Remedial Investigation and Interim Action Work Plan

Former Fleischer Property
9109 and 9115 NE 94th Avenue
Vancouver, Washington
Ecology FSID 20708
Ecology CSID 2827
Ecology VCP ID SW1657

Prepared for:
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Project No. 22875.000

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1.0 INTRODUCTION

PBS Engineering and Environmental, Inc. (PBS) has prepared this Remedial Investigation and Interim Action Work Plan (RI Work Plan) on behalf of Kirkland Development LLC (Kirkland) to provide the scope of work and objectives for the remedial investigation and interim remedial action at the Former Fleischer Property located at 9109 and 9115 NE 94th Avenue in Vancouver, Washington (Site; see Figure 1). Prior investigations of the property indicated polychlorinated biphenyls (PCB) are present in Site soils as a result of clarifier solids deposited across portions of the Site. Concentrations of PCBs exceeding the Model Toxics Control Act (MTCA) Method A cleanup level for industrial land use of 10 milligrams per kilogram (mg/kg) have been reported in clarifier solids and Site soil samples from depths of up to 5.5 feet below ground surface (ft bgs) during previous investigations.

The RI will be conducted pursuant to the April 8, 2019 emailed request from the United States Environmental Protection Agency (EPA) to PBS *RE: Summary of April 1, 2019 Meeting and Next Steps* to complete additional assessment of the PCB impacts to Site soil to support development of a remedial action plan that will be protective of ecologic and human receptors. Kirkland intends to develop the property as a paved recreational vehicle (RV) storage facility.

1.1 Objective and Scope

The objective of the RI is to complete additional site characterization pursuant to the EPA April 8, 2019 request. The scope of work presented in the Work Plan is designed to characterize the nature and extent of PCBs in Site soil. The scope of work will identify the applicable or relevant and appropriate requirements (ARARs) for the Site to define the appropriate cleanup standards for a cleanup action.

1.2 Purpose of the Remedial Investigation Work Plan

The RI Work Plan describes the project objectives, functional activities, and quality assurance and quality control protocols that will be used to complete the RI. The purpose of the RI Work Plan is to:

- Provide a summary of previous investigations completed at the Site;
- Provide the rationale for the scope of work to be performed;
- Provide the detailed methods for sampling and analysis;
- Provide a schedule for the RI activities; and
- Provide a summary of the elements to be included in the RI Report.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 Site Location

The Site comprises approximately 9.6 acres consisting of three tax lots (tax account numbers 199861000, 199854000, and 199851000) located in the northwest quarter of Section 59, Township 2 North, Range 2 East, of the Willamette Meridian (Figure 1).

2.2 Site Description

The Site is generally flat; however, the eastern end of the property slopes up to the road berm adjacent to the eastern property lines. The Site elevation ranges between approximately 205 and 225 feet above mean sea level.

The majority of the Site is undeveloped and vegetated with grass. Several large trees are present in the southwest area of the Site. Structures at the Site include a single-story residence with an attached garage, a small barn, and a pump house with a domestic well located in the southwest area of the Site.

The closed Leichner Brothers Landfill is located adjacent to the north, east, and south of the Properties. Waste Connections, Inc. (a garbage haul truck fleet facility and a solid waste container storage yard) borders approximately two-thirds of the Properties' northern boundary. The Properties' southern boundary is bordered by the Koski property which is predominately void of structural development except for a residential dwelling in the northwest corner. The Properties' western boundary is bordered by Northeast 94th Avenue; across Northeast 94th Avenue is a residential development.

2.3 Site History

The Site history was determined through review of historical documents and aerial photographs by GeoDesign, Inc. (GeoDesign) as part of the *Phase I Environmental Site Assessment and Limited Surface Soil Evaluation (*GeoDesign, 2010). The Site was first developed in the early 1940s with the construction of a residence and associated outbuildings in the northwest portion of the Site. In the period between 1945 and 1955, the existing residence was constructed in the southwestern portion of the Site and the outbuildings in the northwest portion were removed.

Fill consisting of clarifier solids (reportedly from the former Boise Cascade Mill) was placed on the Site beginning in 1970, possibly in conjunction with the operation of the then-owner's fertilizer processing business. The parcels comprising the Site were purchased by the previous property owners (Felix and Bonnie Fleischer) in 1977. Between 1980 and 1990, it appeared in aerial photos that some of the clarifier solids were removed and between 1990 and 1996 the residence located in the northwest portion of the Site was removed.

Kirkland purchased the property in February 2018 with the intent to redevelop the Site for industrial purposes. On behalf of Kirkland, PBS applied for entry into the Voluntary Cleanup Program (VCP) to the Washington State Department of Ecology (Ecology) on September 21, 2018 and was accepted into the program on October 1, 2018, at which time it was assigned the VCP Project ID SW1657. Kirkland entered the Site into the VCP in order to facilitate remedial actions at the Site and redevelopment of the property.

2.4 Site Geology and Hydrogeology

Fill comprising clarifier solids is present at the Site from the surface with thickness ranging from trace to approximately 1.5 feet (MFA, 2014). Approximately 1 to 2 feet of sandy silt is present below the fill with coarse sand and gravel below that to approximately 8.5 feet below ground surface (ft bs).

Groundwater at the adjacent former landfill site is present at depths ranging from approximately 25 to 30 ft bgs in wells adjacent to the Site property lines. Groundwater flow direction, determined from monitoring events at the former landfill site, is to the southwest (SCS, 2013).

2.5 Regional Geology and Hydrogeology

The site is underlain by Pleistocene flood deposits, typically consisting of pebble sized gravel and cobble with few small boulders (less than 2.5 meters in diameter) in a sandy matrix (Phillips, 1987). Per investigations at the adjacent former landfill, an unconfined alluvial water bearing zone is present within the flood deposits (SCS, 2013).

The alluvial water bearing zone is underlain by the upper member of the Troutdale Formation aquifer. The alluvium and Troutdale Formation are locally separated by a discontinuous silt aquitard. The northern and western extents of the aquitard have not been delineated and the aquitard is not present in the southwest area of the former landfill (SCS, 2013).

2.6 Previous Investigations

Phase I Environmental Site Assessment and Limited Surface Soil Evaluation (March 2010) GeoDesign, Inc.
GeoDesign identified clarifier solids on the Site as a recognized environmental condition (REC) in a Phase I environmental site assessment (ESA) conducted for the Site in 2010. This was considered a REC as the material was reportedly acquired from the former Boise Cascade Mill (known to use PCBs in their milling process) during historical property operations in the 1970s. GeoDesign collected clarifier solids and surface soil samples from two locations at the Site for analysis of PCBs, total petroleum hydrocarbon—hydrocarbon identification, semivolatile organic compounds (SVOCs), and metals. One PCB Aroclor (Aroclor 1248) was detected in both soil samples at concentrations greater than the MTCA Method A CULs for both restricted and unrestricted land use. No other PCB Aroclors were detected above the laboratory reporting limits in either sample. Diesel- and heavy-oil-range hydrocarbons and metals (including arsenic, chromium, copper, lead, mercury, and nickel) were detected, although concentrations were below the MTCA Method A CULs for unrestricted land use. SVOCs were not detected above the MRLs.

GeoDesign conducted soil sampling at the Site to further investigate PCB impacts. The sampling was conducted on a grid basis with up to nine samples collected from within each of the 19 of the 20 grid sections (Figure 3). Soil samples were collected between the ground surface and 0.5

foot below ground surface (bgs). The soil samples from within each grid were homogenized into a composite sample. PCB Aroclor 1248 was detected in each composite soil sample at concentrations ranging from 0.820 to 32.4 mg/kg. PCB Aroclor 1254 was detected in the composite soil sample from Section 1 at a concentration of 0.396 mg/kg. Except for the result from the composite soil sample from Section 12, the detected concentrations of PCBs were greater than the MTCA Method A CUL of 1 mg/kg for unrestricted land use. Sample results collected from Sections 2 through 7, Section 14, and Section 17 were greater than the MTCA Method A CUL of 10 mg/kg for restricted land use (GeoDesign, 2010).

Preliminary Remedial Investigation and Feasibility Study (November 2014)
Maul Foster & Alongi, Inc.
Subsequent assessment by MFA in 2014 consisting of the collection of discrete soil samples from varying depths in 52 test pit locations. The assessment identified PCBs (primarily Aroclor 1248) at concentrations ranging from below method reporting limits (MRL) to 118 mg/kg. PCB-affected soil occurring above the most restrictive MTCA Method A CUL of 1 mg/kg ranged significantly in thickness at locations across the Site ranging from depths of 1.5 feet to 6 feet, in some locations, but generally at depths of 2 to 3 feet.

Soil analytical results from the MFA 2014 investigation are summarized in Table 1.

