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Remedial Design Investigation Evaluation Report Willamette Cove Upland Facility Portland, Oregon

Prepared for:
Port of Portland

March 22, 2023
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Abbreviations/Acronyms

AEC	Anderson Environmental Contracting
Apex	Apex Companies, LLC
Apex Labs	Apex Laboratories, Inc.
APS	Applied Professional Services
BBL	Blasland, Bouck & Lee
bgs	below ground surface
BNSF	Burlington Northern Santa Fe
COC	chemical of concern
COI	contaminant of interest
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CRB	Columbia River basalt
CSM	conceptual site model
D/F	dioxins/furans
DEQ	Oregon Department of Environmental Quality
DU	Decision Unit
ECSI	Environmental Cleanup Site Information
EPA	U.S. Environmental Protection Agency
ER	exceedance ratio
Facility	Willamette Cove Upland Facility
FCR	Field Change Request
FS	feasibility study
GPS	global positioning device
GSI	GSI Water Solutions, Inc.
HPAHs	high molecular weight polycyclic aromatic hydrocarbons
ISM	incremental sampling methodology
McCormick & Baxter	McCormick & Baxter Creosoting Company Superfund Site
MDL	method detection limit
MFD	Missoula Flood Deposits
mg/kg	milligrams per kilogram
MHW	mean high water
MOU	Memorandum of Understanding
NAVD88	North American Vertical Datum 88
NF	NewFields
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
ODFW	Oregon Department of Fish and Wildlife
OLWL	ordinary low water line
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PHSS	Portland Harbor Superfund Site
Port	Port of Portland
PRG	preliminary remediation goal
RDI	Remedial Design Investigation
RI	remedial investigation
ROD	Record of Decision
RSD	relative standard deviation
SAIL	Multnomah County Survey and Assessment Image Locator
SCE	source control evaluation

sf	square feet
SLV	screening level value
SVOCs	semi-volatile organic compounds
TEQ	toxic equivalency
TOB	top of bank
TPH	total petroleum hydrocarbons
UPRR	Union Pacific Railroad
VCP	Voluntary Cleanup Program
VOCs	volatile organic compound
Work Plan	Willamette Cove Remedial Design Investigation Work Plan

1.0 Introduction

Apex Companies, LLC (Apex) has prepared this Remedial Design Investigation (RDI) report for the Willamette Cove Upland Facility (the Facility) as part of a Voluntary Cleanup Program (VCP) Agreement EC-NWR-00-26 between the Port of Portland (Port), Metro, and the Oregon Department of Environmental Quality (DEQ). The Facility is defined in the DEQ Environmental Cleanup Site Information (ECSI) database as ECSI No. 2066.

This RDI report describes the investigation approach and field sampling activities completed and summarizes the results of those activities, which were completed in accordance with the Willamette Cove RDI Work Plan (Work Plan; Apex, 2022) unless otherwise described in this report. The Work Plan was conditionally approved by DEQ in an email dated July 7, 2022, and final approval was issued in a letter dated August 16, 2022. For the purpose of the RDI, the Site consists of that portion of the upland Facility landward of the top of the riverbank. Investigation and cleanup of the riverbank, beach, and in-water contamination are being conducted separately under the Portland Harbor Superfund Site (PHSS) in-water actions, overseen by the U.S. Environmental Protection Agency (EPA).

1.1 Purpose and Objectives

The purpose of the RDI was to gather sufficient information to design the remedial action for the Facility. The specific objectives of the RDI include the following:

- Define the lateral and vertical extent of soil hot spots designated for excavation and off-site disposal;
- Define the lateral and vertical extent of soil posing excess risk to human and ecological receptors that will be excavated and disposed of off-site;[1]
- Define the lateral and vertical extent of soil with excess ecological receptor risk that will remain in place following excavation of soil described above; and
- Generate data to support residual risk assessment.

The previous data set and removal action efforts were evaluated to identify data gaps to be resolved to achieve the above objectives. The intent of the sampling completed at the Site was to provide data necessary to resolve the identified data gaps. Resolution of these data gaps is used to refine the conceptual site model (CSM) and support the remedial design process. The data gaps to be addressed by the RDI are as follows:

- Vertical delineation of chemicals of concern (COCs) exceeding hot spot levels and/or preliminary remediation goals (PRGs);
- Lateral delineation of COCs exceeding hot spot levels and/or PRGs; and

[1] The record of decision includes consolidation and on-site capping for a portion of the soil with excess risk. However, at this time, Metro has elected to forego on-site consolidation and dispose of the soil off-site.

- COC concentrations in soil beneath the concrete pad on the East Parcel.

1.2 Regulatory Framework

Since 1988, a succession of site-specific investigations and removal actions have been implemented at the Facility. The Facility is defined within the DEQ ECSI database as No. 2066. In November 2000, the Port and Metro entered into a voluntary agreement (ECVC-NWR-00-26) with DEQ to perform a remedial investigation/feasibility study (RI/FS) and implement any needed source control measures to prevent releases to Portland Harbor. In December 2000, the EPA identified the Portland Harbor area of the lower Willamette River as a Superfund Site (ID No. ORSFN1002155) and placed it on the National Priorities List (NPL) due to concerns of contamination in Willamette River sediments posing risks to human health and the environment. The EPA selected a final action for the Portland Harbor in the January 2017 Record of Decision (ROD).

In 2001, the EPA entered into a Memorandum of Understanding (MOU) with the DEQ, six federally recognized Native American Tribes, the National Oceanic and Atmospheric Administration (NOAA), the U.S. Department of the Interior, and the Oregon Department of Fish and Wildlife (ODFW). Under this MOU, the DEQ is the lead agency for addressing sources of contamination in the upland portions of the Superfund Site (i.e., source control) and the EPA is the support agency.

Willamette Cove is located within the Portland Harbor and subject to the EPA ROD. DEQ is the lead agency for assessment and cleanup of upland facilities that could pose a source of sediment contamination to the harbor, and correspondingly the Willamette Cove was identified by DEQ for upland assessment. Prior to 2000, environmental assessments were conducted at Willamette Cove related to property transfers.

The Port and Metro conducted the RI of the Facility between April 2001 and September 2002. The RI combined historical information (prior to 2001) and results of the investigation to develop a CSM and a list of contaminants of interest (COIs). Multiple subsequent investigations were conducted between 2002 and 2017 to further investigate areas identified in the RI and resolve data gaps. An FS and a source control evaluation were conducted in 2019 (Apex, 2019). The DEQ selected a final remedial action for the upland facility in the March 2021 ROD (DEQ, 2021). The remedial action objectives defined in the ROD include the following:

- Prevent exposure of human receptors (recreational/park user, transient trespasser, construction worker) to soil containing COCs at concentrations exceeding individual and cumulative acceptable risk levels;
- Prevent exposure of ecological receptors (mammals, birds, invertebrates, plants) to soil containing COCs at concentrations exceeding individual and cumulative acceptable risk levels;
- Remove or treat soil hot spots of contamination to the extent feasible and practicable; and
- Prevent further migration of contaminated upland soil to the river, to the extent practicable.

1.3 Report Organization

This document is organized in the following manner:

- Section 2 provides a description of the Site, previous investigations, and interim actions;
- Section 3 presents the investigation approach and field sampling activities completed at the Site and any deviations from the Work Plan;
- Section 4 summarizes the analytical results of the field sampling;
- Section 5 presents the general basis for remedial design;
- Section 6 presents a summary of remaining data gaps;
- Section 7 presents the conclusions of the investigation; and
- Section 8 lists the references cited in this Report.

Supporting information is provided in tables, figures, and appendices.

2.0 Site Description and Background

2.1 Site Description

The Facility is located along the northeast bank of the Willamette River in the St. Johns area of Portland, Oregon. Figure 1 shows the location of the Facility. It is situated between River Miles 6 and 7 on the Willamette River and is mostly in Section 12 of Township 1 North, Range 1 West, Willamette Meridian. The Facility has been owned by Metro since 1996. Figure 2 provides a current plan of the Facility, the Site, and the surrounding area. For the purposes of describing the Facility, it has been divided into West, Central, and East Parcels as shown on Figure 2.

2.1.1 Extent of Upland Facility

The upland portion of the Facility is approximately 3,000 feet long and varies from 110 to 700 feet in width. The edge of the cove is up to 800 feet from the main river channel; it was created primarily as a result of the placement of the embankment leading up to the Burlington Northern Santa Fe (BNSF) railroad bridge. The Facility as defined in the VCP Agreement covers approximately 24 acres of upland area that is inland from the ordinary low water line (OLWL). However, the scope of work for the VCP Agreement limits the work to areas inland from the mean high water (MHW) line (defined as 13.3 feet, North American vertical datum 88 [NAVD88] datum) to the property line with the Union Pacific Railroad (UPRR). DEQ and EPA have agreed that the riverbank at the Facility (defined as the area from the waterline to the top of bank [TOB]) will be addressed as part of in-water activity. Although the FS included the upper portion of the riverbank, the RDI work does not include any portion of the Facility below the TOB. The Site for this RDI, therefore, covers an

area of approximately 18.63 acres, divided as follows: West Parcel (4.28 acres); Central Parcel (7.76 acres); and East Parcel (6.59 acres).

2.1.2 Structures and Improvements

There are no structures on the Site. Indications of previous structures include a large concrete slab foundation and a paved roadway in the eastern portion of the Site, as well as several smaller concrete slabs or foundations.

2.1.3 Topography

The Site is situated on a terrace created by historical filling. Overall, the topography of this terrace is flat, with an elevation ranging between 30 and 45 feet (all elevations in the report refer to NAVD88 unless otherwise noted). The southern portion of the West Parcel is slightly higher, at elevation 50 to 55 feet. Berms and hummocks are occasionally present.

Adjacent to the Site, the riverbank is generally a steep slope down to the river. The BNSF railroad embankment along the southeast perimeter of the cove rises steeply approximately 50 feet above the cove. North of the Site, across the UPRR tracks, is a naturally formed 120- to 150-foot-high bluff. This bluff rises at approximately 5H:4V adjacent to the East and Central Parcels. Near the West Parcel, the slope is approximately 10H:3V.

2.1.4 Vegetation

A development planning document (Alta Planning and Design, 2010) summarizes results from a natural resource assessment of the Facility completed in 1999. Native species found on Site include: Oregon white oak (Quercus garryana), madrone (*Arbutus meziesii*), bigleaf maple (*Acer macrophyllum*) and black cottonwood (*Populus trichocarpa*).

2.1.5 Surrounding Properties

The Site is bordered on the northeast by the UPRR tracks. Farther to the northeast is a vegetated bluff. A residential area is present on top of the bluff and farther inland. Bordering the northwest side of the Site is a vacated portion of North Richmond Avenue with industrial property beyond. To the southeast is an embankment for the BNSF railroad bridge over the Willamette River. On the opposite side of this embankment is the former McCormick & Baxter Creosoting Company, a federal Superfund Site (McCormick & Baxter). Toward the river, the Site is bordered by the riverbank and the surface water of the cove and Willamette River.

2.1.6 Cultural Resources

A cultural resource survey of the Facility was conducted in 2003 (Archaeological Investigations Northwest, Inc., 2003) with the conclusion that there are no significant archaeological or historical resources identified. However, it is possible that significant resources may be encountered if future activity were to disturb the original floodplain surface and underlying native soils north and east of the 1910 shoreline. In addition, during part of the 2016 excavation activities, an archaeologist was on site to observe the debris encountered in one area of the Central Parcel. The conclusion of the archaeologist was that the brick and other debris encountered should not be recorded as an archaeological site.

2.1.7 Geology

The geology beneath the Facility consists of fill and the presence of alluvial and Columbia River basalt (CRB) materials. Early maps of the area indicate the current upland portion of the facility consisted of a strip of lowland adjacent to the current UPRR railroad tracks. Based on historical maps and photographs, fill was placed on this lowland and outward into the Willamette River prior to and concurrent with development. The thickness of the fill across the Facility likely varies from about 20 to 30 feet; however, in places, it could be up to 60 feet (such as in a former log pond on the West Parcel filled in the early 1970s). During recent geotechnical explorations at the Site conducted as part of the pre-design investigation (GSI Water Solutions, Inc. [GSI], 2021), fill materials were encountered from the ground surface to depths ranging between 21.0 and 30.5 feet below ground surface (bgs) in four upland soil borings. Alluvium underlying the fill unit consists of Missoula Flood Deposits (MFD) and recent alluvium defined as downstream sands and gravels, cove elastic silts, and cove sands. MFD are typically fine-grained and coarse-grained units. The alluvium was encountered in the GSI upland borings from the bottom of the fill to depths ranging from 40 feet to greater than 75 feet (the termination depths of the borings). The Troutdale Formation was encountered at a boring located on the West Parcel at a depth of approximately 75 feet bgs (GSI, 2021). The Troutdale formation consists of a very dense conglomerate with a silty matrix. CRB underlies the alluvium and Troutdale deposits. Offshore, the CRB was encountered at relatively shallow depths, but was not identified in any upland borings.

2.1.8 Existing Conditions and Site Use

The Facility is currently vacant, covered with invasive and native vegetation, and it provides habitat for opportunistic use by wildlife. The site is not managed for any human use and is posted to prohibit trespassing. However, trespassers do come on the site (e.g., homeless persons and joggers/walkers).

The Facility is currently zoned as an open space (OS) zone with “g” (River General) and “q” (River Water Quality) greenway overlay zones (City of Portland, 2023). The open space zone is intended to preserve and enhance public and private open, natural, and improved park and recreational areas. Greenway regulations are also intended to protect, conserve, enhance, and maintain the natural, scenic, historical, economic, and recreational qualities of lands along Portland’s rivers. Specifically, the “g” overlay is intended to allow public

use and enjoyment of the waterfront and for enhancement of the river's scenic and natural qualities. The "q" overlay is designed to protect the functional values of water quality resources by limiting or mitigating the impact of development in the 50- to 200-foot setback from the top of bank. Other nearby zoning includes commercial (EG2), residential (R2 and R5), open space (OS), and industrial (IH and IG2).

The Facility is included in a citywide inventory that identified scenic resources (City of Portland, 2012). The Facility is identified as a scenic viewpoint. The zoning map shows a public-use trail through the Facility (City of Portland, 2023). However, this trail is only proposed as part of the regional trail plan adopted by Metro (Alta Planning and Design, 2010).

2.2 Previous Environmental Work

2.2.1 Soil Sampling and Removal Actions

Numerous investigations, assessments, and environmental actions have been performed at the Facility since 1988, summarized as follows:

- Due diligence assessments, 1988 to 1995;
- Remedial investigation (Hart Crowser, 2003), 2001 to 2002;
- Upland soil removal for metals on the eastern portion of the Central Parcel (Ash Creek Associates and NewFields [Ash Creek/NF], 2008), June 2008;
- Riverbank soil sampling (Blasland, Bouck & Lee [BBL] and Ash Creek/NF, 2006; Ash Creek/NF, 2008; Ash Creek, 2011), 2005 to 2010;[2]
- Inner cove and wharf road beach sampling (Ash Creek, 2005; Ash Creek/NF, 2010), 2004 and 2007;
- Wharf road area sampling (Ash Creek, 2012), 2012;
- Upland dioxin/furan and metals sampling (Apex, 2014a; Apex, 2014b; Apex, 2014c; Apex, 2015a; Apex, 2016), 2014 to 2016;
- Hot spot removal action (Apex, 2015b, Apex, 2016), 2015 to 2016; and
- West Parcel soil sampling (Apex, 2017), 2016 to 2017.

Sample locations are shown on figures in Appendix A of the Work Plan, and historical soil data are presented in Appendix B of the Work Plan.

[2] Although the riverbank is not within the Site, data from the riverbank were included with Site data in identifying contaminants to include in the RDI analyses.

2.2.2 2019 Feasibility Study

An FS and source control evaluation (SCE) were prepared (Apex, 2019) to evaluate remedial options and recommend a remedial alternative to address unacceptable baseline risk at the Facility. Direct contact exposure pathways for upland ecological and human (park user and transient trespasser) receptors are complete. From a source control evaluation standpoint, complete migration pathways were determined to be erosion of riverbank soil and groundwater to surface water. COCs identified in the FS included metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and dioxins/furans for soil. Source control COCs also included total petroleum hydrocarbons (TPH). Dioxins/furans are the primary risk driver at the Facility.

Remedial action alternatives were developed to address upland soils, and each alternative was evaluated using balancing factors. The DEQ used the FS to prepare the ROD presenting the selected Site remedy.

2.3 Upland Selected Remedy

The selected remedy is an excavation-focused effort consisting of the following key elements:

- Excavation and off-site disposal of all soil exceeding hot spot levels for human health;
- Excavation and off-site disposal of soil exceeding non-dioxin/furan hot spot levels for ecological health;
- Consolidation and on-site capping of a) soil posing an excess risk to humans but below hot spot levels; and b) soil with higher risk levels relative to plants and animals, including hot spots;[3] and
- Following off-site disposal and on-site consolidation and capping, in-place covering of residual soil contamination posing a lower-level risk to plants and animals.

The remedy includes a contingency remedy to dispose of soil off-site rather than placing in an on-site consolidation cell (at Metro's discretion). To the extent that the final remedy includes engineering controls, the remedy will also include institutional controls and long-term monitoring and maintenance.

3.0 Activities Completed

This section describes the field activities conducted to collect the soil samples. Soil samples were collected in accordance with the RDI Work Plan except where modified based on field conditions. Deviations from the work plan are described in Section 3.4.

[3] As noted prior, as of this time, Metro has elected to dispose of this soil off-site rather than consolidate on the Site.

3.1 Pre-field Activities

Preparatory activities for soil characterization efforts included:

- Coordinating property access with Metro personnel and McCormick and Baxter (for access to the project staging area);
- Coordination of Site security for the project staging area (security services were provided by Arrakis Professional Services under subcontract to Apex);
- Clearing proposed sample locations for underground utility conflicts (private underground utility clearing was provided by Applied Professional Services (APS) under subcontract to Apex);
- Preparing health and safety documents;
- Procuring three temporary field team members through Aerotek;
- Procuring a temporary field office, storage container, and utility vehicle;
- Field testing sampling equipment with the Port and DEQ; and
- Project kickoff meeting with the Port, Metro and DEQ on July 13, 2022.

3.2 Boundary Survey Field Confirmation

Apex located Metro property boundaries in the field using existing survey documentation provided by Metro with confirmation using Portland Maps and the Multnomah County Survey and Assessment Image Locator (SAIL). The boundaries of the Decision Units (DUs) along the east edge of the East Parcel, the northern edge of all three parcels, and the west edge of the West Parcel are based on the survey documentation.

3.3 Soil Sampling

The Site was divided into a total of 44 DUs, consisting of 38 incremental sampling methodology (ISM, 30-increment) DUs and six five-point composite sample DUs (composite samples were collected from areas covered by concrete slabs). ISM probabilistic-based sampling methodology is described in detail in the RDI Work Plan (Apex, 2022). The 38 ISM DUs are approximately half-acre size (DU sizes range from 0.26 to 0.68 acres with an average of 0.46 acres). Of the six five-point composite sample DUs, DU-39 and DU-40 each comprise half of the large concrete slab in the East Parcel and are 0.5 and 0.49 acres in size, respectively. The remaining four five-point composite sample DUs are concrete slabs discovered after the RDI sampling began and range in size from 0.09 to 0.25 acres. In general, the DUs are configured to correspond to historical operational areas and Facility features such as the Facility boundaries to the west, north, and east, existing gravel roads, and the top of bank on the riverward boundary. The top of bank is defined as the point where the slope of the land surface changes from toward the river to towards the uplands and is defined on the figures as "Top of Bank Plus Areas of Potentially Erodible Soil." There are two small depressions on the top

of bank in the Central Parcel that are included in the DUs that would otherwise be excluded from sampling based on the "top of bank" definition.

The RDI sampling activities were initiated on July 18, 2022 and completed on December 1, 2022. The secure area of the adjacent McCormick and Baxter site was used as a staging area for sampling equipment, a field office, and staff vehicle parking. A utility all-terrain vehicle was used to mobilize sampling personnel and equipment to each sampling area. Field notes for the RDI sampling activities are included in Appendix A. Appendix B is a photograph log of the RDI sampling activities.

Team progress meetings (Port, DEQ, Metro, and Apex) were conducted on an approximately bi-weekly schedule throughout the duration of the RDI sampling program. In addition, weekly progress reports were submitted to DEQ. A field audit was conducted by Apex on August 3, 2022. The weekly reports and the field audit form are included in Appendix C.

The increment and composite sampling locations were located in the field using a global positioning device (GPS; Trimble© Geo7x™) with sub meter accuracy. If increment locations had to be relocated a significant distance (greater than 2 feet) due to obstructions or interferences (such as the fiber optics line that is present parallel to the UPRR tracks), a revised GPS coordinate was collected for that increment. Sampled increment locations are documented in Appendix D.

Sampling equipment decontamination was conducted as described in the Sampling and Analysis Plan (SAP; Appendix C of the Work Plan [Apex, 2022]).

3.3.1 ISM Sampling (DU-1 through DU-36, DU-38)

Each 1-foot ISM increment sample was collected using hand tools as described below. To access the 1-to-2- and 2-to-3-foot target sampling intervals at each ISM increment location, soil was excavated in two adjacent locations, one to a depth of 1 foot and one to a depth of 2 feet using a mini excavator. The mini excavator was equipped with an 18-inch-wide bucket and was operated by Anderson Environmental Contracting (AEC) under subcontract to Apex.

On May 6, 2022, prior to initiation of the RDI sampling program, field testing of various sampling tools was conducted to identify a sampling method that would yield a representative and repeatable sample volume of approximately 130 grams of soil. Based on the field testing, the method selected for the ISM sampling consisted of a 1 ¼-inch diameter concrete/masonry hammer drill bit advanced 1 foot into the ground surface. The drill bit was advanced through a hole in the bottom of a plastic bucket slightly larger than the bit, and the soil was carried up the drill flights into the bucket. The soil was transferred from the bucket to a paper container and weighed. If the weight of the soil was significantly greater than 130 grams (i.e., over 200 grams), the soil was thoroughly homogenized in the weigh boat and excess soil was removed until the weight was close to 130 grams.

Field replicates were collected from each depth interval in 20 percent of the ISM DUs. Two field replicates plus the primary incremental sample were collected from locations DU-5 (West Parcel), DU-11 (Central Parcel), DU-13 (Central Parcel), DU-18 (Central Parcel), DU-22 (Central Parcel), DU-26 (Central Parcel), DU-38 (East Parcel) and DU-41 (East Parcel) at each depth interval. Additionally, replicate samples were collected from the 0-to-1-foot interval from DU-16. Field replicates were collected from separate locations within the same ISM cell as described in the SAP (Appendix C of the Work Plan [Apex, 2022]).

3.3.2 Soil Berm ISM Sampling (DU-41)

Two soil berms approximately 4 feet high by 20 feet wide are present on the East Parcel parallel to the south side of the road that separates the Facility from the UPRR tracks. The western berm is approximately 310 feet long (460 cubic yards) and the eastern berm is approximately 80 feet long (120 cubic yards). The total volume of the berms is approximately 580 cubic yards, and, at DEQ's request, the berms were sampled as a separate DU (DU-41). Replicate samples were also collected in DU-41.

3.3.3 Concrete Slab Composite Sampling

The large concrete slab on the East Parcel was divided in half with the halves designated as DU-39 and DU-40. Four additional smaller concrete slabs were identified after the RDI sampling program began. In discussions with DEQ, the smaller concrete slabs were separated from the soil DUs into DU-42 (located within planned DU-16), DU-43 (located within planned DU-31), and DU-44 (located within planned DU-38). In addition, the DU-37 boundary was revised to encompass the concrete slab discovered in that area. The original DUs were reconfigured to exclude the concrete slab areas but maintain the 30-point ISM samples. In the new DUs encompassing the concrete slabs, five-point composite samples were collected from beneath the slabs (through holes mechanically cored through the concrete) in each DU at the depth intervals of 0 to 1, 1 to 2, and 2 to 3 feet bgs. The sample locations were determined using a systematic random sampling design, similar to the other DUs but with wider spacing of increments. The samples were collected using a two-inch diameter hand auger advanced to each depth interval in the five locations. Soil from each of the five points was transferred into a stainless steel bowl, homogenized, then weighed. The weight of the homogenized soil was adjusted to approximately 800 grams by removing excess soil. The five 800-gram aliquots were then placed into the sample jar. The composite samples were processed using ISM methodologies described above and in the SAP (Appendix C of the Work Plan [Apex, 2022]). No replicate samples were collected from the concrete slab DUs.

3.3.4 Sampling Demobilization

Sampling activities were completed on December 1, 2022. Temporary facilities were demobilized from the staging area on December 14, 2022.

On December 8, 2022, Metro and Apex conducted erosion control activities in areas with significant disturbed soil resulting from sampling activities. The erosion control consisted of spreading grass seed and straw in these areas.

3.4 Deviations from the Work Plan

3.4.1 ISM Sample Increment Location Modification

Several gravel roads transit the Site, primarily in the East and Central Parcels where fill material (gravel) was placed within the last 10 years. Some increment locations fell within the recent gravel fill material. Including that material in the ISM sample may have biased the results such that the sample would not be representative of the entire DU. Through discussions with DEQ, increment locations falling within the recent gravel fill were moved to the nearest location where surface soil material type matched the surrounding grade. The Port submitted Field Change Request No. 1 (FCR; August 10, 2022) to DEQ documenting this decision. The FCR No. 1 is included in Appendix E. Approval by DEQ for FCR No. 1 was received by the Port in an email dated August 10, 2022.

3.4.2 Laboratory Data Quality Packages

Typical data quality review includes a level 2A evaluation, which uses the standard lab report and analytical batch quality assurance samples to evaluate the usability of the data and is sufficient for the intended use of the RDI data. Based on our review of the RDI analytical reports, no issues arose that could not be resolved through the level 2A evaluation. The Port submitted FCR No. 2 on August 10, 2022 to use level 2A data packages for the RDI data instead of level 4 data packages as stated in Appendix C of the Work Plan. FCR No. 2 is included in Appendix E. Approval by DEQ for FCR No. 2 was received by the Port in an email dated August 10, 2022.

3.4.3 DU Configuration Modifications Due to Concrete and Pavement

As discussed in Section 3.3.2, several previously unknown concrete slabs were discovered after the RDI sampling was initiated in DU-16, DU-31, DU-36, and DU-37. A significant paved area was also identified in the area of DU- 20, DU-22, and DU-23. Through discussions with DEQ, the affected DUs were reconfigured to accommodate collection of samples in these areas. The DU reconfigurations are summarized below:

- DU-20, DU-22, and DU-23 were reconfigured so that the paved surface in this area is entirely within DU-20. The layout of the 30 increments in each of these DUs was realigned to match the new DU shapes, and ISM samples in DU-20 were collected beneath the pavement;
- New DU-42 (concrete area within planned DU-16), new DU-43 (concrete area within planned DU-31) and new DU-44 (concrete area within planned DU-36) are five-point composite samples accessed through holes cored through the concrete;

- The 30 increment locations in the remaining portions of DU-16, DU-31, and DU-36 were realigned;
- DU-37 was reconfigured to correspond to the concrete slab discovered in that area, and the sample consisted of a five-point composite accessed through holes cored through the concrete;
- The eastern portion of former DU-37 was added to DU-26, the western portion of DU-37 was added to DU-38, and the 30 increment locations in each of DU-26 and DU-38 were realigned;
- Replicate samples were eliminated from DU-16 due to uneven topography and presence of debris, and replicates were added to DU-26 as a replacement;
- Replicate samples were eliminated from DU-37 because it was converted to a five-point composite DU, and replicates were added to DU-41 as a replacement; and
- The southeastern portion of original DU-38 was identified to be below the top of bank, and that portion of the DU was eliminated.

These modifications were approved by DEQ via email dated October 25, 2022 and documented in FCR No. 3 submitted by the Port on February 17, 2023. FCR No. 3 is included in Appendix E and includes the reconfigured DU figures.

4.0 Chemical Analysis and Results

Table 1 and Figure 3 summarize the DU and composite locations sampled during the RDI. The soil samples were submitted under chain of custody to Apex Laboratories (Apex Labs) in Tigard, Oregon (EPA ID OR01039). Copies of the analytical laboratory reports are included in Appendix F along with a quality assurance/quality control (QA/QC) review of the data. The results of the quality review indicate that the data are of acceptable quality and are suitable for their intended purpose.

4.1 Analytical Testing Program

Soil samples were collected from a total of 44 DUs at three depth intervals. Field replicates were collected at 8 DUs at all three depth intervals and at 1 DU from one depth interval for a total of 182 samples analyzed. The location and number of samples collected within each decision unit is summarized in Table 1. The soil samples (primary and replicates from all target depths) were analyzed for the following:

- Metals (antimony, arsenic, chromium, copper, lead, mercury, nickel, selenium, and zinc) by EPA Method 6020B;
- Dioxins/furans by EPA Method 1613B;
- PAHs by EPA Method 8270E-SIM;
- Dibenzofuran by EPA Method 8270E-SIM; and
- PCBs Aroclors by EPA Method 8082A.

Analysis of metals, PAHs, dibenzofuran, and PCBs was performed by Apex Labs. Analysis of dioxin/furans was performed by Ceres Analytical Laboratory (Ceres) under subcontract to Apex Labs. Apex Labs processed all ISM samples prior to submitting to Ceres. The SAP in Appendix C of the Work Plan (Apex, 2022) includes a more detailed discussion of the analytical testing plan.

4.2 Field Replicates

Two field replicates plus the primary incremental sample were collected from locations DU-5 (West Parcel), DU-11 (Central Parcel), DU-13 (Central Parcel), DU-16 (Central Parcel; 0-1 foot bgs only), DU-18 (Central Parcel), DU-22 (Central Parcel), DU-26 (Central Parcel), DU-38 (East Parcel), and DU-41 (Soil Berms).

Data evaluation of field replicate results was conducted in accordance with the Interstate Technology and Regulatory Council (ITRC) Incremental Sampling Methodology Update (ITRC, 2020) and the interim final updates to the 2016 State of Hawaii Department of Health (HIDOH) Decision Unit and Multi Increment Sampling Methods (DU-MIS) Guidance for data quality evaluation (HIDOH, 2021).

The relative standard deviation (RSD) for each field replicate was calculated using the triplicate data. For results that were not detected above the method detection limit (MDL), the MDL was used in the RSD calculation. If the results were below the MDL in all three replicates, no RSD was calculated. The field replicate data and RSD results are presented in Tables I-1 through I-5 in Appendix I. The RSD reflects the precision of the total sampling method, including combined field and laboratory error. The lower the RSD, the more precise the sampling method used and the more reproducible and reliable the data. In aggregate, 93 percent of the replicate data showed good or very good reproducibility. In a few instances, there was poor or very poor reproducibility for specific COCs. The uncertainty associated with these poor or very poor results is discussed further in Section 4.4.

The RSD from a replicate sample location may be considered representative for adjacent DUs where replicate samples were not collected. The table below summarizes which DUs are considered adjacent to each representative replicate sample.

Representative Replicate DU	Adjacent DUs
DU-5	DU-1, DU-2, DU-3, DU-6, DU-7
DU-11	DU-4, DU-8, DU-9, DU-10
DU-13	DU-12, DU-14, DU-15
DU-16	None
DU-18	DU-16, DU-17, DU-19
DU-22	DU-20, DU-21
DU-26	DU-23, DU-24, DU-25, DU-27, DU-37

Representative Replicate DU	Adjacent DUs
DU-38	DU-28, DU-29, DU-30, DU-31, DU-32, DU-33, DU-34, DU-35, DU-36
DU-41	None

Soil from underneath concrete slabs was collected using composite sampling methods and is not informed by ISM replicates. Field replicates were only collected from 0 to 1 foot bgs for DU-16; therefore, it will not be used as a representative replicate sample. DU-41 was collected from the soil berms which are located above the ground surface and is therefore not compared to adjacent DUs.

For the data screening and evaluation in Tables 2 through 9, the arithmetic mean for the replicate samples was used. For results that were not detected above the MDL, the MDL was used in the arithmetic mean calculations. For samples where the results of all three field replicates were below the MDL, the largest MDL was used in place of the mean concentration.

4.3 Summary of Chemical Results

Soil sampling results are listed in Tables 2 through 5 and summarized on figures in Appendix G. Results are screened against the ecological and human health PRGs and hot spot concentrations adopted from the RI/FS (Apex, 2019). Tables 6 and 7 present summary statistics for each sampling area (West Parcel, Central Parcel, Central Parcel Concrete Slab, East Parcel, East Parcel Concrete Slabs, and East Parcel Soil Berms). These tables summarize exceedance frequencies for the MDL, the PRG, and hot spot concentrations as well as listing maximum exceedance ratios (ER; ratio of detected concentration to PRG) for both ecological and human health screening levels for all depths sampled. Table 8 summarizes the locations of PRG/hot spot exceedances, including depth, COCs, and whether excavation is recommended. Table 9 summarizes average concentrations by depth, and exceedances are graphically presented on Figures G1 through G63 in Appendix G. Table 10 summarizes cumulative ecological and human health PRG ERs for each sample depth interval for each DU and cumulative PRG ERs are graphically represented on Figures H1 through H6 in Appendix H. The results are discussed by sampling area in the sections below.

4.3.1 West Parcel

Decision units DU-1 through DU-9 are located within the West Parcel. These samples are all 30-point ISM samples that were collected at three depth intervals. A total of 27 sample results from nine DUs were obtained from the West Parcel sampling area. Ecological and human health screening level exceedances are present at all depth intervals in each of the 9 DUs. The analytes that contribute to ecological and human health risk in the West Parcel are summarized below from the data presented in Tables 6 and 7.

