula Iron Works; Client
QA/QC	quality assurance/quality control
RBC	risk-based concentration
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROW	radius of way
RPD	relative percent difference
SLV	screening-level value
SRA	soil removal action
TSCA	Toxic Substance Control Act
UPRR	Union Pacific Railroad
VCP	Voluntary Cleanup Program
VOCs	volatile organic constituents

1.0 Introduction and Background

This focused removal action work plan has been prepared by EVREN Northwest, Inc. ("ENW") on behalf of Peninsula Iron Works ("PIW") in response to an Order on Consent for Removal Action issued by the Oregon Department of Environmental Quality ("ODEQ") dated May 22, 2023 (DEQ No. LQVC-NWR-23-01). Figures 1 and 2 present a Site Vicinity Map and Site Plan, respectively, showing the general area and PIW site in relation to this area. Based on prior investigations conducted by PIW, Union Pacific Railroad ("UPRR"), the City of Portland, and the Oregon Department of Environmental Quality ("ODEQ"), ODEQ has found that PCBs are present at "high concentrations" in surface and subsurface soil on and adjacent to the PIW property and that PCB-impacted soil presents a complete exposure pathway to PIW employees and to community members who use Cathedral Park. ODEQ also found that "bare soil contaminated with PCBs on and adjacent to the PIW property may be migrating offsite through stormwater transport." The Order directs PIW (in part) to conduct a "Soil Removal Action" in accordance with a Scope of Work outlined in Exhibit B to the Order. The Scope of Work includes submission of a "Soil Excavation and/or Capping Work Plan" detailing actions proposed to reduce exposure of PIW workers and community members and to minimize the offsite transport of PCBs in stormwater. The Removal Action areas include (as detailed in Attachment A to Exhibit B of the Order) the portions of the N Bradford St right-of-way (exclusive of the UPRR right-of-way) adjoining the PIW property, a strip of exposed soil immediately southeast of the PIW building, and a nearby portion of Cathedral Park designated by ODEQ as "DU10" (Figure 3).

Maul Foster Alongi ("MFA"), investigating on behalf of ODEQ, reported (June 24, 2022) for DU10 a total PCB concentration of 3.45 mg/Kg obtained from one Incremental Sampling Methodology ("ISM) sample consisting of 50 soil aliquots obtained on a grid pattern established across the decision unit at depth of two (2) inches below surface grade (following removal of wood chips). ENW requested of ODEQ, and obtained, permission to submit the required Removal Action Work Plan for DU10 in stages; submission of Work Plan to conduct further soil sampling and analysis within the area of DU10 followed by submission of an Addendum/Supplement to the Work Plan that presents sampling results and proposed soil excavation and/or capping actions for DU10 intended to mitigate any imminent threats to human health and safety or to the environment and to prevent or reduce any potential for stormwater transport of PCBs.

1.1 Consent Order Work Plan Procedures

Exhibit B, Item IV describes the following procedures for a *PCB Impacted Soil Excavation and/or Capping Work Plan*. This Work Plan incorporates all of these procedures.

1. A description of the proposed PCB impacted soil excavation and/or capping, which shall include addressing hot spot concentrations and locations in Consent Order Action Areas.
2. Access agreements and permitting requirements, including TSCA compliance with PCB cleanup and disposal.
3. Material management and disposal.
4. Implementation and reporting schedule.

Procedure 1 is included throughout this Work Plan. Procedures 2 and 3 can be found in Section 3. Procedure 4 can be found in Section 5.

2.0 Objectives and Overview of Proposed Work

The objectives of the scope of work presented in this Work Plan are consistent with those of the Consent Order Work Plan (Exhibit B, Item IV). Specifically, to conduct soil excavation and/or capping to reduce exposure of site workers and community members to high concentrations of PCB-impacted soils on and adjacent to the PIW property, and to minimize the offsite transport of PCBs in stormwater.

2.1 Remedial Action Objectives

The remedial action objectives for the site are to:

1. Place a timely and temporary cover over PCB-impacted soils to prevent direct contact with highly contaminated surface soil. **Complete.**[1]
2. Excavate and/or cap PCB-impacted soil to reduce potential exposure of site workers and community members on and adjacent to the PIW property and to minimize the offsite transport of PCBs in storm water.

2.2 Proposed Scope of Work

As described in Section 1.1, there will be two concurrent scopes of work for Consent Order Action Areas.

- Soil removal and/or capping will proceed in Action Areas PIW DU01, ISM03, ISM03 plus, ISM04, and ISM04 plus.
- Soil sampling will be conducted in Action Area DU10 to provide a better understanding of the distribution of PCB-impacted soils in this area. A supplement to this Work Plan will be prepared that describes potential proposed soil removal and/or capping actions for these areas.

Both of these work scopes are discussed further below.

2.2.1 Soil Removal and/or Capping

Proposed site work will consist of the following components:

- **Notifications to ODEQ.** Notification of planned work and facilitation of duplicate sampling will be made to ODEQ consistent with the requirements of Consent Order, Section 7(F)(1)-*Notice and Samples*:
    - At least five working days before any excavation, drilling, sampling, or other fieldwork to be conducted under this Work Plan, but in no event less than 24 hours before such activity.
    - Upon ODEQ's verbal request, make every reasonable effort to provide a split or duplicate sample to DEQ or allow DEQ to take a split or duplicate of any sample taken.
- **Characterize soil for disposal.** Soils planned for removal within ODEQ areas ISM03, ISM03 plus, ISM04 and ISM04 plus (EDU02) will be sampled to characterize excavated materials for disposal (Figure 6).

[1] ENW. June 8, 2023. Temporary Mitigation Measure (summary letter to Peninsula Iron Works)

- **Focused Soil Removal Action.** A Focused SRA will be conducted in EDU01 and ISM03, ISM03 plus, ISM04, and ISM04 plus (EDU02). Excavation spoils will be directly loaded onto dump trucks and transported to a licensed disposal facility under an approved soil profile.
- **Post-Soil Removal Confirmation Soil Sampling.** Soil samples will be collected from the final limits of excavation areas to document residual concentrations of PCBs in soil.
- **Backfill and Placement of Protective Cap**. Geotextile fabric (demarcation fabric) may be placed at the base of the excavations (based on residual PCB concentrations in soil in each removal area) and the excavations backfilled with imported material to provide a physical barrier (thickness specific to each area) to prevent exposure to underlying PCB-contaminated soils.
- **Report Preparation.** The results of the work proposed above will be described in a report. At a minimum, the report will include:
    - Document investigative methods and procedures used.
    - Present pertinent information on maps, boring logs, and field sample data sheets.
    - Present findings and conclusions of the fieldwork.
    - Chain-of-custody records and analytical reports.
    - Identification of data gaps, if any.

During this work, should results indicate a need for additional work, ODEQ will be consulted regarding proposed actions. PIW may elect at any time during or after implementation of this Work Plan to undertake measures beyond those described herein as necessary to address contamination in the areas under investigation. Such additional measures will be subject to prior approval by ODEQ as required at paragraph 5.C. of the Order on Consent.

2.2.2 Soil Sampling and Analysis

ENW is proposing ISM surface soil sampling of Action Area DU10 to further characterize the extent of PCBs in soil.

As illustrated on Figure 6, Consent Order Action Area DU10 will be equally divided into seven sub-decision units (DU10-a through DU10-g), based on surface topographic contours and onsite communications with ODEQ on June 7, 2023 regarding inferred surficial flow paths.

Prior to sample collection, a focused laser-level elevation survey will be conducted within DU10 to supplement available LIDAR data that is the basis for the elevation contours illustrated on Figure 6. Based on the findings of this focused survey, the section boundaries may be modified somewhat.

In each sub-DU, one ISM sample will be collected from a depth of 0.2 feet bgs and analyzed for total PCBs as Aroclors. Incrementally deeper ISM samples (0.5-foot depth bgs increments) will be collected if shallow samples from that sub-DU exceeds the screening RBC of 0.52 mg/Kg.

Notifications to ODEQ will be made as described above in Section 2.2.1.

Once sampling data is available, a supplement to this Work Plan will be prepared presenting findings and proposing soil removal and/or capping consistent with the Remedial Action Objectives identified in Section 2.1.

3.0 Field Methods and Procedures

This section describes the methods proposed to complete the field work described above. All work will be performed by employees and subcontractors trained and licensed to work with hazardous materials. Safety procedures will be strictly enforced through the use of a Health and Safety Plan.

3.1 Pre-Field Activities (Including Access Agreements and Permitting)

The following activities will be completed prior to beginning field work:

- Obtain written approval of this Work Plan from ODEQ.
- Access agreements to Consent Order Action Areas will be finalized in cooperation with current UPRR and City of Portland.
- ENW will contract with a UPRR- and City-approved railroad traffic management company to oversee work near the UPRR tracks.
- ENW will obtain a disposal permit for disposal of PCB-impacted soil. ENW has applied and obtained approval from Waste Management for disposal of soils containing PCBs at concentrations up to 10 mg/Kg, as long as the waste was not generated by a TSCA source. An alternative disposal facility will be identified and ENW will obtain the appropriate disposal permit if characterization sampling suggests PCBs in soils to be removed at concentrations greater than 10 mg/Kg. One alternative option identified for PCBs in soil above 10 mg/Kg is Waste Management's Columbia Ridge Landfill in Arlington, Oregon.
- Locate utilities in proposed work areas and sample locations by placing a call with Oregon One Call Utility Notification Service and UPRR fiber locating a minimum of 48 hours prior to the start of subsurface activities. In addition, a private underground utility locator will be contracted to mark subsurface utilities and clear excavation and/or sample locations.
- Prepare a site-specific Health and Safety Plan (HASP)to address potential environmental and physical hazards associated with the proposed field activities. The HASP will establish personnel protection standards and mandatory safety practices and procedures for use during onsite activities. A copy of the site-specific HASP will be presented to all ENW field personnel and their subcontractors. A tailgate safety meeting will be conducted with all site workers, prior to the start of site any work.