3.0 REGULATORY CRITERIA

Investigation and remedial work at the Site will be performed in accordance with United States Environmental Protection Agency's (EPA) PCB Site Revitalization Guidance Under the Toxic Substances Control Act (TSCA; Site Revitalization Guidance) published in November 2005, and Washington State's Model Toxics Control and Regulation and Statute (MTCA; Washington Administrative Code [WAC] Title 173 Chapter 340).

3.1 Cleanup Levels Under TSCA

The Site Revitalization Guidance document specifies several options for self-implemented cleanups and solid waste disposal. Under TSCA, the Site is classified as a Low Occupancy Area, which meets the proposed future use of the site for RV storage as well as industrial activities. As the current zoning of the property as Light Industrial is unlikely to change, this designation should be reasonable.

Under TSCA, the impacted soils at the Site are considered bulk PCB remediation waste. For low occupancy areas, EPA has established PCB cleanup levels for bulk remediation waste in three categories:

- Less than or equal to 25 ppm: PCB remediation waste meeting this cleanup level can be left on site with the use of an institutional control to ensure future use of the site meets "low occupancy" use.

- Greater than 25 ppm, but less than or equal to 50 ppm: in addition to the institutional control necessary for soils containing up to 25 ppm, the Site would require a security fence with an appropriate M_L mark indicating the presence of PCBs.
- Greater than 25 ppm, but less than or equal to 100 ppm: this cleanup level requires covering the Site with an appropriate cap such (i.e., a paved surface in the area where PCB remediation waste was removed or left in place in order to prevent of minimize human exposure, infiltration of water, and erosion) and an institutional control (i.e., deed restriction).

3.2 Cleanup Levels Under MTCA

Based on the current zoning and land use plans for the Site, the MTCA Method A cleanup level for industrial land use for PCB mixtures of 10 mg/kg is applicable.

3.3 Selected Screening Levels

Given the cleanup criteria, the planning level approach for management of the PCB impacted soil would include the following considerations. Site soil with concentrations of PCBs less than 1 mg/kg will be considered unimpacted and suitable for reuse at the Site (should they be exported off site, they will be managed as PCB-impacted solid waste). Site soils with concentrations less than 50 mg/kg will be considered suitable for placement in an onsite, lined landfill. Site soils with concentrations of PCBs exceeding 50 mg/kg will be excavated and transported offsite for disposal as bulk PCB remediation waste.

4.0 SAMPLING AND ANALYSIS PLAN

Site investigation activities will be completed in two phases. The first phase of investigation is designed to collect data to confirm previous results where data quality issues exist and determine the extent of PCB impacts to soil. The second phase of investigation will be completed employing incremental sampling methodology (ISM) to guide the remedial approach across the Site. Each phase is described in detail below.

4.1 Remedial Investigation Phase 1

The first phase of the RI will be completed to address data quality issues from previous investigations identified by PBS and described in a letter to Aeren Fiedler with Ecology *Regarding: Proposed Data Usability and Potential Closure Pathways* dated July 19, 2019. Additionally, groundwater monitoring wells will be installed in order to establish baseline groundwater conditions at the Site.

4.1.1 Pre-Field Work Activities

A site and job specific health and safety plan that promotes personnel safety and preparedness during the planned activities will be developed prior to conducting the proposed work at the site. On the morning of the day that the field activities are to commence, a "tailgate" meeting will be conducted with Site workers to discuss the health and safety issues and concerns related to the specific work.

Prior to beginning field work, Notice of Intent forms and applicable fees will be submitted to Ecology. In addition, necessary access agreements and encroachment permits will be obtained for the proposed drilling locations. Drilling locations will be marked with white paint or staked according to Washington Northwest Utility Notification Center (NUNC) requirements. At least two days prior to commencing work at the site, NUNC will be notified. The NUNC ticket will be maintained as long as work continues at the site and will be updated as necessary for any adjustments that are made based upon field reconnaissance. In addition, a private utility locator will be contracted to confirm the absence of buried utilities at each proposed well location.

4.1.2 Soil Boring Completion and Soil Sampling

Direct push borings will be completed at locations where PCBs were reportedly detected with concentrations above 50 mg/kg in order to delineate the areas that will require offsite disposal of excavated material. Additional direct push borings will be completed around locations with previous reported detections of PCBs in order to define the depths of PCB impacts across the Site.

PCBs were reported at concentrations exceeding 50 mg/kg in 2014 investigation locations TP10, TP-17, TP-27, and TP42.

Direct push borings will be completed at the historic locations listed above and at step-out locations spaced 10 and 20 feet in each cardinal direction. Samples will be collected from depths corresponding to the sample depths of the 2014 investigation.

Twenty additional direct push borings will be completed to a depth of up to 10 ft bgs at select locations throughout the site where test pits had previously been completed. These borings will be completed to confirm previous investigation results and to determine the vertical extent of the PCB impacts (where present) to aid in final design of Phase 2 of the remedial investigation.

Sample locations and depths are summarized in Table 2. Sample intervals will be held for analysis pending analytical results of shallower samples or samples collected from other borings. Borings will be completed by a Washington state licensed driller under the oversight and direction by a field geologist. All boring locations will be marked with a flag or stake in the field and the coordinates will be collected via handheld global positioning system (GPS) unit with sub-meter accuracy.

At each boring location, a complete lithological log will be developed. Soil samples (cores) will be collected starting at ground surface to total depth using an acetate liner within the direct push samplers. Each core sample will be logged in accordance with the Unified Soil Classification System (USCS; ASTM D-2487) and will include:

- Soil description (color, texture, structure, moisture/wetness, odor);
- Depth to groundwater;
- Total depth; and

- Drill rig type and drilling method.

The soil type will be documented at a minimum of 1 foot intervals. Additionally, the presence of imported materials (e.g. debris, clarifier solids), if encountered, will be noted on the boring logs.

Soil samples will be collected directly into laboratory-provided containers that will be sealed and labeled with the project name, sample location ID (e.g. SB02-0.5), date, and time collected. The samples will be placed in a cooler and stored on ice for the duration of sampling and for transportation to a Washington state-accredited laboratory. Soil samples will be submitted to the laboratory under chain of custody protocols for analysis of PCB Aroclors by EPA Method 8082A on a standard (10-14 business day) turnaround time or to be held for analysis pending the results of shallower samples. Held samples will be analyzed for PCB Aroclors if PCBs are detected at or above 1 mg/kg in the sample immediately above or a sample from a corresponding boring exceeds 1 mg/kg.

Field personnel will wear new disposable nitrile gloves. Investigation derived waste (IDW) including soil cuttings and decontamination water will be stored in properly labeled 55-gallon drums and stored on site until arrangement for disposal.

4.1.3 Monitoring Well Installation and Sampling

Groundwater monitoring wells will be installed in three locations at the Site: upgradient near the east property boundary, approximately in the middle of the Site, and downgradient near the west property boundary.

The groundwater monitoring wells will be installed using a hollow stem auger drill rig. At each well location, a complete lithological log will be developed during advancement of the pilot boring. Soil samples) will be collected starting at ground surface to total depth using a split-spoon sampler at five-foot intervals. Each core sample will be logged in accordance with the Unified Soil Classification System (USCS; ASTM D-2487) and will include:

- Soil description (color, texture, structure, moisture/wetness, odor);
- Depth to groundwater;
- Total depth; and
- Drill rig type and drilling method.

The monitoring wells will be installed with screen intervals and depths designed to intercept the groundwater table beneath the Site to an estimated total depth of approximately 35 ft bgs. The monitoring wells will be installed in accordance with ASTM D5092 Standard Practice for Design and Installation of Groundwater Monitoring Wells and WAC Title 173 Chapter 160. It is anticipated that the wells will be constructed of 2-inch diameter polyvinyl chloride (PVC) blank (riser) casing, 10 feet of slotted PVC well screen with a 0.010 slot size, and completed with a #2/12 sand (or equivalent) and sealed with hydrated bentonite chips and cement grout. The estimated total depth and screen interval will be finalized in the field based on lithology. The wellhead will be sealed with a watertight, lockable well cap. A flush-mounted, watertight, traffic-

rated well box or an aboveground protective metal well casing will be installed over the wellhead. Well construction details, such as screen interval and total depth, will be finalized in the field based on lithology.

The monitoring wells will be left in place and will be used for future phases of remedial actions, and overall site development, these monitoring wells will be used as compliance points for the onsite soil impoundment.

The monitoring wells will be developed by surging and purging of up to ten well casing volumes of water to remove fine-grained material from the wells. Purge water will be monitored for field parameters including pH, electrical conductivity (EC), temperature, and turbidity. Well development will continue until field parameters stabilize (i.e., turbidity readings reach between five [5] and fifty [50] Nephelometric Turbidity Units [NTU]) or a minimum of ten well volumes have been purged from well.