Analyte	West Parcel Screening Level Exceedances					
	Ecological			Human Health		
	PRG	Hot Spot	Max ER	PRG	Hot Spot	Max ER
Arsenic				X		2.0
Chromium	X	X	1.3			
Copper	X		4.6			
Lead	X		9.7			
Mercury	X	X	4.2			
Nickel	X		1.7			
Zinc	X		1.7			
Total D/F TEQ	X		4.3	X		1.8
Dibenzofuran	X		3.3			
Total HPAHs	X		2.1			
cPAHs				X		3.2
Total PCBs	X	X	28			3.7

Notes:
TEQ: toxic equivalency
D/F: dioxins/furans
HPAH: high molecular weight polycyclic aromatic hydrocarbons
cPAH: carcinogenic polycyclic aromatic hydrocarbons

The primary contributors to ecological risk on the West Parcel are PCBs, mercury, chromium, lead, copper, and total D/F TEQ with secondary contributions from dibenzofuran, HPAHs, and several additional metals. Primary contributors to human health risk on the West Parcel are PCBs, cPAHs, arsenic, and total D/F TEQ.

Graphical representation of the data in Table 9 are plotted on Figures G1 through G63 in Appendix G. For the West Parcel, these data do not show a consistent trend with depth. For approximately half of the COCs, the higher concentration was detected in the mid-range sample. This result is consistent with historical records indicating placement of fill (some of which may have been contaminated) after cessation of historical industrial activities.

For the West Parcel, the cumulative ecological PRG ERs exceeded 30 in one of the 27 samples (DU-1 in the 1-2 foot interval), was less than 30 in 16 samples and less than 10 in the remaining 10 samples. Cumulative human health PRG ERs were generally less than 4 with few exceptions and the highest exceedance was 8.2 (DU-1 in the 1-2 foot interval).

4.3.2 Central Parcel

Decision units DU-10 through DU-26 are located within the Central Parcel (sample DU-42 is discussed separately in Section 4.3.3). Samples DU-10 through DU-26 are 30-point ISM samples that were collected at three depth intervals. A total of 51 sample results from 17 locations were obtained from the Central Parcel

sampling area. Ecological and human health screening level exceedances are present at all depth intervals in each of the 17 DUs. The analytes that contribute to ecological and human health risk in the Central Parcel are summarized below from the data presented in Tables 6 and 7.

Analyte	Central Parcel Screening Level Exceedances					
	Ecological			Human Health		
	PRG	Hot Spot	Max ER	PRG	Hot Spot	Max ER
Antimony	X		2.7			
Arsenic				X		2.6
Chromium						
Copper	X		3.2			
Lead	X		9.3			
Mercury	X	X	52			
Nickel	X		1.3			
Selenium	X		1.04			
Zinc	X		2.8			
Total D/F TEQ	X	X	65	X		14
Dibenzofuran	X		5.2			
Total HPAHs	X		5.3			
cPAHs				X		9.4
Total PCBs	X		1.5			

The primary contributors to ecological risk on the Central Parcel are total D/F TEQ, mercury, and lead with secondary contributions from dibenzofuran, HPAHs, PCBs, and several additional metals. Primary contributors to human health risk on the Central Parcel are total D/F TEQ, cPAHs, and arsenic.

For the Central Parcel, these data show on average a consistent decreasing concentration trend with depth (see Figures G1 through G63 in Appendix G). This result is consistent with surface impacts from historical industrial activities.

For the Central Parcel, cumulative ecological PRG ERs generally decreased with depth. The cumulative ecological ER exceeded 30 in 17 of the 51 samples and generally only in the 0-1 and 1-2 foot intervals with the exception of DU-14 and DU-15. Cumulative human health PRG ERs decreased with depth in all Central Parcel DUs except DU-11 and, where the ER exceeded 10, it was primarily in the 0-1 foot interval with only one DU (DU-15) where the ER exceeded 10 in all three sampling depths.

4.3.3 Central Parcel Concrete Slab

Decision unit DU-42 is a 5-point composite sample collected from underneath a concrete slab within DU-16 discovered during sampling activities. Ecological screening level exceedances are present at all three depth intervals, while human health exceedances are limited to the first two intervals (0 to 1 and 1 to 2 feet bgs). The analytes that contribute to ecological and human health risk beneath the Central Parcel Concrete Slab are summarized below from the data presented in Tables 6 and 7.

Analyte	Central Parcel Concrete Slab Screening Level Exceedances					
	Ecological			Human Health		
	PRG	Hot Spot	Max ER	PRG	Hot Spot	Max ER
Lead	X		1.6			
Mercury	X	X	3.1			
Nickel	X		1.01			
Selenium	X		1.02			
Zinc	X		1.1			
Total D/F TEQ	X		10	X		4.1

The primary contributors to ecological risk in the Central Parcel Concrete Slab are total D/F TEQ and mercury with minor contributions from several metals. The primary contributor to human health risk at the Central Parcel Concrete Slab is total D/F TEQ.

Detected concentrations of COCs in the surrounding DU-16 were higher than the detected concentrations of COCs in DU-42. This suggests that the concrete slab at DU-42 was present prior to some, but not all, of the industrial operations, protecting this soil from the level of impacts seen in the surrounding soil.

The cumulative ERs for both ecological and human health PRGs decreased with depth beneath the concrete slab in DU-42 and was 10 or less for ecological PRG and less than 4 for human health PRG in the 1 to 2 and 2 to 3 foot intervals.

4.3.4 East Parcel

Decision units DU-27 through DU-36 and DU-38 are located within the East Parcel. Samples DU-37, DU-39, DU-40, DU-43, and DU-44 were collected beneath concrete slabs and are discussed separately in Section 4.3.5. Sample DU-41 was collected within the soil berms located on the East Parcel, and the results are discussed in Section 4.3.6. Samples DU-27 through DU-36 and DU-38 are 30-point ISM samples collected at three depth intervals. A total of 30 ISM sample results from 10 locations were obtained from the East Parcel sampling area. Ecological and human health screening level exceedances are present at all depth intervals in each of the 10 DUs. The analytes that contribute to ecological and human health risk in the East Parcel are summarized below from the data presented in Tables 6 and 7.

Analyte	East Parcel Screening Level Exceedances					
	Ecological			Human Health		
	PRG	Hot Spot	Max ER	PRG	Hot Spot	Max ER
Antimony	X		2.5			
Arsenic				X		3.6
Copper	X		4.7			
Lead	X		6.7			
Mercury	X	X	9.7			
Nickel	X		1.1			
Selenium	X		1.1			
Zinc	X		3.0			
Total D/F TEQ	X	X	17	X		6.9
Dibenzofuran	X		4.1			
cPAHs				X		1.03
Total PCBs	X		1.9			

The primary contributors to ecological risk on the East Parcel are total D/F TEQ, lead, copper, and dibenzofuran with secondary contributions from PCBs and several additional metals. Primary contributors to human health risk on the East Parcel are total D/F TEQ and arsenic with secondary contribution from cPAHs.

For the East Parcel, these data show on average a decreasing concentration trend with depth for most COCs (see Figures G1 through G63 in Appendix G). This result is consistent with surface impacts from historical industrial activities.

For the East Parcel, the cumulative ecological PRG ERs generally decrease with depth and exceeded 30 in only one of the 36 samples (DU-27 in the 0 to 1 foot interval), was less than 30 in 20 samples and less than 10 in the remaining 15 samples. Cumulative human health PRG ERs were generally less than 4 with few exceptions and exceeded 10 in only one sample (10.9 in the 0 to 1 foot interval in DU-27). Where the cumulative human health PRG ER exceeded 4, it was generally only in the 0 to 1 foot interval.

4.3.5 East Parcel Concrete Slabs

Decision units DU-37, DU-39, DU-40, DU-43, and DU-44 are five-point composite samples that were collected from beneath concrete slabs located within the East Parcel. In DU-37, lead, selenium, and dibenzofuran exceed ecological PRGs at exceedance ratios of up to 1.2. In the remaining DUs, the exceedances are limited to selenium (detected in only two samples at estimated concentrations below the detection limit and with a maximum ER of 1.2). There are no human health screening level exceedances at any depth interval.

Detected concentrations of COCs in the DUs surrounding the concrete slabs were higher than the detected concentrations of COCs beneath the concrete slabs. The lack of material exceedances of PRGs in soil beneath the concrete slabs suggests that these slabs have been in place throughout the period of industrial activity.

The cumulative ecological and human health PRG ERs for samples collected beneath the concrete slabs in the East Parcel ranged from 1.9 to 3.7 (ecological) and 0.7 to 0.9 (human health).

4.3.6 East Parcel Soil Berms

As the soil berms on the East Parcel are above grade compared to the surrounding DUs, the results are discussed separately. Samples from DU-41 are 30-point ISM samples collected from all three depth intervals. Ecological and human health screening level exceedances are present at all depth intervals within DU-41. The analytes that contribute to ecological and human health risk in the East Parcel Soil Berms are summarized below from the data presented in Tables 6 and 7.

Analyte	East Parcel Soil Berms Screening Level Exceedances					
	Ecological			Human Health		
	PRG	Hot Spot	Max ER	PRG	Hot Spot	Max ER
Arsenic	X		1.3	X		5.2
Lead	X		3.7			
Mercury	X		1.9			
Zinc	X		1.4			
Total D/F TEQ	X	X	36	X		15
Dibenzofuran	X		3.4			

The primary contributor to ecological risk at the East Parcel soil berms is total D/F TEQ with secondary contributions from lead, dibenzofuran, and several additional metals. Primary contributors to human health risk at the East Parcel soil berms are total D/F TEQ and arsenic.

Concentrations of COCs in the East Parcel soil berms do not correlate with depth. This suggests that the berm soil was contaminated prior to being placed at its current location.

The cumulative ecological and human health PRG ERs exceeded 30 (ecological with a range of 31.5 to 51.1) and 10 (human health with a range of 12.4 to 20.6) at all three sample depths.

4.4 Uncertainty Evaluation

In the forthcoming basis of design report, the replicate data will be used to assess uncertainty and refine estimated excavation depths. The variance in replicate data will be applied to the collected data to assess if

PRGs or hot spot levels could be exceeded if the data are increased by the amount of the variance. For example, replicate data from DU-5 would be representative of data collected in DU-1, -2, -3, -6, and -7. As shown in Appendix F, data reproducibility was poor for mercury in the depth range of 0 to 2 feet (RSD of 60 percent) and for PCBs in the depth range of 2 to 3 feet (RSD of 72 percent). Applying these variations to the data from these DUs, the estimated excavation depths would be unchanged except that the excavation depth in DU-7 would increase from 1 foot to 2 feet. This information will be used to refine the final design excavation depths. Regardless, final excavation depths will be supported by verification sampling during construction.

4.5 Chemical Analysis and Results Summary

The goal of the RDI investigation was to laterally and vertically delineate COCs exceeding relevant screening levels. The sampling results described above demonstrated the following.

- COCs exceeding PRGs in soil extend laterally throughout the entire Facility.
- In most DUs, COCs exceeding PRGs in soil extend at least to the depth of sampling during this investigation (3 feet bgs).
- Except for low detections in a few samples (maximum exceedance ratio of less than 1.2), COC concentrations in soil beneath the concrete slabs on the East Parcel are below PRGs.
- Primary ecological risk drivers are total D/F TEQ (Central and East Parcels), mercury (all parcels), PCBs (West Parcel), and lead (all parcels). Total D/F TEQ and mercury hot spots are present on the Central and East Parcels, and PCB, mercury, and chromium hot spots are present on the West Parcel.
- Human health risk drivers are total D/F TEQ (all parcels), arsenic (all parcels), cPAHs (West and Central Parcels), and PCBs (West Parcel).

5.0 Remedial Action Plan Overview

This section describes how the information from the RDI sampling will be used to support design of the upland remedy.

5.1 Preliminary Soil Excavation Depths and Volumes

As discussed in Section 2.3, the selected remedy consists of removal of soil exceeding hot spots or human health PRGs with a soil cover over remaining areas with residual ecological risk. Depending on the level of contamination, the removed soil was to be disposed of off-site (if it exceeded human health hot spots or non-dioxin/furan ecological hot spots) or consolidated on-site in a capped cell (if it exceeded human health PRGs). Because Metro has elected to implement the contingency remedy, soil that was designated for on-site consolidation will be disposed of off-site. Table 8 summarizes exceedances of PRGs or hot spot levels for each COC. Based on those exceedances, the preliminary depth of excavation was estimated for each

DU. Further, for each DU, the excavation thickness was determined for the corresponding disposal method (off-site disposal or contingency remedy off-site disposal). Table 8 includes the preliminary estimated excavation volumes for each DU, and these volumes are summarized below. Estimated excavation volumes will be refined in the future Basis of Design Report.[4]

Parcel	Excavation Volume in Cubic Yards		
	Off-Site Disposal	Contingency Remedy Off-Site Disposal	Total
West	7,800	11,200	19,000
Central	36,400	0	36,400
East	4,200	16,500	20,700
Total	48,400	27,700	76,100

The East Parcel soil berms would be removed until level with the surrounding ground surface. As there is no information on the concentrations beneath the soil berms, concentrations from adjacent DUs were used to estimate the depth of removal below the soil berms. The Dus adjacent to the soil berms are DU-27 through DU-30. Preliminary excavation depths for these Dus are 3 feet bgs, so the estimated excavation volumes assume excavation to 3 feet beneath the base of the soil berms.

For comparison, in the ROD (DEQ, 2021), the estimated volume exceeding human health PRGs or ecological hot spots was 42,000 cubic yards (ROD Table 17 shows the total volume requiring excavation), compared to the 76,100-cubic-yard volume shown above. The difference of 34,100 cubic yards is driven by two primary factors: elimination of the consolidation cell increased excavation by 4,000 cubic yards (soil that would not have been excavated because it would have been beneath the consolidation cell) and increased depth of impacted soil by approximately 1 foot across the Site (30,000 cubic yards). In addition, the ROD estimated the quantity of soil going to the consolidation cell was 22,700 cubic yards (ROD Table 20). This is 5,000 cubic yards less than the estimate in the table above – the increase was based primarily on the elimination of the consolidation cell.

5.2 Leave Surface Residual Risk Exceedance Ratios

As shown in Table 8, 31 of the DUs would be excavated to a depth of 3 feet. There are no current data on the COC concentrations in the depth range below 3 feet, so the residual risk for those DUs is unknown. At a minimum, verification sampling conducted during construction would provide data for the next depth range (that is, current depths of 3 to 4 feet) and would inform the soil cover thickness, if needed.

[4] The estimates provided here conservatively assume full excavation of any cell that exceeds the hot spot level or human health PRG. For some DUs, it is possible that the lowest impacted level would not require excavation over the full 1-foot thickness. Additionally, if risks in a DU are controlled by impacts to mobile receptors (e.g., humans, mammals, or birds), risks may be evaluated at a larger scale (e.g., over the full parcel area) and could be acceptable. These more detailed excavation evaluations will be conducted in the Basis of Design Report.

For the remaining 13 DUs, the estimated excavation depth is less than 3 feet, so soil residual risk data are available. The residual risk exceedance factors for these DUs are summarized as follows.

- For DU-40 and DU-44, there were no exceedances of PRGs. These DUs are concrete slabs on the East Parcel.
- For DU-39 and DU-43, only selenium exceeded the ecological PRG in one sample from each DU. The detections were estimated values below the method reporting limit, and the maximum exceedance factor was 1.2. Selenium was not detected at the other depths within the DU. When considering the data over the full 3-foot depth range, the ecological risk from selenium in these DUs is likely acceptable.
- For the remaining nine DUs, the leave surface after excavation would be the ground surface for one DU (DU-37), 1 foot for four DUs (DU-7, DU-20, DU-35, and DU-38), and 2 feet for four DUs (DU-17, DU-24, DU-25, and DU-42). For each of these DUs, two or three COCs exceeded ecological PRGs at the leave surface (two or three of the following COCs: lead, mercury, nickel, selenium, zinc, or total D/F TEQ). Exceedance factors ranged from 1.1 to 2.4.

5.3 Arsenic As a Risk-Driver for Soil Removal

The soil risk-based concentration for arsenic at the site (1.4 milligrams per kilogram [mg/kg] for the recreational trespasser/park user receptor) is less than the background concentration (DEQ default range of 4.4 to 8.8 mg/kg [DEQ, 2013]). The screening discussed above used the most conservative background concentration of 4.4 mg/kg, so it may overpredict the amount of excavation required. Table 8 includes calculation of the excavation volume where excavation was driven only by arsenic concentrations exceeding 4.4 mg/kg (that is, locations where no COCs exceeded hot spots or human health PRGs except arsenic). Over 9,400 cubic yards of the total excavation volume, or 12 percent of the total volume, are driven by arsenic exceedances alone. The arsenic concentration in this soil ranged from 4.7 to 7.1 mg/kg with an average concentration of 5.7 mg/kg. Factoring in residual cover soils that would be placed during construction and considering concentrations over the full 3-foot surface soil depth after construction, the residual risk of this soil if left in place would likely be acceptable.

6.0 Data Gaps

Based on the evaluation of the RDI data discussed above, the remaining data gaps include:

- Vertical delineation of COCs beyond 3 feet in areas proposed for 3 feet of excavation; and
- Vertical delineation of COCs beneath the soil berms on the East Parcel (DU-41).

7.0 Conclusions

Based on evaluation of the results of the RDI activities, the following conclusions are made:

- In 31 of the 44 DUs, the concentrations of COCs are above hot spots or human health PRGs in the deepest sample collected (2- to 3-foot depth range). There are no ISM data below a depth of 3 feet. This data gap will be addressed during construction through collection and analysis of confirmation soil samples from the leave surface.
- The preliminary estimate of the volume of soil to be excavated is 76,100 cubic yards (19,000 cubic yards, 36,000 cubic yards, and 21,000 cubic yards in the West, Central, and East Parcels, respectively). The preliminary removal depth is 3 feet in eight of nine DUs in the West Parcel, 13 of 18 DUs in the Central Parcel, and 11 of 17 DUs in the East Parcel. No removal is planned for soil beneath the five concrete slabs in the East Parcel. The total removal volume estimate of 76,100 cubic yards exceeds the estimate of 42,000 cubic yards in Table 17 of the ROD. Removal depth and volume estimates will be refined in the forthcoming Basis of Design Report and Residual Risk Evaluation considering both contaminant gradients with depth and larger exposure areas associated with birds, mammals, and human health.
- In some areas, the removal estimates are based solely on arsenic exceedances. The PRG for arsenic is based on DEQ default background concentrations that range from 4.4 to 8.8 mg/kg in the Willamette Basin. The lower value of 4.4 mg/kg was used for the PRG. Over 70 percent of the arsenic detections were less than 6 mg/kg and likely represent background concentrations.
- Based on the results of composite samples collected beneath the concrete slabs in the East Parcel (specifically DU-37, DU-39, DU-40, and DU-43), soil from this area may be suitable for use as borrow for cover soil.

8.0 References

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Table 1
Sampling Plan Summary
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Decision Unit Size (Acres)	Sample Type	Sample Depth (feet bgs)	Sample ID	Sampling Plan													
						Metals - EPA 6020 B									D/Fs	PAHs	Dibenzofuran	PCBs	Archive
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	EPA Method 1613B	EPA Method 8270E-SIM	EPA Method 8270E-SIM	EPA Method 8082A	
West Parcel	DU-1	0.50	ISM	0-1	DU-1 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-1 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-1 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-2	0.50	ISM	0-1	DU-2 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-2 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-2 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-3	0.43	ISM	0-1	DU-3 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-3 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-3 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-4	0.42	ISM	0-1	DU-4 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-4 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-4 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-5	0.53	ISM	0-1	DU-5 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-5 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-5 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-5 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-5 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-5 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-5 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-5 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-5 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-6	0.53	ISM	0-1	DU-6 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-6 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-6 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-7	0.49	ISM	0-1	DU-7 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-7 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-7 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-8	0.44	ISM	0-1	DU-8 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-8 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-8 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-9	0.43	ISM	0-1	DU-9 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-9 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-9 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Central Parcel	DU-10	0.49	ISM	0-1	DU-10 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-10 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-10 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-11	0.54	ISM	0-1	DU-11 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-11 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-11 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-11 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-11 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-11 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-11 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-11 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-11 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-12	0.44	ISM	0-1	DU-12 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-12 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-12 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Please see notes at end of table.

Table 1
Sampling Plan Summary
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Decision Unit Size (Acres)	Sample Type	Sample Depth (feet bgs)	Sample ID	Sampling Plan													
						Metals - EPA 6020 B									D/Fs	PAHs	Dibenzofuran	PCBs	Archive
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	EPA Method 1613B	EPA Method 8270E-SIM	EPA Method 8270E-SIM	EPA Method 8082A	
Central Parcel	DU-13	0.52	ISM	0-1	DU-13 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-13 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-13 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-13 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-13 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-13 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-13 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-13 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-13 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-14	0.44	ISM	0-1	DU-14 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-14 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-14 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-15	0.49	ISM	0-1	DU-15 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-15 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-15 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-16	0.40	ISM	0-1	DU-16 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-16 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-16 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-16 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-16 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-17	0.50	ISM	0-1	DU-17 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-17 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-17 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-18	0.41	ISM	0-1	DU-18 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-18 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-18 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-18 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-18 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-18 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-18 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-18 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-18 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-19	0.51	ISM	0-1	DU-19 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-19 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-19 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-20	0.68	ISM	0-1	DU-20 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-20 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-20 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-21	0.39	ISM	0-1	DU-21 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-21 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-21 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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Sample Location	Decision Unit	Decision Unit Size (Acres)	Sample Type	Sample Depth (feet bgs)	Sample ID	Sampling Plan													
						Metals - EPA 6020 B									D/Fs	PAHs	Dibenzofuran	PCBs	Archive
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	EPA Method 1613B	EPA Method 8270E-SIM	EPA Method 8270E-SIM	EPA Method 8082A	
Central Parcel	DU-22	0.62	ISM	0-1	DU-22 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-22 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-22 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-22 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-22 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-22 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-22 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-22 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-22 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-23	0.62	ISM	0-1	DU-23 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-23 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-23 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-24	0.44	ISM	0-1	DU-24 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-24 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-24 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-25	0.45	ISM	0-1	DU-25 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-25 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-25 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-26	0.44	ISM	0-1	DU-26 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-26 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-26 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-26 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-26 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-26 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-26 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-26 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-26 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Central Parcel Concrete Slab	DU-42 (Within DU-16)	0.09	Composite*	0-1	DU-42 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-42 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-42 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
East Parcel	DU-27	0.40	ISM	0-1	DU-27 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-27 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-27 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-28	0.43	ISM	0-1	DU-28 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-28 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-28 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-29	0.42	ISM	0-1	DU-29 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-29 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-29 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-30	0.42	ISM	0-1	DU-30 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-30 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-30 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-31	0.29	ISM	0-1	DU-31 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-31 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-31 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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Sample Location	Decision Unit	Decision Unit Size (Acres)	Sample Type	Sample Depth (feet bgs)	Sample ID	Sampling Plan													
						Metals - EPA 6020 B									D/Fs	PAHs	Dibenzofuran	PCBs	Archive
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	EPA Method 1613B	EPA Method 8270E-SIM	EPA Method 8270E-SIM	EPA Method 8082A	
East Parcel	DU-32	0.46	ISM	0-1	DU-32 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-32 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-32 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-33	0.39	ISM	0-1	DU-33 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-33 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-33 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-34	0.40	ISM	0-1	DU-34 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-34 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-34 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-35	0.39	ISM	0-1	DU-35 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-35 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-35 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-36	0.26	ISM	0-1	DU-36 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-36 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-36 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-38	0.47	ISM	0-1	DU-38 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-38 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-38 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-38 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-38 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-38 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-38 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-38 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-38 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
East Parcel Concrete Slabs	DU-37	0.25	Composite*	0-1	DU-37 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-37 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-37 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-39	0.50	Composite*	0-1	DU-39 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-39 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-39 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-40	0.49	Composite*	0-1	DU-40 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-40 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-40 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-43 (Within DU-31)	0.14	Composite*	0-1	DU-43 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-43 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-43 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	DU-44 (Within DU-36)	0.20	Composite*	0-1	DU-44 (0-1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-44 (1-2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-44 (2-3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Please see notes at end of table.

Table 1
Sampling Plan Summary
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Decision Unit Size (Acres)	Sample Type	Sample Depth (feet bgs)	Sample ID	Sampling Plan													
						Metals - EPA 6020 B									D/Fs	PAHs	Dibenzofuran	PCBs	Archive
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	EPA Method 1613B	EPA Method 8270E-SIM	EPA Method 8270E-SIM	EPA Method 8082A	
East Parcel Soil Berms	DU-41	0.40	ISM	0-1	DU-41 (0-1)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-41 (0-1)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				0-1 FR	DU-41 (0-1)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2	DU-41 (1-2)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-41 (1-2)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				1-2 FR	DU-41 (1-2)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3	DU-41 (2-3)A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-41 (2-3)B	X	X	X	X	X	X	X	X	X	X	X	X	X	X
				2-3 FR	DU-41 (2-3)C	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
D/Fs = Dioxins/furans
PAHs = Polycyclic aromatic hydrocarbons.
PCBs = Polychlorinated biphenyls.
Sampling units comprise of 30 individual increments selected by systematic random sampling.
EPA = United States Environmental Protection Agency.
FR = Field replicate. Field replicates were collected at different locations within the same ISM cell as the primary sample.
*Composite samples were processed using ISM protocols.

Table 2a
Soil Results - Metals - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B								
						Concentrations in mg/kg								
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
					Ecological ISM PRG	2.7	18	39	70	33	0.073	23	0.52	120
					Ecological ISM Hot Spot	27	180	39	700	330	0.15	200	5.2	1,200
West Parcel	DU-1	ISM	0-1	DU-1 (0-1)	07/20/2022	0.801 J	6.24	37.4	**180**	**74.8**	0.0696 J	**27.1**	0.514 U	**151**
			1-2	DU-1 (1-2)	07/20/2022	0.712 J	5.41	**41.3**	64.6	**321**	**0.0863**	**30.9**	0.516 U	**140**
			2-3	DU-1 (2-3)	07/20/2022	0.529 U	5.79	29.5	69.5	**57.5**	**0.0813** J	**25.0**	*0.529* U	**179**
	DU-2	ISM	0-1	DU-2 (0-1)	08/01/2022	0.603 J	5.41	21.5	**119**	**96.2**	**0.0731** J	18.9	0.505 U	99.4
			1-2	DU-2 (1-2)	08/01/2022	0.515 U	5.36	22.0	**170**	**118**	**0.124**	16.4	0.515 U	88.8
			2-3	DU-2 (2-3)	08/01/2022	0.495 U	5.21	15.5	41.9	24.4	0.0607 J	14.7	0.495 U	78.0
	DU-3	ISM	0-1	DU-3 (0-1)	08/03/2022	0.547 U	6.87	16.2	26.8	20.1	0.0438 U	16.3	*0.547* U	80.4
			1-2	DU-3 (1-2)	08/03/2022	0.497 U	6.65	16.5	25.8	15.8	0.0455 J	17.1	0.497 U	72.2
			2-3	DU-3 (2-3)	08/03/2022	0.536 U	6.65	15.7	21.6	13.5	0.0497 J	16.0	*0.536* U	64.7
	DU-4	ISM	0-1	DU-4 (0-1)	08/04/2022	0.565 U	6.57	16.3	29.1	23.7	**0.0746** J	**23.9**	*0.565* U	89.4
			1-2	DU-4 (1-2)	08/04/2022	0.515 U	6.87	16.3	26.6	23.9	0.0596 J	**24.6**	0.515 U	79.4
			2-3	DU-4 (2-3)	08/04/2022	0.502 U	7.63	18.4	34.0	**45.1**	**0.0760** J	22.4	0.502 U	115
	DU-5	ISM	0-1	DU-5 (0-1)A	07/22/2022	0.992 J-	8.89	**52.3**	**344**	**62.1** J	**0.110**	**31.9** J	0.369 J	**191**
			0-1 FR	DU-5 (0-1)B	07/22/2022	0.853	8.98	**46.2**	**303**	**50.8**	**0.104**	**31.2**	0.341 J	**211**
			0-1 FR	DU-5 (0-1)C	07/22/2022	0.944	8.43	**50.6**	**308**	**57.2**	**0.352**	**32.6**	0.316 J	**197**
			1-2	DU-5 (1-2)A	07/25/2022	0.551	7.47	**41.4**	**237**	**70.5**	**0.111**	**27.6**	0.335 J	**157**
			1-2 FR	DU-5 (1-2)B	07/25/2022	0.832	8.09	**41.2**	**223**	**51.8**	**0.131**	**29.5**	0.326 J	**179**
			1-2 FR	DU-5 (1-2)C	07/25/2022	0.572	7.18	**42.9**	**220**	**53.7**	**0.369**	**58.9**	0.317 J	**167**
			2-3	DU-5 (2-3)A	07/26/2022	0.426 J	6.73	38.4	**159**	**55.9**	**0.153**	**27.1**	0.309 J	**147**
			2-3 FR	DU-5 (2-3)B	07/26/2022	0.596	6.29	36.8	**144**	**68.1**	**0.107**	**26.2**	0.300 J	**224**
			2-3 FR	DU-5 (2-3)C	07/26/2022	0.479 J	6.56	**47.1**	**214**	**118**	**0.273**	**31.3**	0.304 J	**195**
			0-1	DU-5 (0-1) M	--	0.930 J	8.77	**49.7**	**318**	**56.7** J	**0.189** J	**31.9** J	0.342 J	**200**
			1-2	DU-5 (1-2) M	--	0.652	7.58	**41.8**	**227**	**58.7**	**0.204** J	**38.7**	0.326 J	**168**
			2-3	DU-5 (2-3) M	--	0.500 J	6.53	**40.8**	**172**	**80.7**	**0.178**	**28.2**	0.304 J	**189**
	DU-6	ISM	0-1	DU-6 (0-1)	07/28/2022	0.539 U	4.93	22.1	67.6	28.2	**0.128**	19.6	*0.539* U	**135**
			1-2	DU-6 (1-2)	07/28/2022	0.560 U	4.89	25.2	**91.6**	**40.0**	**0.156**	21.8	*0.560* U	**124**
			2-3	DU-6 (2-3)	07/28/2022	0.526 U	4.67	23.2	**100**	**37.8**	**0.141**	22.0	*0.526* U	112
	DU-7	ISM	0-1	DU-7 (0-1)	07/29/2022	0.537 U	4.37	19.2	36.0	23.3	**0.304**	19.3	*0.537* U	**126**
			1-2	DU-7 (1-2)	07/29/2022	0.547 U	3.98	18.6	30.1	18.7	**0.130**	19.7	*0.547* U	92.7
			2-3	DU-7 (2-3)	07/29/2022	0.536 U	3.07	16.2	24.2	14.9	**0.0927**	19.1	*0.536* U	75.1
	DU-8	ISM	0-1	DU-8 (0-1)	08/05/2022	0.560 U	4.33	21.7	32.5	**39.1**	**0.154**	19.6	*0.560* U	**144**
			1-2	DU-8 (1-2)	08/05/2022	0.501 U	4.13	24.6	32.9	31.4	**0.164**	19.7	0.501 U	**130**
			2-3	DU-8 (2-3)	08/05/2022	0.545 U	4.13	21.9	32.0	31.0	**0.156**	20.7	*0.545* U	**126**
	DU-9	ISM	0-1	DU-9 (0-1)	08/08/2022	0.623 J	5.25	30.6	40.6	28.2	**0.160**	**26.5**	0.506 U	**154** J-
			1-2	DU-9 (1-2)	08/08/2022	0.555 U	4.81	27.8	34.6	**40.7**	**0.141**	**24.4**	*0.555* U	115
			2-3	DU-9 (2-3)	08/08/2022	0.512 U	5.12	31.0	37.4	21.5	**0.141**	**26.2**	0.512 U	**122**

Please see notes at end of table.