3.2 Soil Sampling

3.2.1 Laser-Level Surface Survey

ENW will conduct a laser-level surface elevation survey within Action Area DU10. The purpose of this survey is to confirm land surface elevation contours modeled using LiDAR data. The survey will be conducted by gridding the entire DU10 in 25 equal area grid cells and collecting relative surface elevation data using a laser level from the center of each grid cell, recorded to the nearest 0.01-foot. A GPS unit capable of sub-meter lateral accuracy will be used to record each land surface collection point. The relative surface elevations will then be modeled using GIS software to generate surface contours within DU10, which will then be compared to the contours generated using LiDAR data. Based on these contours, slight modifications to the DU10-a through DU10-g sub-DU margins may be made.

3.2.2 Incremental Sampling Method

ENW proposes to use the Incremental Sampling Methodology (ISM) during pre-soil removal characterization sampling (EDU02), further characterization of PCBs (in unpaved areas of DU10-a through DU10-g), and during post-soil removal confirmation sampling in EDU01 and EDU02. The ISM is a composite sampling method developed by the Interstate Technology and Regulatory council (ITRC)[2] consisting of collecting many small increments of soil (discrete soil increments) from a given decision unit (DU) and compositing them into one larger sample. The ISM approach minimizes the effects of heterogeneity in the soil (micro scale and short scale), provides a more accurate representation of contaminant concentrations within each DU, and reduces data variability. A properly prepared composite sample provides a reasonably unbiased estimate of the mean concentrations of the volume targeted for sampling by each DU. Sampling will follow the decision unit characterization guidance developed by the ODEQ.[3]

Decision units will be divided in a grid pattern consisting of approximately 50 grids, following the State of Hawaii's guidance [4] or ODEQ guidance.[7] Soil increments (soil samples of equal mass, approximately 40 grams each) will be collected from the center node of each increment grid (grid-center systematic sampling) resulting in collection of 50 soil increments from the DU. Grid locations will be distributed evenly within the decision unit to ensure that the entire decision unit population is equally represented in the final multi-increment sample. A scale will be used to measure the initial increments sample to estimate the final mass of the total number of increments needed to achieve 2 kilograms of total soil sample.

Samples will be collected using a decontaminated stainless-steel hand auger or decontaminated stainless-steel hand trowel. Field personnel may need to move some small material to access sampling locations where compacted surface conditions exist. Additionally, the presence of asphalt cover could prevent hand auger sampling at all proposed locations. If asphalt obstructs access to a sampling location, ENW will use asphalt cutting tools or a small backhoe to remove the asphalt at the surface. If hand auger refusal is met before reaching the target sample depth, the sample location may be adjusted by up to 10 feet on either side of the original location so that the appropriately-sized material can be sampled. Wood debris and large rocks will be removed from each soil increment prior to combining in the laboratory-provided sample container. If using a backhoe bucket, care will be taken to collect the sample increments from the middle of the bucket, away from the bucket walls, to prevent cross-contamination between sample increments.

Sample depths will be established based on the type of soil sampling performed, as described below.

The complete quality assurance and quality control (QA/QC) program to be conducted as part of this investigation is presented in Section 4. QA/QC samples will consist of field duplicate samples and equipment blanks. Duplicate and triplicate samples (replicates) will be collected as described in Section 4. Replicate locations will be identified within each grid, no closer than 3 feet from the original increment locations in the same manner using the systematic random collection scheme.

[2] The Interstate Technology & Regulatory Council (ITRC), October 2020. *Incremental Soil Sampling Methodology (ISM) Update*.

[3] ODEQ, 2020. *Decision Unit Characterization*. Land Quality Division Cleanup Program, Oregon Department of Environmental Quality, September 14, 2020.

[4] State of Hawaii Department of Health, July 2021. Characterization of Decision Units. https://health.hawaii.gov/heer/tgm/section-04/#4.2.5

3.2.3 Proposed Soil Sample Collection

The following table details conversion of existing Consent Order Action Areas to new ISM decision units for proposed work.

Table 3-1. Explanation of Work Plan Decision Units

Consent Oder Action Area (see Figure 5)	Work Plan Decision Unit/Sub-Decision Unit (see Figure 6)	Explanation
PIW DU01	EDU01	Here the Action Area and Work Plan decision unit are the same.
ISM03 ISM03 plus ISM04 ISM04 plus	EDU02	These four Action Areas are all adjacent strips along the UPRR/N Bradford Street ROW and have been combined into one decision unit for this Work Plan.
DU10	DU10-a DU10-b DU10-c DU10-d DU10-e DU10-f DU10-g	Unpaved areas of this Action Area will be divided into sections based on surface topography.

ENW proposed to collect ISM soil samples as presented in the below table.

Table 3-2. Summary of Proposed ISM Soil Sampling

Sample Type	Work Plan Decision Unit	Collection Depth(s)
Further Characterization[1]	DU10-a DU10-b DU10-c DU10-d DU10-e DU10-f DU10-g	**ISM samples** from each DU at: 0.2 feet below ground surface (bgs) Deeper ISM samples at 0.5-foot increments if the 0.2-foot sample exceeds 0.52 mg/Kg
Disposal Characterization Sampling	EDU02	**One ISM sample** from DU at: 0 to 0.5 feet bgs
Post Soil Removal Confirmation Sampling[2]	EDU01 EDU02	**One ISM sample** from each DU at: 0 to 0.5 feet below final excavation (cut) grade

Table 3-2 Notes:

1. The further characterization samples from the 0.2-foot sample depth from each decision unit will be analyzed for total PCBs as Aroclors. Incrementally deeper samples will be collected and analyzed if shallow samples from a specific decision unit (DU10-a through DU10-g) exceed ODEQ's recreational screening RBC of 0.52 mg/Kg.
2. Two replicate ISM samples will be collected from one decision unit during post soil removal confirmation sampling, following the QA/QC protocol in Section 4.

3.2.4 Soil Sample Management and Naming

ISM soil samples will be collected from the specified depth and placed into the appropriate containers provided by Friedman & Bruya, Inc. (F&BI) of Seattle, Washington. After sample jars are filled, samples will be placed in a cooler with artificial ice. Sample containers will be labeled with a unique sample

identification number, date, time, preservative, and analysis requested. The sample ID will indicate the sampling location, depth, type, and date using the following naming convention:

- Sample ID: EDU01-
- Sample type: IS-(Incremental Sample)
- Sample depth (in feet): 0.5-
- Sample Date: 230601

For example, sample ID EDU01-IS-0.5-230601 would indicate an ISM sample collected from EDU01 on June 1, 2023 from a depth of 0.5 feet. For QA/QC replicate samples, a unique sample ID will be appended with "REP01" or "REP02" to the sample identification.

3.2.5 Sample Transport and COC Procedures

After surface soil samples have been collected, they will be placed in a cooler with ice or equivalent and transported to the analytical laboratory. Chain-of-custody (COC) procedures will begin in the field and will track delivery of the samples to the laboratory. Specific procedures are as follows:

- Individual sample containers will be packed to prevent breakage and leakage.
- COC forms will be placed in a sealed plastic bag and inside the cooler.
- Signed and dated COC seals will be used to secure all coolers before shipping.

Upon transfer of samples to the laboratory, the COC form will be signed by the persons transferring custody of the coolers. Upon receipt of samples by the laboratory, the shipping-container seal will be broken, and the condition of the samples will be recorded by the receiver.

3.2.6 Laboratory Sub-Sampling and Compositing

All laboratory subsampling and sample preparations will be conducted in accordance with ITRC protocols (air dried, sieved, subsampled, and composited). An ISM sub-sampling and compositing standard operating procedure prepared by Friedman & Bruya, Inc. (F&BI) of Seattle, Washington, is included as an Attachment.

3.2.7 Laboratory Analysis

All ISM samples will be analyzed according to the Analysis Plan shown in Table 3-3, below. The laboratory will be requested to provide all gas chromatograms as part of the laboratory report and to archive all samples for up to one year. Sample containers, preservatives, and holding times for each analytical method are provided on Table 3-4.

Table 3-3. Proposed Analysis Plan

Analytical Method	Constituents	Soil
NW-TPH-HCID	Total petroleum hydrocarbons identification (HCID)	Pre-excavation characterization samples
NW-TPH-Gx	Total petroleum hydrocarbons as gasoline-range organics (GRO)	Pre-excavation characterization samples suggested to contain gasoline by NWTPH-HCID
NW-TPH-Dx	Total petroleum hydrocarbons as diesel-range organics (DRO) and residual-range organics (RRO)	Pre-excavation characterization samples suggested to contain diesel or heavy oil by NWTPH-HCID
EPA 6020	Resource Conservation and Recovery Act (RCRA) 8 Total Metals	Pre-excavation characterization samples
EPA 8082-SIM	Polychlorinated biphenyls (PCBs) (as Aroclors) • Aroclor 1221 • Aroclor 1232 • Aroclor 1016 • Aroclor 1242 • Aroclor 1248 • Aroclor 1254 • Aroclor 1260 • Aroclor 1262 • Aroclor 1268	All

Table 3-4. Analytical Protocol

Analyte(s)	Analytical Method	Container and preservative	Holding time	Preservation
Soil:				
GRO	NWTPH-Gx	4-oz Clear wide mouth glass, minimum headspace	14-days	Ice
DRO	NWTPH-Dx	4-oz Clear wide mouth glass, minimum headspace	14-days	Ice
RCRA 8 Total Metals	EPA 6020	4-oz Clear wide mouth glass, minimum headspace	6-months	Ice
PCBs	EPA 8082 EPA 1668	2.5-oz (discrete) or 1-gallon (ISM) clear wide mouth glass	14-days	Ice

3.3 Focused Soil Removal

Focused soil removal of PCB-impacted soils is planned for Work Plan decision units EDU01 and EDU02 (identified on Figure 6). The specific scope for Work Plan decision units DU10-a through DU10-g will be presented in a supplement to this Work Plan.