Prior to groundwater sampling, water levels will be measured in each well using an electric water level probe. The probe will be decontaminated between each well with a non-phosphate detergent wash followed by a potable water rinse and a final rinse with deionized water. The water level in each well will be measured to the nearest 0.01 foot from the top of casing.

The monitoring wells will be purged using low-flow procedures. Groundwater samples will be collected using a peristaltic pump fitted with silicon tubing and polyethylene tubing. Pump tubing will be lowered to a mid-screen depth for purging and sampling. Monitoring wells will be purged at a rate of less than 0.3 liter per minute. The flow rate will be adjusted as necessary to prevent the groundwater level from dropping more than 10 percent. Field parameters will be measured in purged groundwater as it is discharging through a flow-through cell. Groundwater will be passed through the cell and discharged into a temporary storage container. Field parameters will be periodically measured (every 3 minutes) and recorded during well purging and upon stabilization. Field parameters will be measured using a multi-parameter meter and groundwater samples will be collected after the field parameters have stabilized as indicated below:

FIELD PARAMETER (Unit of Measurement)	STABILIZATION CRITERIA
Depth to Water (feet below top of casing, ft btoc)	± 0.3 ft
Temperature (degrees Celsius, °C)	± 3%
pH	± 0.1
Specific Conductance (milliSiemens per centimeter, mS/cm)	± 3%
Dissolved Oxygen (milligrams per liter, mg/L)	± 0.3 mg/L

Oxidation Reduction Potential (millivolts, mV)	± 10 mV
Turbidity (Nephelometric Turbidity Unit, NTU)	± 10% or <10 NTU

Groundwater samples will be collected from the discharge line of the peristaltic pump directly into laboratory-provided containers that will be sealed and labeled with the project name, sample location ID (e.g. MW01), date, and time collected. The samples will be placed in a cooler and stored on ice for the duration of sampling and for transportation to a Washington state-accredited laboratory. Groundwater samples will be submitted to the laboratory under chain of custody protocols for analysis of PCB Aroclors by EPA Method 8082A on a standard (10-14 business day) turnaround time.

Field personnel will wear new disposable nitrile gloves. Investigation derived waste (IDW) including soil cuttings and decontamination water will be stored in properly labeled 55-gallon drums and stored on site until arrangement for disposal.

4.2 Remedial Investigation Phase 2

ISM will be employed at the Site in order to guide the fate of excavated soils across the Site. The overall protocol is explained in detail in Interstate Technology and Regulatory Council's (ITRC) Incremental Sampling Methodology Technical and Regulatory Guidance published in February 2012. The site-specific approach is detailed below.

Soils with concentrations of PCBs exceeding 50 mg/kg, as delineated during the initial phase of the remedial investigation, will be excluded from additional investigation. Additionally, those areas will either be staked and marked in the field or excavated prior to completion of further sampling activities conducted under Phase 2 of the remedial investigation.

4.2.1 Decision Units

Decision units (DUs) are defined areas on the subject property that are used to subdivide the project site. Preliminary DUs for the Site have been established based on previous sampling results (Figure 5) and will be further refined based on the results of the initial RI investigation phase. As a guide, the preliminary DUs will be used to define soil that will be re-used on site or landfilled on Site based on the sample data.

The site will be divided into 20 areas comprising approximately 0.5 acres each (Sections 1 through 20, Figure 5). The areas will be staked off at the surface and delineated with colored string. The areas will be further divided into DUs by depth based on the results obtained from Phase 1 of the investigation. Each DU will consist of a 1-foot interval over the depth(s) indicated during the initial investigation phase (e.g. Section 1 from 1 to 2 ft bgs). If PCB impacts were not identified within a section during previous investigations or Phase 1 of this investigation, the DU

for the section will be limited to the 0-1 ft bgs interval. Thirty samples will be collected from each DU. The sampling process is described below.

4.2.2 ISM Sample Collection

Soil cores will be collected using hand tools (e.g. 7/8"-diameter stainless steel soil recovery probes with plastic liner inserts) over the targeted 1-foot interval as determined during Phase 1 of the RI. The plastic liner will be removed from the sampler and cut from the core. The core will be cut in half vertically. One half will be placed in a Ziploc™ bag and homogenized, then placed in a 4-liter wide mouth glass jar labeled with the DU number (e.g. DU-Sec01-1-2 which would be the 1-2 ft bgs interval from Section 1). The sample containers will be closed and placed in a cooler and stored on ice for the duration of sampling and for transportation to a Washington state-accredited laboratory. A marking flag will be placed at the sample location.

The samples will be submitted to a Washington state accredited laboratory under chain of custody protocols. The DU samples will be submitted for immediate processing and analysis of PCBs by EPA Method 8082A on a standard (10-14 business day) turnaround time.

The recovery probes will be decontaminated between decision units. Decontamination will consist of a wash with non-phosphate detergent followed by a potable rinse and final rinse with deionized water.

Field personnel will wear new disposable nitrile gloves, which will be changed out between DUs. Decontamination water will be collected into a properly labeled 55-gallon drum and stored on site until it is disposed of.

4.2.3 Field Quality Assurance/Quality Control Samples

Per the ITRC guidance document, replicate incremental samples will be collected to ensure reliable estimates of the mean concentration of a contaminant within a DU. Replicate samples will be collected on a frequency of one per every 10 DU. One duplicate sample (i.e. the initial ISM sample plus two additional ISM samples) will be collected for the selected DUs for batch statistical evaluation of sampling precision. The replicate samples will be collected from within the same DU with the same number of samples collected from each subunit as in the initial ISM sample. The replicate samples will be collected along the same approximate directional lines established through the DU for the initial ISM sample with different random starting locations on the first line/row of the DU and continuing to sample at this different random interval throughout the DU for each replicate. The increments for ISM replicates will not be collected from the same locations or collocated with those used for the initial ISM sample. The replicate samples will be collected in a manner identical to the initial ISM sample. Replicate samples will be submitted to the laboratory as "blind" samples (e.g. given fictitious sample IDs [ex. DU11]).

Equipment blank samples will be collected to assess the adequacy of the decontamination process. Laboratory supplied deionized water will be poured over and/or through a decontaminated recovery probe and collected directly into a laboratory provided container. The container will be labeled with project number, sample identification (e.g. Rinsate-1), and placed into a cooler and stored on ice for the duration of sampling and for transportation to a Washington state-accredited laboratory. Equipment blanks will be collected at a frequency of one per day or one per 20 DUs, whichever is more frequent.

The Quality Assurance/Quality Control Samples will be submitted to a Washington state accredited laboratory for analysis of PCBs by EPA Method 8082A on a standard (10-14 business day) turnaround time.

4.2.4 Laboratory Processing of ISM Samples

Sample conditioning will be performed by the laboratory upon receipt of the samples. The sample conditioning process will include the following steps:

- Air-drying – sample will be spread evenly over a lined tray and placed in a ventilated area with sufficient airflow to carry away evaporated moisture. The samples will be turned and/or crushed as needed during the drying process.
- Particle size reduction – following drying, the sample will be ground in order to facilitate more representative susb-sampling by reducing the range of particle sizes present. During sample grinding, the sample will be ground via method appropriate to minimize thermal degradation of PCBs in the sample.
- Analytical subsampling – the retained sample volume will be subsampled using the two-dimensional Japanese slabcake method. The sample will be spread evenly onto a 2-D surface. A square scoop will be taken by removing an increment that equally represents the entire vertical column of the slabcake then placed in a receiving container. This process will be repeated at least 30 times at systematic random locations around the entire sample.

Once sample preparation is completed, the laboratory will prepare/extract and analyze the sample according to the analytical method (EPA Method 8082A).

5.0 ISM DATA EVALUATION

The ISM data will be evaluated to determine a general degree of variability in the sample results. As indicated in Section 4.2.3, the replicate data collected from two DUs will be used to evaluate the mean concentrations for each DU at the Site. The general data evaluation process will be as follows:

- The standard deviation will be calculated for each set of replicates.

$$SD = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \overline{x})^2}{n-1}}$$

SD = standard deviation
n = number of data points
x_i = each triplicate result
$\overline{x}$ = the mean of triplicate results

- The coefficient of variation will be calculated for each set of replicates.

$$CV = \frac{SD}{\overline{x}}$$

SD = standard deviation
$\overline{x}$ = the mean of the triplicate results

- The calculated degree of variation will be extrapolated to the DUs with a single ISM sample to estimate the standard deviation for the DU result.

$$SD_{DU} = CV_R * \overline{x_{DU}}$$

SD_{DU} = standard deviation for the DU ISM sample
CVR = coefficient of variation for the replicate samples
$\overline{x_{DU}}$ = DU ISM sample result

The standard deviation will be used to determine an estimated mean concentration mean concentration (e.g. $\overline{x_{DU}}$ + SD_{DU}) of total PCBs for each DU which will be compared to the screening levels discussed above in Section 3.3.