Table 2a
Soil Results - Metals - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B															
						Concentrations in mg/kg															
						Antimony		Arsenic		Chromium		Copper		Lead		Mercury		Nickel		Selenium		Zinc	
					Ecological ISM PRG	2.7		18		39		70		33		0.073		23		0.52		120	
					Ecological ISM Hot Spot	27		180		39		700		330		0.15		200		5.2		1,200	
Central Parcel	DU-10	ISM	0-1	DU-10 (0-1)	08/12/2022	0.541	U	4.50		14.8		33.3		**86.5**		**1.07**		**29.9**		*0.541*	U	106	
			1-2	DU-10 (1-2)	08/12/2022	0.531	J	5.56		15.3		33.6		**54.8**		**0.829**		**27.5**		0.513	U	94.9	
			2-3	DU-10 (2-3)	08/12/2022	0.514	J	5.16		14.5		32.2		**73.3**		**0.609**		22.6		0.491	U	117	
	DU-11	ISM	0-1	DU-11 (0-1)A	08/10/2022	0.545	U	4.60		23.6		38.5		**53.1**		**0.721**		**29.3**		*0.545*	U	116	
			0-1 FR	DU-11 (0-1)B	08/10/2022	0.520	U	3.98		19.9		35.0		**56.1**		**0.687**		**25.6**		*0.520*	U	104	
			0-1 FR	DU-11 (0-1)C	08/10/2022	0.541	U	4.14		22.2		36.7		**50.6**		**0.726**		**26.5**		*0.541*	U	110	
			1-2	DU-11 (1-2)A	08/10/2022	0.535	U	3.93		21.4		33.0		**42.8**		**0.504**		**27.0**		*0.535*	U	90.1	
			1-2 FR	DU-11 (1-2)B	08/10/2022	0.508	U	4.08		21.6		34.2		**44.4**		**0.563**		**27.3**		0.508	U	93.1	
			1-2 FR	DU-11 (1-2)C	08/10/2022	0.520	U	4.15		22.0		37.3		**49.0**		**0.633**		**28.2**		*0.520*	U	99.5	
			2-3	DU-11 (2-3)A	08/10/2022	0.526	U	4.23		22.0		32.2		**41.0**		**0.382**		**26.1**		*0.526*	U	95.0	
			2-3 FR	DU-11 (2-3)B	08/10/2022	0.522	U	4.19		21.0		35.2		**43.3**		**0.604**		**26.4**		*0.522*	U	95.0	
			2-3 FR	DU-11 (2-3)C	08/10/2022	0.497	U	3.90		20.2		35.1		**34.5**		**0.590**		**25.8**		0.497	U	86.5	
			0-1	DU-11 (0-1) M	--	0.545	U	4.24		21.9		36.7		**53.3**		**0.711**		**27.1**		*0.545*	U	110	
			1-2	DU-11 (1-2) M	--	0.535	U	4.05		21.7		34.8		**45.4**		**0.567**		**27.5**		*0.535*	U	94.2	
			2-3	DU-11 (2-3) M	--	0.526	U	4.11		21.1		34.2		**39.6**		**0.525**		**26.1**		*0.526*	U	92.2	
	DU-12	ISM	0-1	DU-12 (0-1)	08/16/2022	0.830	J	4.95		14.8		**78.9**		**165**		**0.292**		19.8		0.504	U	**166**	
			1-2	DU-12 (1-2)	08/16/2022	0.493	U	4.26		14.0		55.7		**131**		**0.275**		19.0		0.493	U	104	
			2-3	DU-12 (2-3)	08/16/2022	0.551	U	3.62		13.7		41		**70.8**		**0.207**		17.8		*0.551*	U	79.7	
	DU-13	ISM	0-1	DU-13 (0-1)A	08/29/2022	0.792	J	6.04		14.2		**94.3**		**241**		**1.15**		21.4		*0.563*	U	**204**	
			0-1 FR	DU-13 (0-1)B	08/29/2022	0.562	U	5.53		14.2		60.4		**180**		**0.895**		19.6		*0.562*	U	**155**	
			0-1 FR	DU-13 (0-1)C	08/29/2022	0.923	J	5.41		14.1		55.5		**199**		**0.848**		19.4		*0.541*	U	**155**	
			1-2	DU-13 (1-2)A	08/30/2022	0.513	U	4.79		13.8		53.0		**86.5**		**0.785**		18.6		0.513	U	109	
			1-2 FR	DU-13 (1-2)B	08/30/2022	0.520	U	4.61		13.7		43.7		**92.3**		**0.572**		18.4		*0.520*	U	103	
			1-2 FR	DU-13 (1-2)C	08/30/2022	0.540	U	4.72		13.8		44.7		**154**		**0.614**		18.1		*0.540*	U	**128**	
			2-3	DU-13 (2-3)A	08/31/2022	0.562	U	3.75		12.6		43.3		**175**		**0.745**		18.4		*0.562*	U	**127**	
			2-3 FR	DU-13 (2-3)B	08/31/2022	0.522	U	3.89		12.6		40.6		**92.4**		**0.698**		17.3		*0.522*	U	90.6	
			2-3 FR	DU-13 (2-3)C	08/31/2022	0.548	U	4.04		12.6		54.2		**94.6**		**0.769**		17.7		*0.548*	U	97.3	
			0-1	DU-13 (0-1) M	--	0.759	J	5.66		14.2		**70.1**		**207**		**0.964**		20.1		*0.563*	U	**171**	
			1-2	DU-13 (1-2) M	--	0.540	U	4.71		13.8		47.1		**111**		**0.657**		18.4		*0.540*	U	113	
			2-3	DU-13 (2-3) M	--	0.562	U	3.89		12.6		46.0		**121**		**0.737**		17.8		*0.562*	U	105	
	DU-14	ISM	0-1	DU-14 (0-1)	08/17/2022	**2.81**		6.14		22.9		**73.5**		**134**		**1.33**		**24.3**		0.514	U	**147**	
			1-2	DU-14 (1-2)	08/17/2022	**7.38**		6.87		21.6		**122**		**240**		**3.10**		**23.7**		0.519	U	**204**	
			2-3	DU-14 (2-3)	08/17/2022	**3.04**		5.66		20.6		**185**		**162**		**2.50**		**24.8**		0.493	U	**164**	
	DU-15	ISM	0-1	DU-15 (0-1)	08/19/2022	**2.81**		5.04		16.0		**95.4**		**131**		**0.750**		21.7		0.506	U	**131**	
			1-2	DU-15 (1-2)	08/19/2022	0.576	J	3.75		14.0		57.7		**68.6**		**1.28**		19.3		0.517	U	**120**	
			2-3	DU-15 (2-3)	08/19/2022	0.492	U	2.91		11.2		36.2		**63.6**		**0.563**		17.6		0.492	U	76.8	
	DU-16	ISM	0-1	DU-16 (0-1)A	09/12/2022	**4.29**		8.31		24.8		**93.4**	J+	**237**		**2.43**		**25.6**		*0.543*	U	**371**	
			0-1 FR	DU-16 (0-1)B	09/12/2022	2.31		7.56		26.6		**131**	J+	**265**		**5.12**		**28.1**		0.494	U	**355**	
			0-1 FR	DU-16 (0-1)C	09/12/2022	**3.04**		7.89		17.9		**127**	J+	**306**		**3.87**		**23.2**		*0.539*	U	**283**	
			0-1	DU-16 (0-1) M	--	**3.21**		7.92		23.1		**117**	J	**269**		**3.81**		**25.6**		*0.543*	U	**336**	
			1-2	DU-16 (1-2)	11/7/2022	2.29		6.92		13.6		**71.8**		**151**		**1.69**		18.5		*0.521*	U	**139**	
			2-3	DU-16 (2-3)	11/7/2022	0.499	U	3.72		12.9		29.1		**37.5**		**0.429**		16.8		**0.539**	J	71.3	

Please see notes at end of table.

Table 2a
Soil Results - Metals - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B															
						Concentrations in mg/kg															
						Antimony		Arsenic		Chromium		Copper		Lead		Mercury		Nickel		Selenium		Zinc	
					Ecological ISM PRG	2.7		18		39		70		33		0.073		23		0.52		120	
					Ecological ISM Hot Spot	27		180		39		700		330		0.15		200		5.2		1,200	
Central Parcel	DU-17	ISM	0-1	DU-17 (0-1)	09/02/2022	1.06		4.95		12.4		59.2		**81.4**		**0.575**		16.4		0.499	U	**156**	
			1-2	DU-17 (1-2)	09/02/2022	0.511	U	3.72		11.8		34.3		**62.5**		**0.356**		16.3		0.511	U	70.6	
			2-3	DU-17 (2-3)	09/02/2022	0.504	U	3.16		11.1		26.8		**35.1**		**0.121**		14.6		0.504	U	58.4	
	DU-18	ISM	0-1	DU-18 (0-1)A	09/29/2022	0.874	J	6.99		22.1		**71.0**		**198**		**0.965**		22.5		*0.531*	U	**146**	
			0-1 FR	DU-18 (0-1)B	09/29/2022	1.41		10.9		22.8		**111**		**198**		**1.72**		**23.5**		0.505	U	**173**	
			0-1 FR	DU-18 (0-1)C	09/29/2022	1.06		8.94		20.8		**87.7**		**280**		**1.20**		**23.3**		0.499	U	**204**	
			1-2	DU-18 (1-2)A	09/30/2022	0.491	U	5.38		14.0		58.2		**179**		**0.806**		18.3		0.491	U	**156**	
			1-2 FR	DU-18 (1-2)B	09/30/2022	0.495	U	5.98		15.3		**79.5**		**150**		**1.06**		21.8		0.495	U	**158**	
			1-2 FR	DU-18 (1-2)C	09/30/2022	0.490	U	6.22		14.3		**77.7**		**119**		**0.985**		18.3		0.490	U	**133**	
			2-3	DU-18 (2-3)A	10/03/2022	0.502	U	3.77		11.9		30.8		**55.4**		**0.296**		16.6		0.502	U	94.4	
			2-3 FR	DU-18 (2-3)B	10/03/2022	0.489	U	5.31		13.0		59.9		**92.3**		**0.681**		17.8		0.489	U	105	
			2-3 FR	DU-18 (2-3)C	10/03/2022	0.489	U	5.63		13.9		53.0		**75.2**		**0.679**		18.3		0.497	J	118	
			0-1	DU-18 (0-1) M	--	1.11	J	8.94		21.9		**89.9**		**225**		**1.30**		**23.1**		*0.531*	U	**174**	
			1-2	DU-18 (1-2) M	--	0.495	U	5.86		14.5		**71.8**		**149**		**0.950**		19.5		0.495	U	**149**	
			2-3	DU-18 (2-3) M	--	0.502	U	4.90		12.9		47.9		**74**		**0.552**		17.6		0.496	J	**106**	
	DU-19	ISM	0-1	DU-19 (0-1)	09/06/2022	1.39		7.67		13.2		**107**		**257**		**0.666**		16.5		*0.541*	U	**215**	
			1-2	DU-19 (1-2)	09/06/2022	0.957	J	11.2		12.0		**110**		**161**		**1.08**		15.5		*0.555*	U	**198**	
			2-3	DU-19 (2-3)	09/06/2022	0.926	J	5.68		11.2		44.9		**70.8**		**0.327**		15.5		*0.522*	U	113	
	DU-20	ISM	0-1	DU-20 (0-1)	10/18/2022	1.69		5.69		19.6		58.4		**76.2**		**0.314**		22.7		0.517	U	117	
			1-2	DU-20 (1-2)	10/18/2022	0.536	U	4.08		19.5		25.8		17.7		**0.136**		**28.4**		*0.536*	U	87.3	
			2-3	DU-20 (2-3)	10/18/2022	0.511	U	3.68		16.7		23.0		14.3		**0.101**		21.1		0.511	U	90.4	
	DU-21	ISM	0-1	DU-21 (0-1)	09/08/2022	**2.73**		10.5		14.8		**128**	J+	**295**		**0.776**		20.3		0.493	U	**242**	
			1-2	DU-21 (1-2)	09/08/2022	1.01		4.93		11.8		56.2	J+	**116**		**0.276**		17.7		0.500	U	**180**	
			2-3	DU-21 (2-3)	09/08/2022	0.497	U	4.48		11.6		45.9	J+	**89.7**		**0.154**		18.0		0.497	U	109	
	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	**2.89**		6.48		19.0		**82.3**		**129**		**0.592**		21.0		*0.530*	U	**167**	
			0-1 FR	DU-22 (0-1)B	10/13/2022	**2.79**		5.77		18.0		**86.7**		**148**		**0.602**		21.4		0.506	U	**169**	
			0-1 FR	DU-22 (0-1)C	10/13/2022	2.03		5.83		19.6		**96.6**		**190**		**0.430**		**23.2**		*0.538*	U	**178**	
			1-2	DU-22 (1-2)A	10/14/2022	0.922	J	4.41		17.4		31.7		**47.8**		**0.231**		21.1		0.494	U	**125**	J-
			1-2 FR	DU-22 (1-2)B	10/14/2022	2.63		4.33		16.1		47.4		**72.3**		**0.349**		20.8		0.512	U	109	
			1-2 FR	DU-22 (1-2)C	10/14/2022	2.04		4.53		18.8		44.8		**65.4**		**0.161**		22.6		0.497	U	**164**	
			2-3	DU-22 (2-3)A	10/14/2022	0.731	J	4.45		17.2		29.4		**51.9**		**0.190**		20.2		0.499	U	96.5	
			2-3 FR	DU-22 (2-3)B	10/14/2022	0.839	J	4.43		18.0		54.0		**57.5**		**0.376**		21.4		0.509	U	98.6	
			2-3 FR	DU-22 (2-3)C	10/14/2022	1.09	J	3.92		16.0		32.6		**43.4**		**0.355**		20.8		*0.557*	U	**123**	
			0-1	DU-22 (0-1) M	--	2.57		6.03		18.9		**88.5**		**156**		**0.541**		21.9		*0.538*	U	**171**	
			1-2	DU-22 (1-2) M	--	1.86	J	4.42		17.4		41.3		**61.8**		**0.247**		21.5		0.512	U	**133**	J
			2-3	DU-22 (2-3) M	--	0.887	J	4.27		17.1		38.7		**50.9**		**0.307**		20.8		*0.557*	U	106	
	DU-23	ISM	0-1	DU-23 (0-1)	10/12/2022	1.62		5.99		22.1		**150**		**276**		**1.02**		22.9		0.497	U	**184**	
			1-2	DU-23 (1-2)	10/12/2022	0.61	J	4.63		18.4		69.5		**70.9**		**0.545**		20.5		0.518	U	**127**	
			2-3	DU-23 (2-3)	10/12/2022	0.498	J	3.82		15.6		41.9		**82.2**		**0.426**		18.8		0.488	U	99	
	DU-24	ISM	0-1	DU-24 (0-1)	09/21/2022	0.546	U	4.16		15.5		39.9		**48.8**		**0.276**		19.2		*0.546*	U	117	
			1-2	DU-24 (1-2)	09/21/2022	0.496	U	3.56		15.0		31.1		23.2		**0.175**		20.6		0.496	U	124	
			2-3	DU-24 (2-3)	09/21/2022	0.501	U	2.84		10.9		17.6		13.8		**0.0928**		18.5		0.501	U	83.1	
	DU-25	ISM	0-1	DU-25 (0-1)	09/23/2022	0.822	J	5.24		20.2		**226**		**144**		**0.762**		21.3		0.491	U	**242**	
			1-2	DU-25 (1-2)	09/23/2022	0.493	U	3.29		14.5		48.5		**113**		**0.213**		19.6		0.493	U	**202**	
			2-3	DU-25 (2-3)	09/23/2022	0.496	U	3.17		12.6		30.0		**43.2**		**0.116**		18.7		0.496	U	**138**	

Please see notes at end of table.

Table 2a
Soil Results - Metals - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B															
						Concentrations in mg/kg															
						Antimony		Arsenic		Chromium		Copper		Lead		Mercury		Nickel		Selenium		Zinc	
					Ecological ISM PRG	2.7		18		39		70		33		0.073		23		0.52		120	
					Ecological ISM Hot Spot	27		180		39		700		330		0.15		200		5.2		1,200	
Central Parcel	DU-26	ISM	0-1	DU-26 (0-1)A	11/09/2022	**3.22**		9.50		18.8		**152**		**330**		**1.95**		20.7		**0.605**	J	**260**	
			0-1 FR	DU-26 (0-1)B	11/09/2022	**4.79**		9.01		17.1		**129**		**302**		**1.28**		19.4		0.502	J	**244**	
			0-1 FR	DU-26 (0-1)C	11/09/2022	**3.61**		6.81		19.1		**105**		**292**		**1.53**		20.4		0.522	J	**235**	
			1-2	DU-26 (1-2)A	11/10/2022	1.4		5.16		14.7		**80.7**		**151**		**0.944**		18.3		0.511	U	**206**	
			1-2 FR	DU-26 (1-2)B	11/10/2022	0.728	J	4.61		13.2		48.5		**121**		**0.397**		17.2		**0.558**	J	**182**	
			1-2 FR	DU-26 (1-2)C	11/10/2022	1.06		11.6		15.5		**79.8**		**143**		**1.25**		19.9		*0.532*	U	**186**	
			2-3	DU-26 (2-3)A	11/11/2022	0.491	U	3.92		14.6		36.1		**65.2**		**0.258**		18.1		0.491	U	112	
			2-3 FR	DU-26 (2-3)B	11/11/2022	0.521	U	4.33		12.4		41.6		**59.8**		**0.820**		18.3		*0.521*	U	108	
			2-3 FR	DU-26 (2-3)C	11/11/2022	0.529	J	4.75		13.3		39.6		**76.1**		**0.537**		17.5		0.512	U	**138**	
			0-1	DU-26 (0-1) M	--	**3.87**		8.44		18.3		**129**		**308**		**1.59**		20.2		**0.543**	J	**246**	
			1-2	DU-26 (1-2) M	--	1.06	J	7.12		14.5		69.7		**138**		**0.864**		18.5		**0.534**	J	**191**	
			2-3	DU-26 (2-3) M	--	0.514	J	4.33		13.4		39.1		**67.0**		**0.538**		18.0		*0.521*	U	119	
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	DU-42 (0-1)	11/30/2022	0.512	U	4.38		17.8		36.3		**53.3**		**0.226**		**23.3**		**0.531**	J	**126**	
			1-2	DU-42 (1-2)	11/30/2022	0.667	J	4.11		18.4		25.4		30.3		**0.186**		22.6		*0.549*	U	109	
			2-3	DU-42 (2-3)	11/30/2022	0.531	U	3.76		17.4		21.1		20.1		**0.125**		20.7		*0.531*	U	87.0	
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)	10/05/2022	1.3		14.5		19.8		**204**		**46.1**		**0.184**		21.1		**0.583**	J	**173**	
			1-2	DU-27 (1-2)	10/05/2022	0.488	U	8.72		16.9		**81.2**		**39.1**		0.0555	J	21.3		0.488	U	**130**	
			2-3	DU-27 (2-3)	10/05/2022	1.15		15.8		15.5		45.6		**55.4**		0.0643	J	18.4		0.512	U	**139**	
	DU-28	ISM	0-1	DU-28 (0-1)	09/14/2022	2.32		10.5		16.4		**184**		**78.1**		**0.649**		17.9		0.513	U	**267**	
			1-2	DU-28 (1-2)	09/14/2022	**2.87**		13.3		17.3		**327**		**74.1**		**0.706**		17.2		0.493	U	**231**	
			2-3	DU-28 (2-3)	09/14/2022	**4.79**		7.40		16.9		**229**		**113**		**0.207**		19.6		*0.522*	U	**275**	
	DU-29	ISM	0-1	DU-29 (0-1)	09/15/2022	1.08		6.95		12.1		69.3	J	**103**		0.0595	J	18.1		0.518	U	**164**	
			1-2	DU-29 (1-2)	09/15/2022	1.02	J	5.08		10.4		44.3		**41.1**		0.0436	U	15.3		*0.545*	U	100	
			2-3	DU-29 (2-3)	09/15/2022	0.511	U	3.60		10.0		27.8		**45.7**		0.0409	U	15.2		0.511	U	92.7	
	DU-30	ISM	0-1	DU-30 (0-1)	09/16/2022	1.66		4.22		14.5		63.4		**131**		**0.0829**		18.3		0.500	U	**179**	
			1-2	DU-30 (1-2)	09/16/2022	2.09		3.72		13.9		**79.8**		**202**		0.05	J	17.7		0.512	U	**228**	
			2-3	DU-30 (2-3)	09/16/2022	**6.81**		4.14		11.6		**86.6**		**220**		**0.159**		15.7		0.501	U	**152**	
	DU-31	ISM	0-1	DU-31 (0-1)	11/03/2022	1.85		6.09		14.5		35.4		**44.8**		0.0479	J	16.5		0.491	U	116	
			1-2	DU-31 (1-2)	11/03/2022	0.743	J	4.98		12.6		49.2		**34.1**		0.067	J	17.0		0.516	U	**140**	
			2-3	DU-31 (2-3)	11/03/2022	0.735	J	5.96		12.9		68.2		25		0.0415	U	16.7		0.519	U	109	

Please see notes at end of table.

Table 2a
Soil Results - Metals - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B															
						Concentrations in mg/kg															
						Antimony		Arsenic	Chromium	Copper		Lead		Mercury		Nickel		Selenium		Zinc	
					Ecological ISM PRG	2.7		18	39	70		33		0.073		23		0.52		120	
					Ecological ISM Hot Spot	27		180	39	700		330		0.15		200		5.2		1,200	
East Parcel	DU-32	ISM	0-1	DU-32 (0-1)	09/22/2022	0.879	J	8.99	12.4	31.6		28.9		0.0428	U	15.7		*0.535*	U	118	
			1-2	DU-32 (1-2)	09/22/2022	0.535	U	7.10	11.1	23.4		20.9		0.0428	U	15.3		*0.535*	U	104	
			2-3	DU-32 (2-3)	09/22/2022	0.492	U	3.56	9.91	20.1		**34.1**		0.0394	U	14.2		0.492	U	90.2	
	DU-33	ISM	0-1	DU-33 (0-1)	09/20/2022	2.31		6.62	9.85	**79.8**		**88.8**		0.0435	J	14.9		0.491	U	**290**	
			1-2	DU-33 (1-2)	09/20/2022	1.84		9.60	12.3	**96.6**		**66.2**		0.0413	U	17.8		0.516	U	**354**	
			2-3	DU-33 (2-3)	09/20/2022	0.666	J	5.35	10.3	52.6		**42.8**		0.0423	U	16.4		*0.529*	U	**234**	
	DU-34	ISM	0-1	DU-34 (0-1)	09/27/2022	1.05		5.13	14.0	32.6		**41.4**		0.044	J	22.0		*0.523*	U	**182**	
			1-2	DU-34 (1-2)	09/27/2022	0.557	J	4.95	14.6	33.2		31.9		0.0447	J	**24.3**		0.498	U	**177**	
			2-3	DU-34 (2-3)	09/27/2022	0.537	U	3.69	12.1	33.1		25.9		0.043	U	20.1		*0.537*	U	**222**	
	DU-35	ISM	0-1	DU-35 (0-1)	10/07/2022	0.512	U	4.40	14.5	52.9		22.6		0.0415	J	17.8		0.512	U	**174**	
			1-2	DU-35 (1-2)	10/07/2022	0.531	U	3.81	12.3	29.1		19.0		0.0425	U	15.3		*0.531*	U	**168**	
			2-3	DU-35 (2-3)	10/07/2022	0.524	U	3.37	9.45	27.8		12.4		0.042	U	14.2		*0.524*	U	**141**	
	DU-36	ISM	0-1	DU-36 (0-1)	11/01/2022	**3.77**	J+	5.03	20.1	57.9		**73.2**		0.0398	U	22.6		0.498	U	**266**	
			1-2	DU-36 (1-2)	11/01/2022	**3.44**		4.23	17.3	56.7		**130**		0.0606	J	19.0		*0.520*	U	**222**	
			2-3	DU-36 (2-3)	11/01/2022	**3.62**		4.12	14.4	46.3		**63.3**		0.0449	J	18.3		*0.526*	U	**190**	
	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	1.31		3.69	13.1	27.7		30.5		0.039	J	16.5		0.486	U	109	
			0-1 FR	DU-38 (0-1)B	11/14/2022	0.959	J	3.71	11.9	22.8		25.8		0.0454	J	15.0		*0.534*	U	107	
			0-1 FR	DU-38 (0-1)C	11/14/2022	0.629	J	3.66	12.4	23.2		27.1		0.0431	J	16.3		*0.536*	U	110	
			1-2	DU-38 (1-2)A	11/16/2022	0.661	J	3.20	10.7	18.3		19.3		0.0415	U	13.7		0.519	U	84.4	
			1-2 FR	DU-38 (1-2)B	11/16/2022	**4.88**		3.76	10.9	56.0		**76.7**		0.0407	U	15.3		0.508	U	102	
			1-2 FR	DU-38 (1-2)C	11/16/2022	1.84		3.35	12.3	23.0		31.4		0.0411	U	16.0		0.514	U	94.6	
			2-3	DU-38 (2-3)A	11/17/2022	0.998		3.58	13.5	30.3		19.9		0.0396	U	17.1		0.495	U	83.3	
			2-3 FR	DU-38 (2-3)B	11/17/2022	**3.71**		3.63	12.7	51.4		**51.3**		0.039	U	16.5		0.487	U	108	
			2-3 FR	DU-38 (2-3)C	11/17/2022	0.921	J	4.06	13.6	26.0		22.1		0.0421	U	16.8		*0.527*	U	107	
			0-1	DU-38 (0-1) M	--	0.966	J	3.69	12.5	24.6		27.8		0.043	J	15.9		*0.536*	U	109	
			1-2	DU-38 (1-2) M	--	2.46	J	3.44	11.3	32.4	J	**42.5**	J	0.042	U	15.0		0.519	U	93.7	
			2-3	DU-38 (2-3) M	--	1.88	J	3.76	13.3	35.9		31.1		0.042	U	16.8		*0.527*	U	99.4	
East Parcel Concrete Slab	DU-37	Composite	0-1	DU-37 (0-1)	11/28/2022	0.495	U	3.72	17.4	26.1		**39.3**		0.0396	U	18.6		**0.572**	J	74.4	
			1-2	DU-37 (1-2)	11/28/2022	0.495	U	3.00	14.9	21.4		12.6		0.043	J	18.8		**0.537**	J	61.5	
			2-3	DU-37 (2-3)	11/28/2022	0.513	U	2.85	13.4	16.9		8.96		0.0411	U	17.1		0.513	U	52.2	
	DU-39	Composite	0-1	DU-39 (0-1)	11/29/2022	0.534	U	2.69	13.4	21.3		6.09		0.0427	U	16.0		*0.534*	U	62.8	
			1-2	DU-39 (1-2)	11/29/2022	0.56	U	3.24	15.1	17.9		5.11		0.0448	U	18.3		**0.615**	J	57.4	
			2-3	DU-39 (2-3)	11/29/2022	0.525	U	3.44	16	18.4		6.88		0.042	U	19.2		*0.525*	U	54.3	
	DU-40	Composite	0-1	DU-40 (0-1)	11/18/2022	0.509	U	2.88	12.9	16.2		3.75		0.0407	U	16.3		0.509	U	44.3	
			1-2	DU-40 (1-2)	11/18/2022	0.513	U	3.40	13.4	15.4		3.47		0.0411	U	17.7		0.513	U	44.7	
			2-3	DU-40 (2-3)	11/18/2022	0.525	U	3.13	13.7	16.6		3.1		0.042	U	18.2		*0.525*	U	45.1	
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)	11/21/2022	0.503	U	2.92	13.8	18.8		5.42	J	0.0402	U	16.9		**0.522**	J	53.9	
			1-2	DU-43 (1-2)	11/21/2022	0.536	U	2.89	14.0	18.7		9.65	J	0.0429	U	18.5		*0.536*	U	56.4	
			2-3	DU-43 (2-3)	11/21/2022	0.523	U	3.06	13.8	16.3		4.35	J	0.0418	U	18.4		*0.523*	U	46.0	
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)	12/01/2022	0.619	J	3.12	14.0	17.9		13.0		0.039	U	17.7		0.492	U	83.7	
			1-2	DU-44 (1-2)	12/01/2022	0.486	U	3.24	14.3	15.7		6.23		0.039	U	17.2		0.486	U	51.3	
			2-3	DU-44 (2-3)	12/01/2022	0.505	U	3.06	13.2	15.0		5.94		0.040	U	16.0		0.505	U	45.9	

Please see notes at end of table.

Table 2a
Soil Results - Metals - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B								
						Concentrations in mg/kg								
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
					Ecological ISM PRG	2.7	18	39	70	33	0.073	23	0.52	120
					Ecological ISM Hot Spot	27	180	39	700	330	0.15	200	5.2	1,200
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	0.695 J	5.65	16.9	52.5	**83.8**	0.0558 J	16.0	0.492 U	104
			0-1 FR	DU-41 (0-1)B	10/24/2022	1.68	12.2	16.8	67.5	**78.4**	**0.0934**	15.9	*0.531* U	**138**
			0-1 FR	DU-41 (0-1)C	10/24/2022	**2.81**	**50.1**	16.3	**78.6**	**75.4**	**0.262**	16.5	0.491 U	**139**
			1-2	DU-41 (1-2)A	10/26/2022	2.39	10.6	20.7	62.0	**129**	**0.108**	18.4	0.509 U	**147**
			1-2 FR	DU-41 (1-2)B	10/26/2022	1.4	11.1	18.1	52.4	**112**	**0.105**	17.7	0.501 U	**165**
			1-2 FR	DU-41 (1-2)C	10/26/2022	1.88	14.1	18.5	71.1	**126**	**0.0878**	18.3	0.514 U	**157**
			2-3	DU-41 (2-3)A	10/28/2022	1.49	19.6	21.7	43.6	**107**	**0.0732** J	21.1	0.505 U	**161**
			2-3 FR	DU-41 (2-3)B	10/28/2022	1.29	10.7	20.1	42.0	**47.5**	0.0523 J	21.3	0.505 U	**160**
			2-3 FR	DU-41 (2-3)C	10/28/2022	1.69	11.6	21.4	45.2	**109**	0.0528 J	21.7	0.511 U	**182**
			0-1	DU-41 (0-1) M	--	1.73 J	**22.7** J	16.7	66.2	**79.2**	**0.137** J	16.1	*0.531* U	**127**
			1-2	DU-41 (1-2) M	--	1.89	11.9	19.1	61.8	**122**	**0.100**	18.1	0.514 U	**156**
			2-3	DU-41 (2-3) M	--	1.49	14.0	21.1	43.6	**87.8**	0.059 J	21.4	0.511 U	**168**

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
EPA = United States Environmental Protection Agency.
M = Mean. These results are the mean of the field replicates collected at this decision unit.
mg/kg = Milligrams per kilogram (parts per million).
Bolded values exceed the Preliminary Remediation Goal (PRG).
Shaded values exceed the hot spot level.
Italicized values represent a method detection limit that is above one or more applicable screening levels.
U = Analyte was not detected.
J = Result is estimated.
J- = Result is estimated and may be biased low.
J+ = Result is estimated and may be biased high.

PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Table 2b
Soil Results - Metals - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B															
						Concentrations in mg/kg															
						Antimony		Arsenic		Chromium	Copper	Lead		Mercury		Nickel		Selenium		Zinc	
					Human Health ISM PRG	24.3		4.4		--	11,000	400		--		--		--		--	
					Human Health ISM Hot Spot	243		140		--	110,000	4,000		--		--		--		--	
West Parcel	DU-1	ISM	0-1	DU-1 (0-1)	07/20/2022	0.801	J	**6.24**		37.4	180	74.8		0.0696	J	27.1		0.514	U	151	
			1-2	DU-1 (1-2)	07/20/2022	0.712	J	**5.41**		41.3	64.6	321		0.0863		30.9		0.516	U	140	
			2-3	DU-1 (2-3)	07/20/2022	0.529	U	**5.79**		29.5	69.5	57.5		0.0813	J	25.0		0.529	U	179	
	DU-2	ISM	0-1	DU-2 (0-1)	08/01/2022	0.603	J	**5.41**		21.5	119	96.2		0.0731	J	18.9		0.505	U	99.4	
			1-2	DU-2 (1-2)	08/01/2022	0.515	U	**5.36**		22.0	170	118		0.124		16.4		0.515	U	88.8	
			2-3	DU-2 (2-3)	08/01/2022	0.495	U	**5.21**		15.5	41.9	24.4		0.0607	J	14.7		0.495	U	78.0	
	DU-3	ISM	0-1	DU-3 (0-1)	08/03/2022	0.547	U	**6.87**		16.2	26.8	20.1		0.0438	U	16.3		0.547	U	80.4	
			1-2	DU-3 (1-2)	08/03/2022	0.497	U	**6.65**		16.5	25.8	15.8		0.0455	J	17.1		0.497	U	72.2	
			2-3	DU-3 (2-3)	08/03/2022	0.536	U	**6.65**		15.7	21.6	13.5		0.0497	J	16.0		0.536	U	64.7	
	DU-4	ISM	0-1	DU-4 (0-1)	08/04/2022	0.565	U	**6.57**		16.3	29.1	23.7		0.0746	J	23.9		0.565	U	89.4	
			1-2	DU-4 (1-2)	08/04/2022	0.515	U	**6.87**		16.3	26.6	23.9		0.0596	J	24.6		0.515	U	79.4	
			2-3	DU-4 (2-3)	08/04/2022	0.502	U	**7.63**		18.4	34.0	45.1		0.0760	J	22.4		0.502	U	115	
	DU-5	ISM	0-1	DU-5 (0-1)A	07/22/2022	0.992	J-	**8.89**		52.3	344	62.1	J	0.110		31.9	J	0.369	J	191	
			0-1 FR	DU-5 (0-1)B	07/22/2022	0.853		**8.98**		46.2	303	50.8		0.104		31.2		0.341	J	211	
			0-1 FR	DU-5 (0-1)C	07/22/2022	0.944		**8.43**		50.6	308	57.2		0.352		32.6		0.316	J	197	
			1-2	DU-5 (1-2)A	07/25/2022	0.551		**7.47**		41.4	237	70.5		0.111		27.6		0.335	J	157	
			1-2 FR	DU-5 (1-2)B	07/25/2022	0.832		**8.09**		41.2	223	51.8		0.131		29.5		0.326	J	179	
			1-2 FR	DU-5 (1-2)C	07/25/2022	0.572		**7.18**		42.9	220	53.7		0.369		58.9		0.317	J	167	
			2-3	DU-5 (2-3)A	07/26/2022	0.426	J	**6.73**		38.4	159	55.9		0.153		27.1		0.309	J	147	
			2-3 FR	DU-5 (2-3)B	07/26/2022	0.596		**6.29**		36.8	144	68.1		0.107		26.2		0.300	J	224	
			2-3 FR	DU-5 (2-3)C	07/26/2022	0.479	J	**6.56**		47.1	214	118		0.273		31.3		0.304	J	195	
			0-1	DU-5 (0-1) M	--	0.930	J	**8.77**		49.7	318	56.7	J	0.189	J	31.9	J	0.342	J	200	
			1-2	DU-5 (1-2) M	--	0.652		**7.58**		41.8	227	58.7		0.204	J	38.7		0.326	J	168	
			2-3	DU-5 (2-3) M	--	0.500	J	**6.53**		40.8	172	80.7		0.178		28.2		0.304	J	189	
	DU-6	ISM	0-1	DU-6 (0-1)	07/28/2022	0.539	U	**4.93**		22.1	67.6	28.2		0.128		19.6		0.539	U	135	
			1-2	DU-6 (1-2)	07/28/2022	0.560	U	**4.89**		25.2	91.6	40.0		0.156		21.8		0.560	U	124	
			2-3	DU-6 (2-3)	07/28/2022	0.526	U	**4.67**		23.2	100	37.8		0.141		22.0		0.526	U	112	
	DU-7	ISM	0-1	DU-7 (0-1)	07/29/2022	0.537	U	4.37		19.2	36.0	23.3		0.304		19.3		0.537	U	126	
			1-2	DU-7 (1-2)	07/29/2022	0.547	U	3.98		18.6	30.1	18.7		0.130		19.7		0.547	U	92.7	
			2-3	DU-7 (2-3)	07/29/2022	0.536	U	3.07		16.2	24.2	14.9		0.0927		19.1		0.536	U	75.1	
	DU-8	ISM	0-1	DU-8 (0-1)	08/05/2022	0.560	U	4.33		21.7	32.5	39.1		0.154		19.6		0.560	U	144	
			1-2	DU-8 (1-2)	08/05/2022	0.501	U	4.13		24.6	32.9	31.4		0.164		19.7		0.501	U	130	
			2-3	DU-8 (2-3)	08/05/2022	0.545	U	4.13		21.9	32.0	31.0		0.156		20.7		0.545	U	126	
	DU-9	ISM	0-1	DU-9 (0-1)	08/08/2022	0.623	J	**5.25**		30.6	40.6	28.2		0.160		26.5		0.506	U	154	J-
			1-2	DU-9 (1-2)	08/08/2022	0.555	U	**4.81**		27.8	34.6	40.7		0.141		24.4		0.555	U	115	
			2-3	DU-9 (2-3)	08/08/2022	0.512	U	**5.12**		31.0	37.4	21.5		0.141		26.2		0.512	U	122	

Please see notes at end of table.