The estimated area and volume of PCB contaminated soil planned for removal under this scope of work is described below by area in Table 3-5.

Table 3-5. Summary of EDU01 and EDU02 Soil Removal Details

Item	EDU01	EDU02
Description	Long grassy strip between the PIW building and City parking lot 9' wide x 170' long	Two elongate strips, one on each side of the UPRR railroad tracks, each measuring about 12 to 20 feet wide and 225 to 230 feet long, currently covered by track ballast, compacted gravelly soils.
Area	Approx. 1,420 square feet	Approx. 7,185 square feet (less existing asphalt cover, to be determined)
Mitigation Goal	Remaining soils below ODEQ's RBC of 0.52 mg/Kg or sufficiently capped to minimize potential exposure	Remove top 0.5 feet of exposed soil (highest PCB impacts). *Remaining impacts are capped or will be capped.*
Proposed area of soil removal	Full extent of EDU01	Excavation will extend laterally to the edge of any existing asphalt or asphaltic concrete cover. No asphalt will be removed during excavation. Excavation will encroach no closer than 1.5 feet of railroad infrastructure. It will extend up to the apron of the PIW building (or existing asphalt) to the east, and to the edge of Cathedral Park property to the west.
Proposed depth of soil removal	0.5-feet bgs (additional soil removal to be determined based on the results of confirmation testing)	0.5 feet bgs
Estimated volume of soil to be excavated	Approx. 700 cubic feet, 25 banked cubic yards, or ~40 tons	Approx. 3,592 cubic feet, 133 banked cubic yards, or 200 tons

ENW will supervise the removal of PCB-impacted soil and implement the following general guidelines during work:

- All activities will be conducted under the methods and procedures outlined in the HASP.
- Before initiating the soil removal in EDU02, ENW's contractor will remove the temporary fabric cover from its location on the west and east sides of the railroad tracks. The material will be disposed with the removed soil from this area.
- All excavation will be conducted at the direction of an ENW licensed geologist.
- Excavation spoils will be direct-loaded onto awaiting dump trucks to the extent practicable and transported for disposal to a licensed landfill facility under an approved disposal permit.
- Dump trucks will endeavor to remain on asphalt surfaces during loading, to the extent practical, and measures will be implemented to ensure no tracking of soil during trucking activities.
- Copies of the disposal tickets will be retained to document volume of soil removed.
- A photoionization detector (PID) and visual inspection for soil staining will be used to document removed soils, and the screening results will be recorded in a field notebook.

- Work conducted each day will be documented, including the lateral and vertical extent of progressive excavation, field inspection results (lithology, photo-ionization detector measurements, sheen testing, odor, olfactory evidence, etc.), the disposition of soils, samples collected, soil stockpiles created and loads of soil hauled offsite.

3.4 Confirmation Residual Soil Testing

Following soil removal, confirmation soil samples will be collected from the final limits of excavation areas to document residual concentrations of PCBs in soil. The objectives for confirmation sampling are to demonstrate that residual concentrations of PCBs in soil are below 0.5 mg/Kg (EDU01) and to document the concentrations of PCBs in soils to be capped (EDU02).

3.5 Placement of Demarcation Fabric and Excavation Backfill

The excavations will be prepared and backfilled. Prior to backfilling, any areas with residual soil concentrations greater than 0.52 mg/Kg will be overlain with geotextile fabric (as a demarcation fabric) at the floor of the excavation prior to backfilling. Backfilling will commence as follows:

- EDU01 – Once results concentrations of PCBs in EDU01 are shown to be below 0.5 mg/Kg, the excavation will be backfilled with clean soil imported from a commercial source to match the surrounding grade. The area will be planted with grass to restore it to its current condition.
- EDU02– The excavation will be backfilled with ¾ inch crushed gravel overlay to surface grade. Clean rock backfill will be locally sourced. Gravel backfill will be compacted using available equipment and feathered to match existing grade.

3.6 Decontamination Procedures

Before collecting any sample, collection tools will be decontaminated by using a sequential wash of Alconox® solution, rinsed in tap water from a known source (e.g., municipal water), and subjected to a final rinse with distilled/de-ionized water. Wash and rinse liquids will be changed frequently during sampling activities, as appropriate. Wash and rinsate fluids and decontamination solids will be collected and staged in drums for disposal. Disposable sampling equipment will be used to the extent practicable. Fresh nitrile gloves will be worn during any sample collection and when handling tools which are to be inserted into sampling areas. Solid waste generated during sampling activities (gloves, paper towels, etc.) will be appropriately disposed.

3.7 Equipment Calibration

Monitoring equipment used during sampling (e.g., photoionization detector [PID]) will be calibrated according to manufacturer's specifications at the beginning of each sample day. Meter calibration will be checked at least twice during a sample day (middle and end of day) or when meter drift is suspected. The meters will be calibrated with gases or buffered solutions closest to known field parameters (VOC concentration = 100 $\mu g/m^3$ methane or heptane for PID calibration).

3.8 Investigation-Derived Waste Storage and Disposal

Potentially impacted investigation-derived waste (IDW) generated during this investigation will consist of decontamination water, PPE (personal protective equipment), and disposable materials used for sample collection and processing. PCBs are the sole contaminant identified based on laboratory results of previous samples. Analytical results of previous samples have identified PCBs in soil greater than 50

mg/Kg. The scope of work for this investigation includes waste characterization sampling to make a final waste determination of excavated soils generated during the Focus Soil Removal Action per ODEQ 340-101-0001.

Solid IDW. Disposable materials (e.g., nitrile gloves, Ziploc bags) will be placed in trash bags and disposed of in a municipal waste bin onsite.

Decontamination Water. Water associated with decontamination of sampling equipment will be containerized in drums at the designated waste staging area. Upon receipt of analytical data, the disposal requirements of the drummed fluid investigation-derived waste will be evaluated. It is anticipated that all waste generated will be handled as a hazardous material and will not be characteristic of hazardous waste. However, water waste determined to be impacted with contaminants at levels regulated under RCRA rules as characteristic (hazardous waste) must be disposed or treated in a manner consistent with RCRA regulation. Waste containers will be placed in a designated waste staging area at the PIW facility.

3.9 Field Documentation

Comprehensive field documentation will be made to aid in the interpretation of analytical results. For soil sampling, field documentation, at a minimum, will include the date, time, location, and a description of the weather. Sample collection information, such as how the sample was collected and any problems that occurred during collection, visual sample observations, and any other unusual circumstances that may affect the analytical results will be noted. All field measurements, including color, odor, texture, etc., will also be recorded. All fieldwork will be photographically documented in a photographic log.

4.0 Quality Assurance Project Plan

This Quality Assurance Project Plan (QAPP) presents the quality assurance and quality control (QA/QC) program to be conducted as part of this investigation. The purpose of this QAPP is to describe the field and laboratory procedures that will be undertaken during this Focused Removal Action to assure that data collected are suitable for their intended purposes. This QAPP has been developed in general accordance with the ODEQ's Quality Assurance Policy for Environmental Cleanup Programs (DEQ10LQ-0063-QAG). The subject investigation will utilize the procedures included in the QAPP for the following elements:

- Project Management – Quality objectives and criteria for measurement data and documentation, and records.
- Data Generation and Acquisition – Sample process design; sampling methods; analytical methods; quality control; instrument/equipment testing, inspection, and maintenance; inspection/acceptance of supplies and consumables; non-direct measurements; and data management.
- Assessment and Oversight – Assessment and response actions, and routine reporting.
- Data Validation and Usability – Procedures and methods for data quality review, verification, validation, and reconciliation.

Field QA/QC samples will be used to assess data quality in terms of precision and accuracy and monitor whether sampling procedures, equipment cleaning, packaging, and shipping are compromising sample

integrity or validity of sample data. Such QA/QC samples are prepared in the field to monitor the various phases of the sampling process.

- **Field Duplicates (ISM Replicates)**: The field QA/QC activities will include collection of field duplicated soil samples during post-soil removal confirmation sampling. Two field duplicates for surface soil will be collected for one of the decision units, following guidance for replicate sampling. Each field replicate sample will be collected, handled, and analyzed in the same manner as its paired primary field sample.

  Results from field replicates are useful in determining potential sampling variability. Greater than expected differences between duplicates may occur due to variability within the sample matrix. Field replicates shall be used as a quality control measure to monitor precision of sample collection methods.

  Precision is independent of the error (accuracy) of the analyses and reflects only the degree to which the measurements agree with one another, not the degree to which they agree with the "true" value for the parameter measured. Precision is calculated in terms of Relative Percent Difference (RPD), which is expressed as:

$$RPD = \frac{|X_1 - X_2|}{(X_1 + X_2) / 2} \times 100$$

  Where X1 and X2 represent the individual values found for the target analytes in the duplicate analyses. RPDs for field duplicate samples include the additional variability of field sampling methods and sample homogeneity. Therefore, RPDs for field duplicate samples will be evaluated against an acceptance criterion of 50 percent for quantitative data.

- **Rinsate Samples**: Laboratory analysis of rinsate blanks will be used to evaluate the effectiveness of field equipment decontamination procedures in preventing cross-contamination from sampling equipment. Equipment rinsate blanks will be collected by pouring distilled water over surfaces of the decontaminated sampling equipment and decanted into prepared sampling containers. One rinsate blank will be collected for each media sampled (i.e., soil) at a frequency of at least one during characterization sampling and one during confirmation sampling. The rinsate blanks will be shipped with the field samples and analyzed for PCBs by the laboratory.