6.0 INTERIM REMEDIAL ACTION

Prior to development, Kirkland intends to mine the native gravel material present beneath the fill and silty sand. The sampling results from Phase I and Phase 2 of the RI will be used to guide interim remedial action at the Site during the gravel mining process. During the interim remedial action, the Site soils will be managed on a decision unit scale per the following decision criteria:

- Soil in DUs (or DU subunit) with estimated mean concentrations of total PCBs less than 1 mg/kg will be considered suitable for reuse onsite without restriction and will be segregated during from PCB-impacted soils during excavation activities. Should this soil be exported for any reason, it will be handled as PCB-impacted solid waste and transported and disposed of as such.
- Soil in DUs with estimated mean concentrations of total PCBs greater than or equal to 1 mg/kg and less than 50 mg/kg will be excavated and placed in a temporary disposal cell, which will consist of an excavated area that will be lined with a 15 millimeter thick reinforced polyethylene (RPE) material. The temporary disposal cell will be constructed prior to removing soils from the DUs. The disposal cell will be covered with RPE at the end of each workday to prevent stormwater exposure. The PCB-impacted stockpiled soils will be segregated from clean soils. At the completion of site excavation activities, the soil within the temporary disposal cell will be placed within the newly constructed lined onsite landfill area and will be capped.

- Soils in DUs with estimated mean concentrations of total PCBS equal to or greater than 50 mg/kg will be excavated and disposed of offsite as bulk PCB remediation waste.

Following completion of the native gravel mining and excavation operations, imported backfill material will be placed to at least 10 feet above the high-water table. Excavated soils designated for re-use (site soils with <1 mg/kg total PCB concentration) for onsite landfilling purposes will be placed above the clean fill. An additional 2-3 feet of imported fill will be used to cap those soils prior to surface completion.

A contaminated media management plan (CMMP) will be prepared prior to initiating excavation activities to ensure protection of human health and the environment. The CMMP will provide plans and procedures for handling and managing soil and groundwater encountered during remedial action implementation. The plan will delineate areas where soil may need to be removed off site, and limitations for areas where additional controls will be needed during excavation. This plan will also include procedures for confirmation soil sampling, and waste disposal requirements.

7.0 REPORTING

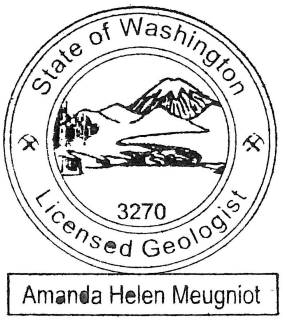
The RI and interim action report will present the results of the field investigation, summary of the nature and extent of contamination, identification of ecological and human health receptors, and a conceptual site model for current and future land uses. The report will include site plans and copies of laboratory reports and chain of custody documentation as follows:

- Map of the site showing site feature and, sampling locations with sample identification numbers and DU and SU boundaries.
- Description of the sampling techniques and the type of analytical methods used. The descriptions will include the number, locations, and depths of samples.
- Tables with analytical results for the soil samples collected with sample identification numbers and comparison to the MTCA Method A cleanup level for unrestricted land use for total PCBs.
- The extents of the excavated soil and temporary stockpile locations.
- Copies of original analytical reports and data quality assurance reports, including method detection limits and practical quantitation limits.

8.0 SIGNATURES

Digitally signed by Amanda Meugniot
Date: 2019.09.04 16:10:52 -07'00'

Amanda Meugniot, LG
Senior Geologist



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Dennis Terzian, LG
Senior Project Manager

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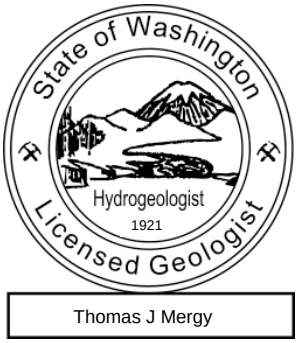
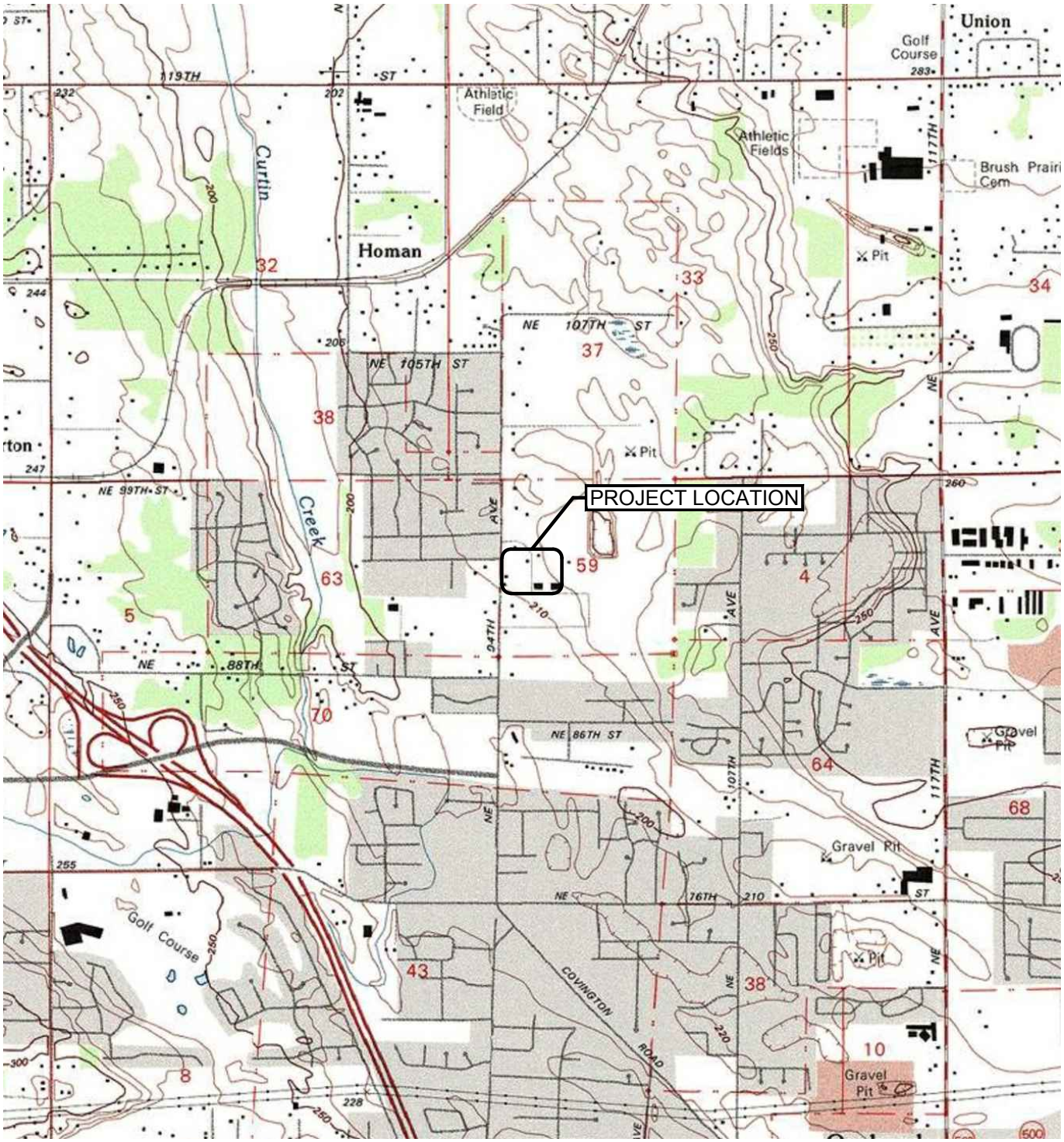
Thomas Mergy, LHG
Senior Hydrogeologist



cc. Nathan Williams, PE

Figures



SOURCE: USGS ORCHARDS, WA QUADRANGLE 1990.