Table 2b
Soil Results - Metals - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B													
						Concentrations in mg/kg													
						Antimony		Arsenic	Chromium	Copper		Lead	Mercury	Nickel	Selenium		Zinc		
					Human Health ISM PRG	24.3		4.4	--	11,000		400	--	--	--		--		
					Human Health ISM Hot Spot	243		140	--	110,000		4,000	--	--	--		--		
Central Parcel	DU-10	ISM	0-1	DU-10 (0-1)	08/12/2022	0.541	U	**4.50**	14.8	33.3		86.5	1.07	29.9	0.541	U	106		
			1-2	DU-10 (1-2)	08/12/2022	0.531	J	**5.56**	15.3	33.6		54.8	0.829	27.5	0.513	U	94.9		
			2-3	DU-10 (2-3)	08/12/2022	0.514	J	**5.16**	14.5	32.2		73.3	0.609	22.6	0.491	U	117		
	DU-11	ISM	0-1	DU-11 (0-1)A	08/10/2022	0.545	U	**4.60**	23.6	38.5		53.1	0.721	29.3	0.545	U	116		
			0-1 FR	DU-11 (0-1)B	08/10/2022	0.520	U	3.98	19.9	35.0		56.1	0.687	25.6	0.520	U	104		
			0-1 FR	DU-11 (0-1)C	08/10/2022	0.541	U	4.14	22.2	36.7		50.6	0.726	26.5	0.541	U	110		
			1-2	DU-11 (1-2)A	08/10/2022	0.535	U	3.93	21.4	33.0		42.8	0.504	27.0	0.535	U	90.1		
			1-2 FR	DU-11 (1-2)B	08/10/2022	0.508	U	4.08	21.6	34.2		44.4	0.563	27.3	0.508	U	93.1		
			1-2 FR	DU-11 (1-2)C	08/10/2022	0.520	U	4.15	22.0	37.3		49.0	0.633	28.2	0.520	U	99.5		
			2-3	DU-11 (2-3)A	08/10/2022	0.526	U	4.23	22.0	32.2		41.0	0.382	26.1	0.526	U	95.0		
			2-3 FR	DU-11 (2-3)B	08/10/2022	0.522	U	4.19	21.0	35.2		43.3	0.604	26.4	0.522	U	95.0		
			2-3 FR	DU-11 (2-3)C	08/10/2022	0.497	U	3.90	20.2	35.1		34.5	0.590	25.8	0.497	U	86.5		
			0-1	DU-11 (0-1) M	--	0.545	U	4.24	21.9	36.7		53.3	0.711	27.1	0.545	U	110		
			1-2	DU-11 (1-2) M	--	0.535	U	4.05	21.7	34.8		45.4	0.567	27.5	0.535	U	94.2		
			2-3	DU-11 (2-3) M	--	0.526	U	4.11	21.1	34.2		39.6	0.525	26.1	0.526	U	92.2		
	DU-12	ISM	0-1	DU-12 (0-1)	08/16/2022	0.830	J	**4.95**	14.8	78.9		165	0.292	19.8	0.504	U	166		
			1-2	DU-12 (1-2)	08/16/2022	0.493	U	4.26	14.0	55.7		131	0.275	19.0	0.493	U	104		
			2-3	DU-12 (2-3)	08/16/2022	0.551	U	3.62	13.7	41		70.8	0.207	17.8	0.551	U	79.7		
	DU-13	ISM	0-1	DU-13 (0-1)A	08/29/2022	0.792	J	**6.04**	14.2	94.3		241	1.15	21.4	0.563	U	204		
			0-1 FR	DU-13 (0-1)B	08/29/2022	0.562	U	**5.53**	14.2	60.4		180	0.895	19.6	0.562	U	155		
			0-1 FR	DU-13 (0-1)C	08/29/2022	0.923	J	**5.41**	14.1	55.5		199	0.848	19.4	0.541	U	155		
			1-2	DU-13 (1-2)A	08/30/2022	0.513	U	**4.79**	13.8	53.0		86.5	0.785	18.6	0.513	U	109		
			1-2 FR	DU-13 (1-2)B	08/30/2022	0.520	U	**4.61**	13.7	43.7		92.3	0.572	18.4	0.520	U	103		
			1-2 FR	DU-13 (1-2)C	08/30/2022	0.540	U	**4.72**	13.8	44.7		154	0.614	18.1	0.540	U	128		
			2-3	DU-13 (2-3)A	08/31/2022	0.562	U	3.75	12.6	43.3		175	0.745	18.4	0.562	U	127		
			2-3 FR	DU-13 (2-3)B	08/31/2022	0.522	U	3.89	12.6	40.6		92.4	0.698	17.3	0.522	U	90.6		
			2-3 FR	DU-13 (2-3)C	08/31/2022	0.548	U	4.04	12.6	54.2		94.6	0.769	17.7	0.548	U	97.3		
			0-1	DU-13 (0-1) M	--	0.759	J	**5.66**	14.2	70.1		207	0.964	20.1	0.563	U	171		
			1-2	DU-13 (1-2) M	--	0.540	U	**4.71**	13.8	47.1		111	0.657	18.4	0.540	U	113		
			2-3	DU-13 (2-3) M	--	0.562	U	3.89	12.6	46.0		121	0.737	17.8	0.562	U	105		
	DU-14	ISM	0-1	DU-14 (0-1)	08/17/2022	2.81		**6.14**	22.9	73.5		134	1.33	24.3	0.514	U	147		
			1-2	DU-14 (1-2)	08/17/2022	7.38		**6.87**	21.6	122		240	3.10	23.7	0.519	U	204		
			2-3	DU-14 (2-3)	08/17/2022	3.04		**5.66**	20.6	185		162	2.50	24.8	0.493	U	164		
	DU-15	ISM	0-1	DU-15 (0-1)	08/19/2022	2.81		**5.04**	16.0	95.4		131	0.750	21.7	0.506	U	131		
			1-2	DU-15 (1-2)	08/19/2022	0.576	J	3.75	14.0	57.7		68.6	1.28	19.3	0.517	U	120		
			2-3	DU-15 (2-3)	08/19/2022	0.492	U	2.91	11.2	36.2		63.6	0.563	17.6	0.492	U	76.8		
	DU-16	ISM	0-1	DU-16 (0-1)A	09/12/2022	4.29		**8.31**	24.8	93.4	J+	237	2.43	25.6	0.543	U	371		
			0-1 FR	DU-16 (0-1)B	09/12/2022	2.31		**7.56**	26.6	131	J+	265	5.12	28.1	0.494	U	355		
			0-1 FR	DU-16 (0-1)C	09/12/2022	3.04		**7.89**	17.9	127	J+	306	3.87	23.2	0.539	U	283		
			0-1	DU-16 (0-1) M	--	3.21		**7.92**	23.1	117	J	269	3.81	25.6	0.543	U	336		
			1-2	DU-16 (1-2)	11/7/2022	2.29		**6.92**	13.6	71.8		151	1.69	18.5	0.521	U	139		
			2-3	DU-16 (2-3)	11/7/2022	0.499	U	3.72	12.9	29.1		37.5	0.429	16.8	0.539	J	71.3		

Please see notes at end of table.

Table 2b
Soil Results - Metals - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B													
						Concentrations in mg/kg													
						Antimony		Arsenic	Chromium	Copper		Lead	Mercury	Nickel	Selenium		Zinc		
					Human Health ISM PRG	24.3		4.4	--	11,000		400	--	--	--		--		
					Human Health ISM Hot Spot	243		140	--	110,000		4,000	--	--	--		--		
Central Parcel	DU-17	ISM	0-1	DU-17 (0-1)	09/02/2022	1.06		**4.95**	12.4	59.2		81.4	0.575	16.4	0.499	U	156		
			1-2	DU-17 (1-2)	09/02/2022	0.511	U	3.72	11.8	34.3		62.5	0.356	16.3	0.511	U	70.6		
			2-3	DU-17 (2-3)	09/02/2022	0.504	U	3.16	11.1	26.8		35.1	0.121	14.6	0.504	U	58.4		
	DU-18	ISM	0-1	DU-18 (0-1)A	09/29/2022	0.874	J	**6.99**	22.1	71.0		198	0.965	22.5	0.531	U	146		
			0-1 FR	DU-18 (0-1)B	09/29/2022	1.41		**10.9**	22.8	111		198	1.72	23.5	0.505	U	173		
			0-1 FR	DU-18 (0-1)C	09/29/2022	1.06		**8.94**	20.8	87.7		280	1.20	23.3	0.499	U	204		
			1-2	DU-18 (1-2)A	09/30/2022	0.491	U	**5.38**	14.0	58.2		179	0.806	18.3	0.491	U	156		
			1-2 FR	DU-18 (1-2)B	09/30/2022	0.495	U	**5.98**	15.3	79.5		150	1.06	21.8	0.495	U	158		
			1-2 FR	DU-18 (1-2)C	09/30/2022	0.490	U	**6.22**	14.3	77.7		119	0.985	18.3	0.490	U	133		
			2-3	DU-18 (2-3)A	10/03/2022	0.502	U	3.77	11.9	30.8		55.4	0.296	16.6	0.502	U	94.4		
			2-3 FR	DU-18 (2-3)B	10/03/2022	0.489	U	**5.31**	13.0	59.9		92.3	0.681	17.8	0.489	U	105		
			2-3 FR	DU-18 (2-3)C	10/03/2022	0.489	U	**5.63**	13.9	53.0		75.2	0.679	18.3	0.497	J	118		
			0-1	DU-18 (0-1) M	--	1.11	J	**8.94**	21.9	89.9		225	1.30	23.1	0.531	U	174		
			1-2	DU-18 (1-2) M	--	0.495	U	**5.86**	14.5	71.8		149	0.950	19.5	0.495	U	149		
			2-3	DU-18 (2-3) M	--	0.502	U	**4.90**	12.9	47.9		74	0.552	17.6	0.496	J	106		
	DU-19	ISM	0-1	DU-19 (0-1)	09/06/2022	1.39		**7.67**	13.2	107		257	0.666	16.5	0.541	U	215		
			1-2	DU-19 (1-2)	09/06/2022	0.957	J	**11.2**	12.0	110		161	1.08	15.5	0.555	U	198		
			2-3	DU-19 (2-3)	09/06/2022	0.926	J	**5.68**	11.2	44.9		70.8	0.327	15.5	0.522	U	113		
	DU-20	ISM	0-1	DU-20 (0-1)	10/18/2022	1.69		**5.69**	19.6	58.4		76.2	0.314	22.7	0.517	U	117		
			1-2	DU-20 (1-2)	10/18/2022	0.536	U	4.08	19.5	25.8		17.7	0.136	28.4	0.536	U	87.3		
			2-3	DU-20 (2-3)	10/18/2022	0.511	U	3.68	16.7	23.0		14.3	0.101	21.1	0.511	U	90.4		
	DU-21	ISM	0-1	DU-21 (0-1)	09/08/2022	2.73		**10.5**	14.8	128	J+	295	0.776	20.3	0.493	U	242		
			1-2	DU-21 (1-2)	09/08/2022	1.01		**4.93**	11.8	56.2	J+	116	0.276	17.7	0.500	U	180		
			2-3	DU-21 (2-3)	09/08/2022	0.497	U	**4.48**	11.6	45.9	J+	89.7	0.154	18.0	0.497	U	109		
	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	2.89		**6.48**	19.0	82.3		129	0.592	21.0	0.530	U	167		
			0-1 FR	DU-22 (0-1)B	10/13/2022	2.79		**5.77**	18.0	86.7		148	0.602	21.4	0.506	U	169		
			0-1 FR	DU-22 (0-1)C	10/13/2022	2.03		**5.83**	19.6	96.6		190	0.430	23.2	0.538	U	178		
			1-2	DU-22 (1-2)A	10/14/2022	0.922	J	**4.41**	17.4	31.7		47.8	0.231	21.1	0.494	U	125	J-	
			1-2 FR	DU-22 (1-2)B	10/14/2022	2.63		4.33	16.1	47.4		72.3	0.349	20.8	0.512	U	109		
			1-2 FR	DU-22 (1-2)C	10/14/2022	2.04		**4.53**	18.8	44.8		65.4	0.161	22.6	0.497	U	164		
			2-3	DU-22 (2-3)A	10/14/2022	0.731	J	**4.45**	17.2	29.4		51.9	0.190	20.2	0.499	U	96.5		
			2-3 FR	DU-22 (2-3)B	10/14/2022	0.839	J	**4.43**	18.0	54.0		57.5	0.376	21.4	0.509	U	98.6		
			2-3 FR	DU-22 (2-3)C	10/14/2022	1.09	J	3.92	16.0	32.6		43.4	0.355	20.8	0.557	U	123		
			0-1	DU-22 (0-1) M	--	2.57		**6.03**	18.9	88.5		156	0.541	21.9	0.538	U	171		
			1-2	DU-22 (1-2) M	--	1.86	J	**4.42**	17.4	41.3		61.8	0.247	21.5	0.512	U	133	J	
			2-3	DU-22 (2-3) M	--	0.887	J	4.27	17.1	38.7		50.9	0.307	20.8	0.557	U	106		
	DU-23	ISM	0-1	DU-23 (0-1)	10/12/2022	1.62		**5.99**	22.1	150		276	1.02	22.9	0.497	U	184		
			1-2	DU-23 (1-2)	10/12/2022	0.61	J	**4.63**	18.4	69.5		70.9	0.545	20.5	0.518	U	127		
			2-3	DU-23 (2-3)	10/12/2022	0.498	J	3.82	15.6	41.9		82.2	0.426	18.8	0.488	U	99		
	DU-24	ISM	0-1	DU-24 (0-1)	09/21/2022	0.546	U	4.16	15.5	39.9		48.8	0.276	19.2	0.546	U	117		
			1-2	DU-24 (1-2)	09/21/2022	0.496	U	3.56	15.0	31.1		23.2	0.175	20.6	0.496	U	124		
			2-3	DU-24 (2-3)	09/21/2022	0.501	U	2.84	10.9	17.6		13.8	0.0928	18.5	0.501	U	83.1		
	DU-25	ISM	0-1	DU-25 (0-1)	09/23/2022	0.822	J	**5.24**	20.2	226		144	0.762	21.3	0.491	U	242		
			1-2	DU-25 (1-2)	09/23/2022	0.493	U	3.29	14.5	48.5		113	0.213	19.6	0.493	U	202		
			2-3	DU-25 (2-3)	09/23/2022	0.496	U	3.17	12.6	30.0		43.2	0.116	18.7	0.496	U	138		

Please see notes at end of table.

Table 2b
Soil Results - Metals - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B															
						Concentrations in mg/kg															
						Antimony		Arsenic		Chromium	Copper		Lead	Mercury		Nickel		Selenium		Zinc	
					Human Health ISM PRG	24.3		4.4		--	11,000		400	--		--		--		--	
					Human Health ISM Hot Spot	243		140		--	110,000		4,000	--		--		--		--	
Central Parcel	DU-26	ISM	0-1	DU-26 (0-1)A	11/09/2022	3.22		**9.50**		18.8	152		330	1.95		20.7		0.605	J	260	
			0-1 FR	DU-26 (0-1)B	11/09/2022	4.79		**9.01**		17.1	129		302	1.28		19.4		0.502	J	244	
			0-1 FR	DU-26 (0-1)C	11/09/2022	3.61		**6.81**		19.1	105		292	1.53		20.4		0.522	J	235	
			1-2	DU-26 (1-2)A	11/10/2022	1.4		**5.16**		14.7	80.7		151	0.944		18.3		0.511	U	206	
			1-2 FR	DU-26 (1-2)B	11/10/2022	0.728	J	**4.61**		13.2	48.5		121	0.397		17.2		0.558	J	182	
			1-2 FR	DU-26 (1-2)C	11/10/2022	1.06		**11.6**		15.5	79.8		143	1.25		19.9		0.532	U	186	
			2-3	DU-26 (2-3)A	11/11/2022	0.491	U	3.92		14.6	36.1		65.2	0.258		18.1		0.491	U	112	
			2-3 FR	DU-26 (2-3)B	11/11/2022	0.521	U	4.33		12.4	41.6		59.8	0.820		18.3		0.521	U	108	
			2-3 FR	DU-26 (2-3)C	11/11/2022	0.529	J	**4.75**		13.3	39.6		76.1	0.537		17.5		0.512	U	138	
			0-1	DU-26 (0-1) M	--	3.87		**8.44**		18.3	129		308	1.59		20.2		0.543	J	246	
			1-2	DU-26 (1-2) M	--	1.06	J	**7.12**		14.5	69.7		138	0.864		18.5		0.534	J	191	
			2-3	DU-26 (2-3) M	--	0.514	J	4.33		13.4	39.1		67.0	0.538		18.0		0.521	U	119	
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	DU-42 (0-1)	11/30/2022	0.512	U	4.38		17.8	36.3		53.3	0.226		23.3		0.531	J	126	
			1-2	DU-42 (1-2)	11/30/2022	0.667	J	4.11		18.4	25.4		30.3	0.186		22.6		0.549	U	109	
			2-3	DU-42 (2-3)	11/30/2022	0.531	U	3.76		17.4	21.1		20.1	0.125		20.7		0.531	U	87.0	
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)	10/05/2022	1.3		**14.5**		19.8	204		46.1	0.184		21.1		0.583	J	173	
			1-2	DU-27 (1-2)	10/05/2022	0.488	U	**8.72**		16.9	81.2		39.1	0.0555	J	21.3		0.488	U	130	
			2-3	DU-27 (2-3)	10/05/2022	1.15		**15.8**		15.5	45.6		55.4	0.0643	J	18.4		0.512	U	139	
	DU-28	ISM	0-1	DU-28 (0-1)	09/14/2022	2.32		**10.5**		16.4	184		78.1	0.649		17.9		0.513	U	267	
			1-2	DU-28 (1-2)	09/14/2022	2.87		**13.3**		17.3	327		74.1	0.706		17.2		0.493	U	231	
			2-3	DU-28 (2-3)	09/14/2022	4.79		**7.40**		16.9	229		113	0.207		19.6		0.522	U	275	
	DU-29	ISM	0-1	DU-29 (0-1)	09/15/2022	1.08		**6.95**		12.1	69.3	J	103	0.0595	J	18.1		0.518	U	164	
			1-2	DU-29 (1-2)	09/15/2022	1.02	J	**5.08**		10.4	44.3		41.1	0.0436	U	15.3		0.545	U	100	
			2-3	DU-29 (2-3)	09/15/2022	0.511	U	3.60		10.0	27.8		45.7	0.0409	U	15.2		0.511	U	92.7	
	DU-30	ISM	0-1	DU-30 (0-1)	09/16/2022	1.66		4.22		14.5	63.4		131	0.0829		18.3		0.500	U	179	
			1-2	DU-30 (1-2)	09/16/2022	2.09		3.72		13.9	79.8		202	0.05	J	17.7		0.512	U	228	
			2-3	DU-30 (2-3)	09/16/2022	6.81		4.14		11.6	86.6		220	0.159		15.7		0.501	U	152	
	DU-31	ISM	0-1	DU-31 (0-1)	11/03/2022	1.85		**6.09**		14.5	35.4		44.8	0.0479	J	16.5		0.491	U	116	
			1-2	DU-31 (1-2)	11/03/2022	0.743	J	**4.98**		12.6	49.2		34.1	0.067	J	17.0		0.516	U	140	
			2-3	DU-31 (2-3)	11/03/2022	0.735	J	**5.96**		12.9	68.2		25	0.0415	U	16.7		0.519	U	109	

Please see notes at end of table.

Table 2b
Soil Results - Metals - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B															
						Concentrations in mg/kg															
						Antimony		Arsenic		Chromium	Copper		Lead		Mercury		Nickel		Selenium		Zinc
					Human Health ISM PRG	24.3		4.4		--	11,000		400		--		--		--		--
					Human Health ISM Hot Spot	243		140		--	110,000		4,000		--		--		--		--
East Parcel	DU-32	ISM	0-1	DU-32 (0-1)	09/22/2022	0.879	J	**8.99**		12.4	31.6		28.9		0.0428	U	15.7		0.535	U	118
			1-2	DU-32 (1-2)	09/22/2022	0.535	U	**7.10**		11.1	23.4		20.9		0.0428	U	15.3		0.535	U	104
			2-3	DU-32 (2-3)	09/22/2022	0.492	U	3.56		9.91	20.1		34.1		0.0394	U	14.2		0.492	U	90.2
	DU-33	ISM	0-1	DU-33 (0-1)	09/20/2022	2.31		**6.62**		9.85	79.8		88.8		0.0435	J	14.9		0.491	U	290
			1-2	DU-33 (1-2)	09/20/2022	1.84		**9.60**		12.3	96.6		66.2		0.0413	U	17.8		0.516	U	354
			2-3	DU-33 (2-3)	09/20/2022	0.666	J	**5.35**		10.3	52.6		42.8		0.0423	U	16.4		0.529	U	234
	DU-34	ISM	0-1	DU-34 (0-1)	09/27/2022	1.05		**5.13**		14.0	32.6		41.4		0.044	J	22.0		0.523	U	182
			1-2	DU-34 (1-2)	09/27/2022	0.557	J	**4.95**		14.6	33.2		31.9		0.0447	J	24.3		0.498	U	177
			2-3	DU-34 (2-3)	09/27/2022	0.537	U	3.69		12.1	33.1		25.9		0.043	U	20.1		0.537	U	222
	DU-35	ISM	0-1	DU-35 (0-1)	10/07/2022	0.512	U	**4.40**		14.5	52.9		22.6		0.0415	J	17.8		0.512	U	174
			1-2	DU-35 (1-2)	10/07/2022	0.531	U	3.81		12.3	29.1		19.0		0.0425	U	15.3		0.531	U	168
			2-3	DU-35 (2-3)	10/07/2022	0.524	U	3.37		9.45	27.8		12.4		0.042	U	14.2		0.524	U	141
	DU-36	ISM	0-1	DU-36 (0-1)	11/01/2022	3.77	J+	**5.03**		20.1	57.9		73.2		0.0398	U	22.6		0.498	U	266
			1-2	DU-36 (1-2)	11/01/2022	3.44		4.23		17.3	56.7		130		0.0606	J	19.0		0.52	U	222
			2-3	DU-36 (2-3)	11/01/2022	3.62		4.12		14.4	46.3		63.3		0.0449	J	18.3		0.526	U	190
	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	1.31		3.69		13.1	27.7		30.5		0.039	J	16.5		0.486	U	109
			0-1 FR	DU-38 (0-1)B	11/14/2022	0.959	J	3.71		11.9	22.8		25.8		0.0454	J	15.0		0.534	U	107
			0-1 FR	DU-38 (0-1)C	11/14/2022	0.629	J	3.66		12.4	23.2		27.1		0.0431	J	16.3		0.536	U	110
			1-2	DU-38 (1-2)A	11/16/2022	0.661	J	3.20		10.7	18.3		19.3		0.0415	U	13.7		0.519	U	84.4
			1-2 FR	DU-38 (1-2)B	11/16/2022	4.88		3.76		10.9	56.0		76.7		0.0407	U	15.3		0.508	U	102
			1-2 FR	DU-38 (1-2)C	11/16/2022	1.84		3.35		12.3	23.0		31.4		0.0411	U	16.0		0.514	U	94.6
			2-3	DU-38 (2-3)A	11/17/2022	0.998		3.58		13.5	30.3		19.9		0.0396	U	17.1		0.495	U	83.3
			2-3 FR	DU-38 (2-3)B	11/17/2022	3.71		3.63		12.7	51.4		51.3		0.039	U	16.5		0.487	U	108
			2-3 FR	DU-38 (2-3)C	11/17/2022	0.921	J	4.06		13.6	26.0		22.1		0.0421	U	16.8		0.527	U	107
			0-1	DU-38 (0-1) M	--	0.966	J	3.69		12.5	24.6		27.8		0.043	J	15.9		0.536	U	109
			1-2	DU-38 (1-2) M	--	2.46	J	3.44		11.3	32.4	J	42.5	J	0.042	U	15.0		0.519	U	93.7
			2-3	DU-38 (2-3) M	--	1.88	J	3.76		13.3	35.9		31.1		0.042	U	16.8		0.527	U	99.4
East Parcel Concrete Slabs	DU-37	Composite	0-1	DU-37 (0-1)	11/28/2022	0.495	U	3.72		17.4	26.1		39.3		0.0396	U	18.6		0.572	J	74.4
			1-2	DU-37 (1-2)	11/28/2022	0.495	U	3.00		14.9	21.4		12.6		0.043	J	18.8		0.537	J	61.5
			2-3	DU-37 (2-3)	11/28/2022	0.513	U	2.85		13.4	16.9		8.96		0.0411	U	17.1		0.513	U	52.2
	DU-39	Composite	0-1	DU-39 (0-1)	11/29/2022	0.534	U	2.69		13.4	21.3		6.09		0.0427	U	16.0		0.534	U	62.8
			1-2	DU-39 (1-2)	11/29/2022	0.56	U	3.24		15.1	17.9		5.11		0.0448	U	18.3		0.615	J	57.4
			2-3	DU-39 (2-3)	11/29/2022	0.525	U	3.44		16	18.4		6.88		0.042	U	19.2		0.525	U	54.3
	DU-40	Composite	0-1	DU-40 (0-1)	11/18/2022	0.509	U	2.88		12.9	16.2		3.75		0.0407	U	16.3		0.509	U	44.3
			1-2	DU-40 (1-2)	11/18/2022	0.513	U	3.40		13.4	15.4		3.47		0.0411	U	17.7		0.513	U	44.7
			2-3	DU-40 (2-3)	11/18/2022	0.525	U	3.13		13.7	16.6		3.1		0.042	U	18.2		0.525	U	45.1
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)	11/21/2022	0.503	U	2.92		13.8	18.8		5.42	J	0.0402	U	16.9		0.522	J	53.9
			1-2	DU-43 (1-2)	11/21/2022	0.536	U	2.89		14.0	18.7		9.65	J	0.0429	U	18.5		0.536	U	56.4
			2-3	DU-43 (2-3)	11/21/2022	0.523	U	3.06		13.8	16.3		4.35	J	0.0418	U	18.4		0.523	U	46.0
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)	12/01/2022	0.619	J	3.12		14.0	17.9		13.0		0.039	U	17.7		0.492	U	83.7
			1-2	DU-44 (1-2)	12/01/2022	0.486	U	3.24		14.3	15.7		6.23		0.039	U	17.2		0.486	U	51.3
			2-3	DU-44 (2-3)	12/01/2022	0.505	U	3.06		13.2	15.0		5.94		0.040	U	16.0		0.505	U	45.9

Please see notes at end of table.

Table 2b
Soil Results - Metals - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B								
						Concentrations in mg/kg								
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
					Human Health ISM PRG	24.3	4.4	--	11,000	400	--	--	--	--
					Human Health ISM Hot Spot	243	140	--	110,000	4,000	--	--	--	--
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	0.695 J	**5.65**	16.9	52.5	83.8	0.0558 J	16.0	0.492 U	104
			0-1 FR	DU-41 (0-1)B	10/24/2022	1.68	**12.2**	16.8	67.5	78.4	0.0934	15.9	0.531 U	138
			0-1 FR	DU-41 (0-1)C	10/24/2022	2.81	**50.1**	16.3	78.6	75.4	0.262	16.5	0.491 U	139
			1-2	DU-41 (1-2)A	10/26/2022	2.39	**10.6**	20.7	62.0	129	0.108	18.4	0.509 U	147
			1-2 FR	DU-41 (1-2)B	10/26/2022	1.4	**11.1**	18.1	52.4	112	0.105	17.7	0.501 U	165
			1-2 FR	DU-41 (1-2)C	10/26/2022	1.88	**14.1**	18.5	71.1	126	0.0878	18.3	0.514 U	157
			2-3	DU-41 (2-3)A	10/28/2022	1.49	**19.6**	21.7	43.6	107	0.0732 J	21.1	0.505 U	161
			2-3 FR	DU-41 (2-3)B	10/28/2022	1.29	**10.7**	20.1	42.0	47.5	0.0523 J	21.3	0.505 U	160
			2-3 FR	DU-41 (2-3)C	10/28/2022	1.69	**11.6**	21.4	45.2	109	0.0528 J	21.7	0.511 U	182
			0-1	DU-41 (0-1) M	--	1.73 J	**22.7** J	16.7	66.2	79.2	0.137 J	16.1	0.531 U	127
			1-2	DU-41 (1-2) M	--	1.89	**11.9**	19.1	61.8	122	0.100	18.1	0.514 U	156
			2-3	DU-41 (2-3) M	--	1.49	**14.0**	21.1	43.6	87.8	0.059 J	21.4	0.511 U	168

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
EPA = United States Environmental Protection Agency.
M = Mean. These results are the mean of the field replicates collected at this decision unit.
mg/kg = Milligrams per kilogram (parts per million).
Bolded values exceed the Preliminary Remediation Goal (PRG).
Shaded values exceed the hot spot level.
Italicized values represent a method detection limit that is above one or more applicable screening levels.
PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
U = Analyte was not detected.
J = Result is estimated.
J- = Result is estimated and may be biased low.
J+ = Result is estimated and may be biased high.