Analytical QA/QC will be monitored through laboratory quality control checks. Laboratory data, including analytical results for laboratory control samples (LCSs), LCS duplicate samples, and matrix spike (MS), MS duplicate, and method blank samples, will undergo verification and validation.

Data quality objectives will be developed to ensure the collection of useful data for the risk screening. The data quality objectives for the project include the utilization of laboratory method reporting limits that are sufficiently low to allow for evaluation of results against generic human health risk-based screening levels. Laboratory reporting limits should not exceed 10 percent of their ODEQ RBC or screening level value. In general, the laboratory will be requested to ensure laboratory method reporting limits for total PCBs are lower than their respective risk-based screening level, based on current EPA laboratory methodologies.

5.0 Project and Reporting Schedule

ENW intends for the schedule to be consistent with that outlined in Consent Order Exhibit B, Item I.

Table 5-1. Work Plan Schedule

Item	Schedule (days are calendar days)	Notes
Timely and Temporary Cover of PCB Impacted Bare Soil	Within 15 days of issuance of the Consent Order	**Completed**
DRAFT Focused Removal Action Work Plan to ODEQ	To ODEQ within 30 days of issuance of the Consent Order, or **June 22, 2023**	DRAFT Work Plan submitted before June 23, 2023
ODEQ reviews DRAFT Focused Removal Action Work Plan and provides comments	ODEQ to provide comments within 15 days of receipt	
FINAL Focused Removal Action Work Plan to ODEQ	To ODEQ within 15 days of receiving comments	
Initiation of Soil Excavation and Capping in DU01 and DU02	Immediately (within 5 days) of receiving written ODEQ approval of FINAL Focused Removal Action Work Plan. *Pre-field work permitting and access agreement communications may be initiated earlier at Client's request.*	ODEQ to be notified of any excavation, drilling, sampling, or other fieldwork at **least five working days** before activity, but in no event less than 24 hours before activity.
Initiation of DU10-a through DU10-g sampling and analysis		The start of field activities will be dependent on receiving necessary permits and subcontractor availability.
DRAFT Supplement to Work Plan for proposed soil removal and/or capping in DU10 area to ODEQ	To ODEQ within 30 days of receiving final analytical data*	*Laboratory testing will be sequential in depth for each DU until below screening RBC
ODEQ reviews DRAFT Supplement to Work Plan and provides comments	ODEQ to provide comments within 30 days of receipt	
FINAL Supplement to Work Plan to ODEQ	To ODEQ within 30 days of receiving comments	Additional schedule information regarding DU10 Area to be provided in the Supplement
Quarterly Progress Reports	To ODEQ by April 10, July 10, October 10, January 10	Summarize activities performed, data results collected or received, and problems encountered or resolved during the past quarter, and activities planned for the upcoming two quarters.
Disposal Characterization Sampling Results (DU01 & DU02)	To ODEQ within 45 days of receiving analytical results	
PCB Impacted Soil Excavation and/or Capping Report	To ODEQ within 45 days of receiving analytical results from confirmation sampling of DU01 and DU02	To include all elements of Consent Order, Exhibit B, Item 5(B)

During the course of this work, should results indicate a need for additional work, ODEQ will be consulted regarding proposed actions. All reports will be provided to ODEQ in electronic form. Photographs will be provided in hard copy and original electronic form.

6.0 Certification

This Work Plan has been prepared under the supervision of the following Oregon-registered professionals.

Lynn D. Green, C.E.G.

Principal Engineering Geologist

Erik R.D. Chapman, R.G.

Principal Geologist

8.0 Limitations

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

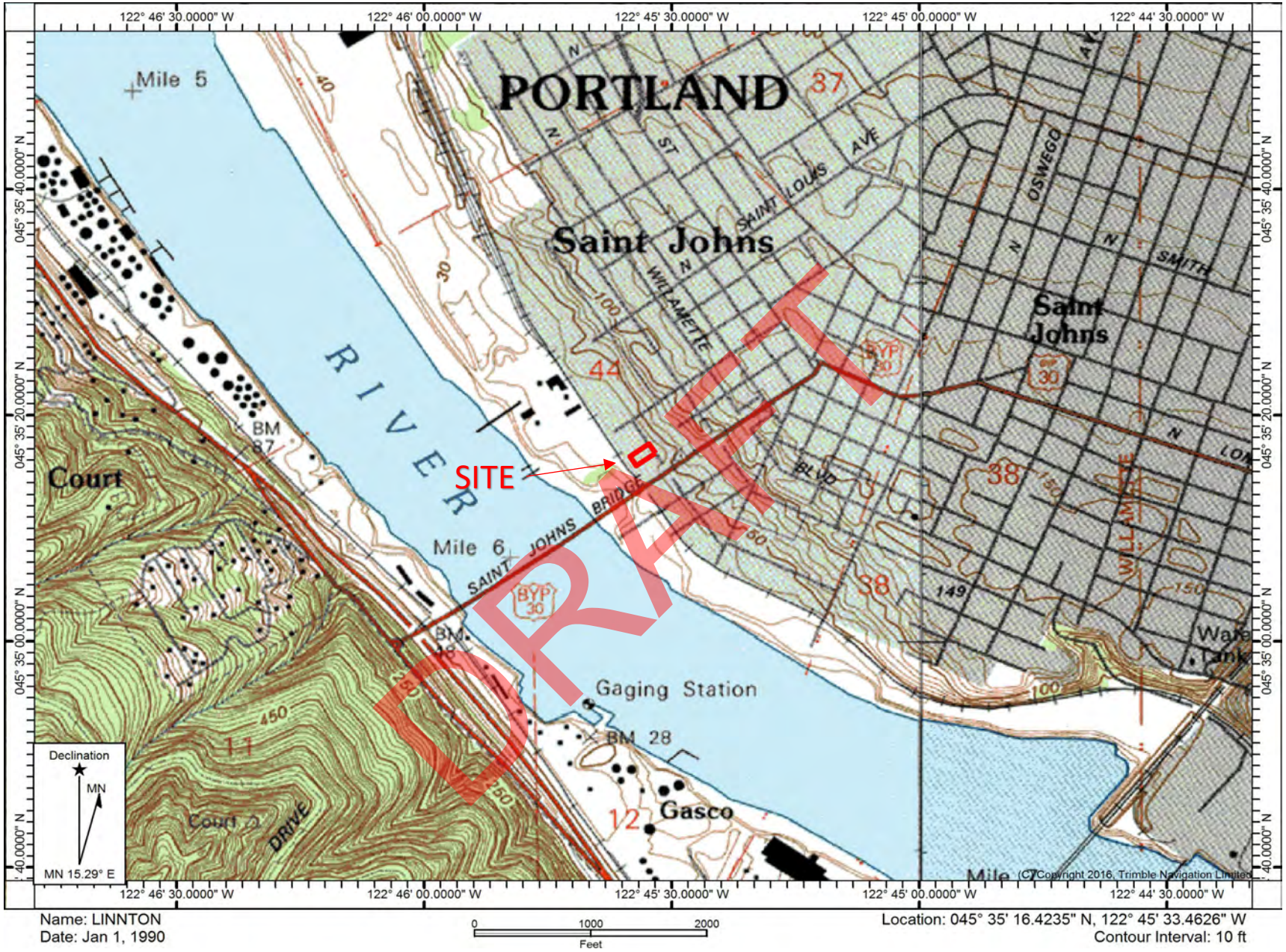
The focus of the site closure does not extend to the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors or the work scope.

- Naturally occurring toxic or hazardous substances in the subsurface soils, geology, and water,
- Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
- Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,
- Unpredictable events that may occur after ENW's site work, such as illegal dumping or accidental spillage.

There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. ENW's investigation has been focused only on the potential for contamination that was specifically identified in the Scope of Work. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited Scope of Work, ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. ENW have endeavored to collect representative analytical samples for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

ENW performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation, that ENW may have failed to identify regulation violations related to the presence of hazardous substances other than those specifically mentioned at the closure site. ENW assumes no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.



EVREN NORTHWEST	Date Drawn: 5/31/2023 Drawn By: JOB Approved By: LDG	Peninsula Iron Works – Building 2 6618 N Alta Avenue Portland, Oregon	**Site Vicinity Map**	Project No. 351-21001 Figure No. **1**

DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
H. ROMER	05/31/2023	T. BENNETT	05/31/2023	L. GREEN	05/31/2023	1355-21001(v01)