WASHINGTON

Scale 1" = 2000'

0' 1000' 2000' 4000'

PREPARED FOR: FLEISCHER PROPERTIES

PBS

VICINITY MAP

9109 AND 9115 NORTHEAST 94TH AVENUE
VANCOUVER, WASHINGTON

JUL 2019
22875.000

FIGURE
1

LEGEND

- POLE-MOUNTED TRANSFORMER
- SITE BOUNDARY
- TAX LOT BOUNDARY
- FENCE

Scale 1" = 100'

0' 50' 100' 200'

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SITE FEATURES

REMEDIAL INVESTIGATION WORK PLAN

9109 AND 9115 NORTHEAST 94TH AVENUE, VANCOUVER, WASHINGTON

PROJECT
22875.000
DATE
JUL 2019
SHEET ID
2

Full Size Sheet Format Is 11x17; If Printed Size Is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

Filename: L:\Projects\22000\22800-22899\22875 NE94thVancouver\DWG\22875.000_Figure_1-6.dwg Layout Tab: WORK PLAN User: Katie Breyman CAD Plot Date/Time: 7/29/2019 4:23:16 PM

LEGEND

- 12 — SOIL SAMPLE GRID NUMBER (2010 GEODESIGN, INC. INVESTIGATION)
- POLE-MOUNTED TRANSFORMER
- SS-1 — COMPOSITE SOIL SAMPLE SECTION FROM 2010 GEODESIGN, INC. INVESTIGATION
- SITE BOUNDARY
- TAX LOT BOUNDARY
- FENCE
- COMPOSITE SOIL SAMPLE SECTION FROM 2010 GEODESIGN, INC. INVESTIGATION

N

Scale 1" = 100'

0' 50' 100' 200'

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2010 INVESTIGATION LOCATIONS

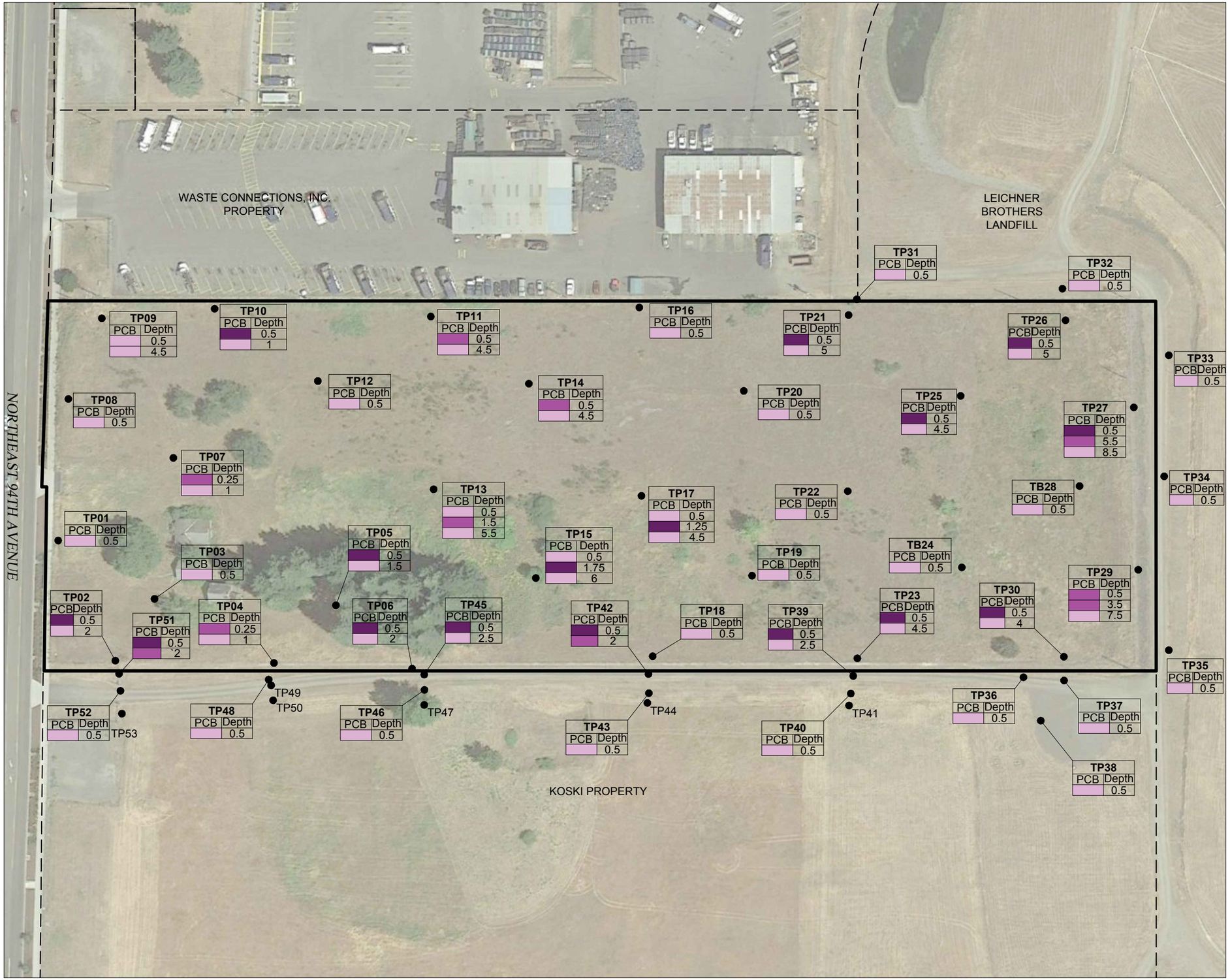
REMEDIAL INVESTIGATION WORK PLAN

9109 AND 9115 NORTHEAST 94TH AVENUE, VANCOUVER, WASHINGTON

PROJECT
22875.000
DATE
JUL 2019
SHEET ID
3

Full Size Sheet Format Is 11x17; If Printed Size Is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

Filename: L:\Projects\22000\22800-22899\22875 NE94thVancouver\DWG\22875.000_Figure_1-6.dwg Layout Tab: SITE FEATURES User: Katie Breyman CAD Plot Date/Time: 7/29/2019 4:23:28 PM



LEGEND

- ● TP01 — 2014 FOCUSED SITE CHARACTERIZATION TEST PIT NUMBER AND LOCATION (MAUL FOSTER & ALONGI, INC)
- SITE BOUNDARY

PCB CONCENTRATIONS (mg/kg)

- < 1
- 1-10
- > 10

Scale 1" = 100'

0' 50' 100' 200'

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2014 INVESTIGATION LOCATIONS AND PCB CONCENTRATIONS
REMEDIAL INVESTIGATION WORK PLAN
9109 AND 9115 NORTHEAST 94TH AVENUE, VANCOUVER, WASHINGTON

PROJECT
22875.000
DATE
AUG 2019
SHEET ID
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LEGEND

- POLE-MOUNTED TRANSFORMER
- SITE BOUNDARY
- TAX LOT BOUNDARY
- FENCE
- DECISION UNIT LOCATION
- ANTICIPATED AREA WITH PCBs ≥ 50mg/kg

2014 FOCUSED SITE CHARACTERIZATION TEST PIT NUMBER AND LOCATION (MAUL FOSTER AND ALONGI, INC)

- TP01 LOCATION WITH PCBs < 1mg/kg
- TP02 LOCATION WITH PCBs < 50mg/kg
- TP03 LOCATION WITH PCBs ≥ 50mg/kg

Scale 1" = 100'

0' 50' 100' 200'

PREPARED FOR: FLEISCHER PROPERTIES

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REMEDIAL INVESTIGATION WORK PLAN

REMEDIAL DECISION UNIT LAYOUT

9109 AND 9115 NORTHEAST 94TH AVENUE, VANCOUVER, WASHINGTON

PROJECT
22875.000
DATE
AUG 2019
SHEET ID
5

Full Size Sheet Format Is 11x17; If Printed Size Is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

Tables

TABLE 1
SUMMARY OF 2014 SOIL ANALYTICAL RESULTS
Fleischer Properties
9109 and 9115 Northeast 94th Avenue, Vancouver, Washington
PBS Project No. 22875.000