Table 3a
Soil Results - Dioxins/Furans - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g 2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
					Ecological ISM PRG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1
					Ecological ISM Hot Spot	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	61
West Parcel	DU-1	ISM	0-1	DU-1 (0-1)	07/20/2022	0.833	4.53	3.96	31.3	17.9	407	3,690	1.36	2.77	7.95	8.16	5.85	8.48	2.13 U	118	4.69	340	9.14 JN	30.4 JN	218	985	72.5 JN	88.3 JN	171	393	**22.1**
			1-2	DU-1 (1-2)	07/20/2022	0.826	2.27 J	4.64	27.8	9.16	644	6,310 J	1.38	4.05	8.17	14.4	8.37	8.87	3.83	337	11.2	924	8.79 JN	21.1 JN	155	1,150	48.3 JN	65.7	333	1,090	**25.6** J
			2-3	DU-1 (2-3)	07/20/2022	0.439	0.941 U	2.06 J	12.1	4.35	305	3,060	1.14	1.18 J	3.5	5.57	2.75	3.62	1.56 J	126	6.31	458	3.52	2.77	66.1	543	21.1 JN	30.1 JN	125 JN	423	**10.7** J
	DU-2	ISM	0-1	DU-2 (0-1)	08/01/2022	0.424 U	1.50 J	1.49 U	9.03	4.55	157	1,310	1.14	1.97 J	2.45 J	3.45	1.65 J	0.795 U	0.822 U	30.4	1.96 J	78.9	3.03	11.0	62.0	325	27.6 JN	28.7 JN	36.4	90.2	**6.95** J
			1-2	DU-2 (1-2)	08/01/2022	0.338 U	0.698 U	1.21 U	6.62	1.10 U	73.5	700	0.895	1.22 U	1.76 J	2.09 J	1.06 U	1.29 U	1.27 U	15.4	1.13 U	58.7	1.15	0.698 U	17.5	118	17.4 JN	15.7 JN	16.6	48.6	3.44 J
			2-3	DU-2 (2-3)	08/01/2022	0.352 U	0.67 U	1.63 U	2.63	1.52 U	46.7	384	0.605	1.13 J	1.21 J	1.26 U	1.26 U	1.53 U	1.52 U	15.1	1.02 U	40.8	0.667	0.670 U	16.1	80.3	17.7 JN	14.9 JN	13.5	42.1	2.42 J
	DU-3	ISM	0-1	DU-3 (0-1)	08/03/2022	0.673	6.12	5.17	38.7	13.0	805	5,360 J	0.752	2.27 U	4.8	5.94	2.72	6.33	2.03 U	87.5	3.75	290	3.00	25.0	220	1,380	13.2	61.0	136	260	**26.3** J
			1-2	DU-3 (1-2)	08/03/2022	0.354 U	1.16 U	2.00 U	11.4	4.92	327	2,780	0.322 U	0.807 U	1.62 J	1.09 U	0.991 U	1.22 U	1.29 U	40.4	2.06 U	221	1.06	4.02	66.8	526	6.38	24.9	38.7	144	**7.82** J
			2-3	DU-3 (2-3)	08/03/2022	0.227 U	1.53 U	1.77 U	5.71	1.94 J	163	1,520	0.298 U	1.07 U	1.02 U	0.928 U	0.86 U	1.05 U	1.45 U	30.2	2.11 U	151	0.227 U	1.53 U	41.4	270	3.01	7.87	23.8	129	4.57 J
	DU-4	ISM	0-1	DU-4 (0-1)	08/04/2022	0.565	4.67	3.89	44.0	19.4	458	3,340	0.734	2.18 U	3.08	3.73	2.55	3.52	2.44 U	102	5.06	447	3.99	30.4	252	925	12.3 JN	40.1	94.7	354	**20.9**
			1-2	DU-4 (1-2)	08/04/2022	0.486 J	3.44	2.15 J	30.3	8.41	405	3,280	0.784	1.17 J	3.75	5.27	3.03	3.92	1.21 U	97.7	3.95	5.14	2.24	17.6	149	700	19.3 JN	50.3	101	374	**16.6** J
			2-3	DU-4 (2-3)	08/04/2022	0.469 J	1.87 J	0.887 U	18.1	5.97	458	4,160 J	0.694	1.96 U	4.02	4.98	3.34	3.98	0.831 U	120	5.94	689	3.27	8.66	105	808	27.8 JN	63.5	126	489	**14.7** J
	DU-5	ISM	0-1	DU-5 (0-1)A	07/22/2022	0.561	1.75 J	1.55 U	9.28	3.95	209	1,910	4.10	7.53	5.27	13.8	4.99	3.01	3.02	60.6	4.63	127	4.02	12.2	58.8	402	38.5 JN	54.5 JN	84.1	164	**11.8** J
			0-1 FR	DU-5 (0-1)B	07/22/2022	0.746	2.02 J	1.17 U	8.24	4.35	258	2,360	6.93	14.9	8.86	24.3	8.24	4.53	3.49	76.9	6.57	153	7.49	10.4	73.8	517	58.0 JN	80.3 JN	107	202	**16.1** J
			0-1 FR	DU-5 (0-1)C	07/22/2022	0.565	2.07 J	2.74	12.5	6.70	256	2,310	5.96	11.1	7.26	19.9	9.07	4.20	3.29	214	4.99	189	4.00	9.27	81.1	500	44.6 JN	72.2 JN	171	435	**17.1** J
			1-2	DU-5 (1-2)A	07/25/2022	0.508	0.652 U	1.94 J	7.31	1.99 J	207	2,060	5.26	10.2	7.54	17.6	6.59	4.78	2.16 J	76.0	5.78	154	3.89	2.89	48.4	377	72.7 JN	85.4 JN	101	202	**11.7** J
			1-2 FR	DU-5 (1-2)B	07/25/2022	0.422 J	0.726 U	2.23 U	7.99	3.89	264	2,630	7.10	10.8	9.02	16.6	6.21	4.50	4.38	67.1	6.59	187	3.33	5.41	55.2	515	82.9 JN	93.1 JN	99.7	214	**13.2** J
			1-2 FR	DU-5 (1-2)C	07/25/2022	0.427 U	1.26 J	1.97 J	8.63	3.01	255	2,460	5.28	8.81	7.08	16.5	11.0	5.14	2.84	255	6.43	240	2.82	7.02	55.4	465	50.3 JN	73.7 JN	197	525	**15.3** J
			2-3	DU-5 (2-3)A	07/26/2022	1.28	1.57 J	1.38 J	7.87	3.99	260	2,560	5.58	9.36	9.89	16.2	6.36	4.88	2.83	89.7	7.69	192	5.54	7.35	57.8	464	74.4 JN	104 JN	112	241	**15.4** J
			2-3 FR	DU-5 (2-3)B	07/26/2022	0.511	1.59 U	1.91 J	6.43	3.28	246	2,360	4.85	8.14	8.47	14.1	5.85	4.63	2.95	57.5	5.83	151	4.18	7.54	58.3	581	89.7 JN	92.4 JN	90.1	179	**12.3** J
			2-3 FR	DU-5 (2-3)C	07/26/2022	0.535	1.49 J	1.83 J	11.5	3.90	295	3,160	5.77	11.4	7.90	25.2	21.2	7.95	6.06	610	9.63	408	4.02	4.76	67.1	519	49.6 JN	89.0	392	1,130	**23.3** J
			0-1	DU-5 (0-1) M	--	0.624	1.95 J	1.82	10.0	5.00	241	2,193	5.66	11.2	7.13	19.3	7.43	3.91	3.27	117 J	5.40	156	5.17	10.6	71.2	473	47.0 JN	69.0 JN	121	267	**15.0** J
			1-2	DU-5 (1-2) M	--	0.452 J	0.879 J	2.05 J	7.98	2.96 J	242	2,383	5.88	9.94	7.88	16.9	7.93	4.81	3.13 J	133 J	6.27	194	3.35	5.11	53.0	452	68.6 JN	84.1 JN	133	314	**13.4** J
			2-3	DU-5 (2-3) M	--	0.775	1.55 J	1.71 J	8.60	3.72	267	2,693	5.40	9.63	8.75	18.5	11.1 J	5.82	3.95	252 J	7.72	250	4.58	6.55	61.1	521	71.2 JN	95.1 J	198 J	517 J	**17.0** J
	DU-6	ISM	0-1	DU-6 (0-1)	07/28/2022	0.376 U	0.895 U	1.60 U	8.53	3.65	2.12 J	2,130	7.64	13.7	7.52	22.1	6.65	4.02	3.92	56.9	5.77	130	3.54	3.87	59.1	413	52.4 JN	70.4 JN	96.0	166	**10.4** J
			1-2	DU-6 (1-2)	07/28/2022	0.708	3.76	6.07	19.1	9.26	271	2,430	9.46	17.5	15.3	33.1	13.6	13.1	6.83	92.1	9.48	178	69.0	146	272	535	142 JN	172 JN	181	239	**25.1** J
			2-3	DU-6 (2-3)	07/28/2022	0.296	1.21 J	1.53 U	7.57	3.28	224	2,290	4.88	9.40	5.86	15.8	5.84	3.25	2.23 J	52.0	5.29	126	3.60	8.87	52.2	438	48.2 JN	62.0 JN	83.1	146	**11.4** J
	DU-7	ISM	0-1	DU-7 (0-1)	07/29/2022	0.605	1.30 J	2.57	11.8	4.39	236	2,410	9.02	17.3	10.5	30.6	11.4	4.81	4.67	72.7	8.50	139	4.69	9.39	72.7	458	103 JN	125 JN	134	201	**17.4** J
			1-2	DU-7 (1-2)	07/29/2022	0.377 J	0.835 U	1.23 J	7.72	2.98	187	1,980	6.63	11.9	7.26	22.6	7.80	4.24	4.57	72.1	4.80	130	2.97	2.63	45.7	371	78.0 JN	85.2 JN	100	184	**12.4** J
			2-3	DU-7 (2-3)	07/29/2022	0.315 U	1.35 U	2.04 U	4.24	2.17 J	122	1,430	4.48	8.45	4.15	15.3	5.43	3.38	2.41 U	38.8	5.24	92.0	1.48	1.35 U	36.0	249	40.1 JN	45.1 JN	66.3	115	**8.17** J
	DU-8	ISM	0-1	DU-8 (0-1)	08/05/2022	1.03	2.98	2.34 J	16.6	8.25	371	3,990	8.93	15.8	10.5	38.2	13.3	7.21	4.80	88.6	10.2	277	7.68	19.3	111	6.87	44.5 JN	97.3	176	282	**23.6** J
			1-2	DU-8 (1-2)	08/05/2022	0.847	2.47 J	4.20	16.1	8.08	389	4,190 J	10.6	19.9	11.8	41.1	12.5	8.05	6.10	109	13.1	288	6.99	16.3	120	762	48.4 JN	111	194	328	**24.6** J
			2-3	DU-8 (2-3)	08/05/2022	1.15	1.79 J	2.12 J	12.3	5.33	406	4,530 J	10.1	19.7	11.9	41.2	12.8	6.52	5.66	103	12.6	310	5.88	14.4	105	7.68	43.5 JN	108	194	313	**23.4** J
	DU-9	ISM	0-1	DU-9 (0-1)	08/08/2022	0.685	2.33 J	1.58 U	13.8	5.91	344	3,170	7.00	12.0	8.32	23.8	7.20	3.50	3.50	87.7	8.23	177	7.96	19.1	104	642	35.3	71.4	120	247	**17.8** J
			1-2	DU-9 (1-2)	08/08/2022	0.532	1.46 U	2.21 U	8.01	2.51	233	2,550	5.32	10.7	6.81	20.3	7.44	4.87	2.75	71.5	7.04	193	3.76	3.17	71.9	470	32.8 JN	66.6	110	216	**12.8** J
			2-3	DU-9 (2-3)	08/08/2022	0.569	1.20 U	1.47 U	6.77	2.34 J	228	2,520	5.97	10.5	6.80	21.9	7.34	2.94	2.16 J	65.2	6.61	157	3.07	3.04	58.2	460	30.9 JN	62.2	104	178	**12.3** J
Central Parcel	DU-10	ISM	0-1	DU-10 (0-1)	08/12/2022	0.533	5.87	0.599 U	34.0	19.2	308	1,830	0.767	0.939 U	2.22 J	1.79 J	1.47 J	0.321 U	0.387 U	74.6	0.943 U	276	6.56	32.8	219	584	28.5 JN	29.1	55.7	264	**17.3** J
			1-2	DU-10 (1-2)	08/12/2022	0.135 U	0.551 U	0.822 U	9.79	3.71	217	1,700	0.170 U	0.976 U	1.50 J	0.407 U	0.403 U	0.472 U	0.501 U	42.7	0.749 U	160	2.56	8.13	68.6	394	18.9 JN	21.4	31.9	145	5.46 J
			2-3	DU-10 (2-3)	08/12/2022	0.243 U	0.826 U	1.03 U	6.37	3.01	143	1,120	0.270 U	1.22 U	2.01 J	0.468 U	0.424 U	0.523 U	0.564 U	43.9	1.42 U	180	4.20	7.50	46.3	253	28.6 JN	34.9	34.0	162	4.52 J
	DU-11	ISM	0-1	DU-11 (0-1)A	08/10/2022	0.154 U	2.95	0.824 U	15.7	7.83	164	1,310	2.06	3.69	3.15	8.08	4.43	2.64	1.19 U	48.0	2.73	79.3	2.03	16.2	117	340	18.3 JN	30.5	61.6	118	**10.8** J
			0-1 FR	DU-11 (0-1)B	08/10/2022	0.233 U	0.237 U	0.335 U	11.9	4.66	174	1,290	1.60	2.43 J	2.50	5.47	2.36 J	1.62 J	1.12 U	41.1	2.69	65.4	2.64	3.50	97.7	347	16.4 JN	27.8	51.2	103	**6.48** J
			0-1 FR	DU-11 (0-1)C	08/10/2022	0.210 U	2.70	0.800 U	19.0	8.96	301	2,150	2.03	3.04	2.42 J	5.64	2.32 J	0.839 U	1.08 U	48.1	1.16 U	85.8	1.90	6.89	150	534	16.5 JN	31.4	59.9	121	**11.7** J
			1-2	DU-11 (1-2)A	08/10/2022	0.147 U	0.509 U	0.571 U	7.54	0.487 U	140	1,600	1.96	3.02	2.45 J	6.30	0.672 U	0.979 U	1.28 U	36.1	1.53 U	79.1	1.68	2.38	55.7	399	12.0 JN	22.2	40.6	101	5.21 J
			1-2 FR	DU-11 (1-2)B	08/10/2022	0.189 U	0.508 U	0.651 U	5.30	1.64 J	111	987	1.62	2.63	2.01 J	5.89	2.12 J	1.37 J	0.412 U	33.0	2.07 J	74.0	1.20	0.508 U	38.4	219	9.99	21.6	36.7	91.6	4.66 J
			1-2 FR	DU-11 (1-2)C	08/10/2022	0.172 U	0.856 U	1.11 U	5.78	0.882 U	106	941	1.25	2.47 J	2.32 J	5.05	0.511 U	0.715 U	1.01 U	29.1	1.34 U	53.3	1.34	0.856 U	41.4	207	8.29	21.5	35.3	71.7	4.36 J
			2-3	DU-11 (2-3)A	08/10/2022	0.249 U	0.727 U	0.978 U	4.94	0.796 U	99.3	894	1.48	2.93	1.76 J	5.90	2.18 J	0.616 U	0.806 U	29.1	1.33 U	59.7	1.56	0.727 U	39.9	204	9.83	18.8	34.1	78.0	4.29 J
			2-3 FR	DU-11 (2-3)B	08/10/2022	0.238 U	0.602 U	0.919 U	5.67	0.717 U	162	1,830	2.17	3.80	2.39 J	7.60	2.89	0.768 U	0.910 U	43.2	1.79 U	108	1.19	0.602 U	55.7	453	12.4	23.6	47.4	124	5.89 J
			2-3 FR	DU-11 (2-3)C	08/10/2022	0.187 U	0.679 U	0.872 U	5.07	0.746 U	107	898	1.63	2.86	1.98 J	6.12	0.814 U	1.15 U	1.44 U	32.5	1.48 U	60.1	1.27	0.679 U	43.1	211	11.0	21.0	35.9	79.5	4.34 J
			0-1	DU-11 (0-1) M	--	0.233 U	1.96 J	0.824 U	15.5	7.15	213	1,583	1.90	3.05 J	2.69 J	6.40	3.04 J	1.70 J	1.19 U	45.7	2.19	76.8	2.19	8.86 J	122	407	17.1 JN	29.9	57.6	114	**9.67** J
			1-2	DU-11 (1-2) M	--	0.189 U	0.856 U	1.11 U	6.21	1.00 J	119	1,176	1.61	2.71 J	2.26 J	5.75	1.10 J	1.02 J	1.28 U	32.7	1.65 J	68.8	1.41	1.25 J	45.2	275	10.1 J	21.8	37.5	88.1	4.74 J
			2-3	DU-11 (2-3) M	--	0.249 U	0.727 U	0.978 U	5.23	0.796 U	123	1,207	1.76	3.20	2.04 J	6.54	1.96 J	1.15 U	1.44 U	34.9	1.79 U	75.9	1.34	0.73 U	46.2	289	11.1	21.1	39.1	93.8	4.84 J
	DU-12	ISM	0-1	DU-12 (0-1)	08/16/2022	0.410 U	10.6	1.02 U	60.7	31.4	218	884	0.310 U	0.214 U	4.57	3.08	2.63	3.06	0.817 U	52.1	0.851 U	50.0	11.6	62.0	396	487	61.8 JN	54.0	52.3	101	**25.4**
			1-2	DU-12 (1-2)	08/16/2022	0.471 U	0.945 U	1.04 U	12.7	6.79	74.5	426	0.330 U	1.46 U	1.35 U	0.877 U	0.858 U	1.11 U	1.14 U	17.6	0.758 U	28.0	4.55	4.46	99.3	157	6.56	9.69	15.6	38.5	4.21
			2-3	DU-12 (2-3)	08/16/2022	0.358 U	0.883 U	1.40 U	6.51	4.84	30.9	168	0.337 U	1.21 U	1.09 U	0.634 U	0.602 U	0.767 U	0.927 U	6.36	0.998 U	7.73	3.26	0.883 U	43.2	62.9	8.71	8.80	6.04	13.8	2.60
	DU-13	ISM	0-1	DU-13 (0-1)A	08/29/2022	3.88	117	42.2	795	434	1,500	1,840	2.40	4.35	12.2	10.9	12.0	15.1	5.22	501	6.93	342	68.6	702	4,920	2,850	151 JN	181 JN	239	839	**277** J
			0-1 FR	DU-13 (0-1)B	08/29/2022	2.77	66.7	23.7	470	265	1,020	1,940	1.73	2.83	11.1	7.31	7.57	10.5	2.13 J	3.20	5.19	284	42.8	411	3,060	1,920	165 JN	159 JN	184	568	**163** J
			0-1 FR	DU-13 (0-1)C	08/29/2022	3.15	79.3	31.7	566	310	1,120	1,620	1.99	3.63	11.3	8.77	9.64	12.7	4.37	360	5.59	287	52.5	503	3,550	2,120	125 JN	163 JN	211	623	**196** J
			1-2	DU-13 (1-2)A	08/30/2022	0.698	14.3	2.58	102	54.1	243	551	0.75	1.39 J	3.29	2.72	2.45 J	2.98	0.490 U	72.4	2.09 J	95.1	11.3	89.5	648	475	30.6 JN	44.9 JN	51.9	147	**36.2** J
			1-2 FR	DU-13 (1-2)B	08/30/2022	0.381 U	4.38	0.778 U	20.6	11.5	98.9	463	0.185 U	1.61 U	5.27	1.76 J	2.22 J	2.89	0.442 U	27.9	0.833 U	71.6	5.46	29.3	184	183	61.7 JN	77.2 JN	48.0	71.0	**11.6** J
			1-2 FR	DU-13 (1-2)C	08/30/2022	0.499	10.6	1.93 J	62.6	34.5	170	436	0.828	2.28 U	6.44	2.39 J	2.89	3.87	0.628 U	49.3	1.31 J	69.7	10.4	69.4	413	326	88.2 JN	97.0 JN	57.4	104	**26.4** J
			2-3	DU-13 (2-3)A	08/31/2022	0.208 U	10.9	4.23	78.9	39.3	171	467	0.106 U	1.42 U	2.09 J	0.47 U	0.437 U	2.50	0.659 U	54.1	0.616 U	74.9	6.38	67.3	519	328	20.8 JN	27.9	33.5	108	**26.6** J
			2-3 FR	DU-13 (2-3)B	08/31/2022	0.363 U	4.36	0.856 U	26.5	13.4	114	509	0.163 U	1.30 U	3.45	2.02 J	2.31 J	2.70	0.319 U	34.7	0.823 U	85.6	4.10	26.7	191	204	50.8 JN	55.3 JN	40.8	91.3	**12.0** J
			2-3 FR	DU-13 (2-3)C	08/31/2022	0.571	8.19	1.73 J	47.3	24.8	186	708	0.630	0.802 J	2.26 J	1.51 J	2.00 J	2.83	0.309 U	52.9	1.58 J	120	8.28	58.6	449	330	26.2 JN	36.9 JN	43.2	130	**20.2** J
			0-1	DU-13 (0-1) M	--	3.27	87.7	32.5	610.3	336.3	1,213	1,800	2.04	3.60	11.5	8.99	9.74	12.8	3.91 J	288 J	5.90	304	54.6	539	3,843	2,297	147 JN	168 J	211	677	**212** J
			1-2	DU-13 (1-2) M	--	0.526	9.76	1.76 J	61.7 J	33.4 J	171	483	0.588	1.76 J	5.00	2.29 J	2.52 J	3.25	0.628 U	49.9	1.41 J	78.8	9.05	62.7	415	328	60.2 JN	73.0 JN	52.4	107	**24.7** J
			2-3	DU-13 (2-3) M	--	0.381	7.82	2.27 J	50.9	25.8	157	561	0.300 J	1.17 J	2.60 J	1.33 J	1.58 J	2.68	0.659 U	47.2	1.01 J	93.5	6.25	50.9	386	287	32.6 JN	40.0 JN	39.2	110	**19.6** J
	DU-14	ISM	0-1	DU-14 (0-1)	08/17/2022	1.43	29.2	17.6	230	127	509	1,150	0.728	2.06 U	5.44	4.03	4.29	5.63	1.92 J	181	2.62	110	20.7	185	1,430	955	111 JN	102 JN	107	313	**78.7** J
			1-2	DU-14 (1-2)	08/17/2022	0.593	13.2	7.44	96.3	54.5	263	932	0.579	1.13 U	3.03	0.225 U	0.204 U	0.258 U	0.275 U	70.9	0.428 U	76.0	13.0	88.7	658	510	31.0 JN	37.1	35.1	129	**34.3** J
			2-3	DU-14 (2-3)	08/17/2022	0.172 U	6.12	0.537 U	36.7	22.0	100	298 J+	0.35	0.997 U	1.90 J	0.197 U	0.190 U	2.13 J	0.273 U	27.5	0.805 U	29.8	3.52	37.0	252	191	17.7 JN	26.3	24.7	56.5	**14.3** J
	DU-15	ISM	0-1	DU-15 (0-1)	08/19/2022	4.67	158	60.6	1,180	727	2,020 J	1,210	1.81	3.66	8.61	12.3	12.8	15.2	5.00	874	8.70	344	90.9	973	7,910	3,970	74.6 JN	128 JN	320	1,380	**396** J
			1-2	DU-15 (1-2)	08/19/2022	1.72	78.2	32.4	636	337	1,200	628	0.544	1.55 J	3.92	5.14	5.86	6.65	1.77 J	442	3.66	165	37.2	506	4,280	2,330	27.8 JN	55.9 JN	148	685	**200** J
			2-3	DU-15 (2-3)	08/19/2022	1.90	60.7	22.0	458	265	786	362	0.197 U	1.72 U	2.42 J	2.98	4.14	4.94	0.576 U	252	2.45 J	98.1	34.3	379	2,920	1,530	12.1 JN	33.2	92.5	392	**150** J
	DU-16	ISM	0-1	DU-16 (0-1)A	09/12/2022	3.21	64.3	25.4	358	192	1,420	7,200 J	1.32	2.60	9.07	9.34	10.4	14.5	2.99	383	17.0	575	40.5	367	2,360	2,500	52.0 JN	135 JN	297	946	**152** J
			0-1 FR	DU-16 (0-1)B	09/12/2022	3.62	101	29.8	635	302	1,440	4,810 J	1.09	2.09 J	9.00	8.27	9.25	12.9	2.92	440	10.0	391	48.4	574	3,720	2,680	50.4 JN	125	239	855	**228** J
			0-1 FR	DU-16 (0-1)C	09/12/2022	3.94	102	34.1	743	286	1,590	15,000 J	1.60	2.80	10.4	9.12	9.56	13.8	3.24	453	12.6	462	52.9	574	3,730	2,930	58.2 JN	141	263	943	**244** J
			0-1	DU-16 (0-1) M	--	3.59	89.1	29.8	579	260	1,483	9,003 J	1.34	2.50 J	9.49	8.91	9.74	13.7	3.05	425	13.2	476	47.3	505	3,270	2,703	53.5 JN	134 J	266	915	**208** J
			1-2	DU-16 (1-2)	11/07/2022	0.473	6.21	3.36	37.4	21.4	196	1,570	0.465 U	0.311 U	3.07	1.95	2.29	2.71	0.278 U	46	2.38	114	3.24	32.8	222	351	51.3	59.3	54.5	131	**17.5**
			2-3	DU-16 (2-3)	11/07/2022	0.380 U	2.96	1.93	16.6	8.81	83.5	991	0.267 U	0.228 U	0.926	0.255 U	0.243 U	0.265 U	0.283 U	22.3	1.4	50	0.38 U	15.5	99.8	141	5.52	12.1	15.9	65.7	**7.62**
	DU-17	ISM	0-1	DU-17 (0-1)	09/02/2022	0.808	14.9	5.38	106	54.3	294	939	0.156 U	2.05 U	9.58	2.19 J	3.39	6.17	0.610 U	75.9	2.08 J	81.0	10.2	96.9	670	553	87.2 JN	151 JN	100	150	**40.4** J
			1-2	DU-17 (1-2)	09/02/2022	0.171 U	0.400 U	0.453 U	3.38	1.77 J	92.1	1,010	0.110 U	0.833 U	3.32	0.365 U	0.324 U	1.40 J	0.476 U	14.4	0.591 U	83.5	0.171 U	0.400 U	28.0	180	29.5 JN	52.7 JN	30.1	57.3	3.43 J
			2-3	DU-17 (2-3)	09/02/2022	0.140 U	3.97	0.709 J	13.7	6.37	65.8	290 J+	0.164 U	0.488 U	1.96 J	0.271 U	0.238 U	1.56 J	0.370 U	13.8	0.636 U	19.2	0.140 U	15.1	105	120	8.24	22.9	18.4	32.6	**7.81** J

Table 3a
Soil Results - Dioxins/Furans - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																												
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
				Ecological ISM PRG		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1
				Ecological ISM Hot Spot		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	61
Central Parcel	DU-18	ISM	0-1	DU-18 (0-1)A	09/29/2022	1.05	21.5	8.89	152	84.6	576	2,700	1.02	1.42 J	12.6	4.48	6.01	9.50	2.25 J	126	5.65	242	15.1	119	864	994	300 JN	273 JN	152	312	**61.2** J
			0-1 FR	DU-18 (0-1)B	09/29/2022	0.708	13.8	6.11	96.5	54.4	642	4,490 J	2.39	2.25 J	68.3	7.99	19.3	29.2	4.56	165	10.0	505	12.9	88.8	586	1,120	1,010 JN	1,300 JN	473	521	**66.8** J
			0-1 FR	DU-18 (0-1)C	09/29/2022	0.735	13.6	6.09	86.2	47.2	479	3,030	0.39 U	1.59 J	20.2	7.63	12.2	11.8	3.72	116	6.91	323	11.7	84.2	518	840	1,040	608	198	333	**45.0** J
			1-2	DU-18 (1-2)A	09/30/2022	0.399 J	6.49	3.34	41.0	22.7	250	1,530	0.854	0.918 J	9.37	3.18	4.37	5.33	1.31 J	59.6	2.38 J	178	7.07	39.0	254	445	164 JN	176 JN	99.5	175	**21.6** J
			1-2 FR	DU-18 (1-2)B	09/30/2022	0.453	3.03	1.69 J	18.0	8.82	170	1,270	2.04	1.20 J	21.6	2.19 J	5.17	8.27	1.54 J	44.8	3.12	179	2.99	19.7	116	290	329 JN	370 JN	130	158	**17.4** J
			1-2 FR	DU-18 (1-2)C	09/30/2022	0.250 U	3.03	0.337 U	15.8	10.0	177	1,280	0.264 U	1.59 U	5.61	1.80 J	2.61	3.68	0.509 U	41.5	2.39 J	167	1.54	18.2	112	310	102	98.6	56.7	139	**10.9** J
			2-3	DU-18 (2-3)A	10/03/2022	0.277 U	4.47	1.74 J	22.9	13.5	106	628	0.231 U	1.37 U	2.95	1.29 J	1.98 J	1.87 J	0.281 U	26.9	1.01 J	65.9	0.773	25.7	163	191	68.3 JN	57.5 JN	38.1	67.7	**11.4** J
			2-3 FR	DU-18 (2-3)B	10/03/2022	0.320	4.17	1.67 J	24.4	13.4	162	1,000	0.192 U	0.521 U	4.86	1.24 J	2.4 J	2.96	0.241 U	37.2	1.95 J	140	2.90	26.3	159	286	127 JN	103 JN	55.3	118	**12.9** J
			2-3 FR	DU-18 (2-3)C	10/03/2022	0.169 U	2.79	1.67 J	15.8	9.57	116	740	0.385	0.765 U	4.14	1.49 J	2.59	2.38 J	0.272 U	27.5	1.24 J	96.1	1.39	18.8	111	208	172 JN	110 JN	47.0	84.6	**9.23** J
			0-1	DU-18 (0-1) M	--	0.831	16.3	7.03	112	62.1	566	3,407 J	1.27	1.75 J	33.7	6.70	12.5	16.8	3.51 J	136	7.52	357	13.2	97.3	656	985	783 J	727 J	274	389	**57.7** J
			1-2	DU-18 (1-2) M	--	0.367 J	4.18	1.79 J	24.9	13.8	199	1,360	1.05	1.24 J	12.2	2.39 J	4.05	5.76	1.12 J	48.6	2.63 J	175	3.87	25.6	161	348	198 J	215 J	95.4	157	**16.6** J
			2-3	DU-18 (2-3) M	--	0.255	3.81	1.69 J	21.0	12.2	128	789	0.269	1.37 U	3.98	1.34 J	2.32 J	2.40 J	0.281 U	30.5	1.40 J	101	1.69	23.6	144	228	122 JN	90.2 JN	46.8	90.1	**11.2** J
	DU-19	ISM	0-1	DU-19 (0-1)	09/06/2022	1.15	20.5	10.4	169	76.1	659	3,680	5.57	5.76	201	26.4	47.3	77.9	14.6	145	9.88	254	27.5	166	891	1,160	2,280 JN	3,590 JN	1,190	376	**134**
			1-2	DU-19 (1-2)	09/06/2022	0.409 U	6.80	0.767 U	25.3	11.0	391	2,850	4.69	1.11 U	179	20.1	38.9	71.2	12.4	81.0	7.02	200	15.6	82.2	237	693	2,360 JN	3,500 JN	1,090	236	**84.8**
			2-3	DU-19 (2-3)	09/06/2022	0.742	5.52	3.18	13.6	5.27	103	616	3.36	3.00	95.1	15.2	19.2	34.6	7.12	33.0	3.82	44.3	12.5	60.8	133	191	1,460 JN	1,680 JN	512	85.2	**46.6**
	DU-20	ISM	0-1	DU-20 (0-1)	10/18/2022	0.841	8.89	7.08	53.9	28	543	3,150	1.25	2.01	19.7	5.83	7	12.8	3.95	78.3	3.3	125	12.7	58	329	949	266	344	217	198	**34.9**
			1-2	DU-20 (1-2)	10/18/2022	0.194 U	0.713 U	0.676 U	7.55	3.81	138	804	0.307 U	0.127 U	2.18	0.227 U	0.212 U	2.18	0.270 U	12.5	0.897 U	20.3	0.194 U	0.713 U	42.7	239	23.2	33.2	27.3	31.4	4.30	
			2-3	DU-20 (2-3)	10/18/2022	0.284 U	1	0.440 U	5.49	2.79	65.9	415	0.346 U	0.271 U	2.84	0.340 U	0.304 U	1.76	0.418 U	8.77	0.759 U	14.9	0.424	4.07	36	118	41.8	47	25.4	21.1	3.97	
	DU-21	ISM	0-1	DU-21 (0-1)	09/08/2022	1.32	16.9	10.7	103	57.5	806	5,130 J	3.580	3.69	54.0	13.0	16.8	29.8	7.03	184	9.82	317	17.9	118	68.5	1,480	1,070	977	432	450	**70.3** J
			1-2	DU-21 (1-2)	09/08/2022	0.540	4.43	3.07	20.8	11.1	231	1,360	1.340	1.65	20.2	5.54	6.85	11.6	2.25	48.8	2.85	75.1	5.78	34.8	157	418	327	360	160	114	**20.6**
			2-3	DU-21 (2-3)	09/08/2022	0.107 U	2.08 J	0.314 U	13.3	5.30	118	769	0.781	0.648 U	9.70	3.70	3.01	5.35	1.32 J	26.7	1.61 J	52.7	2.79	16.8	88.8	210	133	154	85.3	65.7	**10.1** J
	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	0.846	9.71	5.58	63.1	31.5	438	2,810	1.26	1.88 J	12.5	4.09	3.68	8.59	2.24	79.1	3.27	209	6.11	59.0	390	776	164 J	201	141	223	**32.5** J
			0-1 FR	DU-22 (0-1)B	10/13/2022	0.464 J	4.68	3.91	42.0	17.3	543	3,940	0.999	1.72 J	12.3	4.57	5.28	8.08	2.24 J	77.3	3.66	213	4.83	28.8	213	915	177	203	153	232	**24.8** J
			0-1 FR	DU-22 (0-1)C	10/13/2022	0.525	9.02	4.89	44.6	22.8	482	3,150	1.76	2.54	14.2	5.09	5.96	10.5	2.23 J	79.5	3.44	174	7.22	42.7	285	929	188	235	156	202	**30.3** J
			1-2	DU-22 (1-2)A	10/14/2022	0.234 U	1.41	0.342 U	6.02	3.06	57.7	382	0.451 U	1.05 U	3.06	0.187 U	0.165 U	1.84	0.191 U	23.2	0.740 U	45.2	0.817	4.79	39.5	102	60.3	53.4	37.3	69.6	4.56	
			1-2 FR	DU-22 (1-2)B	10/14/2022	0.196 U	2.25	2.21	27.4	5.92	300	2,130	0.492	2.29 U	4.73	2.72	2.36	3.24	0.212 U	36.2	1.92	97	0.96	8.8	105	507	43	70.3	78.3	115	**12.3**	
			1-2 FR	DU-22 (1-2)C	10/14/2022	0.201 U	1.55	1.54	11	3.68	186	1,270	0.461	1.97 U	3.29	1.94	1.65	2.79	0.196 U	22.1	0.810 U	54.4	0.432	5.57	54.6	313	46.8	54	48.8	64.5	**7.47**	
			2-3	DU-22 (2-3)A	10/14/2022	0.217 U	1.31 U	0.367 U	9.52	3.99	77.4	475	0.494 U	0.339 U	2.83	0.571 U	0.496 U	1.75	0.705 U	14.4	1.51 U	37.5	0.217 U	1.95	55.8	132	38.5	47.3	25.5	37	4.35	
			2-3 FR	DU-22 (2-3)B	10/14/2022	0.247 U	1.07 U	0.527 U	8.95	3.56	228	1,900	0.422 U	0.389 U	6.26	1.53	2.46	4.04	0.886 U	31.7	2.42	164	0.247 U	1.48	48.1	403	73.1	98.1	70.1	124	**7.93**	
			2-3 FR	DU-22 (2-3)C	10/14/2022	0.266 U	1.19 U	0.411 U	7.44	3.75	102	727	0.445 U	0.273 U	3.47	0.489 U	1.72	2.22	0.582 U	15.3	1.02 U	44.9	0.266 U	1.19 U	44.5	177	61.8	68.6	36.1	49.1	4.79	
			0-1	DU-22 (0-1) M	--	0.612 J	7.80	4.79	49.9	23.9	488	3,300	1.34	2.05 J	13.0	4.58	4.97	9.06	2.24 J	78.6	3.46	199	6.05	43.5	296	873	176 J	213	150	219	**29.2** J	
			1-2	DU-22 (1-2) M	--	0.234 U	1.74	1.36 J	14.8 J	4.22	181 J	1,261 J	0.468	2.29 U	3.69	1.62 J	1.39 J	2.62	0.212 U	27.2	1.16	65.5	0.736	6.39	66.4	307 J	50.0	59.2	54.8	83.0	**8.11**	
			2-3	DU-22 (2-3) M	--	0.266 U	1.31 U	0.527 U	8.64	3.77	136	1,034 J	0.494 U	0.389 U	4.19	0.863 J	1.56 J	2.67	0.886 U	20.5	1.65	82.1 J	0.266 U	1.54	49.5	237	57.8	71.3	43.9	70.0 J	5.69	
	DU-23	ISM	0-1	DU-23 (0-1)	10/12/2022	1.05	8.20	7.23	44.2	23.5	570	3,570	2.15	3.52	34.6	9.20	14.1	20.2	3.80	96.8	6.09	230	15.6	61.1	299	1,040	558 JN	627 JN	323	255	**40.0**	
			1-2	DU-23 (1-2)	10/12/2022	0.219 U	1.75 J	1.84 J	9.33	4.96	123	799	0.932	0.576 U	12.5	2.67	4.05	6.65	1.12 J	24.2	1.33 J	60.8	2.92	9.43	66.0	223	139 JN	194 JN	103	65.6	**10.5** J	
			2-3	DU-23 (2-3)	10/12/2022	0.285 U	0.163 U	1.95 J	7.95	3.84	155	941	0.619	0.196 U	5.27	1.39 J	2.04 J	3.15	0.307 U	14.8	1.04 J	32.1	1.64	4.89	59.2	301	50.7 JN	72.8 JN	46.9	41.2	5.92 J	
	DU-24	ISM	0-1	DU-24 (0-1)	09/21/2022	0.434 J	6.29 J	4.27	55.6 J	29.7	376	2,020	0.826	1.48 J	4.50	3.19	2.43 J	4.29	1.92 J	54.8	2.14 J	77.9	5.22	37.4	320	656	30.7 JN	52.5	89.7	130	**23.3** J	
			1-2	DU-24 (1-2)	09/21/2022	0.132 U	1.98 J	0.975 J	11.6	7.10	135	760	0.194 U	0.687 J	1.84 J	0.327 U	0.304 U	0.375 U	0.38 U	18.4	0.424 U	38.0	0.952	11.7	87.2	243	9.98 JN	21.6	26.1	47.5	**6.44** J	
			2-3	DU-24 (2-3)	09/21/2022	0.161 U	4.10	0.647 U	23.9	12.4	67.4	173 J+	0.116 U	0.337 U	0.321 U	0.249 U	0.242 U	0.297 U	0.291 U	18.8	0.473 U	11.8	0.161 U	22.7	175	127	1.65	2.85	8.18	31.1	**8.88** J	
	DU-25	ISM	0-1	DU-25 (0-1)	09/23/2022	0.902	7.77	11.6	64.0	21.8	1300	8,430 J	3.16	4.23	20.5	12.1	11.2	15.5	8.05	156	7.87	284	26.0	52.7	349	2,230	198	282	355	438	**46.9** J	
			1-2	DU-25 (1-2)	09/23/2022	0.104 U	0.312 U	0.636 U	2.98	1.61 J	72.2	498	0.125 U	1.22 U	2.83	0.219 U	0.205 U	0.247 U	0.258 U	9.88	0.418 U	26.2	0.737	0.312 U	18.5	124	23.5	37.1	26.5	29.2	2.60 J	
			2-3	DU-25 (2-3)	09/23/2022	0.141 U	0.322 U	0.567 U	2.57	0.464 U	69.9	483	0.108 U	0.505 U	1.33 J	0.211 U	0.196 U	0.233 U	0.242 U	8.83	0.412 U	20.5	0.141 U	0.322 U	15.0	120	7.21	15.5	18.7	25.2	1.94 J	
	DU-26	ISM	0-1	DU-26 (0-1)A	11/09/2022	1.68	18.2	19.9	147	57.2	2,040 J	14,300 J	5.95	10.9	43.8	23.4	23.2	37	10.5	251	15.5	470	39.3	118	742	3,530	558	698	590	653	**93.3** J	
			0-1 FR	DU-26 (0-1)B	11/09/2022	1.79	16.7	17.8	89.9	44	1,200	7,390 J	6.73	12.7	43.4	33	31.6	45.4	13.1	232	19.9	321	42.9	149	596	2,170	593	710	512	511	**76.9** J	
			0-1 FR	DU-26 (0-1)C	11/09/2022	1.87	16.8	17.6	102	45.8	1,460	9,510 J	6.26	10.9	43.9	28.6	28.8	41.4	12.3	243	18.5	363	38.2	141	585	2,520	649	736	536	579	**80.6** J	
			1-2	DU-26 (1-2)A	11/10/2022	0.875	9.88	11.9	53.2	25.8	830	5,470 J	3.25	5.24	20.7	11.2	13.1	18.6	4.71	128	10.4	359	15.6	71.5	323	1,410	253	334	266	373	**42.7** J	
			1-2 FR	DU-26 (1-2)B	11/10/2022	0.742	5.38	6.98	30.7	13.5	451	2,970	2.83	5.22	15.3	16	13	17.2	6.14	108	10.3	162	16.3	56.6	202	806	160	224	208	245	**28.1**	
			1-2 FR	DU-26 (1-2)C	11/10/2022	0.764	5.06	6.12	30.2	15.3	446	3,160	1.89	3.31	12.5	8.86	8.85	13	3.48	85.1	6.42	207	12	45	196	824	172	205	160	228	**24.8**	
			2-3	DU-26 (2-3)A	11/11/2022	0.387	3.2	3.66	18.8	8.94	281	2,130	0.85	1.55 J	6.23	4.13	3.74	6.53	1.47 J	46.6	3.41	112	6.76	24.8	116	497	54.1	85.4	84.3	127	**14.3** J	
			2-3 FR	DU-26 (2-3)B	11/11/2022	0.402 J	2.87	4.42	30.9	10.1	646	4,850 J	0.998	3.86	10.6	14.6	5.93	8.12	6.24	89.8	7.63	116	3.12	19.6	132	1,050	74.9	122	204	2,160	**23.6** J	
			2-3 FR	DU-26 (2-3)C	11/11/2022	0.433 J	2.84	2.87	14.3	6.21	174	1,140	1.18	1.49 J	7.41	3.81	4.03	5.78	1.5 J	31	2.46	62.7	4.11	18.8	85.4	305	97	116	77.1	80.2	**11.9** J	
			0-1	DU-26 (0-1) M	--	1.78	17.2	18.4	113	49.0	1,567 J	10,400 J	6.31	11.5	43.7	28.3	27.9	41.3	12.0	242	18.0	385	40.1	136	641	2,740	600	715	546	581	**83.6** J	
			1-2	DU-26 (1-2) M	--	0.794	6.77	8.33	38.0	18.2	576	3,867 J	2.66	4.59	16.2	12.0	11.7	16.3	4.78	107	9.04	243	14.6	57.7	240	1,013	195	254	211	282	**31.9** J	
			2-3	DU-26 (2-3) M	--	0.407 J	2.97	3.65	21.3	8.42	367 J	2,707 J	1.01	2.30 J	8.08	7.51 J	4.57	6.81	3.07 J	55.8	4.50	96.9	4.66	21.1	111	617 J	75.3	108	122	789 J	**16.6** J	