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 40 80 FEET

N

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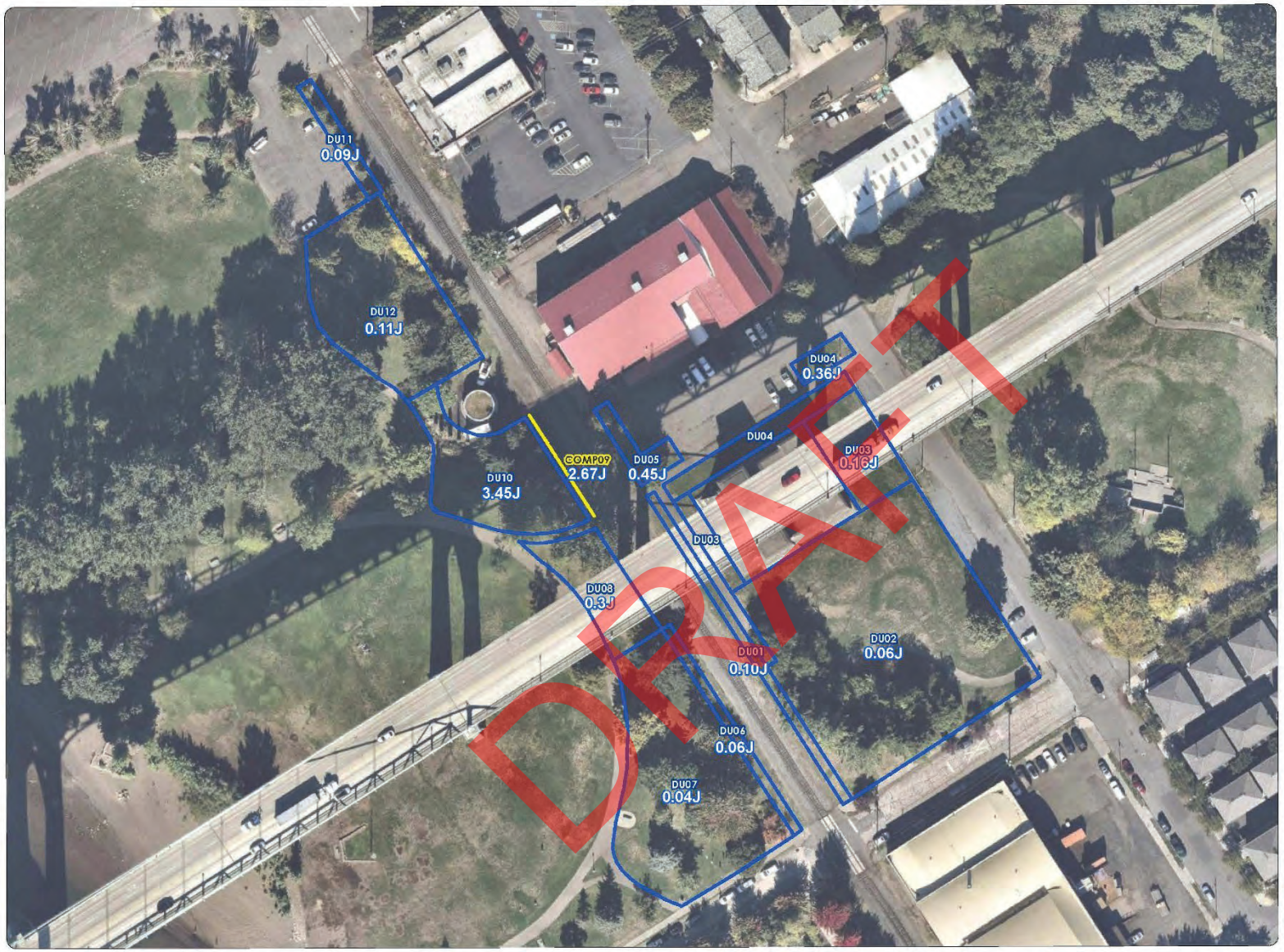
FIGURE 2

SITE PLAN

PENINSULA IRON WORKS - BUILDING 2
6618 N ALTA AVENUE
PORTLAND, OREGON



Decision Unit Locations

Oregon Department of Environmental Quality
Cathedral Park
Site-Specific Assessment Portland, Oregon

Legend

- Composite Sample
- Decision Unit (DU)
- 0.16J — Total PCB (as Aroclors) rounded to the nearest 0.01 mg/KG

0 25 50
feet

Source:
Aerial photograph obtained from ESRI ArcGIS Online.

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

EVREN NORTHWEST	Date Drawn: 3/14/2023 CAD File Name:PCBSamples Drawn By: CLR Approved By: LDG	Peninsula Iron Works - Building 2 6618 N Alta Avenue Portland, Oregon	**Historical PCB Sample Locations Near PIW, ODEQ**	Project No. 1355-21001 Figure No. **3**

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY
1355-21001(v01)	05/18/2021	05/17/2023	03/22/2023
	L. GREEN	E. BRUGGEMAN	H. ROMER

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING
- DRAINAGE BASIN FOR CITY OUTFALL 52
- STORM SEWER
- STORM SEWER (PERFORATED)
- ROOF DOWNSPOUT
- CITY COMBINED STORM/SANITARY SYSTEM
- STORM SYSTEM FLOW DIRECTION
- STORM SEWER PLUG (PER CITY OF PORTLAND PERMITS)
- CATCH BASIN
- RAILROAD
- 0.5' 1.5' 2.5' — 2022/2023 ENW SHALLOW SOIL BORING (mg/kg ppm)
- 2011 CITY OF PORTLAND SOIL SAMPLE LOCATION
- 2022 ENW DECISION UNIT FOR SHALLOW SOIL INCREMENTAL SAMPLING
- SOIL INCREMENT SAMPLE LOCATION
- SOIL SAMPLE AT SAMPLE LOCATION EXCEEDS ODEQ RBC FOR RECREATIONAL USER
- TOTAL PCB AS AROCLORS CONCENTRATION[1]
- AROCLOR 1254 DETECTED IN ADDITION TO AROCLOR 1260[1]

APPROXIMATE SCALE

0 30 60 FEET

NOTES: NS = NOT SAMPLED

1. CONCENTRATIONS IN PURPLE EXCEED ODEQ'S RBC OF 0.52 MG/KG FOR A RECREATIONAL USER.
2. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
3. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
4. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

N

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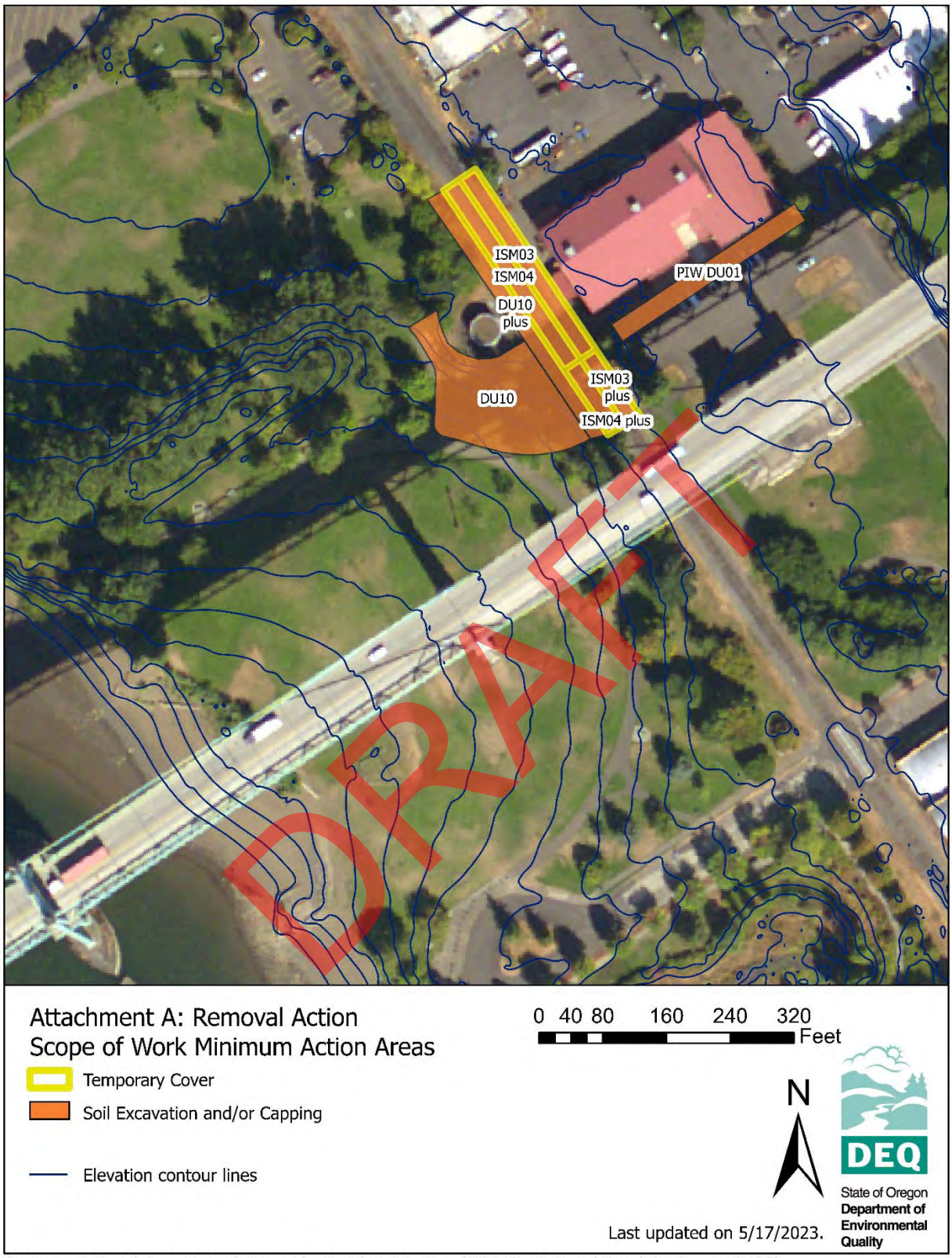
FIGURE 4

PREVIOUS SAMPLE LOCATION DIAGRAM, ENW

PENINSULA IRON WORKS - BUILDING 2
6618 N ALTA AVENUE
PORTLAND, OREGON



Sources: National Oceanic and Atmospheric Administration (NOAA), National Geodetic Survey (NGS)

EVREN NORTHWEST	Date Drawn: 6/1/2023 Project #: 1355-21001 Drawn By: HAR Approved By: LDG	Peninsula Iron Works – Building 2 6618 N Alta Avenue Portland, Oregon	**Figure 5** **Consent Order** **Action Areas**

DRAWING NUMBER	1355-21001(V01)
APPROVED BY	L. GREEN 6/14/2023
CHECKED BY	T. BENNETT 6/14/2023
DRAWN BY	H. ROMER 6/14/2023

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING
- DECISION_UNIT
- SOIL ASSESSMENT AREAS FOLLOWED BY REMOVAL AS NECESSARY
- SOIL REMOVAL AREAS
- TEMPORARY SOIL COVER AREAS
- RAILROAD
- 1-FOOT CONTOUR (DOGAMI, 2014)
- 0.5-FOOT CONTOUR (DOGAMIL, 2014)
- STORM SEWER
- CATCH BASIN
- MAN HOLE
- ROOF DOWNSPOUT
- STORM SEWER PLUG (PER CITY OF PORTLAND PERMITS)

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2021 AND ENW FIELD NOTES.