				PCBs[b] (mg/kg)										Metals[c] (mg/kg)									TPH[d] (mg/kg)	
Location	**Sample Name**	**Collection Date**	**Sample Depth (ft bgs)**	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs[e]	Arsenic	Chromium	Copper	Iron	Lead	Manganese	Mercury	Nickel	Zinc	Diesel	Lube Oil
MTCA A Industrial Land Use[a]				NV	NV	NV	NV	NV	NV	NV	NV	NV	**10**	20	2,000	NV	NV	1,000	NV	2	NV	NV	**2,000**	**2,000**
TP01	TP01-S-0.5	7/15/2014	0.5	<0.0004	<0.0004	<0.0004	<0.0004	0.389	<0.0004	<0.0004	<0.0004	<0.0004	0.389	--	--	--	--	--	--	--	--	--	--	--
TP02	TP02-S-0.5	7/15/2014	0.5	<0.000363	<0.000363	<0.000363	<0.000363	32.4	<0.000363	<0.000363	<0.000363	<0.000363	**32.4**	2.57	14.8	35.7	--	38.8	--	0.0341	16.3	601	138	855
	TP02-S-2.0	7/15/2014	2.0	<0.000377	<0.000377	<0.000377	<0.000377	0.185	<0.000377	<0.000377	<0.000377	<0.000377	0.185	--	--	--	--	--	--	--	--	--	--	--
TP03	TP03-S-0.5	7/15/2014	0.5	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	<0.000406	2.95	9.98	29.7	--	7.71	--	<0.0192	10.1	78.5	18.3	67
TP04	TP04-S-0.25	7/15/2014	0.3	<0.000397	<0.000397	<0.000397	<0.000397	6.13	<0.000397	<0.000397	<0.000397	<0.000397	6.13	3.09	14.1	43.2	--	53.6	--	0.0631	12.6	836	85.7	659
	TP04-S-1.0	7/15/2014	1.0	<0.000427	<0.000427	<0.000427	<0.000427	0.0667	<0.000427	<0.000427	<0.000427	<0.000427	0.0667	--	--	--	--	--	--	--	--	--	--	--
TP05	TP05-S-0.5	7/15/2014	0.5	<0.000389	<0.000389	<0.000389	<0.000389	38	<0.000389	<0.000389	<0.000389	<0.000389	**38**	--	--	--	--	--	--	--	--	--	--	--
	TP05-S-1.5	7/15/2014	1.5	<0.000406	<0.000406	<0.000406	<0.000406	0.0458	<0.000406	<0.000406	<0.000406	<0.000406	0.0458	--	--	--	--	--	--	--	--	--	--	--
TP06	TP06-S-0.5	7/15/2014	0.5	<0.000379	<0.000379	<0.000379	<0.000379	48.3	<0.000379	<0.000379	<0.000379	<0.000379	**48.3**	2.05	16	44.4	--	45.9	--	0.0485	11.4	2380	111	386
	TP06-S-2.0	7/15/2014	2.0	<0.00038	<0.00038	<0.00038	<0.00038	0.114	<0.00038	<0.00038	<0.00038	<0.00038	0.114	--	--	--	--	--	--	--	--	--	--	--
TP07	TP07-S-0.25	7/15/2014	0.3	<0.000361	<0.000361	<0.000361	<0.000361	1.26	<0.000361	<0.000361	<0.000361	<0.000361	1.26	3.9	13.8	40.1	--	56.3	--	0.075	20.2	238	149	825
	TP07-S-1.0	7/15/2014	1.0	<0.000406	<0.000406	<0.000406	<0.000406	0.045	<0.000406	<0.000406	<0.000406	<0.000406	0.045	--	--	--	--	--	--	--	--	--	--	--
TP08	TP08-S-0.5	7/15/2014	0.5	<0.00038	<0.00038	<0.00038	<0.00038	0.0822	<0.00038	<0.00038	<0.00038	<0.00038	0.0822	2.51	9.87	28.3	--	15.4	--	0.0277	10.4	83.8	52.3	405
TP09	TP09-S-0.5	7/15/2014	0.5	<0.00043	<0.00043	<0.00043	<0.00043	0.997	<0.00043	<0.00043	<0.00043	<0.00043	0.997	--	--	--	--	--	--	--	--	--	--	--
	TP09-S-4.5	7/15/2014	4.5	<0.000366	<0.000366	<0.000366	<0.000366	<0.000366	<0.000366	<0.000366	<0.000366	<0.000366	<0.000366	--	--	--	--	--	--	--	--	--	--	--
TP10	TP10-S-0.5	7/15/2014	0.5	<0.000399	<0.000399	<0.000399	<0.000399	68.5	<0.000399	<0.000399	<0.000399	<0.000399	**68.5**	2.96	14.3	38.1	--	39.3	--	0.055	20.4	1030	98.8	359
	TP-S-0.5DUP	7/15/2014	0.5	<0.000399	<0.000399	<0.000399	<0.000399	53.2	<0.000399	<0.000399	<0.000399	<0.000399	**53.2**	2.74	14.4	45.3	--	34.8	--	0.0608	11.3	1340	78.2	232
	TP10-S-1.5	7/15/2014	1.5	<0.000404	<0.000404	<0.000404	<0.000404	0.0343	<0.000404	<0.000404	<0.000404	<0.000404	0.0343	--	--	--	--	--	--	--	--	--	--	--
TP11	TP11-S-0.5	7/15/2014	0.5	<0.000391	<0.000391	<0.000391	<0.000391	5.66	<0.000391	<0.000391	<0.000391	<0.000391	5.66										--	--
	TP11-S-4.5	7/15/2014	4.5	<0.000374	<0.000374	<0.000374	<0.000374	<0.000374	<0.000374	<0.000374	<0.000374	<0.000374	<0.000374	--	--	--	--	--	--	--	--	--	--	--
TP12	TP12-S-0.5	7/15/2014	0.5	<0.000396	<0.000396	<0.000396	<0.000396	0.493	<0.000396	<0.000396	<0.000396	<0.000396	0.493	2.61	12.1	30.7	--	8.65	--	0.0235	11.5	89.9	<17.8	85.2
TP13	TP13-S-0.5	7/16/2014	0.5	<0.000399	<0.000399	<0.000399	<0.000399	<0.000399	<0.000399	<0.000399	<0.000399	<0.000399	<0.000399	--	--	--	--	--	--	--	--	--	--	--
	TP13-S-1.5	7/16/2014	1.5	<0.000421	<0.000421	<0.000421	<0.000421	11.2	<0.000421	<0.000421	<0.000421	<0.000421	**11.2**	3.95	16	41.5	--	52.5	--	0.0899	14.6	893	25.8	91.7
	TP13-S-5.5	7/16/2014	5.5	<0.00037	<0.00037	<0.00037	<0.00037	0.124	<0.00037	<0.00037	<0.00037	<0.00037	0.124	--	--	--	--	--	--	--	--	--	--	--
TP14	TP14-S-0.5	7/16/2014	0.5	<0.000412	<0.000412	<0.000412	<0.000412	13.9	<0.000412	<0.000412	<0.000412	<0.000412	**13.9**	--	--	--	--	--	--	--	--	--	--	--
	TP14-S-4.5	7/16/2014	4.5	<0.00037	<0.00037	<0.00037	<0.00037	0.0256	<0.00037	<0.00037	<0.00037	<0.00037	0.0256	--	--	--	--	--	--	--	--	--	--	--
TP15	TP15-S-0.5	7/16/2014	0.5	<0.000397	<0.000397	<0.000397	<0.000397	0.108	<0.000397	<0.000397	<0.000397	<0.000397	0.108	--	--	--	--	--	--	--	--	--	--	--
	TP15-S-1.75	7/16/2014	1.8	<0.00042	<0.00042	<0.00042	<0.00042	39.2	<0.00042	<0.00042	<0.00042	<0.00042	**39.2**	2.67	15.7	28.8	--	33.3	--	0.0877	9.86	1320	65.7	201
	TP15-S-6.0	7/16/2014	6.0	<0.000373	<0.000373	<0.000373	<0.000373	0.0871	<0.000373	<0.000373	<0.000373	<0.000373	0.0871	--	--	--	--	--	--	--	--	--	--	--
TP16	TP16-S-0.5	7/16/2014	0.5	<0.000428	0.000428	0.000428	<0.000428	0.0191	<0.000428	<0.000428	<0.000428	<0.000428	0.0191	3.62	15.6	33.2	--	8.1	--	<0.0214	18.8	5010	<19.3	82.2
TP17	TP17-S-0.5	7/16/2014	0.5	<0.000385	<0.000385	<0.000385	<0.000385	1.71	<0.000385	<0.000385	<0.000385	<0.000385	1.71	--	--	--	--	--	--	--	--	--	--	--
	TP17-S-1.25	7/16/2014	1.3	<0.000418	<0.000418	<0.000418	<0.000418	86.6	<0.000418	<0.000418	<0.000418	<0.000418	**86.6**	2.48	12.8	29.3	--	38.1	--	0.067	7.71	694	59.7	165
	TP17-S-4.5	7/16/2014	4.5	<0.000375	<0.000375	<0.000375	<0.000375	0.134	<0.000375	<0.000375	<0.000375	<0.000375	0.134	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
SUMMARY OF 2014 SOIL ANALYTICAL RESULTS
Fleischer Properties
9109 and 9115 Northeast 94th Avenue, Vancouver, Washington
PBS Project No. 22875.000