Please see notes at end of table.

Table 3a
Soil Results - Dioxins/Furans - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g 2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
					Ecological ISM PRG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1
					Ecological ISM Hot Spot	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	61
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	DU-42 (0-1)	11/30/2022	1.1	28.3	9.54	158	91.5	302	368	0.215 U	0.723 U	1.31 J	2.36 J	2.56	3.21	0.417 U	104	1.20 U	49.4	13.2	159	1,050	598	10.6	25.4	49.1	162	**60.7** J
			1-2	DU-42 (1-2)	11/30/2022	0.49 J	10.7	3.13	65.1	30.6	110	154 J+	0.148 U	0.374 U	0.357 U	0.243 U	0.217 U	0.259 U	0.309 U	36.4	0.856 U	20.5	2.62	58.1	364	216	3.05	7.21	13.5	57.3	**22.7** J
			2-3	DU-42 (2-3)	11/30/2022	0.267 U	3.93	0.51 U	22.3	11.7	47.9	81 J+	0.227 U	0.23 U	0.219 U	0.327 U	0.295 U	0.354 U	0.423 U	15.4	0.893 U	8.28	0.267 U	21.8	149	95.9	1.06	2.25	5.35	24.3	**8.27** J
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)	10/05/2022	1.11	17.8	25.7	161	63.7	3,150 E	21,000 E	2.37	7.99	22.1	33.8	19.3	27.6	14.5	422	28.4	998	10.8	74.3	744	5,340	87.4	310	605	1,280	**103**
			1-2	DU-27 (1-2)	10/05/2022	0.833	7.86	14.6	95.0	33.8	2,250 J	18,100 J	1.91	5.41	20.1	29.3	17.7	22.6	10.8	389	30.6	1,100	7.66	45.0	417	3,850	139 JN	298 JN	494	1,190	**69.9** J
			2-3	DU-27 (2-3)	10/05/2022	0.414 J	2.70	4.19	28.9	9.80	652	5,280 J	1.64	2.70	13.1	11.9	6.05	10.2	4.43	90.2	7.35	221	3.18	17.4	141	1,130	94.6 JN	174 JN	181	287	**24.0** J
	DU-28	ISM	0-1	DU-28 (0-1)	09/14/2022	0.217 U	1.94 J	3.45	20.7	7.68	717	6,260 J	1.01	1.16 J	4.30	7.82	2.97	4.06	2.31 J	140	8.12	622	2.86	6.89	106	1,240	19.5	41.8	143	553	**19.1** J
			1-2	DU-28 (1-2)	09/14/2022	0.541	4.77	6.61	46.8	18.0	1,060	8,530	2.02	2.37	7.07	10.5	5.65	7.56	4.71	161	9.93	537	7.05	29.1	218	1,790	32.3	73.2	209	540	**32.7**
			2-3	DU-28 (2-3)	09/14/2022	0.513	2.64	4.37	14.8	6.06	468	3,910	1.14	1.08	3.41	6.70	1.97	2.89	2.16	72.9	5.63	283	11.7	34.1	127	871	12.9	27.9	99.2	271	**14.9**
	DU-29	ISM	0-1	DU-29 (0-1)	09/15/2022	0.731	8.83	10.7	115	40.9	1,110	7,610 J	1.62	3.27	8.89	12.0	7.25	11.3	5.91	343	5.42	221	17.0	72.3	577	1,960	56.7 JN	125 JN	383	672	**49.7** J
			1-2	DU-29 (1-2)	09/15/2022	0.176 U	1.63 J	4.00	24.7	6.77	473	3,380	0.697	1.58 U	4.59	4.77	2.43 J	4.21	2.01 J	139	2.72	98.7	2.17	4.00	106	820	28.9 JN	65.5	149	282	**15.3** J
			2-3	DU-29 (2-3)	09/15/2022	0.151 U	0.445 U	4.19	24.0	6.82	509	3,860	0.658	0.80 U	5.84	6.69	3.22	5.12	2.77	152	4.16	139	2.84	3.92	111	863	41.3 JN	84.0 JN	177	321	**15.3** J
	DU-30	ISM	0-1	DU-30 (0-1)	09/16/2022	1.210	8.87	11.5	78.5	27.1	1,460	10,100 J	1.97	3.63	14.3	11.1	9.87	13.9	7.99	201	9.86	238	12.0	43.4	418	2,960	139 JN	237 JN	366	502	**50.5** J
			1-2	DU-30 (1-2)	09/16/2022	0.463 U	3.22	5.00	40.4	10.4	676	4950 J	0.836	1.61 U	7.19	6.54	5.14	6.83	0.870 U	89.8	4.13	108	4.71	13.7	175	1200	72.2 JN	121 JN	176	210	**22.4** J
			2-3	DU-30 (2-3)	09/16/2022	0.135 U	2.46 J	3.67	23.6	8.49	448	3030	0.900	1.09 J	3.68	3.78	2.95	4.83	0.444 U	42.0	2.55	56.5	3.29	12.9	127	795	56.1 JN	95.7 JN	112	111	**14.4** J
	DU-31	ISM	0-1	DU-31 (0-1)	11/03/2022	0.638	9.32	12.5	104	34.2	1,840	12,000 J	2.5	4.88	12	14.6	12.1	16.2	9.35	192	11.8	281	7.06	43.5	404	2,920	46.8	147	382	540	**58.4** J
			1-2	DU-31 (1-2)	11/03/2022	0.318 U	3.03	3.52	27.1	8.14	624	4,430 J	1.04	2.21	4.31	5.27	4.77	6.36	3.09	84.3	5.55	182	3.35	10.6	125	994	25.1	57.5	134	243	**19.0** J
			2-3	DU-31 (2-3)	11/03/2022	0.288 U	1.67	2.36	16.3	4.87	357	2,580	0.642	0.985	2.3	3.19	2.73	3.37	2.34	42.7	2.67	105	3.4	6.7	76.1	570	16.2	28.5	74.2	122	**10.9**
	DU-32	ISM	0-1	DU-32 (0-1)	09/22/2022	0.16 U	5.43	6.79	55.1	15.6	1,130	8,240 J	2.92	3.28	8.65	9.74	6.97	10.2	7.18	123	8.53	204	4.79	25.2	240	1,800	32.9 JN	79.0	262	349	**34.8** J
			1-2	DU-32 (1-2)	09/22/2022	0.136 U	0.364 U	0.546 U	11.1	3.21	296	2,240	2.88	1.53 J	3.17	3.11	2.00 J	0.397 U	0.391 U	34.0	0.816 U	61.1	1.72	1.71	61.6	474	20.8	28.6	61.3	91.7	**7.54** J
			2-3	DU-32 (2-3)	09/22/2022	0.122 U	0.328 U	0.504 U	13.7	4.28	282	1,980	1.70	1.02 J	2.43 J	2.71	1.72 J	2.33 J	1.78 J	30.8	1.71 J	49.3	1.32	0.328 U	59.6	447	13.3	19.9	62.5	83.1	**7.59** J
	DU-33	ISM	0-1	DU-33 (0-1)	09/20/2022	0.670	5.6	8.21	54.0	20.6	876	6,150	7.25	4.50	18.0	11.4	14.1	11.9	6.38	101	6.90	149	18.8	48.3	296	1,490	328 JN	347 JN	259	266	**36.9**
			1-2	DU-33 (1-2)	09/20/2022	0.254	2.64	4.09	22.5	8.87	493	3,340	3.92	2.49 J	5.79	5.75	3.98	4.11	2.73	46.6	2.57	58.1	8.22	18.6	122	813	100 JN	87.2 JN	121	122	**16.7** J
			2-3	DU-33 (2-3)	09/20/2022	0.379	2.19 J	1.40 J	15.3	4.01	321	1,970	3.86	2.86	4.85	4.28	3.26	3.86	2.67	34.9	1.32 J	38.0	7.36	12.4	88.8	553	73.3 JN	70.6 JN	94.1	91.1	**12.1** J
	DU-34	ISM	0-1	DU-34 (0-1)	09/27/2022	0.637	9.19	14.6	105	31.2	1,910	12,200 J	2.70	6.22	14.3	17.6	12.6	16.3	10.8	195	10.7	194	21.0	55.0	467	3,010	75.1 JN	175 JN	439	515	**60.3** J
			1-2	DU-34 (1-2)	09/27/2022	0.459 J	4.31	6.86	48.9	16.9	873	5,940 J	2.06	2.44 J	6.56	7.33	5.12	7.38	4.20	95.0	5.02	120	9.02	22.3	201	1,370	62.0 JN	96.8 JN	211	248	**28.2** J
			2-3	DU-34 (2-3)	09/27/2022	0.16 U	1.10 J	2.43 J	18.5	5.31	342	2,160	0.882	1.21 J	2.49 J	3.39	2.61	3.48	201	36.0	0.388 U	43.7	5.2	10.5	78.6	538	29.0 JN	39.8 JN	78.5	91.4	**30.2** J
	DU-35	ISM	0-1	DU-35 (0-1)	10/07/2022	0.468	4.95	8.91	67.0	18.7	1,340	10,400 J	5.27	4.65	9.97	10.3	8.81	11.3	7.82	143	8.93	230	10.1	30.5	258	2,520	56.4	104	287	419	**40.5** J
			1-2	DU-35 (1-2)	10/07/2022	0.211 U	1.71 J	3.15	21.8	6.44	423	2,990	3.27	2.03 J	3.38	3.73	2.64	3.23	2.05 J	41.5	2.41 J	74.4	5.86	11.1	93.5	710	31.0 JN	37.8 JN	85.7	122	**13.1** J
			2-3	DU-35 (2-3)	10/07/2022	0.197 U	1.25 J	2.01 J	16.0	4.76	347	2,640	2.09	1.23 J	2.25 J	3.03	1.83 J	2.66	1.86 J	37.5	2.12 J	60.5	3.62	3.56	75.0	590	17.8 JN	25.7 JN	77.5	105	**10.2** J
	DU-36	ISM	0-1	DU-36 (0-1)	11/01/2022	0.738	7.39	8.54	59.9	24.2	1,210	8,990	7.12	5.53	11.3	10.1	13.1	11.1	5.74	146	11.9	323	16	47.3	276	1,990	117	166	269	420	**42.1**
			1-2	DU-36 (1-2)	11/01/2022	0.695	6.02	7.34	48.5	18.2	1,160	8,400	6.6	4.81	9.47	9.95	13.1	9.59	5.5	112	8.75	259	14	39.9	255	2,090	322	312	224	354	**37.0**
			2-3	DU-36 (2-3)	11/01/2022	1.15	5.8	6.67	33.5	13	661	4,640	11.2	6.08	9.55	7.25	7.18	8.45	3.56	80.3	5.81	144	24.3	48	169	1,090	126	118	154	222	**28.0**
	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	0.243 U	5.05	5.91	46.9	16.1	836	5,470 J	2.74	3.31	6.19	7.78	5.56	7.17	4.07	81.6	4.52	115	3.5	22.1	193	1,350	45.5	74.3	174	241	**27.6** J
			0-1 FR	DU-38 (0-1)B	11/14/2022	0.451 J	4.31	6.37	46.4	15.2	876	5,530 J	3.64	4.29	6.72	7.77	5.27	7.21	4.71	88.5	4.92	113	6.48	26.9	204	1,420	44.5	76.1	179	245	**27.9** J
			0-1 FR	DU-38 (0-1)C	11/14/2022	0.664	5.52	7.25	45.5	17.1	881	5,830 J	3.31	3.56	5.63	7.57	5.86	7.98	4.44	87.1	5.53	149	9.91	38.2	223	1,430	46.3	72.9	176	250	**29.4** J
			1-2	DU-38 (1-2)A	11/16/2022	0.259 U	2.87	3.78	24.7	7.88	488	3,210	2.41	2.02 J	3.56	4.45	3.28	3.97	2.78	51.1	3.45	71.1	1.84	16.5	116	797	44	49.3	99.5	140	**15.9** J
			1-2 FR	DU-38 (1-2)B	11/16/2022	0.300 U	1.65 J	2.47 J	13.3	4.59	252	1,700	7.39	2.63	3.38	2.91	1.99 J	2.66	1.35 J	26.9	1.87 J	41.5	2.38	10.3	66.9	411	59.9	37.6	53.2	72.6	**9.89** J
			1-2 FR	DU-38 (1-2)C	11/16/2022	0.421	3.52	4.66	27.7	8.85	557	3,650	3.08	2.48 J	4.85	6.29	3.85	4.82	3.21	58.8	3.31	88.4	6.31	16.6	128	906	39.9	55.3	118	162	**19.0** J
			2-3	DU-38 (2-3)A	11/17/2022	0.224 U	1.48 J	2.2 J	12.8	4.76	270	1,870	2.42	1.69 J	2.49	2.67	2.04 J	2.36 J	1.23 J	27.9	1.91 J	49.6	1.17	3.43	60.5	444	23.1	27.4	56.1	81.4	**9.01** J
			2-3 FR	DU-38 (2-3)B	11/17/2022	0.306 U	1.77 J	1.76 J	9.7	3.09	218	1,450	4.3	1.89 J	2.6	2.38 J	1.19 J	2.24 J	0.656 U	22.3	1.34 J	34.1	2.27	7.54	54.7	359	33.2	23.6	41.5	60.9	**8.12** J
			2-3 FR	DU-38 (2-3)C	11/17/2022	0.286 J	1.97 J	2.76	14.9	6.76	312	1,970	2.1	1.36 J	2.18 J	2.78	1.75 J	2.62	1.44 J	28.8	1.46 J	51.9	3.31	15.6	90.5	535	25.3	27	52.7	80.2	**10.5** J
			0-1	DU-38 (0-1) M	--	0.453 J	4.96	6.51	46.3	16.1	864	5,610 J	3.23	3.72	6.18	7.71	5.56	7.45	4.41	85.7	4.99	126	6.63	29.1	207	1,400	45.4	74.4	176	245	**28.3** J
			1-2	DU-38 (1-2) M	--	0.327	2.68 J	3.64 J	21.9	7.11	432	2,853	4.29 J	2.38 J	3.93	4.55	3.04 J	3.82	2.45 J	45.6	2.88 J	67.0	3.51 J	14.5	104	705	47.9	47.4	90.2	125	**14.9** J
			2-3	DU-38 (2-3) M	--	0.272 J	1.74 J	2.24 J	12.5	4.87	267	1,763	2.94	1.65 J	2.42 J	2.61 J	1.66 J	2.41 J	1.11 J	26.3	1.57 J	45.2	2.25	8.86 J	68.6	446	27.2	26.0	50.1	74.2	**9.21** J
East Parcel Concrete Slabs	DU-37	Composite	0-1	DU-37 (0-1)	11/28/2022	0.352 U	0.384 U	0.339 U	0.319 U	0.314 U	13.2	148 J+	0.222 U	0.171 U	0.144 U	0.138 U	0.124 U	0.139 U	0.155 U	1.83 J	0.429 U	4.64 J	0.352 U	0.384 U	5.66	24.8	0.393	1.84	2.64	5.34	0.678 J
			1-2	DU-37 (1-2)	11/28/2022	0.147 U	0.394 U	0.181 U	0.175 U	0.172 U	15.9	263 J+	0.149 U	0.143 U	0.122 U	0.180 U	0.157 U	0.186 U	0.208 U	2.75	0.673 U	7.75	0.147 U	0.394 U	5.57	28.8	0.149 U	1.16	2.23	7.31	0.632 J
			2-3	DU-37 (2-3)	11/28/2022	0.370 U	0.338 U	0.338 U	0.299 U	0.294 U	4.81	93.7 J+	0.161 U	0.274 U	0.237 U	0.191 U	0.160 U	0.187 U	0.242 U	0.488 U	0.511 U	0.949 U	0.370 U	0.338 U	0.338 U	9.08	0.161 U	0.274 U	0.242 U	0.511 U	0.569 J
	DU-39	Composite	0-1	DU-39 (0-1)	11/29/2022	0.331 U	0.744 U	0.479 U	6.77	3.11	124	778	0.231 U	0.184 U	0.942 J	0.538 U	0.471 U	1.66 J	0.627 U	9.55	1.38 J	10.9	0.443	0.744 U	30.1	206	0.231 U	6.6	17.1	24.2	3.68 J
			1-2	DU-39 (1-2)	11/29/2022	0.318 U	0.357 U	0.559 U	2.32 J	0.496 U	51.3	353	0.116 U	0.130 U	0.121 U	0.252 U	0.229 U	0.251 U	0.310 U	5.23	0.881 U	8.9	0.318 U	0.357 U	9.21	85.3	0.116 U	2.77	7.67	14.8	1.38 J
			2-3	DU-39 (2-3)	11/29/2022	0.278 U	0.376 U	0.461 U	2.36 J	0.441 U	51	326	0.222 U	0.178 U	0.166 U	0.211 U	0.186 U	0.205 U	0.231 U	6.05	0.646 U	12.3	0.278 U	0.376 U	9.94	84	0.222 U	2.72	8.52	17.9	1.36 J
	DU-40	Composite	0-1	DU-40 (0-1)	11/18/2022	0.271 U	0.351 U	0.343 U	0.322 U	0.317 U	19.1	118 J+	0.197 U	0.218 U	0.168 U	0.391 U	0.359 U	0.397 U	0.455 U	2.38 J	0.759 U	6.12	0.271 U	0.315 U	5.88	32.9	0.197 U	0.218 U	0.455 U	4.67	0.734 J
			1-2	DU-40 (1-2)	11/18/2022	0.243 U	0.225 U	0.291 U	0.265 U	0.261 U	13.5	83.9 J+	0.196 U	0.194 U	0.174 U	0.194 U	0.171 U	0.202 U	0.231 U	0.354 U	0.374 U	0.933 U	0.243 U	0.225 U	3.83	23.4	0.196 U	0.194 U	0.231 U	1.42	0.518 J
			2-3	DU-40 (2-3)	11/18/2022	0.280 U	0.353 U	0.325 U	0.321 U	0.316 U	8.4	58.3 J+	0.179 U	0.232 U	0.215 U	0.159 U	0.143 U	0.170 U	0.193 U	0.763 U	0.794 U	1.17 U	0.280 U	0.353 U	3.25 U	15.1	0.179 U	0.232 U	0.193 U	0.794 U	0.552 J
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)	11/21/2022	0.269 U	0.420 U	0.481 U	5.73	1.84 J	115	826	0.240 U	0.176 U	0.83 J	0.567 U	0.495 U	0.550 U	0.666 U	9.36	0.98 U	6.34	0.269 U	0.42 U	25.7	191	0.240 U	6.02	15.3	21.6	3.00 J
			1-2	DU-43 (1-2)	11/21/2022	0.225 U	0.366 U	0.418 U	2.28 J	0.389 U	46.8	314 J+	0.230 U	0.163 U	0.139 U	0.298 U	0.282 U	0.299 U	0.344 U	3.1	0.548 U	2.59 J	0.225 U	0.366 U	9.19	78.2	0.230 U	2.33	5.86	7.51	1.26 J
			2-3	DU-43 (2-3)	11/21/2022	0.246 U	0.322 U	0.508 U	0.473 U	0.466 U	18.1	130 J+	0.241 U	0.176 U	0.149 U	0.168 U	0.150 U	0.175 U	0.198 U	1.14 J	0.639 U	1.00 U	0.246 U	0.322 U	0.508 U	30.8	0.241 U	0.176 U	0.198 U	2.66	0.663 J
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)	12/01/2022	0.266 U	0.703 U	0.581 U	1.29 J	1.03 J	23	226 J+	0.234 U	0.286 U	0.255 U	1.20 U	1.12 U	1.21 U	1.47 U	2.84	0.814 U	6.71	1.47	0.703 U	8.10	40.1	0.234 U	0.286 U	1.99	6.52	1.38 J
			1-2	DU-44 (1-2)	12/01/2022	0.420 U	0.548 U	0.666 U	0.602 U	0.593 U	6.33	46 J+	0.245 U	0.277 U	0.249 U	0.587 U	0.538 U	0.62 U	0.693 U	0.713 U	0.737 U	1.02 U	0.525	0.548 U	0.666 U	11.5	0.245 U	0.277 U	0.693 U	0.737 U	0.837 J
			2-3	DU-44 (2-3)	12/01/2022	0.396 U	0.485 U	0.495 U	0.428 U	0.421 U	6.19	45.1 J+	0.281 U	0.226 U	0.217 U	0.386 U	0.357 U	0.433 U	0.495 U	0.769 U	0.883 U	1.47 U	0.396 U	0.485 U	0.495 U	10.7	0.281 U	0.226 U	0.495 U	0.883 U	0.725 J

Please see notes at end of table.