2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.

3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION

0 25 50 100

Feet

EVREN NORTHWEST INC.
environmental natural resource consultants

FIGURE 6

WORK PLAN DECISION UNITS

PENINSULA IRON WORKS
BUILDING 2
6616 N ALTA AVENUE
PORTLAND, OREGON

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		52_15	52_16	52_17	52_18	52_19	52_20	52_21	52_22	52_23	NBRAD1	NBRAD2	NBRAD3	NBRAD4	NBRAD5	NBRAD6	NBRAD7	NBRAD8	B1	
Date Sampled		1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011
Depth Sampled (feet)		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	0.5-1	1-5
Sample By		City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland
Location		Five-point composite between RR track and cathedral park parking lot	Five-point composite between RR track and PIW	Five-point composite between RR track and PIW	Five-point composite between RR track and 6600 N Baltimore Ave	Five-point composite between RR track and 6600 N Baltimore Ave	Five-point composite between RR track and N Alta Ave	Two-point composite from potholes Northeast of CB ANE911	Discrete sample from pothole north-northwest of CB ANE911	Five-point composite between RR track and Cathedral Park	West of railroad tracks in N. Bradford ROW and City parking lot, north of NBRAD2	West of railroad tracks in N. Bradford ROW and City parking lot, south of NBRAD1	East of railroad tracks in N. Bradford ROW and west of City parking lot and NBRAD1	East of railroad tracks in N. Bradford ROW and west of City parking lot and NBRAD2	West end of landscape strip boring southern margin of City parking lot, east of NBRAD4	Landscape strip boring west margin of City parking lot, north of NBRAD5	West end of landscape strip boring southern margin of City parking lot, east of NBRAD5	West end of landscape strip boring southern margin of City parking lot, east of NBRAD6	In northeast corner of City parking lot	
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																				
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																				
Polynuclear Aromatic Hydrocarbons (PAHs)																				
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---	---	---	---	---	---
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	---	---	---	---	---	---	---	---	---	---
Aroclor 1232	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---	---	---	---	---	---
Aroclor 1242	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---	---	---	---	---	---
Aroclor 1248	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---	---	---	---	---	---
Aroclor 1254	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	<1 (ND)	---	---	---	---	---	---	---	---	---	---
Aroclor 1260	c, nv	21.7	11.9	10.7	0.606	1.17	0.846	1.94	1.24	7.12	---	---	---	---	---	---	---	---	---	---
Aroclor 1262	nc, nv	<1 (ND)	<0.01 (ND)	<1 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	<1 (ND)	---	---	---	---	---	---	---	---	---	---
Aroclor 1268	nc, nv	<1 (ND)	<0.01 (ND)	<1 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	<1 (ND)	---	---	---	---	---	---	---	---	---	---
Total PCBs (total as Aroclors)	c, nv	**21.7**	**11.9**	**10.7**	**0.606**	**1.17**	**0.846**	**1.94**	**1.24**	**7.12**	**1.22**	0.147	**2.5**	0.504	0.265	**1.08**	0.476	0.423	**1.05**	**0.591**
Total Petroleum Hydrocarbons																				
GRO	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

— = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		B2			B3		B4		B5		GS01	GS02	GS03	DU01	DU02	DU03	DU04	DU05	DU06	DU07	DU08
Date Sampled		9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/20/2011	9/12/2012	9/12/2012	9/12/2012	5/18/2022	5/18/2022	5/18/2022	5/18/2022	5/18/2022	5/18/2022	5/18/2022	5/18/2022
Depth Sampled (feet)		0.5-1	1-3	3-5	0.5-1	1-5	0.5-1	1-4	0.5-1	1-5	6	6	5.5	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2
Sample By		City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	ENW	ENW	ENW	MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)
Location		In northeast corner of City parking lot, west of boring B1			In northeast corner of City parking lot, west of boring B2		In central portion of City parking lot		In central portion of City parking lot, west of boring B4		Assessment sample, south end of HOT	Assessment sample, below center of tank	Assessment sample, north end of tank	NE of railroad ROW, south of St Johns Bridge	East of DU01 and railroad ROW, south of St. Johns Bridge	Area NE of railroad ROW under the St. Johns Bridge	Southern margin of adjacent City parking area	Western margin of adjacent City parking area	NW of railroad ROW, south of St Johns Bridge	West of DU06 and railroad ROW, south of St. Johns Bridge	Area NW of railroad ROW under the St. Johns Bridge
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																					
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																					
Polynuclear Aromatic Hydrocarbons (PAHs)																					
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																					
Aroclor 1016	c, nv	---	---	---	---	---	---	---	---	---	---	---	<0.0122 (ND)	---	---	---	---	---	---	---	---
Aroclor 1221	c, nv	---	---	---	---	---	---	---	---	---	---	---	<0.0122 (ND)	---	---	---	---	---	---	---	---
Aroclor 1232	c, nv	---	---	---	---	---	---	---	---	---	---	---	<0.0122 (ND)	---	---	---	---	---	---	---	---
Aroclor 1242	c, nv	---	---	---	---	---	---	---	---	---	---	---	<0.0122 (ND)	---	---	---	---	---	---	---	---
Aroclor 1248	c, nv	---	---	---	---	---	---	---	---	---	---	---	<0.0122 (ND)	---	---	---	---	---	---	---	---
Aroclor 1254	nc, nv	---	---	---	---	---	---	---	---	---	---	---	<0.0122 (ND)	---	---	---	---	---	---	---	---
Aroclor 1260	c, nv	---	---	---	---	---	---	---	---	---	---	---	<0.0122 (ND)	---	---	---	---	---	---	---	---
Aroclor 1262	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor 1268	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total PCBs (total as Aroclors)	c, nv	0.465	**0.699**	<0.010 (ND)	0.286	**0.704**	<0.010 (ND)	<0.010 (ND)	<0.010 (ND)	<0.010 (ND)	---	---	<0.0122 (ND)	0.101 J	0.0631 J	0.156 J	0.357	0.452	0.0642 J	0.0374 J	0.295 J
Total Petroleum Hydrocarbons																					
GRO	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DRO	nc, nv	---	---	---	---	---	---	---	---	---	<240 (ND)	**6550**	**22300**	**1060**	<25 (ND)	<25 (ND)	<25 (ND)	<25 (ND)	<25 (ND)	<25 (ND)	<25 (ND)
RRO	nc, nv	---	---	---	---	---	---	---	---	---	1250	<4770 (ND)	<5000 (ND)	<51.1 (ND)	<50 (ND)	<50 (ND)	<50 (ND)	<50 (ND)	<50 (ND)	<50 (ND)	<50 (ND)

Notes:

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		COMP09	DU10	DU11	DU12	DU01	DU01 REP01	DU01 REP02	EB01			EB02			EB03			EB04		
Date Sampled		5/18/2022	5/18/2022	5/18/2022	5/18/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022
Depth Sampled (feet)		0-2	0-2	0-2	0-2	0.2	0.2	0.2	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5
Sample By		MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)	MFA (ODEQ)	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		Area NW of railroad ROW and adjacent City parking area	Area west of COMP09 in Cathedral Park	Area north of DU08 in Cathedral Park	Area north of DU11 in Cathedral Park	South Side of Building - Parks Dept. Parking Lot			West Side of Building - Railroad ROW			West Side of Building - Railroad ROW			West Side of Building - Railroad ROW			West Side of Building - Railroad ROW		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																				
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																				
Polynuclear Aromatic Hydrocarbons (PAHs)																				
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	c, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1221	c, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1232	c, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1242	c, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1248	c, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1254	nc, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.025	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1260	c, nv	---	---	---	---	4	1.4	3.7	0.37	<0.02 (ND)	<0.02 (ND)	48	0.035	0.15	30	0.17	0.3	77	0.25	0.093
Aroclor 1262	nc, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1268	nc, nv	---	---	---	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total PCBs (total as Aroclors)	c, nv	**2.67 J**	**3.45 J**	0.0887 J	0.114 J	**4**	**1.4**	**3.7**	0.37	<0.02 (ND)	<0.02 (ND)	**48**	0.035	0.15	**30**	0.195	0.3	**77**	0.25	0.093
Total Petroleum Hydrocarbons																				
GRO	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DRO	nc, nv	<25 (ND)	<25 (ND)	<25 (ND)	<25 (ND)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RRO	nc, nv	<50 (ND)	<50 (ND)	<50 (ND)	<50 (ND)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

— = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		EB05			EB06			EB07	EB08			EB09			EB10			EB11		
Date Sampled		11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022
Depth Sampled (feet)		0.5	1.5	2.5	0.5	1.5	2.5	0.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		West Side of Building - Railroad ROW			West Side of Building - Railroad ROW			North Side of Building - City of Portland ROW	North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																				
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																				
Polynuclear Aromatic Hydrocarbons (PAHs)																				
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.2 (ND)
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.2 (ND)
Aroclor 1232	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.2 (ND)
Aroclor 1242	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.2 (ND)
Aroclor 1248	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.2 (ND)
Aroclor 1254	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.28	<0.02 (ND)	0.037	4.6	<0.02 (ND)	0.94
Aroclor 1260	c, nv	0.23	<0.02 (ND)	<0.02 (ND)	0.14	<0.02 (ND)	<0.02 (ND)	0.12	0.061	<0.02 (ND)	<0.02 (ND)	20	0.44	0.055	0.87	<0.02 (ND)	0.13	15	0.02	3.1
Aroclor 1262	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.2 (ND)
Aroclor 1268	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.2 (ND)
Total PCBs (total as Aroclors)	c, nv	0.23	<0.02 (ND)	<0.02 (ND)	0.14	<0.02 (ND)	<0.02 (ND)	0.12	0.061	<0.02 (ND)	<0.02 (ND)	**20**	0.44	0.055	**1.15**	<0.02 (ND)	0.167	**19.6**	<0.02 (ND)	**4.04**
Total Petroleum Hydrocarbons																				
GRO	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

— = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		EB12			EB13			EB14			EB15			EB16			EB17		
Date Sampled		11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Depth Sampled (feet)		0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																			
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																			
Polynuclear Aromatic Hydrocarbons (PAHs)																			
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1016	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1232	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1242	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1248	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1254	nc, nv	0.05	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.14	<0.02 (ND)	0.17	0.58	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1260	c, nv	0.41	<0.02 (ND)	<0.02 (ND)	0.054	<0.02 (ND)	<0.02 (ND)	0.56	<0.02 (ND)	0.8	4.8	0.065	0.069	<0.02 (ND)	<0.02 (ND)	0.043	0.68	<0.02 (ND)	0.027
Aroclor 1262	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1268	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total PCBs (total as Aroclors)	c, nv	0.46	<0.02 (ND)	<0.02 (ND)	0.054	<0.02 (ND)	<0.02 (ND)	**0.7**	<0.02 (ND)	**0.97**	**5.38**	0.065	0.069	<0.02 (ND)	<0.02 (ND)	0.043	**0.68**	<0.02 (ND)	0.027
Total Petroleum Hydrocarbons																			
GRO	nc, v	---	---	---	---	---	<5 (ND)	---	---	---	---	---	---	---	---	---	---	---	---
DRO	nc, nv	---	---	---	---	---	<50 (ND)	---	---	---	---	---	---	---	---	---	---	---	---
RRO	nc, nv	---	---	---	---	---	<250 (ND)	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		EB18			EB19			EB20			EB21			EB22			EB23		
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022
Depth Sampled (feet)		0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																			
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																			
Polynuclear Aromatic Hydrocarbons (PAHs)																			
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1016	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1232	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1242	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1248	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1254	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1260	c, nv	0.024	<0.02 (ND)	0.88	1.1	0.027	0.73	2	0.032	<0.02 (ND)	0.75	<0.02 (ND)	0.39	0.038	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1262	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1268	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total PCBs (total as Aroclors)	c, nv	0.024	<0.02 (ND)	**0.88**	**1.1**	0.027	**0.73**	**2.0**	0.032	<0.02 (ND)	**0.75**	<0.02 (ND)	0.39	0.038	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total Petroleum Hydrocarbons																			
GRO	nc, v	---	---	---	---	---	---	---	---	<5 (ND)	---	---	---	---	---	---	---	---	---
DRO	nc, nv	---	---	---	---	---	---	---	---	<50 (ND)	---	---	---	---	---	---	---	---	---
RRO	nc, nv	---	---	---	---	---	---	---	---	<250 (ND)	---	---	---	---	---	---	---	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		EB24			EB25			EB26			EB27			EB28			EB29		
Date Sampled		12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022
Depth Sampled (feet)		0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																			
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																			
Polynuclear Aromatic Hydrocarbons (PAHs)																			
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1016	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1232	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1242	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1248	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1254	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1260	c, nv	0.1	<0.02 (ND)	<0.02 (ND)	0.098	<0.02 (ND)	<0.02 (ND)	0.048	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1262	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1268	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total PCBs (total as Aroclors)	c, nv	0.1	<0.02 (ND)	<0.02 (ND)	0.098	<0.02 (ND)	<0.02 (ND)	0.048	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total Petroleum Hydrocarbons																			
GRO	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		EB30			EB31			EB32			EB33			EB34			EB35		
Date Sampled		12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/13/2022	12/14/2022	12/14/2022	12/14/2022	12/13/2022	12/13/2022	12/13/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022
Depth Sampled (feet)		0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																			
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.03 (ND)	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.1 (ND)	---	---
Semi-Volatile Organic Constituents (SVOCs)																			
Polynuclear Aromatic Hydrocarbons (PAHs)																			
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.22	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.16	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.26	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.52	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.46	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.29	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.17	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.41	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.064	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.29	---	---
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1016	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1232	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1242	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1248	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1254	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.12	0.091	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1260	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.44	0.97	<0.02 (ND)	0.033	<0.02 (ND)	<0.02 (ND)	1.5	<0.02 (ND)	<0.02 (ND)	0.13	<0.02 (ND)	<0.02 (ND)	0.75	0.052	0.08
Aroclor 1262	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1268	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total PCBs (total as Aroclors)	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	**0.56**	**1.061**	<0.02 (ND)	0.033	<0.02 (ND)	<0.02 (ND)	**1.5**	<0.02 (ND)	<0.02 (ND)	0.13	<0.02 (ND)	<0.02 (ND)	**0.75**	0.052	0.08
Total Petroleum Hydrocarbons																			
GRO	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	<5 (ND)	---
DRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	450 x	<50 (ND)	---
RRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<250 (ND)	<250 (ND)	---

Notes:

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		EB36			EB37			EB38			EB39			EB40			EB41		
Date Sampled		12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/14/2022	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023
Depth Sampled (feet)		0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			South Side of Building - Parks Dept. Parking Lot			North Side of Building - City of Portland ROW			North Side of Building - City of Portland ROW		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																			
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																			
Polynuclear Aromatic Hydrocarbons (PAHs)																			
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1016	c, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1221	c, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1232	c, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1242	c, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1248	c, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1254	nc, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1260	c, nv	6.7	0.19	<0.02 (ND)	0.45	0.36	<0.02 (ND)	2.3	<0.02 (ND)	<0.02 (ND)	0.39	<0.02 (ND)	<0.02 (ND)	0.024	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1262	nc, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1268	nc, nv	<1 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total PCBs (total as Aroclors)	c, nv	**6.7**	0.19	<0.02 (ND)	0.45	0.36	<0.02 (ND)	**2.3**	<0.02 (ND)	<0.02 (ND)	0.39	<0.02 (ND)	<0.02 (ND)	0.024	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total Petroleum Hydrocarbons																			
GRO	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RRO	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		EB42			EB43			EB44			EB45			EB46			EB47			DU01 dup	DU01 REP01 dup
Date Sampled		1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	1/23/2023	11/9/2022	11/9/2022
Depth Sampled (feet)		0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.5	1.5	2.5	0.2	0.2
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		Inside PIW Building 12' south of N. Wall ; 68' east of W. Wall (Former machine shop)			Inside PIW Building 10' south of N. Wall; 26' east of W. Wall (Former machine shop)			West Side of Building - Railroad ROW			West Side of Building - Railroad ROW			Inside PIW Building 35' south of N Wall; 10' east of W Wall (former machine shop)			Inside PIW Building 10' north of S Wall; 18' east of W Wall (equipment pit)			Laboratory duplicate of DU01	Laboratory duplicate of DU01-REP01
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents																					
Benzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Semi-Volatile Organic Constituents (SVOCs)																					
Polynuclear Aromatic Hydrocarbons (PAHs)																					
Naphthalene	c, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Polychlorinated Biphenyls (PCBs)																					
Aroclor 1016	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1232	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1242	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1248	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1254	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1260	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.52	<0.02 (ND)	<0.02 (ND)	63	2.3	0.16	130	1.2	0.91	4.8	0.19	0.26	0.12	<0.02 (ND)	<0.02 (ND)	5.4	1.5
Aroclor 1262	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Aroclor 1268	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Total PCBs (total as Aroclors)	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.52	<0.02 (ND)	<0.02 (ND)	**63**	**2.3**	0.16	**130**	**1.2**	**0.91**	**4.8**	0.19	0.26	0.12	<0.02 (ND)	<0.02 (ND)	**5.4**	**1.5**
Total Petroleum Hydrocarbons																					
GRO	nc, v	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	---	---	---	---	---	---	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	---	---
DRO	nc, nv	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	---	---	---	---	---	---	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	---	---
RRO	nc, nv	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	---	---	---	---	---	---	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	---	---

Notes:

ND = not detected at or above laboratory method reporting limits

— = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Table 1 - Cumulative Summary of Analytical Data, Surface Soil