				PCBs[b] (mg/kg)										Metals[c] (mg/kg)									TPH[d] (mg/kg)	
Location	**Sample Name**	**Collection Date**	**Sample Depth (ft bgs)**	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs[e]	Arsenic	Chromium	Copper	Iron	Lead	Manganese	Mercury	Nickel	Zinc	Diesel	Lube Oil
MTCA A Industrial Land Use[a]				NV	NV	NV	NV	NV	NV	NV	NV	NV	**10**	20	2,000	NV	NV	1,000	NV	2	NV	NV	**2,000**	**2,000**
TP18	TP18-S-0.5	7/16/2014	0.5	<0.000395	<0.000395	<0.000395	<0.000395	0.793	<0.000395	<0.000395	<0.000395	<0.000395	0.793	2.5	11.9	27.5	--	6.98	--	0.0286	7.42	1250	<17.8	79.4
TP19	TP19-S-0.5	7/16/2014	0.5	<0.000426	<0.000426	<0.000426	<0.000426	0.187	<0.000426	<0.000426	<0.000426	<0.000426	0.187	--	--	--	--	--	--	--	--	--	--	--
TP20	TP20-S-0.5	7/16/2014	0.5	<0.000407	<0.000407	<0.000407	<0.000407	0.803	<0.000407	<0.000407	<0.000407	<0.000407	0.803	2.07	12.7	24.3	--	6.14	--	<0.0186	19.4	348	22.6	105
TP21	TP21-S-0.5	7/16/2014	0.5	<0.000383	<0.000383	<0.000383	<0.000383	13.4	<0.000383	<0.000383	<0.000383	<0.000383	**13.4**	4.9	15.3	28.8	--	18.5	--	0.0304	13.8	2700	37.5	162
	TP21-S-5.0	7/16/2014	5.0	<0.000375	<0.000375	<0.000375	<0.000375	<0.000375	<0.000375	<0.000375	<0.000375	<0.000375	<0.000375	--	--	--	--	--	--	--	--	--	--	--
TP22	TP22-S-0.5	7/16/2014	0.5	<0.000434	<0.000434	<0.000434	<0.000434	0.635	<0.000434	<0.000434	<0.000434	<0.000434	0.635	2.5	9.46	41.6	--	7.13	--	<0.0201	10.6	168	<19.5	<65.1
TP23	TP23-S-0.5	7/16/2014	0.5	<0.000397	<0.000397	<0.000397	<0.000397	17.1	<0.000397	<0.000397	<0.000397	<0.000397	**17.1**	2.24	10.6					0.0497			23.2	104
	TP23-S-4.5	7/16/2014	4.5	<0.000363	<0.000363	<0.000363	<0.000363	<0.000363	<0.000363	<0.000363	<0.000363	<0.000363	<0.000363	--	--	--	--	--	--	--	--	--	--	--
TP24	TP24-S-0.5	7/16/2014	0.5	<0.000386	<0.000386	<0.000386	<0.000386	0.514	<0.000386	<0.000386	<0.000386	<0.000386	0.514	2.18	10.1	27.4		32.2		0.114	8.7	177	19.3	104
TP25	TP25-S-0.5	7/16/2014	0.5	<0.000387	<0.000387	<0.000387	<0.000387	26.9	<0.000387	<0.000387	<0.000387	<0.000387	**26.9**	3.7	12.6	29.2	--	23.8	--	0.0597	10.6	314	62.4	215
	TP25-S-4.5	7/16/2014	4.5	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.000185	--	--	--	--	--	--	--	--	--	--	--	--
TP26	TP26-S-0.5	7/16/2014	0.5	<0.000393	<0.000393	<0.000393	<0.000393	33.2	<0.000393	<0.000393	<0.000393	<0.000393	**33.2**	4.19	26.2	35.5	31200	95.3	538	0.0723	11.3	2380	44.9	133
	TP26-S-5.0	7/16/2014	5.0	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	--	--	--	--	--	--	--	--	--	--	--
TP27	TP27-S-0.5	7/16/2014	0.5	<0.000461	<0.000461	<0.000461	<0.000461	63.1	<0.000461	<0.000461	<0.000461	<0.000461	**63.1**	14.6	17	35.5	27200	96.4	333	0.11	8.97	448	69.3	162
	TP27-S-5.5	7/16/2014	5.5	<0.000412	<0.000412	<0.000412	<0.000412	1.56	<0.000412	<0.000412	<0.000412	<0.000412	1.56	--	--	--	--	--	--	--	--	--	--	--
	TP27-S-8.5	7/16/2014	8.5	<0.000377	<0.000377	<0.000377	<0.000377	0.392	<0.000377	<0.000377	<0.000377	<0.000377	0.392	--	--	--	--	--	--	--	--	--	--	--
TP28	TP28-S-0.5	7/16/2014	0.5	<0.000391	<0.000391	<0.000391	<0.000391	0.532	<0.000391	<0.000391	<0.000391	<0.000391	0.532	--	--	--	47400	--	817	--	--	--	--	--
TP29	TP29-S-0.5	7/16/2014	0.5	<0.000382	<0.000382	<0.000382	<0.000382	3.98	<0.000382	<0.000382	<0.000382	<0.000382	3.98	3.08	11.9	25.7	36900	15.5	429	0.0444	10.5	382	19.7	104
	TP-S-0.5DUP	7/16/2014	0.5	<0.000386	<0.000386	<0.000386	<0.000386	3.64	<0.000386	<0.000386	<0.000386	<0.000386	3.64	2.88	15.5	24.5	43300	12.6	437	0.0405	15.3	390	23.1	105
	TP29-S-3.5	7/16/2014	3.5	<0.000448	<0.000448	<0.000448	<0.000448	4.21	<0.000448	<0.000448	<0.000448	<0.000448	4.21	--	--	--	--	--	--	--	--	--	--	--
	TP29-S-7.5	7/16/2014	7.5	<0.000358	<0.000358	<0.000358	<0.000358	0.186	<0.000358	<0.000358	<0.000358	<0.000358	0.186	--	--	--	--	--	--	--	--	--	--	--
TP30	TP30-S-0.5	7/16/2014	0.5	<0.000382	<0.000382	<0.000382	<0.000382	17.3	<0.000382	<0.000382	<0.000382	<0.000382	**17.3**	--	--	--	41700	--	517	--	--	--	--	--
	TP30-S-4.0	7/16/2014	4.0	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	--	--	--	--	--	--	--	--	--	--	--
TP31	TP31-S-0.5	10/1/2014	0.5	<0.000363	<0.000363	<0.000363	<0.000363	0.0694	<0.000363	<0.000363	<0.000363	<0.000363	0.0694	--	--	--	--	--	--	--	--	--	--	--
TP32	TP32-S-0.5	10/1/2014	0.5	<0.000401	<0.000401	<0.000401	<0.000401	0.0187	<0.000401	<0.000401	<0.000401	<0.000401	0.0187	--	--	--	--	--	--	--	--	--	--	--
TP33	TP33-S-0.5	10/1/2014	0.5	<0.000337	<0.000337	<0.000337	<0.000337	<0.000337	<0.000337	<0.000337	<0.000337	<0.000337	<0.000337	--	--	--	--	--	--	--	--	--	--	--
TP34	TP34-S-0.5	10/1/2014	0.5	<0.000347	<0.000347	<0.000347	<0.000347	<0.000347	0.00955	<0.000347	<0.000347	<0.000347	0.00955	--	--	--	--	--	--	--	--	--	--	--
TP35	TP35-S-0.5	10/1/2014	0.5	<0.000349	<0.000349	<0.000349	<0.000349	0.0431	<0.000349	<0.000349	<0.000349	<0.000349	0.0431	--	--	--	--	--	--	--	--	--	--	--
TP36	TP36-S-0.5	10/1/2014	0.5	<0.000362	<0.000362	<0.000362	<0.000362	0.00404	<0.000362	<0.000362	<0.000362	<0.000362	0.00404	--	--	--	--	--	--	--	--	--	--	--
TP37	TP37-S-0.5	10/1/2014	0.5	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	<0.000362	--	--	--	--	--	--	--	--	--	--	--
TP38	TP38-S-0.5	10/1/2014	0.5	<0.000383	<0.000383	<0.000383	<0.000383	<0.000383	<0.000383	<0.000383	<0.000383	<0.000383	<0.000383	--	--	--	--	--	--	--	--	--	--	--
TP39	TP39-S-0.5	10/1/2014	0.5	<0.000385	<0.000385	<0.000385	<0.000385	19.6	<0.000385	<0.000385	<0.000385	<0.000385	**19.6**	--	--	--	--	--	--	--	--	--	--	--
	TP39-S-2.0	10/1/2014	2.0	<0.000379	<0.000379	<0.000379	<0.000379	0.434	<0.000379	<0.000379	<0.000379	<0.000379	0.434	--	--	--	--	--	--	--	--	--	--	--
TP40	TP40-S-0.5	10/1/2014	0.5	<0.000359	<0.000359	<0.000359	<0.000359	<0.000359	<0.000359	<0.000359	<0.000359	<0.000359	<0.000359	--	--	--	--	--	--	--	--	--	--	--
TP42	TP42-S-0.5	10/1/2014	0.5	<0.000378	<0.000378	<0.000378	<0.000378	118	<0.000378	<0.000378	<0.000378	<0.000378	**118**	--	--	--	--	--	--	--	--	--	--	--
	TP42-S-2.0	10/1/2014	2.0	<0.00036	<0.00036	<0.00036	<0.00036	3.93	<0.00036	<0.00036	<0.00036	<0.00036	3.93	--	--	--	--	--	--	--	--	--	--	--
TP43	TP43-S-0.5	10/1/2014	0.5	<0.000365	<0.000365	<0.000365	<0.000365	0.605	<0.000365	<0.000365	<0.000365	<0.000365	0.605	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
SUMMARY OF 2014 SOIL ANALYTICAL RESULTS
Fleischer Properties
9109 and 9115 Northeast 94th Avenue, Vancouver, Washington
PBS Project No. 22875.000