Table 3a
Soil Results - Dioxins/Furans - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																										
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
Ecological ISM PRG						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1
Ecological ISM Hot Spot						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	61
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	2.75	44.9	81.2	421	175	8,440 J	51100 J	4.13	16.8	43.8	59.1	40.9	59.6	23.8	642	39.1	858	23.1	169	2,080	15,200	190	732	1,250	1,830	**255** J
			0-1 FR	DU-41 (0-1)B	10/24/2022	2.36	33.4	56.8	315	123	6,450 J	40400 J	4.47	14.2	40.3	46.9	28.5	51.4	20.6	546	35.3	849	22.7	138	1,510	11,800	208	643	1,080	1,530	**196** J
			0-1 FR	DU-41 (0-1)C	10/24/2022	2.47	35.6	63.1	342	140	7,200	43900	3.79	14.9	35.3	50.2	33.4	54.6	21.3	573	35.3	828	22.8	146	1,690	13,200	195	618	1,190	1,640	**211**
			1-2	DU-41 (1-2)A	10/26/2022	2.09	39.2	71.2	390	161	7,780 J	43,600 J	3.44	14.6	50.4	53.7	40.1	58.2	20.4	627	39.1	946	21.1	162	1,790	13,100	417	942	1,390	1,730	**234** J
			1-2 FR	DU-41 (1-2)B	10/26/2022	1.73	33.2	59	316	125	6,570 J	37,900 J	3.55	13.4	44.7	43.6	32.7	49.9	19	569	33.6	849	20	127	1,570	11,600	374	860	1,210	1,580	**197** J
			1-2 FR	DU-41 (1-2)C	10/26/2022	2.66	42.5	72.1	413	166	7,870 J	43,500 J	3.94	15.9	49	53.5	36.7	59.2	24.2	630	34.4	770	23.9	164	1,900	13,100	334	833	1,350	1,670	**242** J
			2-3	DU-41 (2-3)A	10/28/2022	1.33	26.2	49.4	276	98.4	4,960 J	29,300 J	2.52	10.4	32.9	31.5	26.5	39.6	14.8	416	24.5	660	12	100	1,130	8,280	252	600	857	1,180	**155** J
			2-3 FR	DU-41 (2-3)B	10/28/2022	1.11	16.8	32.1	187	68.4	3,390 J	21,600 J	1.8	7.44	22.2	26.7	19	26.9	12.1	305	19.5	598	9.68	66.2	764	5,720	158	390	625	928	**106** J
			2-3 FR	DU-41 (2-3)C	10/28/2022	1.23	22.6	42	235	85	4,350 J	27,100 J	2.57	9.55	26.9	32.1	21.7	34.3	14.3	375	23.3	563	11.4	88.5	979	7,330	205	484	785	1,050	**135** J
			0-1	DU-41 (0-1) M	--	2.53	38.0	67.0	359	146	7,363 J	45,133 J	4.13	15.3	39.8	52.1	34.3	55.2	21.9	587	36.6	845	22.9	151	1,760	13,400	198	664	1,173	1,667	**221** J
			1-2	DU-41 (1-2) M	--	2.16	38.3	67.4	373	151	7,407 J	41,667 J	3.64	14.6	48.0	50.3	36.5	55.8	21.2	609	35.7	855	21.7	151	1,753	12,600	375	878	1,317	1,660	**224** J
			2-3	DU-41 (2-3) M	--	1.22	21.9	41.2	233	83.9	4,233 J	26,000 J	2.30	9.13	27.3	30.1	22.4	33.6	13.7	365.3	22.4	607	11.0	84.9	957.7	7,110	205	491	756	1,053	**132** J

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
EPA = United States Environmental Protection Agency.
M = Mean. These results are the mean of the field replicates collected at this decision unit.
FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.
pg/g = Picograms per gram (parts per trillion).
Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent
Bolded values exceed the Preliminary Remediation Goal (PRG).
Shaded values exceed the hot spot level.
Italicized values represent a method detection limit that is above one or more applicable screening levels.
U = Analyte was not detected.
J = Result is estimated.
JN = The analyte was tentatively identified and did not meet method criteria for confirmation. The reported result is an estimated maximum possible concentration (EMPC).
PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Table 3b
Soil Results - Dioxins/Furans - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																														
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
Human Health ISM PRG						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
Human Health ISM Hot Spot						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,500
West Parcel	DU-1	ISM	0-1	DU-1 (0-1)	07/20/2022	0.833	4.53	3.96	31.3	17.9	407	3,690	1.36	2.77	7.95	8.16	5.85	8.48	2.13 U	118	4.69	340	9.14 JN	30.4 JN	218	985	72.5 JN	88.3 JN	171	393	**22.1**
			1-2	DU-1 (1-2)	07/20/2022	0.826	2.27 J	4.64	27.8	9.16	644	6,310 J	1.38	4.05	8.17	14.4	8.37	8.87	3.83	337	11.2	924	8.79 JN	21.1 JN	155	1,150	48.3 JN	65.7	333	1,090	**25.6** J
			2-3	DU-1 (2-3)	07/20/2022	0.439	0.941 U	2.06 J	12.1	4.35	305	3,060	1.14	1.18 J	3.5	5.57	2.75	3.62	1.56 J	126	6.31	458	3.52	2.77	66.1	543	21.1 JN	30.1 JN	125 JN	423	10.7 J
	DU-2	ISM	0-1	DU-2 (0-1)	08/01/2022	0.424 U	1.50 J	1.49 U	9.03	4.55	157	1,310	1.14	1.97 J	2.45 J	3.45	1.65 J	0.795 U	0.822 U	30.4	1.96 J	78.9	3.03	11.0	62.0	325	27.6 JN	28.7 JN	36.4	90.2	6.95 J
			1-2	DU-2 (1-2)	08/01/2022	0.338 U	0.698 U	1.21 U	6.62	1.10 U	73.5	700	0.895	1.22 U	1.76 J	2.09 J	1.06 U	1.29 U	1.27 U	15.4	1.13 U	58.7	1.15	0.698 U	17.5	118	17.4 JN	15.7 JN	16.6	48.6	3.44 J
			2-3	DU-2 (2-3)	08/01/2022	0.352 U	0.67 U	1.63 U	2.63	1.52 U	46.7	384	0.605	1.13 J	1.21 J	1.26 U	1.26 U	1.53 U	1.52 U	15.1	1.02 U	40.8	0.667	0.670 U	16.1	80.3	17.7 JN	14.9 JN	13.5	42.1	2.42 J
	DU-3	ISM	0-1	DU-3 (0-1)	08/03/2022	0.673	6.12	5.17	38.7	13.0	805	5,360 J	0.752	2.27 U	4.8	5.94	2.72	6.33	2.03 U	87.5	3.75	290	3.00	25.0	220	1,380	13.2	61.0	136	260	**26.3** J
			1-2	DU-3 (1-2)	08/03/2022	0.354 U	1.16 U	2.00 U	11.4	4.92	327	2,780	0.322 U	0.807 U	1.62 J	1.09 U	0.991 U	1.22 U	1.29 U	40.4	2.06 U	221	1.06	4.02	66.8	526	6.38	24.9	38.7	144	7.82 J
			2-3	DU-3 (2-3)	08/03/2022	0.227 U	1.53 U	1.77 U	5.71	1.94 J	163	1,520	0.298 U	1.07 U	1.02 U	0.928 U	0.86 U	1.05 U	1.45 U	30.2	2.11 U	151	0.227 U	1.53 U	41.4	270	3.01	7.87	23.8	129	4.57 J
	DU-4	ISM	0-1	DU-4 (0-1)	08/04/2022	0.565	4.67	3.89	44.0	19.4	458	3,340	0.734	2.18 U	3.08	3.73	2.55	3.52	2.44 U	102	5.06	447	3.99	30.4	252	925	12.3 JN	40.1	94.7	354	**20.9**
			1-2	DU-4 (1-2)	08/04/2022	0.486 J	3.44	2.15 J	30.3	8.41	405	3,280	0.784	1.17 J	3.75	5.27	3.03	3.92	1.21 U	97.7	3.95	5.14	2.24	17.6	149	700	19.3 JN	50.3	101	374	**16.6** J
			2-3	DU-4 (2-3)	08/04/2022	0.469 J	1.87 J	0.887 U	18.1	5.97	458	4,160 J	0.694	1.96 U	4.02	4.98	3.34	3.98	0.831 U	120	5.94	689	3.27	8.66	105	808	27.8 JN	63.5	126	489	14.7 J
	DU-5	ISM	0-1	DU-5 (0-1)A	07/22/2022	0.561	1.75 J	1.55 U	9.28	3.95	209	1,910	4.10	7.53	5.27	13.8	4.99	3.01	3.02	60.6	4.63	127	4.02	12.2	58.8	402	38.5 JN	54.5 JN	84.1	164	11.8 J
			0-1 FR	DU-5 (0-1)B	07/22/2022	0.746	2.02 J	1.17 U	8.24	4.35	258	2,360	6.93	14.9	8.86	24.3	8.24	4.53	3.49	76.9	6.57	153	7.49	10.4	73.8	517	58.0 JN	80.3 JN	107	202	**16.1** J
			0-1 FR	DU-5 (0-1)C	07/22/2022	0.565	2.07 J	2.74	12.5	6.70	256	2,310	5.96	11.1	7.26	19.9	9.07	4.20	3.29	214	4.99	189	4.00	9.27	81.1	500	44.6 JN	72.2 JN	171	435	**17.1** J
			1-2	DU-5 (1-2)A	07/25/2022	0.508	0.652 U	1.94 J	7.31	1.99 J	207	2,060	5.26	10.2	7.54	17.6	6.59	4.78	2.16 J	76.0	5.78	154	3.89	2.89	48.4	377	72.7 JN	85.4 JN	101	202	11.7 J
			1-2 FR	DU-5 (1-2)B	07/25/2022	0.422 J	0.726 U	2.23 U	7.99	3.89	264	2,630	7.10	10.8	9.02	16.6	6.21	4.50	4.38	67.1	6.59	187	3.33	5.41	55.2	515	82.9 JN	93.1 JN	99.7	214	13.2 J
			1-2 FR	DU-5 (1-2)C	07/25/2022	0.427 U	1.26 J	1.97 J	8.63	3.01	255	2,460	5.28	8.81	7.08	16.5	11.0	5.14	2.84	255	6.43	240	2.82	7.02	55.4	465	50.3 JN	73.7 JN	197	525	**15.3** J
			2-3	DU-5 (2-3)A	07/26/2022	1.28	1.57 J	1.38 J	7.87	3.99	260	2,560	5.58	9.36	9.89	16.2	6.36	4.88	2.83	89.7	7.69	192	5.54	7.35	57.8	464	74.4 JN	104 JN	112	241	**15.4** J
			2-3 FR	DU-5 (2-3)B	07/26/2022	0.511	1.91 J	1.59 U	6.43	3.28	246	2,360	4.85	8.14	8.47	14.1	5.85	4.63	2.95	57.5	5.83	151	4.18	7.54	58.3	581	89.7 JN	92.4 JN	90.1	179	12.3 J
			2-3 FR	DU-5 (2-3)C	07/26/2022	0.535	1.49 J	1.83 J	11.5	3.90	295	3,160	5.77	11.4	7.90	25.2	21.2	7.95	6.06	610	9.63	408	4.02	4.76	67.1	519	49.6 JN	89.0	392	1,130	**23.3** J
			0-1	DU-5 (0-1) M	--	0.624	1.95 J	1.82	10.0	5.00	241	2,193	5.66	11.2	7.13	19.3	7.43	3.91	3.27	117 J	5.40	156	5.17	10.6	71.2	473	47.0 JN	69.0 JN	121	267	14.98 J
			1-2	DU-5 (1-2) M	--	0.452 J	0.879 J	2.05 J	7.98	2.96 J	242	2,383	5.88	9.94	7.88	16.9	7.93	4.81	3.13 J	133 J	6.27	194	3.35	5.11	53.0	452	68.6 JN	84.1 JN	133	314	13.4 J
			2-3	DU-5 (2-3) M	--	0.775	1.55 J	1.71 J	8.60	3.72	267	2,693	5.40	9.63	8.75	18.5	11.1 J	5.82	3.95	252 J	7.72	250	4.58	6.55	61.1	521	71.2 JN	95.1 J	198 J	517 J	**17.0** J
	DU-6	ISM	0-1	DU-6 (0-1)	07/28/2022	0.376 U	0.895 U	1.60 U	8.53	3.65	2.12 J	2,130	7.64	13.7	7.52	22.1	6.65	4.02	3.92	56.9	5.77	130	3.54	3.87	59.1	413	52.4 JN	70.4 JN	96.0	166	10.4 J
			1-2	DU-6 (1-2)	07/28/2022	0.708	3.76	6.07	19.1	9.26	271	2,430	9.46	17.5	15.3	33.1	13.6	13.1	6.83	92.1	9.48	178	69.0	146	272	535	142 JN	172 JN	181	239	**25.1** J
			2-3	DU-6 (2-3)	07/28/2022	0.296	1.21 J	1.53 U	7.57	3.28	224	2,290	4.88	9.40	5.86	15.8	5.84	3.25	2.23 J	52.0	5.29	126	3.60	8.87	52.2	438	48.2 JN	62.0 JN	83.1	146	11.4 J
	DU-7	ISM	0-1	DU-7 (0-1)	07/29/2022	0.605	1.30 J	2.57	11.8	4.39	236	2,410	9.02	17.3	10.5	30.6	11.4	4.81	4.67	72.7	8.50	139	4.69	9.39	72.7	458	103 JN	125 JN	134	201	**17.4** J
			1-2	DU-7 (1-2)	07/29/2022	0.377 J	0.835 U	1.23 J	7.72	2.98	187	1,980	6.63	11.9	7.26	22.6	7.80	4.24	4.57	72.1	4.80	130	2.97	2.63	45.7	371	78.0 JN	85.2 JN	100	184	12.4 J
			2-3	DU-7 (2-3)	07/29/2022	0.315 U	1.35 U	2.04 U	4.24	2.17 J	122	1,430	4.48	8.45	4.15	15.3	5.43	3.38	2.41 U	38.8	5.24	92.0	1.48	1.35 U	36.0	249	40.1 JN	45.1 JN	66.3	115	8.17 J
	DU-8	ISM	0-1	DU-8 (0-1)	08/05/2022	1.03	2.98	2.34 J	16.6	8.25	371	3,990	8.93	15.8	10.5	38.2	13.3	7.21	4.80	88.6	10.2	277	7.68	19.3	111	6.87	44.5 JN	97.3	176	282	**23.6** J
			1-2	DU-8 (1-2)	08/05/2022	0.847	2.47 J	4.20	16.1	8.08	389	4,190 J	10.6	19.9	11.8	41.1	12.5	8.05	6.10	109	13.1	288	6.99	16.3	120	762	48.4 JN	111	194	328	**24.6** J
			2-3	DU-8 (2-3)	08/05/2022	1.15	1.79 J	2.12 J	12.3	5.33	406	4,530 J	10.1	19.7	11.9	41.2	12.8	6.52	5.66	103	12.6	310	5.88	14.4	105	7.68	43.5 JN	108	194	313	**23.4** J
	DU-9	ISM	0-1	DU-9 (0-1)	08/08/2022	0.685	2.33 J	1.58 U	13.8	5.91	344	3,170	7.00	12.0	8.32	23.8	7.20	3.50	3.50	87.7	8.23	177	7.96	19.1	104	642	35.3	71.4	120	247	**17.8** J
			1-2	DU-9 (1-2)	08/08/2022	0.532	1.46 U	2.21 U	8.01	2.51	233	2,550	5.32	10.7	6.81	20.3	7.44	4.87	2.75	71.5	7.04	193	3.76	3.17	71.9	470	32.8 JN	66.6	110	216	12.8 J
			2-3	DU-9 (2-3)	08/08/2022	0.569	1.20 U	1.47 U	6.77	2.34 J	228	2,520	5.97	10.5	6.80	21.9	7.34	2.94	2.16 J	65.2	6.61	157	3.07	3.04	58.2	460	30.9 JN	62.2	104	178	12.3 J
Central Parcel	DU-10	ISM	0-1	DU-10 (0-1)	08/12/2022	0.533	5.87	0.599 U	34.0	19.2	308	1,830	0.767	0.939 U	2.22 J	1.79 J	1.47 J	0.321 U	0.387 U	74.6	0.943 U	276	6.56	32.8	219	584	28.5 JN	29.1	55.7	264	**17.3** J
			1-2	DU-10 (1-2)	08/12/2022	0.135 U	0.551 U	0.822 U	9.79	3.71	217	1,700	0.170 U	0.976 U	1.50 J	0.407 U	0.403 U	0.472 U	0.501 U	42.7	0.749 U	160	2.56	8.13	68.6	394	18.9 JN	21.4	31.9	145	5.46 J
			2-3	DU-10 (2-3)	08/12/2022	0.243 U	0.826 U	1.03 U	6.37	3.01	143	1,120	0.270 U	1.22 U	2.01 J	0.468 U	0.424 U	0.523 U	0.564 U	43.9	1.42 U	180	4.20	7.50	46.3	253	28.6 JN	34.9	34.0	162	4.52 J
	DU-11	ISM	0-1	DU-11 (0-1)A	08/10/2022	0.154 U	2.95	0.824 U	15.7	7.83	164	1,310	2.06	3.69	3.15	8.08	4.43	2.64	1.19 U	48.0	2.73	79.3	2.03	16.2	117	340	18.3 JN	30.5	61.6	118	10.8 J
			0-1 FR	DU-11 (0-1)B	08/10/2022	0.233 U	0.237 U	0.335 U	11.9	4.66	174	1,290	1.60	2.43 J	2.50	5.47	2.36 J	1.62 J	1.12 U	41.1	2.69	65.4	2.64	3.50	97.7	347	16.4 JN	27.8	51.2	103	6.48 J
			0-1 FR	DU-11 (0-1)C	08/10/2022	0.210 U	2.70	0.800 U	19.0	8.96	301	2,150	2.03	3.04	2.42 J	5.64	2.32 J	0.839 U	1.08 U	48.1	1.16 U	85.8	1.90	6.89	150	534	16.5 JN	31.4	59.9	121	11.7 J
			1-2	DU-11 (1-2)A	08/10/2022	0.147 U	0.509 U	0.571 U	7.54	0.487 U	140	1,600	1.96	3.02	2.45 J	6.30	0.672 U	0.979 U	1.28 U	36.1	1.53 U	79.1	1.68	2.38	55.7	399	12.0 JN	22.2	40.6	101	5.21 J
			1-2 FR	DU-11 (1-2)B	08/10/2022	0.189 U	0.508 U	0.651 U	5.30	1.64 J	111	987	1.62	2.63	2.01 J	5.89	2.12 J	1.37 J	0.412 U	33.0	2.07 J	74.0	1.20	0.508 U	38.4	219	9.99	21.6	36.7	91.6	4.66 J
			1-2 FR	DU-11 (1-2)C	08/10/2022	0.172 U	0.856 U	1.11 U	5.78	0.882 U	106	941	1.25	2.47 J	2.32 J	5.05	0.511 U	0.715 U	1.01 U	29.1	1.34 U	53.3	1.34	0.856 U	41.4	207	8.29	21.5	35.3	71.7	4.36 J
			2-3	DU-11 (2-3)A	08/10/2022	0.249 U	0.727 U	0.978 U	4.94	0.796 U	99.3	894	1.48	2.93	1.76 J	5.90	2.18 J	0.616 U	0.806 U	29.1	1.33 U	59.7	1.56	0.727 U	39.9	204	9.83	18.8	34.1	78.0	4.29 J
			2-3 FR	DU-11 (2-3)B	08/10/2022	0.238 U	0.602 U	0.919 U	5.67	0.717 U	162	1,830	2.17	3.80	2.39 J	7.60	2.89	0.768 U	0.910 U	43.2	1.79 U	108	1.19	0.602 U	55.7	453	12.4	23.6	47.4	124	5.89 J
			2-3 FR	DU-11 (2-3)C	08/10/2022	0.187 U	0.679 U	0.872 U	5.07	0.746 U	107	898	1.63	2.86	1.98 J	6.12	0.814 U	1.15 U	1.44 U	32.5	1.48 U	60.1	1.27	0.679 U	43.1	211	11.0	21.0	35.9	79.5	4.34 J
			0-1	DU-11 (0-1) M	--	0.233 U	1.96 J	0.824 U	15.5	7.15	213	1,583	1.90	3.05 J	2.69 J	6.40	3.04 J	1.70 J	1.19 U	45.7	2.19	76.8	2.19	8.86 J	122	407	17.1 JN	29.9	57.6	114	9.67 J
			1-2	DU-11 (1-2) M	--	0.189 U	0.856 U	1.11 U	6.21	1.00 J	119	1,176	1.61	2.71 J	2.26 J	5.75	1.10 J	1.02 J	1.28 U	32.7	1.65 J	68.8	1.41	1.25 J	45.2	275	10.1 J	21.8	37.5	88.1	4.74 J
			2-3	DU-11 (2-3) M	--	0.249 U	0.727 U	0.978 U	5.23	0.796 U	123	1,207	1.76	3.20	2.04 J	6.54	1.96 J	1.15 U	1.44 U	34.9	1.79 U	75.9	1.34	0.73 U	46.2	289	11.1	21.1	39.1	93.8	4.84 J
	DU-12	ISM	0-1	DU-12 (0-1)	08/16/2022	0.410 U	10.6	1.02 U	60.7	31.4	218	884	0.310 U	0.214 U	4.57	3.08	2.63	3.06	0.817 U	52.1	0.851 U	50.0	11.6	62.0	396	487	61.8 JN	54.0	52.3	101	**25.4**
			1-2	DU-12 (1-2)	08/16/2022	0.471 U	0.945 U	1.04 U	12.7	6.79	74.5	426	0.330 U	1.46 U	1.35 U	0.877 U	0.858 U	1.11 U	1.14 U	17.6	0.758 U	28.0	4.55	4.46	99.3	157	6.56	9.69	15.6	38.5	4.21
			2-3	DU-12 (2-3)	08/16/2022	0.358 U	0.883 U	1.40 U	6.51	4.84	30.9	168 J+	0.337 U	1.21 U	1.09 U	0.634 U	0.602 U	0.767 U	0.927 U	6.36	0.998 U	7.73	3.26	0.883 U	43.2	62.9	8.71	8.80	6.04	13.8	2.60 J
	DU-13	ISM	0-1	DU-13 (0-1)A	08/29/2022	3.88	117	42.2	795	434	1,500	1,840	2.40	4.35	12.2	10.9	12.0	15.1	5.22	501	6.93	342	68.6	702	4,920	2,850	151 JN	181 JN	239	839	**277** J
			0-1 FR	DU-13 (0-1)B	08/29/2022	2.77	66.7	23.7	470	265	1,020	1,940	1.73	2.83	11.1	7.31	7.57	10.5	2.13 J	3.20	5.19	284	42.8	411	3,060	1,920	165 JN	159 JN	184	568	**163** J
			0-1 FR	DU-13 (0-1)C	08/29/2022	3.15	79.3	31.7	566	310	1,120	1,620	1.99	3.63	11.3	8.77	9.64	12.7	4.37	360	5.59	287	52.5	503	3,550	2,120	125 JN	163 JN	211	623	**196** J
			1-2	DU-13 (1-2)A	08/30/2022	0.698	14.3	2.58	102	54.1	243	551	0.75	1.39 J	3.29	2.72	2.45 J	2.98	0.490 U	72.4	2.09 J	95.1	11.3	89.5	648	475	30.6 JN	44.9 JN	51.9	147	**36.2** J
			1-2 FR	DU-13 (1-2)B	08/30/2022	0.381 U	4.38	0.778 U	20.6	11.5	98.9	463	0.185 U	1.61 U	5.27	1.76 J	2.22 J	2.89	0.442 U	27.9	0.833 U	71.6	5.46	29.3	184	183	61.7 JN	77.2 JN	48.0	71.0	11.6 J
			1-2 FR	DU-13 (1-2)C	08/30/2022	0.499	10.6	1.93 J	62.6	34.5	170	436	0.828	2.28 U	6.44	2.39 J	2.89	3.87	0.628 U	49.3	1.31 J	69.7	10.4	69.4	413	326	88.2 JN	97.0 JN	57.4	104	**26.4** J
			2-3	DU-13 (2-3)A	08/31/2022	0.208 U	10.9	4.23	78.9	39.3	171	467	0.106 U	1.42 U	2.09 J	0.47 U	0.437 U	2.50	0.659 U	54.1	0.616 U	74.9	6.38	67.3	519	328	20.8 JN	27.9	33.5	108	**26.6** J
			2-3 FR	DU-13 (2-3)B	08/31/2022	0.363 U	4.36	0.856 U	26.5	13.4	114	509	0.163 U	1.30 U	3.45	2.02 J	2.31 J	2.70	0.319 U	34.7	0.823 U	85.6	4.10	26.7	191	204	50.8 JN	55.3 JN	40.8	91.3	12.0 J
			2-3 FR	DU-13 (2-3)C	08/31/2022	0.571	8.19	1.73 J	47.3	24.8	186	708	0.630	0.802 J	2.26 J	1.51 J	2.00 J	2.83	0.309 U	52.9	1.58 J	120	8.28	58.6	449	330	26.2 JN	36.9 JN	43.2	130	**20.2** J
			0-1	DU-13 (0-1) M	--	3.27	87.7	32.5	610.3	336.3	1,213	1,800	2.04	3.60	11.5	8.99	9.74	12.8	3.91 J	288 J	5.90	304	54.6	539	3,843	2,297	147 JN	168 JN	211	677	**212** J
			1-2	DU-13 (1-2) M	--	0.526	9.76	1.76 J	61.7 J	33.4 J	171	483	0.588	1.76 J	5.00	2.29 J	2.52 J	3.25	0.628 U	49.9	1.41 J	78.8	9.05	62.7	415	328	60.2 JN	73.0 JN	52.4	107	**24.7** J
			2-3	DU-13 (2-3) M	--	0.381	7.82	2.27 J	50.9	25.8	157	561	0.300 J	1.17 J	2.60 J	1.33 J	1.58 J	2.68	0.659 U	47.2	1.01 J	93.5	6.25	50.9	386	287	32.6 JN	40.0 J	39.2	110	**19.6** J
	DU-14	ISM	0-1	DU-14 (0-1)	08/17/2022	1.43	29.2	17.6	230	127	509	1,150	0.728	2.06 U	5.44	4.03	4.29	5.63	1.92 J	181	2.62	110	20.7	185	1,430	955	111 JN	102 JN	107	313	**78.7** J
			1-2	DU-14 (1-2)	08/17/2022	0.593	13.2	7.44	96.3	54.5	263	932	0.579	1.13 U	3.03	0.225 U	0.204 U	0.258 U	0.275 U	70.9	0.428 U	76.0	13.0	88.7	658	510	31.0 JN	37.1	35.1	129	**34.3** J
			2-3	DU-14 (2-3)	08/17/2022	0.172 U	6.12	0.537 U	36.7	22.0	100	298 J+	0.35	0.997 U	1.90 J	0.197 U	0.190 U	2.13 J	0.273 U	27.5	0.805 U	29.8	3.52	37.0	252	191	17.7 JN	26.3	24.7	56.5	14.3 J
	DU-15	ISM	0-1	DU-15 (0-1)	08/19/2022	4.67	158	60.6	1,180	727	2,020 J	1,210	1.81	3.66	8.61	12.3	12.8	15.2	5.00	874	8.70	344	90.9	973	7,910	3,970	74.6 JN	128 JN	320	1,380	**396** J
			1-2	DU-15 (1-2)	08/19/2022	1.72	78.2	32.4	636	337	1,200	628	0.544	1.55 J	3.92	5.14	5.86	6.65	1.77 J	442	3.66	165	37.2	506	4,280	2,330	27.8 JN	55.9 JN	148	685	**200** J
			2-3	DU-15 (2-3)	08/19/2022	1.90	60.7	22.0	458	265	786	362	0.197 U	1.72 U	2.42 J	2.98	4.14	4.94	0.576 U	252	2.45 J	98.1	34.3	379	2,920	1,530	12.1 JN	33.2	92.5	392	**150** J
	DU-16	ISM	0-1	DU-16 (0-1)A	09/12/2022	3.21	64.3	25.4	358	192	1,420	7,200 J	1.32	2.60	9.07	9.34	10.4	14.5	2.99	383	17.0	575	40.5	367	2,360	2,500	52.0 JN	135 JN	297	946	**152** J
			0-1 FR	DU-16 (0-1)B	09/12/2022	3.62	101	29.8	635	302	1,440	4,810 J	1.09	2.09 J	9.00	8.27	9.25	12.9	2.92	440	10.0	391	48.4	574	3,720	2,680	50.4 JN	125	239	855	**228** J
			0-1 FR	DU-16 (0-1)C	09/12/2022	3.94	102	34.1	743	286	1,590	15,000 J	1.60	2.80	10.4	9.12	9.56	13.8	3.24	453	12.6	462	52.9	574	3,730	2,930	58.2 JN	141	263	943	**244** J
			0-1	DU-16 (0-1) M	--	3.59	89.1	29.8	579	260	1,483	9,003 J	1.34	2.50 J	9.49	8.91	9.74	13.7	3.05	425	13.2	476	47.3	505	3,270	2,703	53.5 JN	134 J	266	915	**208** J
			1-2	DU-16 (1-2)	11/07/2022	0.473	6.21	3.36	37.4	21.4	196	1,570	0.465 U	0.311 U	3.07	1.95	2.29	2.71	0.278 U	46	2.38	114	3.24	32.8	222	351	51.3	59.3	54.5	131	**17.5**
			2-3	DU-16 (2-3)	11/07/2022	0.380 U	2.96	1.93	16.6	8.81	83.5	991	0.267 U	0.228 U	0.926	0.255 U	0.243 U	0.265 U	0.283 U	22.3	1.4	50	0.38 U	15.5	99.8	141	5.52	12.1	15.9	65.7	7.62
	DU-17	ISM	0-1	DU-17 (0-1)	09/02/2022	0.808	14.9	5.38	106	54.3	294	939	0.156 U	2.05 U	9.58	2.19 J	3.39	6.17	0.610 U	75.9	2.08 J	81.0	10.2	96.9	670	553	87.2 JN	151 JN	100	150	**40.4** J
			1-2	DU-17 (1-2)	09/02/2022	0.171 U	0.400 U	0.453 U	3.38	1.77 J	92.1	1,010	0.110 U	0.833 U	3.32	0.365 U	0.324 U	1.40 J	0.476 U	14.4	0.591 U	83.5	0.171 U	0.400 U	28.0	180	29.5 JN	52.7 JN	30.1	57.3	3.43 J
			2-3	DU-17 (2-3)	09/02/2022	0.140 U	3.97	0.709 J	13.7	6.37	65.8	290 J+	0.164 U	0.488 U	1.96 J	0.271 U	0.238 U	1.56 J	0.370 U	13.8	0.636 U	19.2	0