Location ID		DU01 REP02 dup	FD01	FD02	FD03	FD04	FD05	FD06	FD07	Maximum Detected Soil Concentration (PIW sampling, not including QC samples)	Maximum Detected Surface Soil Concentration (prior City of Portland and ODEQ Investigations)	ODEQ Risk-Based Concentration (Soil, Occupational Dermal Contact)	ODEQ Risk-Based Concentration (Soil, Construction Worker Dermal Contact)	ODEQ Risk-Based Concentration (soil, Excavation Worker Dermal Contact)	ODEQ Risk-Based Concentration (soil,Recreational User, Dermal Contact, as calculated by ODEQ)
Date Sampled		11/9/2022	11/9/2022	11/10/2022	11/11/2022	12/13/2022	12/13/2022	12/14/2022	1/23/2023						
Depth Sampled (feet)		0.2	0.5	1.5	2.5	1.5	1.5	1.5	1.5						
Sample By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW						
Location		Laboratory duplicate of DU01-REP02	Field duplicate (B04-0.5)	Field duplicate (B20-1.5)	Field duplicate (B14-2.5)	Field duplicate (B28-1.5)	Field duplicate (B29-1.5)	Field duplicate (B38-1.5)	Field duplicate (B43-1.5)						
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)					
Volatile Organic Constituents															
Benzene	c, v	---	---	---	---	---	---	---	---	<0.03 (ND)	NE	37	380	11000	20
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.73	9	250	0.44
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	16	200	5600	9.8
Ethylbenzene	c, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	150	1700	49000	88
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	1100	12000	320000	610
Naphthalene	c, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	23	580	16000	20
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	57000	27000	750000	5900
Toluene	nc, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	88000	28000	770000	9700
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	6900	2900	81000	190
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	6900	2900	81000	1300
Xylenes	nc, v	---	---	---	---	---	---	---	---	<0.1 (ND)	NE	25000	20000	560000	2400
Semi-Volatile Organic Constituents (SVOCs)															
Polynuclear Aromatic Hydrocarbons (PAHs)															
Naphthalene	c, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	23	580	16000	20
2-Methylnaphthalene		---	---	---	---	---	---	---	---	<0.05 (ND)	NE	---	---	---	---
Acenaphthylene		---	---	---	---	---	---	---	---	<0.05 (ND)	NE	---	---	---	---
Acenaphthene	nc, v	---	---	---	---	---	---	---	---	0.22	NE	70000	21000	590000	7800
Fluorene	nc, v	---	---	---	---	---	---	---	---	0.16	NE	47000	14000	390000	5200
Phenanthrene		---	---	---	---	---	---	---	---	0.26	NE	---	---	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	350000	110000	2900000	39000
Fluoranthene	nc, nv	---	---	---	---	---	---	---	---	0.52	NE	30000	10000	280000	4000
Pyrene	c, nv	---	---	---	---	---	---	---	---	0.46	NE	23000	7500	210000	3000
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	---	0.29	NE	21	170	4800	1.3
Chrysene	c, nv	---	---	---	---	---	---	---	---	0.3	NE	2100	17000	490000	130
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	---	0.5	NE	21	170	4900	1.3
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	---	0.17	NE	210	1700	49000	13
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	---	0.41	NE	2.1	17	490	0.13
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	---	0.3	NE	21	170	4900	1.3
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	---	0.064	NE	2.1	17	490	0.13
Benzo[g,h,i]perylene	nc, nv	---	---	---	---	---	---	---	---	0.29	NE	---	---	---	---
Polychlorinated Biphenyls (PCBs)															
Aroclor 1016	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.0122 (ND)	---	---	---	---
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.02 (ND)	---	---	---	---
Aroclor 1232	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.0122 (ND)	---	---	---	---
Aroclor 1242	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.0122 (ND)	---	---	---	---
Aroclor 1248	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<0.0122 (ND)	---	---	---	---
Aroclor 1254	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.075	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	4.6	<1 (ND)	---	---	---	---
Aroclor 1260	c, nv	4.8	130	<0.02 (ND)	0.32	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	130	21.7	---	---	---	---
Aroclor 1262	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<1 (ND)	---	---	---	---
Aroclor 1268	nc, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<2 (ND)	<1 (ND)	---	---	---	---
Total PCBs (total as Aroclors)	c, nv	**4.8**	**130**	<0.02 (ND)	0.395	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	**130**	**21.7**	0.59	4.9	140	0.52
Total Petroleum Hydrocarbons															
GRO	nc, v	---	---	---	---	---	---	---	---	20	NE	20000	9700	>Max	---
DRO	nc, nv	---	---	---	---	---	---	---	---	450 x	NE	14000	4600	>Max	---
RRO	nc, nv	---	---	---	---	---	---	---	---	<250 (ND)	NE	36000	11000	>Max	---

Notes:

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

Bolded/Shaded concentrations exceed ODEQ RBCs (based on recreational, occupational, construction and/or excavation worker potential exposure and soil ingestion, dermal contact and inhalation pathway)

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Sample Drying and Sieve Preparation for Multi Increment Soil Sampling

Friedman & Bruya, Inc.
Standard Operating Procedure

Revision Number 2
September 25, 2019

Approved by

Extraction Manager: _____
Eric Young

Quality Assurance Manager: _____
Arina Podzonova

Document Control Number: 2

1.0 SCOPE, APPLICATION, AND SUMMARY

1.1 This Standard Operating Procedure (SOP) is used by Friedman and Bruya, Inc. (F&BI) to prepare soil and solid samples that require sieve and/or drying prior to extraction and analysis, including sub samples collected for soil multi increment sampling.

1.2 Deviation from the procedures outlined in this SOP may sometimes be needed, due to specific project requirements, or due to laboratory circumstances. Deviations are documented using the extraction worksheet, analysis logs, and/or other documents such as the non-conformance report form.

2.0 METHOD BASIS

The following regulatory method serves as the basis for this standard operating procedure. Adherence to the minimum criteria set forth in this method is a general data quality objective of this SOP.

2.1 State of Alaska Department of Environmental Conservation, "Draft Guidance on Multi Increment Soil Sampling", March 2009.

3.0 DEFINITIONS

3.1 A list of definitions for terms used in this SOP may be found in the F&BI Quality Assurance Manual, appendix F.

4.0 SAFETY

4.1 The most important safety measure is to handle all samples and equipment in an appropriate manner to ensure a minimum of personal danger and exposure to potentially hazardous chemicals.

4.2 When samples are handled, appropriate personal protection equipment (PPE) should be used. Gloves, lab coat, and goggles are all available for use.

4.3 Glassware can break at any time, so caution needs to be used at all times when handling it. Cut resistant gloves are available for use.

4.4 MSDSs for all chemicals in the lab are available to all employees. They are located in the GC room, and all employees are strongly encouraged to read them.

4.5 Analysts are required to complete general safety training prior to performing any analysis. Details of initial and on-going safety training are provided in the F&BI Quality Assurance Manual and "Training" SOP.

4.6 If uncertain about the safety of a material or procedure or in the event that a spill or other potentially hazardous situation arises, notify your supervisor or any chemist immediately.

5.0 INTERFERENCES

5.1 Certain sample matrices may not be amenable to sieving, such as peat or tundra. Alternate sample processing measures would be required for those media.

6.0 APPARATUS AND EQUIPMENT

6.1 #10 Sieve – particle size <2mm

6.2 Drying Pans (Aluminum or Pyrex)

6.3 Stainless Steel Scoopula

6.4 Analytical Balance

6.5 4 oz. or 8 oz. Glass Jars with Lid

6.6 Steel Baking Sheet or Other Tray

6.7 Stainless Steel Bowl

7.0 REAGENTS AND CHEMICALS

7.1 Methylene Chloride, pesticide grade or better

7.2 Alconox

8.0 SAMPLE HANDLING, PRESERVATION, AND PREPARATION

8.1 Before preparing the samples, double check the sample identification on the container to that listed on the Chain of Custody. Document that the sample ID has been checked by initialing the extraction worksheet.

8.1.1 If more than one container exists for the sample, write the corresponding letter of the container used in the extraction on the extraction paperwork.

8.2 Note any unexpected sample characteristics on the extraction worksheet under "Observations" heading.

8.3 Sample Moisture Determination Procedure

8.3.1 The analyst will perform the following to determine if the sample will require a drying procedure. Drying should only be performed if necessary.

8.3.2 Visually inspect the sample to determine if free liquid is present. Samples containing a visible liquid layer will require drying prior to sieve

preparation.

8.3.3 For samples that do not contain free liquid but appear moist, a small amount of sample (~10.0 grams) will be tested in the sieve. The sample will require the drying procedure if sample fines do not pass through the sieve screen.

8.4 Sample Drying Procedure

8.4.1 Assign F&B sample ID to a drying pan.

8.4.2 Empty the entire contents of the sample container into the drying pan to a depth of ½ to 1 inch in thickness.

8.4.3 Place drying pan in fume hood at ambient temperature until processing.

8.4.4 Drying at elevated temperatures, i.e. "baking" is not allowed. Turning the soil can be used to facilitate the drying process.

8.4.5 Drying is acceptable for less temperature sensitive contaminants such as metals, PCBs, DRO, RRO, etc. Drying may not be appropriate for some contaminants, including volatile constituents or PAHs. If samples are processed for non-appropriate testing, the data will be estimated and qualified appropriately.

8.5 Sieve Procedure

8.5.1 Wash sieve with warm water and Alconox and allow to dry.

8.5.2 For samples requiring organic analysis, triple rinse sieve screen with methylene chloride and allow to dry.

8.5.3 Place entire contents of sampling container or drying pan into the sieve. The minimum amount of sample required for sieve preparation is 30 g.

8.5.4 Shake sieve for 2 minutes.

8.5.5 Remove sample collection tray from sieve and collect the entire contents into a labeled 4 oz. or 8 oz. glass jar.

8.5.6 When multiple sub samples are sieved, the entire contents of each sieved sub sample will be poured into a stainless steel bowl, stirred for a minimum of 30 seconds and collected for sample analysis.

9.0 SAMPLE ANALYSIS

9.1 Wash a steel baking sheet or other tray with warm water and Alconox and allow to dry.

9.2 For samples requiring organic analysis, triple rinse the tray with methylene chloride and allow to dry.

9.3 Pour the entire contents of the sample into the tray to a depth of no more than ½ inch.

9.4 Individual aliquots of sample will be randomly scooped from a minimum of 20 distinctly different areas of the tray and added to the extraction vessel until the required sample amount is reached.

10.0 QUALITY CONTROL AND CORRECTIVE ACTIONS

General quality control procedures are outlined in the corresponding F&B analytical method SOPs. F&BI QC procedures are described in sections 12 and 13 of the QA Manual. If, following corrective actions, quality control results still fail, or if corrective actions are not possible, then affected results are reported with appropriate qualifying flags.

The minimum requirements for QC samples analyzed with each preparation batch (within 24 hours) of up to 20 samples are:
1 sample duplicate

11.0 DATA ARCHIVAL

11.1 The hardcopy of the QA paperwork is filed in the extraction room on the paperwork desk.

11.2 The extraction paperwork for each project is filed in the downstairs filing cabinets with the hardcopies of the final reports.

12.0 HAZARDOUS WASTE MANAGEMENT AND POLLUTION PREVENTION

12.1 Hazardous waste managements procedures are found in the F&BI QA Manual section 10, and the "Disposal" SOP.

12.2 Actions that can result in the reduction or elimination of chemical wastes and chemical pollutants associated with this SOP are strongly encouraged. Such actions should be discussed with the Executive Committee for approval prior to implementation.

END OF DOCUMENT