				PCBs[b] (mg/kg)										Metals[c] (mg/kg)									TPH[d] (mg/kg)	
Location	**Sample Name**	**Collection Date**	**Sample Depth (ft bgs)**	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs[e]	Arsenic	Chromium	Copper	Iron	Lead	Manganese	Mercury	Nickel	Zinc	Diesel	Lube Oil
MTCA A Industrial Land Use[a]				NV	NV	NV	NV	NV	NV	NV	NV	NV	**10**	20	2,000	NV	NV	1,000	NV	2	NV	NV	**2,000**	**2,000**
TP45	TP45-S-0.5	10/1/2014	0.5	<0.000376	<0.000376	<0.000376	<0.000376	10.8	<0.000376	<0.000376	<0.000376	<0.000376	**10.8**	--	--	--	--	--	--	--	--	--	--	--
	TP-S-DUP	10/1/2014	0.5	<0.000382	<0.000382	<0.000382	<0.000382	9.84	<0.000382	<0.000382	<0.000382	<0.000382	9.84	--	--	--	--	--	--	--	--	--	--	--
	TP45-S-2.5	10/1/2014	2.5	<0.000365	<0.000365	<0.000365	<0.000365	0.818	<0.000365	<0.000365	<0.000365	<0.000365	0.818	--	--	--	--	--	--	--	--	--	--	--
TP46	TP46-S-0.5	10/1/2014	0.5	<0.000385	<0.000385	<0.000385	<0.000385	<0.000385	<0.000385	<0.000385	<0.000385	<0.000385	<0.000385	--	--	--	--	--	--	--	--	--	--	--
TP48	TP48-S-0.5	10/1/2014	0.5	<0.000356	<0.000356	<0.000356	<0.000356	<0.000356	0.0119	<0.000356	<0.000356	<0.000356	0.0119	--	--	--	--	--	--	--	--	--	--	--
TP51	TP51-S-0.5	10/1/2014	0.5	<0.000368	<0.000368	<0.000368	<0.000368	40.3	<0.000368	<0.000368	<0.000368	<0.000368	**40.3**	--	--	--	--	--	--	--	--	--	--	--
	TP51-S-2.0	10/1/2014	2.0	<0.000369	<0.000369	<0.000369	<0.000369	2.84	<0.000369	<0.000369	<0.000369	<0.000369	2.84	--	--	--	--	--	--	--	--	--	--	--
TP52	TP52-S-0.5	10/1/2014	0.5	<0.000358	<0.000358	<0.000358	<0.000358	<0.000358	<0.000358	0.0319	<0.000358	<0.000358	0.0319	--	--	--	--	--	--	--	--	--	--	--

Notes:
BOLD indicates concentration exceeding MTCA Method A Soil Cleanup Level for Industrial Land Use
Highlighted cells are "J" flagged as estimated values
<## indicates analyte not detected at or above given laboratory reporting limit
-- indicates sample not analyzed for given parameter
NV indicates no value is set for the cleanup level

Abbreviations & Acronyms:
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram
PCBs - Polychlorinated biphenyls
TPH - total petroleum hydrocarbons

Footnotes:
[a] Washington State Department of Ecology Model Toxics Control Act Method A Cleanup Level for Unrestricted Land Use as established in WAC 173-340-900
[b] Analyzed by Environmental Protection Agency Method 8082[A]
[c] Analyzed by Environmental Protection Agency Method 6020A and 7471B (Mercury)
[d] Analyzed by Northwest Total Petroleum Hydrocarbon Method - Semi-volatile Petroleum Products (Extended) (NWTPH-Dx) with silica gel treatment
[e] Total PCBs = sum of PCB Aroclors. Non-detect results are summed as zero. For samples in which all Aroclors are non-deted, total PCB is assigned the highest reporting limit value.

TABLE 2
DIRECT PUSH BORING SAMPLE MATRIX
Fleishcer Properties
9109 and 9115 Northeast 94th Avenue, Vancouver WA
PBS Project No. 22875.000

Soil Boring Location	Soil Boring ID	Sample Collection Depth (ft bgs)					
		0.5	1.5	2.5	5	7.5	10
Boring locations for lateral delineation of PCBs >50 mg/kg							
TP10	SB10	X	X	H	H	H	H
25ft E of TP10	SB10-E1	X	X	H	H	H	H
25ft S of TP10	SB10-S1	X	X	H	H	H	H
25ft W of TP10	SB10-W1	X	X	H	H	H	H
50ft E of TP10	SB10-E2	H	H	H	H	H	H
50ft S of TP10	SB10-S2	H	H	H	H	H	H
50ft W of TP10	SB10-W2	H	H	H	H	H	H
TP17	SB17	X	X	X	X	H	H
25ft N of TP17	SB17-N1	X	X	H	X	H	H
25ft E of TP17	SB17-E1	X	X	H	H	H	H
25ft S of TP17	SB17-S1	X	X	H	H	H	H
25ft W of TP17	SB17-W1	X	X	H	H	H	H
50ft N of TP17	SB17-N2	H	H	H	H	H	H
50ft E of TP17	SB17-E2	H	H	H	H	H	H
50ft S of TP17	SB17-S2	H	H	H	H	H	H
50ft W of TP17	SB17-W2	H	H	H	H	H	H
TP27	SB27	X	X	X	X	H	H
25ft N of TP27	SB27-N1	X	X	H	H	H	H
25ft E of TP27	SB27-E1	X	X	H	H	H	H
25ft S of TP27	SB27-S1	X	X	H	H	H	H
25ft W of TP27	SB27-W1	X	X	H	H	H	H
50ft N of TP27	SB27-N2	H	H	H	H	H	H
50ft S of TP27	SB27-S2	H	H	H	H	H	H
50ft W of TP27	SB27-W2	H	H	H	H	H	H
TP42	SB42W2	X	X	X	H	H	H
25ft N of TP42	SB42-N1	X	X	H	H	H	H
25ft E of TP42	SB42-E1	X	X	H	H	H	H
25ft W of TP42	SB42-W1	X	X	H	H	H	H
50ft E of TP42	SB42-E2	X	X	H	H	H	H
50ft W of TP42	SB42-W2	X	X	H	H	H	H

TABLE 2
DIRECT PUSH BORING SAMPLE MATRIX
Fleishcer Properties
9109 and 9115 Northeast 94th Avenue, Vancouver WA
PBS Project No. 22875.000

Soil Boring Location	Soil Boring ID	Sample Collection Depth (ft bgs)					
		0.5	1.5	2.5	5	7.5	10
Boring locations for vertical delineation of PCBs							
TP09	S1	X	H	H	H	H	H
TP02	S2	X	X	H	H	H	H
TP07	S3	X	X	H	H	H	H
Section 4, cleared area south of barn	S4	X	X	H	H	H	H
TP12	S5	X	H	H	H	H	H
TP05	S6	X	X	H	H	H	H
TP11	S7	X	X	H	H	H	H
TP13	S8	X	X	X	H	H	H
TP14	S9	X	X	H	H	H	H
TP15	S10	X	X	X	H	H	H
TP16	S11	X	H	H	H	H	H
TP18	S12	X	H	H	H	H	H
TP20	S13	X	H	H	H	H	H
TP19	S14	X	H	H	H	H	H
TP21	S15	X	X	H	H	H	H
TP23	S16	X	X	H	H	H	H
TP25	S17	X	X	H	H	H	H
TP24	S18	X	H	H	H	H	H
TP26	S19	X	X	H	H	H	H
Between TP29 and TP30	S20	X	X	X	H	H	H

Notes:
X indicates sample will be analyzed for PCBs
H indicates sample will be held pending results of shallow samples

Abbreviations & Acronyms:
mg/kg - milligrams per kilogram
ft - feet
bgs - below ground surface
PCBs - polychlorinated biphenyls