Table 3b
Soil Results - Dioxins/Furans - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g 2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
					Human Health ISM PRG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
					Human Health ISM Hot Spot	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,500
Central Parcel	DU-18	ISM	0-1	DU-18 (0-1)A	09/29/2022	1.05	21.5	8.89	152	84.6	576	2,700	1.02	1.42 J	12.6	4.48	6.01	9.50	2.25 J	126	5.65	242	15.1	119	864	994	300 JN	273 JN	152	312	**61.2** J
			0-1 FR	DU-18 (0-1)B	09/29/2022	0.708	13.8	6.11	96.5	54.4	642	4,490 J	2.39	2.25 J	68.3	7.99	19.3	29.2	4.56	165	10.0	505	12.9	88.8	586	1,120	1,010 JN	1,300 JN	473	521	**66.8** J
			0-1 FR	DU-18 (0-1)C	09/29/2022	0.735	13.6	6.09	86.2	47.2	479	3,030	0.39 U	1.59 J	20.2	7.63	12.2	11.8	3.72	116	6.91	323	11.7	84.2	518	840	1,040	608	198	333	**45.0** J
			1-2	DU-18 (1-2)A	09/30/2022	0.399 J	6.49	3.34	41.0	22.7	250	1,530	0.854	0.918 J	9.37	3.18	4.37	5.33	1.31 J	59.6	2.38 J	178	7.07	39.0	254	445	164 JN	176 JN	99.5	175	**21.6** J
			1-2 FR	DU-18 (1-2)B	09/30/2022	0.453	3.03	1.69 J	18.0	8.82	170	1,270	2.04	1.20 J	21.6	2.19 J	5.17	8.27	1.54 J	44.8	3.12	179	2.99	19.7	116	290	329 JN	370 JN	130	158	**17.4** J
			1-2 FR	DU-18 (1-2)C	09/30/2022	0.250 U	3.03	0.337 U	15.8	10.0	177	1,280	0.264 U	1.59 U	5.61	1.80 J	2.61	3.68	0.509 U	41.5	2.39 J	167	1.54	18.2	112	310	102	98.6	56.7	139	10.9 J
			2-3	DU-18 (2-3)A	10/03/2022	0.277 U	4.47	1.74 J	22.9	13.5	106	628	0.231 U	1.37 U	2.95	1.29 J	1.98 J	1.87 J	0.281 U	26.9	1.01 J	65.9	0.773	25.7	163	191	68.3 JN	57.5 JN	38.1	67.7	11.4 J
			2-3 FR	DU-18 (2-3)B	10/03/2022	0.320	4.17	1.67 J	24.4	13.4	162	1,000	0.192 U	0.521 U	4.86	1.24 J	2.4 J	2.96	0.241 U	37.2	1.95 J	140	2.90	26.3	159	286	127 JN	103 JN	55.3	118	12.9 J
			2-3 FR	DU-18 (2-3)C	10/03/2022	0.169 U	2.79	1.67 J	15.8	9.57	116	740	0.385	0.765 U	4.14	1.49 J	2.59	2.38 J	0.272 U	27.5	1.24 J	96.1	1.39	18.8	111	208	172 JN	110 JN	47.0	84.6	9.23 J
			0-1	DU-18 (0-1) M	--	0.831	16.3	7.03	112	62.1	566	3,407 J	1.27 J	1.75 J	33.7 J	6.70	12.5	16.8 J	3.51 J	136	7.52	357	13.2	97.3	656	985	783 J	727 J	274 J	389	**57.7** J
			1-2	DU-18 (1-2) M	--	0.367 J	4.18	1.79 J	24.9	13.8	199	1,360	1.05 J	1.24 J	12.2 J	2.39 J	4.05	5.76	1.12 J	48.6	2.63 J	175	3.87 J	25.6	161	348	198 J	215 J	95.4	157	**16.6** J
			2-3	DU-18 (2-3) M	--	0.255	3.81	1.69 J	21.0	12.2	128	789	0.269	1.37 U	3.98	1.34 J	2.32 J	2.40 J	0.281 U	30.5	1.40 J	101	1.69 J	23.6	144	228	122 JN	90.2 JN	46.8	90.1	11.2 J
	DU-19	ISM	0-1	DU-19 (0-1)	09/06/2022	1.15	20.5	10.4	169	76.1	659	3,680	5.57	5.76	201	26.4	47.3	77.9	14.6	145	9.88	254	27.5	166	891	1,160	2,280 JN	3,590 JN	1,190	376	**134**
			1-2	DU-19 (1-2)	09/06/2022	0.409 U	6.80	0.767 U	25.3	11.0	391	2,850	4.69	1.11 U	179	20.1	38.9	71.2	12.4	81.0	7.02	200	15.6	82.2	237	693	2,360 JN	3,500 JN	1,090	236	**84.8**
			2-3	DU-19 (2-3)	09/06/2022	0.742	5.52	3.18	13.6	5.27	103	616	3.36	3.00	95.1	15.2	19.2	34.6	7.12	33.0	3.82	44.3	12.5	60.8	133	191	1,460 JN	1,680 JN	512	85.2	**46.6**
	DU-20	ISM	0-1	DU-20 (0-1)	10/18/2022	0.841	8.89	7.08	53.9	28	543	3,150	1.25	2.01	19.7	5.83	7	12.8	3.95	78.3	3.3	125	12.7	58	329	949	266	344	217	198	**34.9**
			1-2	DU-20 (1-2)	10/18/2022	0.194 U	0.713 U	0.676 U	7.55	3.81	138	804	0.307 U	0.127 U	2.18	0.227 U	0.212 U	2.18	0.270 U	12.5	0.897 U	20.3	0.194 U	0.713 U	42.7	239	23.2	33.2	27.3	31.4	4.30
			2-3	DU-20 (2-3)	10/18/2022	0.284 U	1	0.440 U	5.49	2.79	65.9	415	0.346 U	0.271 U	2.84	0.340 U	0.304 U	1.76	0.418 U	8.77	0.759 U	14.9	0.424	4.07	36	118	41.8	47	25.4	21.1	3.97
	DU-21	ISM	0-1	DU-21 (0-1)	09/08/2022	1.32	16.9	10.7	103	57.5	806	5,130 J	3.580	3.69	54.0	13.0	16.8	29.8	7.03	184	9.82	317	17.9	118	68.5	1,480	1,070	977	432	450	**70.3** J
			1-2	DU-21 (1-2)	09/08/2022	0.540	4.43	3.07	20.8	11.1	231	1,360	1.340	1.65	20.2	5.54	6.85	11.6	2.25	48.8	2.85	75.1	5.78	34.8	157	418	327	360	160	114	**20.6**
			2-3	DU-21 (2-3)	09/08/2022	0.107 U	2.08 J	0.314 U	13.3	5.30	118	769	0.781	0.648 U	9.70	3.70	3.01	5.35	1.32 J	26.7	1.61 J	52.7	2.79	16.8	88.8	210	133	154	85.3	65.7	10.1 J
	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	0.846	9.71	5.58	63.1	31.5	438	2,810	1.26	1.88 J	12.5	4.09	3.68	8.59	2.24	79.1	3.27	209	6.11	59.0	390	776	164 J	201	141	223	**32.5** J
			0-1 FR	DU-22 (0-1)B	10/13/2022	0.464 J	4.68	3.91	42.0	17.3	543	3,940	0.999	1.72 J	12.3	4.57	5.28	8.08	2.24 J	77.3	3.66	213	4.83	28.8	213	915	177	203	153	232	**24.8** J
			0-1 FR	DU-22 (0-1)C	10/13/2022	0.525	9.02	4.89	44.6	22.8	482	3,150	1.76	2.54	14.2	5.09	5.96	10.5	2.23 J	79.5	3.44	174	7.22	42.7	285	929	188	235	156	202	**30.3** J
			1-2	DU-22 (1-2)A	10/14/2022	0.234 U	1.41	0.342 U	6.02	3.06	57.7	382	0.451 U	1.05 U	3.06	0.187 U	0.165 U	1.84	0.191 U	23.2	0.740 U	45.2	0.817	4.79	39.5	102	60.3	53.4	37.3	69.6	4.56
			1-2 FR	DU-22 (1-2)B	10/14/2022	0.196 U	2.25	2.21	27.4	5.92	300	2,130	0.492	2.29 U	4.73	2.72	2.36	3.24	0.212 U	36.2	1.92	97	0.96	8.8	105	507	43	70.3	78.3	115	12.3
			1-2 FR	DU-22 (1-2)C	10/14/2022	0.201 U	1.55	1.54	11	3.68	186	1,270	0.461	1.97 U	3.29	1.94	1.65	2.79	0.196 U	22.1	0.810 U	54.4	0.432	5.57	54.6	313	46.8	54	48.8	64.5	7.47
			2-3	DU-22 (2-3)A	10/14/2022	0.217 U	1.31 U	0.367 U	9.52	3.99	77.4	475	0.494 U	0.339 U	2.83	0.571 U	0.496 U	1.75	0.705 U	14.4	1.51 U	37.5	0.217 U	1.95	55.8	132	38.5	47.3	25.5	37	4.35
			2-3 FR	DU-22 (2-3)B	10/14/2022	0.247 U	1.07 U	0.527 U	8.95	3.56	228	1,900	0.422 U	0.389 U	6.26	1.53	2.46	4.04	0.886 U	31.7	2.42	164	0.247 U	1.48	48.1	403	73.1	98.1	70.1	124	7.93
			2-3 FR	DU-22 (2-3)C	10/14/2022	0.266 U	1.19 U	0.411 U	7.44	3.75	102	727	0.445 U	0.273 U	3.47	0.489 U	1.72	2.22	0.582 U	15.3	1.02 U	44.9	0.266 U	1.19 U	44.5	177	61.8	68.6	36.1	49.1	4.79
			0-1	DU-22 (0-1) M	--	0.612 J	7.80	4.79	49.9	23.9	488	3,300	1.34	2.05 J	13.0	4.58	4.97	9.06	2.24 J	78.6	3.46	199	6.05	43.5	296	873	176 J	213	150	219	**29.2** J
			1-2	DU-22 (1-2) M	--	0.234 U	1.74	1.36 J	14.8 J	4.22	181 J	1,261 J	0.468	2.29 U	3.69	1.62 J	1.39 J	2.62	0.212 U	27.2	1.16	65.5	0.736	6.39	66.4	307 J	50.0	59.2	54.8	83.0	8.11
			2-3	DU-22 (2-3) M	--	0.266 U	1.31 U	0.527 U	8.64	3.77	136	1,034 J	0.494 U	0.389 U	4.19	0.863 J	1.56 J	2.67	0.886 U	20.5	1.65	82.1 J	0.266 U	1.54	49.5	237	57.8	71.3	43.9	70.0 J	5.69
	DU-23	ISM	0-1	DU-23 (0-1)	10/12/2022	1.05	8.20	7.23	44.2	23.5	570	3,570	2.15	3.52	34.6	9.20	14.1	20.2	3.80	96.8	6.09	230	15.6	61.1	299	1,040	558 JN	627 JN	323	255	**40.0**
			1-2	DU-23 (1-2)	10/12/2022	0.219 U	1.75 J	1.84 J	9.33	4.96	123	799	0.932	0.576 U	12.5	2.67	4.05	6.65	1.12 J	24.2	1.33 J	60.8	2.92	9.43	66.0	223	139 JN	194 JN	103	65.6	10.5 J
			2-3	DU-23 (2-3)	10/12/2022	0.285 U	0.163 U	1.95 J	7.95	3.84	155	941	0.619	0.196 U	5.27	1.39 J	2.04 J	3.15	0.307 U	14.8	1.04 J	32.1	1.64	4.89	59.2	301	50.7 JN	72.8 JN	46.9	41.2	5.92 J
	DU-24	ISM	0-1	DU-24 (0-1)	09/21/2022	0.434 J	6.29	4.27	55.6 J	29.7	376	2,020	0.826	1.48 J	4.50	3.19	2.43 J	4.29	1.92 J	54.8	2.14 J	77.9	5.22	37.4	320	656	30.7 JN	52.5	89.7	130	**23.3** J
			1-2	DU-24 (1-2)	09/21/2022	0.132 U	1.98 J	0.975 J	11.6	7.10	135	760	0.194 U	0.687 J	1.84 J	0.327 U	0.304 U	0.375 U	0.38 U	18.4	0.424 U	38.0	0.952	11.7	87.2	243	9.98 JN	21.6	26.1	47.5	6.44 J
			2-3	DU-24 (2-3)	09/21/2022	0.161 U	4.10	0.647 U	23.9	12.4	67.4	173 J+	0.116 U	0.337 U	0.321 U	0.249 U	0.242 U	0.297 U	0.291 U	18.8	0.473 U	11.8	0.161 U	22.7	175	127	1.65	2.85	8.18	31.1	8.88 J
	DU-25	ISM	0-1	DU-25 (0-1)	09/23/2022	0.902	7.77	11.6	64.0	21.8	1300	8,430 J	3.16	4.23	20.5	12.1	11.2	15.5	8.05	156	7.87	284	26.0	52.7	349	2,230	198	282	355	438	**46.9** J
			1-2	DU-25 (1-2)	09/23/2022	0.104 U	0.312 U	0.636 U	2.98	1.61 J	72.2	498	0.125 U	1.22 U	2.83	0.219 U	0.205 U	0.247 U	0.258 U	9.88	0.418 U	26.2	0.737	0.312 U	18.5	124	23.5	37.1	26.5	29.2	2.60 J
			2-3	DU-25 (2-3)	09/23/2022	0.141 U	0.322 U	0.567 U	2.57	0.464 U	69.9	483	0.108 U	0.505 U	1.33 J	0.211 U	0.196 U	0.233 U	0.242 U	8.83	0.412 U	20.5	0.141 U	0.322 U	15.0	120	7.21	15.5	18.7	25.2	1.94 J
	DU-26	ISM	0-1	DU-26 (0-1)A	11/09/2022	1.68	18.2	19.9	147	57.2	2,040 J	14,300 J	5.95	10.9	43.8	23.4	23.2	37	10.5	251	15.5	470	39.3	118	742	3,530	558	698	590	653	**93.3** J
			0-1 FR	DU-26 (0-1)B	11/09/2022	1.79	16.7	17.8	89.9	44	1,200	7,390 J	6.73	12.7	43.4	33	31.6	45.4	13.1	232	19.9	321	42.9	149	596	2,170	593	710	512	511	**76.9** J
			0-1 FR	DU-26 (0-1)C	11/09/2022	1.87	16.8	17.6	102	45.8	1,460	9,510 J	6.26	10.9	43.9	28.6	28.8	41.4	12.3	243	18.5	363	38.2	141	585	2,520	649	736	536	579	**80.6** J
			1-2	DU-26 (1-2)A	11/10/2022	0.875	9.88	11.9	53.2	25.8	830	5,470 J	3.25	5.24	20.7	11.2	13.1	18.6	4.71	128	10.4	359	15.6	71.5	323	1,410	253	334	266	373	**42.7** J
			1-2 FR	DU-26 (1-2)B	11/10/2022	0.742	5.38	6.98	30.7	13.5	451	2,970	2.83	5.22	15.3	16	13	17.2	6.14	108	10.3	162	16.3	56.6	202	806	160	224	208	245	**28.1**
			1-2 FR	DU-26 (1-2)C	11/10/2022	0.764	5.06	6.12	30.2	15.3	446	3,160	1.89	3.31	12.5	8.86	8.85	13	3.48	85.1	6.42	207	12	45	196	824	172	205	160	228	**24.8**
			2-3	DU-26 (2-3)A	11/11/2022	0.387	3.2	3.66	18.8	8.94	281	2,130	0.85	1.55 J	6.23	4.13	3.74	6.53	1.47 J	46.6	3.41	112	6.76	24.8	116	497	54.1	85.4	84.3	127	14.3 J
			2-3 FR	DU-26 (2-3)B	11/11/2022	0.402 J	2.87	4.42	30.9	10.1	646	4,850 J	0.998	3.86	10.6	14.6	5.93	8.12	6.24	89.8	7.63	116	3.12	19.6	132	1,050	74.9	122	204	2,160	**23.6** J
			2-3 FR	DU-26 (2-3)C	11/11/2022	0.433 J	2.84	2.87	14.3	6.21	174	1,140	1.18	1.49 J	7.41	3.81	4.03	5.78	1.5 J	31	2.46	62.7	4.11	18.8	85.4	305	97	116	77.1	80.2	11.9 J
			0-1	DU-26 (0-1) M	--	1.78	17.2	18.4	113	49.0	1,567 J	10,400 J	6.31	11.5	43.7	28.3	27.9	41.3	12.0 J	242	18.0	385	40.1	136	641	2,740	600	715	546	581	**83.6** J
			1-2	DU-26 (1-2) M	--	0.794	6.77	8.33	38.0	18.2	576	3,867 J	2.66	4.59	16.2	12.0	11.7	16.3	4.78 J	107	9.04	243	14.6	57.7	240	1,013	195	254	211	282	**31.9** J
			2-3	DU-26 (2-3) M	--	0.407 J	2.97	3.65	21.3	8.42	367 J	2,707 J	1.01	2.30 J	8.08	7.51 J	4.57	6.81	3.07 J	55.8	4.50	96.9	4.66	21.1	111	617 J	75.3	108	122	789 J	**16.6** J
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	DU-42 (0-1)	11/30/2022	1.1	28.3	9.54	158	91.5	302	368	0.215 U	0.723 U	1.31 J	2.36 J	2.56	3.21	0.417 U	104	1.20 U	49.4	13.2	159	1,050	598	10.6	25.4	49.1	162	**60.7** J
			1-2	DU-42 (1-2)	11/30/2022	0.49 J	10.7	3.13	65.1	30.6	110	154 J+	0.148 U	0.374 U	0.357 U	0.243 U	0.217 U	0.259 U	0.309 U	36.4	0.856 U	20.5	2.62	58.1	364	216	3.05	7.21	13.5	57.3	**22.7** J
			2-3	DU-42 (2-3)	11/30/2022	0.267 U	3.93	0.51 U	22.3	11.7	47.9	81 J+	0.227 U	0.23 U	0.219 U	0.327 U	0.295 U	0.354 U	0.423 U	15.4	0.893 U	8.28	0.267 U	21.8	149	95.9	1.06	2.25	5.35	24.3	8.27 J

Please see notes at end of table.

Table 3b
Soil Results - Dioxins/Furans - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g 2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
Human Health ISM PRG						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
Human Health ISM Hot Spot						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,500
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)	10/05/2022	1.11	17.8	25.7	161	63.7	3,150 E	21,000 E	2.37	7.99	22.1	33.8	19.3	27.6	14.5	422	28.4	998	10.8	74.3	744	5,340	87.4	310	605	1,280	**103**
			1-2	DU-27 (1-2)	10/05/2022	0.833	7.86	14.6	95.0	33.8	2,250 J	18,100 J	1.91	5.41	20.1	29.3	17.7	22.6	10.8	389	30.6	1,100	7.66	45.0	417	3,850	139 JN	298 JN	494	1,190	**69.9** J
			2-3	DU-27 (2-3)	10/05/2022	0.414 J	2.70	4.19	28.9	9.80	652	5,280 J	1.64	2.70	13.1	11.9	6.05	10.2	4.43	90.2	7.35	221	3.18	17.4	141	1,130	94.6 JN	174 JN	181	287	**24.0** J
	DU-28	ISM	0-1	DU-28 (0-1)	09/14/2022	0.217 U	1.94 J	3.45	20.7	7.68	717	6,260 J	1.01	1.16 J	4.30	7.82	2.97	4.06	2.31 J	140	8.12	622	2.86	6.89	106	1,240	19.5	41.8	143	553	**19.1** J
			1-2	DU-28 (1-2)	09/14/2022	0.541	4.77	6.61	46.8	18.0	1,060	8,530	2.02	2.37	7.07	10.5	5.65	7.56	4.71	161	9.93	537	7.05	29.1	218	1,790	32.3	73.2	209	540	**32.7**
			2-3	DU-28 (2-3)	09/14/2022	0.513	2.64	4.37	14.8	6.06	468	3,910	1.14	1.08	3.41	6.70	1.97	2.89	2.16	72.9	5.63	283	11.7	34.1	127	871	12.9	27.9	99.2	271	14.9
	DU-29	ISM	0-1	DU-29 (0-1)	09/15/2022	0.731	8.83	10.7	115	40.9	1,110	7,610 J	1.62	3.27	8.89	12.0	7.25	11.3	5.91	343	5.42	221	17.0	72.3	577	1,960	56.7 JN	125 JN	383	672	**49.7** J
			1-2	DU-29 (1-2)	09/15/2022	0.176 U	1.63 J	4.00	24.7	6.77	473	3,380	0.697	1.58 U	4.59	4.77	2.43 J	4.21	2.01 J	139	2.72	98.7	2.17	4.00	106	820	28.9 JN	65.5	149	282	**15.3** J
			2-3	DU-29 (2-3)	09/15/2022	0.151 U	0.445 U	4.19	24.0	6.82	509	3,860	0.658	0.80 U	5.84	6.69	3.22	5.12	2.77	152	4.16	139	2.84	3.92	111	863	41.3 JN	84.0 JN	177	321	**15.3** J
	DU-30	ISM	0-1	DU-30 (0-1)	09/16/2022	1.210	8.87	11.5	78.5	27.1	1,460	10,100 J	1.97	3.63	14.3	11.1	9.87	13.9	7.99	201	9.86	238	12.0	43.4	418	2,960	139 JN	237 JN	366	502	**50.5** J
			1-2	DU-30 (1-2)	09/16/2022	0.463 U	3.22	5.00	40.4	10.4	676	4950 J	0.836	1.61 U	7.19	6.54	5.14	6.83	0.870 U	89.8	4.13	108	4.71	13.7	175	1200	72.2 JN	121 JN	176	210	**22.4** J
			2-3	DU-30 (2-3)	09/16/2022	0.135 U	2.46 J	3.67	23.6	8.49	448	3030	0.900	1.09 J	3.68	3.78	2.95	4.83	0.444 U	42.0	2.55	56.5	3.29	12.9	127	795	56.1 JN	95.7 JN	112	111	14.4 J
	DU-31	ISM	0-1	DU-31 (0-1)	11/03/2022	0.638	9.32	12.5	104	34.2	1,840	12,000 J	2.5	4.88	12	14.6	12.1	16.2	9.35	192	11.8	281	7.06	43.5	404	2,920	46.8	147	382	540	**58.4** J
			1-2	DU-31 (1-2)	11/03/2022	0.318 U	3.03	3.52	27.1	8.14	624	4,430 J	1.04	2.21	4.31	5.27	4.77	6.36	3.09	84.3	5.55	182	3.35	10.6	125	994	25.1	57.5	134	243	**19.0** J
			2-3	DU-31 (2-3)	11/03/2022	0.288 U	1.67	2.36	16.3	4.87	357	2,580	0.642	0.985	2.3	3.19	2.73	3.37	2.34	42.7	2.67	105	3.4	6.7	76.1	570	16.2	28.5	74.2	122	10.9
	DU-32	ISM	0-1	DU-32 (0-1)	09/22/2022	0.16 U	5.43	6.79	55.1	15.6	1,130	8,240 J	2.92	3.28	8.65	9.74	6.97	10.2	7.18	123	8.53	204	4.79	25.2	240	1,800	32.9 JN	79.0	262	349	**34.8** J
			1-2	DU-32 (1-2)	09/22/2022	0.136 U	0.364 U	0.546 U	11.1	3.21	296	2,240	2.88	1.53 J	3.17	3.11	2.00 J	0.397 U	0.391 U	34.0	0.816 U	61.1	1.72	1.71	61.6	474	20.8	28.6	61.3	91.7	7.54 J
			2-3	DU-32 (2-3)	09/22/2022	0.122 U	0.328 U	0.504 U	13.7	4.28	282	1,980	1.70	1.02 J	2.43 J	2.71	1.72 J	2.33 J	1.78 J	30.8	1.71 J	49.3	1.32	0.328 U	59.6	447	13.3	19.9	62.5	83.1	7.59 J
	DU-33	ISM	0-1	DU-33 (0-1)	09/20/2022	0.670	5.6	8.21	54.0	20.6	876	6,150	7.25	4.50	18.0	11.4	14.1	11.9	6.38	101	6.90	149	18.8	48.3	296	1,490	328 JN	347 JN	259	266	**36.9**
			1-2	DU-33 (1-2)	09/20/2022	0.254	2.64	4.09	22.5	8.87	493	3,340	3.92	2.49 J	5.79	5.75	3.98	4.11	2.73	46.6	2.57	58.1	8.22	18.6	122	813	100 JN	87.2 JN	121	122	**16.7** J
			2-3	DU-33 (2-3)	09/20/2022	0.379	2.19 J	1.40 J	15.3	4.01	321	1,970	3.86	2.86	4.85	4.28	3.26	3.86	2.67	34.9	1.32 J	38.0	7.36	12.4	88.8	553	73.3 JN	70.6 JN	94.1	91.1	12.1 J
	DU-34	ISM	0-1	DU-34 (0-1)	09/27/2022	0.637	9.19	14.6	105	31.2	1,910	12,200 J	2.70	6.22	14.3	17.6	12.6	16.3	10.8	195	10.7	194	21.0	55.0	467	3,010	75.1 JN	175 JN	439	515	**60.3** J
			1-2	DU-34 (1-2)	09/27/2022	0.459 J	4.31	6.86	48.9	16.9	873	5,940 J	2.06	2.44 J	6.56	7.33	5.12	7.38	4.20	95.0	5.02	120	9.02	22.3	201	1,370	62.0 JN	96.8 JN	211	248	**28.2** J
			2-3	DU-34 (2-3)	09/27/2022	0.16 U	1.10 J	2.43 J	18.5	5.31	342	2,160	0.882	1.21 J	2.49 J	3.39	2.61	3.48	201	36.0	0.388 U	43.7	5.2	10.5	78.6	538	29.0 JN	39.8 JN	78.5	91.4	**30.2** J
	DU-35	ISM	0-1	DU-35 (0-1)	10/07/2022	0.468	4.95	8.91	67.0	18.7	1,340	10,400 J	5.27	4.65	9.97	10.3	8.81	11.3	7.82	143	8.93	230	10.1	30.5	258	2,520	56.4	104	287	419	**40.5** J
			1-2	DU-35 (1-2)	10/07/2022	0.211 U	1.71 J	3.15	21.8	6.44	423	2,990	3.27	2.03 J	3.38	3.73	2.64	3.23	2.05 J	41.5	2.41 J	74.4	5.86	11.1	93.5	710	31.0 JN	37.8 JN	85.7	122	13.1 J
			2-3	DU-35 (2-3)	10/07/2022	0.197 U	1.25 J	2.01 J	16.0	4.76	347	2,640	2.09	1.23 J	2.25 J	3.03	1.83 J	2.66	1.86 J	37.5	2.12 J	60.5	3.62	3.56	75.0	590	17.8 JN	25.7 JN	77.5	105	10.2 J
	DU-36	ISM	0-1	DU-36 (0-1)	11/01/2022	0.738	7.39	8.54	59.9	24.2	1,210	8,990	7.12	5.53	11.3	10.1	13.1	11.1	5.74	146	11.9	323	16	47.3	276	1,990	117	166	269	420	**42.1**
			1-2	DU-36 (1-2)	11/01/2022	0.695	6.02	7.34	48.5	18.2	1,160	8,400	6.6	4.81	9.47	9.95	13.1	9.59	5.5	112	8.75	259	14	39.9	255	2,090	322	312	224	354	**37.0**
			2-3	DU-36 (2-3)	11/01/2022	1.15	5.8	6.67	33.5	13	661	4,640	11.2	6.08	9.55	7.25	7.18	8.45	3.56	80.3	5.81	144	24.3	48	169	1,090	126	118	154	222	**28.0**
	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	0.243 U	5.05	5.91	46.9	16.1	836	5,470 J	2.74	3.31	6.19	7.78	5.56	7.17	4.07	81.6	4.52	115	3.5	22.1	193	1,350	45.5	74.3	174	241	**27.6** J
			0-1 FR	DU-38 (0-1)B	11/14/2022	0.451 J	4.31	6.37	46.4	15.2	876	5,530 J	3.64	4.29	6.72	7.77	5.27	7.21	4.71	88.5	4.92	113	6.48	26.9	204	1,420	44.5	76.1	179	245	**27.9** J
			0-1 FR	DU-38 (0-1)C	11/14/2022	0.664	5.52	7.25	45.5	17.1	881	5,830 J	3.31	3.56	5.63	7.57	5.86	7.98	4.44	87.1	5.53	149	9.91	38.2	223	1,430	46.3	72.9	176	250	**29.4** J
			1-2	DU-38 (1-2)A	11/16/2022	0.259 U	2.87	3.78	24.7	7.88	488	3,210	2.41	2.02 J	3.56	4.45	3.28	3.97	2.78	51.1	3.45	71.1	1.84	16.5	116	797	44	49.3	99.5	140	**15.9** J
			1-2 FR	DU-38 (1-2)B	11/16/2022	0.300 U	1.65 J	2.47 J	13.3	4.59	252	1,700	7.39	2.63	3.38	2.91	1.99 J	2.66	1.35 J	26.9	1.87 J	41.5	2.38	10.3	66.9	411	59.9	37.6	53.2	72.6	9.89 J
			1-2 FR	DU-38 (1-2)C	11/16/2022	0.421	3.52	4.66	27.7	8.85	557	3,650	3.08	2.48 J	4.85	6.29	3.85	4.82	3.21	58.8	3.31	88.4	6.31	16.6	128	906	39.9	55.3	118	162	**19.0** J
			2-3	DU-38 (2-3)A	11/17/2022	0.224 U	1.48 J	2.2 J	12.8	4.76	270	1,870	2.42	1.69 J	2.49	2.67 J	2.04 J	2.36 J	1.23 J	27.9	1.91 J	49.6	1.17	3.43	60.5	444	23.1	27.4	56.1	81.4	9.01 J
			2-3 FR	DU-38 (2-3)B	11/17/2022	0.306 U	1.77 J	1.76 J	9.7	3.09	218	1,450	4.3	1.89 J	2.6	2.38 J	1.19 J	2.24 J	0.656 U	22.3	1.34 J	34.1	2.27	7.54	54.7	359	33.2	23.6	41.5	60.9	8.12 J
			2-3 FR	DU-38 (2-3)C	11/17/2022	0.286 J	1.97 J	2.76	14.9	6.76	312	1,970	2.1	1.36 J	2.18 J	2.78	1.75 J	2.62	1.44 J	28.8	1.46 J	51.9	3.31	15.6	90.5	535	25.3	27	52.7	80.2	10.5 J
			0-1	DU-38 (0-1) M	--	0.453 J	4.96	6.51	46.3	16.1	864	5,610 J	3.23	3.72	6.18	7.71	5.56	7.45	4.41	85.7	4.99	126	6.63	29.1	207	1,400	45.4	74.4	176	245	**28.3** J
			1-2	DU-38 (1-2) M	--	0.327	2.68 J	3.64 J	21.9	7.11	432	2,853	4.29 J	2.38 J	3.93	4.55	3.04 J	3.82	2.45 J	45.6	2.88 J	67.0	3.51 J	14.5	104	705	47.9	47.4	90.2	125	14.9 J
			2-3	DU-38 (2-3) M	--	0.272 J	1.74 J	2.24 J	12.5	4.87	267	1,763	2.94	1.65 J	2.42 J	2.61 J	1.66 J	2.41 J	1.11 J	26.3	1.57 J	45.2	2.25	8.86 J	68.6	446	27.2	26.0	50.1	74.2	9.21 J
East Parcel Concrete Slab	DU-37	Composite	0-1	DU-37 (0-1)	11/28/2022	0.352 U	0.384 U	0.339 U	0.319 U	0.314 U	13.2	148 J+	0.222 U	0.171 U	0.144 U	0.138 U	0.124 U	0.139 U	0.155 U	1.83 J	0.429 U	4.64 J	0.352 U	0.384 U	5.66	24.8	0.393	1.84	2.64	5.34	0.678 J
			1-2	DU-37 (1-2)	11/28/2022	0.147 U	0.394 U	0.181 U	0.175 U	0.172 U	15.9	263 J+	0.149 U	0.143 U	0.122 U	0.180 U	0.157 U	0.186 U	0.208 U	2.75	0.673 U	7.75	0.147 U	0.394 U	5.57	28.8	0.149 U	1.16	2.23	7.31	0.632 J
			2-3	DU-37 (2-3)	11/28/2022	0.370 U	0.338 U	0.338 U	0.299 U	0.294 U	4.81	93.7 J+	0.161 U	0.274 U	0.237 U	0.191 U	0.160 U	0.187 U	0.242 U	0.488 U	0.511 U	0.949 U	0.370 U	0.338 U	0.338 U	9.08	0.161 U	0.274 U	0.242 U	0.511 U	0.569 J
	DU-39	Composite	0-1	DU-39 (0-1)	11/29/2022	0.331 U	0.744 U	0.479 U	6.77	3.11	124	778	0.231 U	0.184 U	0.942 J	0.538 U	0.471 U	1.66 J	0.627 U	9.55	1.38 J	10.9	0.443	0.744 U	30.1	206	0.231 U	6.6	17.1	24.2	3.68 J
			1-2	DU-39 (1-2)	11/29/2022	0.318 U	0.357 U	0.559 U	2.32 J	0.496 U	51.3	353	0.116 U	0.130 U	0.121 U	0.252 U	0.229 U	0.251 U	0.310 U	5.23	0.881 U	8.9	0.318 U	0.357 U	9.21	85.3	0.116 U	2.77	7.67	14.8	1.38 J
			2-3	DU-39 (2-3)	11/29/2022	0.278 U	0.376 U	0.461 U	2.36 J	0.441 U	51	326	0.222 U	0.178 U	0.166 U	0.211 U	0.186 U	0.205 U	0.231 U	6.05	0.646 U	12.3	0.278 U	0.376 U	9.94	84	0.222 U	2.72	8.52	17.9	1.36 J
	DU-40	Composite	0-1	DU-40 (0-1)	11/18/2022	0.271 U	0.351 U	0.343 U	0.322 U	0.317 U	19.1	118 J+	0.197 U	0.218 U	0.168 U	0.391 U	0.359 U	0.397 U	0.455 U	2.38 J	0.759 U	6.12	0.271 U	0.315 U	5.88	32.9	0.197 U	0.218 U	0.455 U	4.67	0.734 J
			1-2	DU-40 (1-2)	11/18/2022	0.243 U	0.225 U	0.291 U	0.265 U	0.261 U	13.5	83.9 J+	0.196 U	0.194 U	0.174 U	0.194 U	0.171 U	0.202 U	0.231 U	0.354 U	0.374 U	0.933 U	0.243 U	0.225 U	3.83	23.4	0.196 U	0.194 U	0.231 U	1.42	0.518 J
			2-3	DU-40 (2-3)	11/18/2022	0.280 U	0.353 U	0.325 U	0.321 U	0.316 U	8.4	58.3 J+	0.179 U	0.232 U	0.215 U	0.159 U	0.143 U	0.170 U	0.193 U	0.763 U	0.794 U	1.17 U	0.280 U	0.353 U	3.25 U	15.1	0.179 U	0.232 U	0.193 U	0.794 U	0.552 J
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)	11/21/2022	0.269 U	0.420 U	0.481 U	5.73	1.84 J	115	826	0.240 U	0.176 U	0.83 J	0.567 U	0.495 U	0.550 U	0.666 U	9.36	0.98 U	6.34	0.269 U	0.42 U	25.7	191	0.240 U	6.02	15.3	21.6	3.00 J
			1-2	DU-43 (1-2)	11/21/2022	0.225 U	0.366 U	0.418 U	2.28 J	0.389 U	46.8	314 J+	0.230 U	0.163 U	0.139 U	0.298 U	0.282 U	0.299 U	0.344 U	3.1	0.548 U	2.59 J	0.225 U	0.366 U	9.19	78.2	0.230 U	2.33	5.86	7.51	1.26 J
			2-3	DU-43 (2-3)	11/21/2022	0.246 U	0.322 U	0.508 U	0.473 U	0.466 U	18.1	130 J+	0.241 U	0.176 U	0.149 U	0.168 U	0.150 U	0.175 U	0.198 U	1.14 J	0.639 U	1.00 U	0.246 U	0.322 U	0.508 U	30.8	0.241 U	0.176 U	0.198 U	2.66	0.663 J
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)	12/01/2022	0.266 U	0.703 U	0.581 U	1.29 J	1.03 J	23	226 J+	0.234 U	0.286 U	0.255 U	1.20 U	1.12 U	1.21 U	1.47 U	2.84	0.814 U	6.71	1.47	0.703 U	8.10	40.1	0.234 U	0.286 U	1.99	6.52	1.38 J
			1-2	DU-44 (1-2)	12/01/2022	0.420 U	0.548 U	0.666 U	0.602 U	0.593 U	6.33	46 J+	0.245 U	0.277 U	0.249 U	0.587 U	0.538 U	0.62 U	0.693 U	0.713 U	0.737 U	1.02 U	0.525	0.548 U	0.666 U	11.5	0.245 U	0.277 U	0.693 U	0.737 U	0.837 J
			2-3	DU-44 (2-3)	12/01/2022	0.396 U	0.485 U	0.495 U	0.428 U	0.421 U	6.19	45.1 J+	0.281 U	0.226 U	0.217 U	0.386 U	0.357 U	0.433 U	0.495 U	0.769 U	0.883 U	1.47 U	0.396 U	0.485 U	0.495 U	10.7	0.281 U	0.226 U	0.495 U	0.883 U	0.725 J

Please see notes at end of table.

Table 3b
Soil Results - Dioxins/Furans - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																										
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
Human Health ISM PRG						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
Human Health ISM Hot Spot						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,500
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	2.75	44.9	81.2	421	175	8,440 J	51100 J	4.13	16.8	43.8	59.1	40.9	59.6	23.8	642	39.1	858	23.1	169	2,080	15,200	190	732	1,250	1,830	**255** J
			0-1 FR	DU-41 (0-1)B	10/24/2022	2.36	33.4	56.8	315	123	6,450 J	40400 J	4.47	14.2	40.3	46.9	28.5	51.4	20.6	546	35.3	849	22.7	138	1,510	11,800	208	643	1,080	1,530	**196** J
			0-1 FR	DU-41 (0-1)C	10/24/2022	2.47	35.6	63.1	342	140	7,200	43900	3.79	14.9	35.3	50.2	33.4	54.6	21.3	573	35.3	828	22.8	146	1,690	13,200	195	618	1,190	1,640	**211**
			1-2	DU-41 (1-2)A	10/26/2022	2.09	39.2	71.2	390	161	7,780 J	43,600 J	3.44	14.6	50.4	53.7	40.1	58.2	20.4	627	39.1	946	21.1	162	1,790	13,100	417	942	1,390	1,730	**234** J
			1-2 FR	DU-41 (1-2)B	10/26/2022	1.73	33.2	59	316	125	6,570 J	37,900 J	3.55	13.4	44.7	43.6	32.7	49.9	19	569	33.6	849	20	127	1,570	11,600	374	860	1,210	1,580	**197** J
			1-2 FR	DU-41 (1-2)C	10/26/2022	2.66	42.5	72.1	413	166	7,870 J	43,500 J	3.94	15.9	49	53.5	36.7	59.2	24.2	630	34.4	770	23.9	164	1,900	13,100	334	833	1,350	1,670	**242** J
			2-3	DU-41 (2-3)A	10/28/2022	1.33	26.2	49.4	276	98.4	4,960 J	29,300 J	2.52	10.4	32.9	31.5	26.5	39.6	14.8	416	24.5	660	12	100	1,130	8,280	252	600	857	1,180	**155** J
			2-3 FR	DU-41 (2-3)B	10/28/2022	1.11	16.8	32.1	187	68.4	3,390 J	21,600 J	1.8	7.44	22.2	26.7	19	26.9	12.1	305	19.5	598	9.68	66.2	764	5,720	158	390	625	928	**106** J
			2-3 FR	DU-41 (2-3)C	10/28/2022	1.23	22.6	42	235	85	4,350 J	27,100 J	2.57	9.55	26.9	32.1	21.7	34.3	14.3	375	23.3	563	11.4	88.5	979	7,330	205	484	785	1,050	**135** J
			0-1	DU-41 (0-1) M	--	2.53	38.0	67.0	359	146	7,363 J	45,133 J	4.13	15.3	39.8	52.1	34.3	55.2	21.9	587	36.6	845	22.9	151	1,760	13,400	198	664	1,173	1,667	**221** J
			1-2	DU-41 (1-2) M	--	2.16	38.3	67.4	373	151	7,407 J	41,667 J	3.64	14.6	48.0	50.3	36.5	55.8	21.2	609	35.7	855	21.7	151	1,753	12,600	375	878	1,317	1,660	**224** J
			2-3	DU-41 (2-3) M	--	1.22	21.9	41.2	233	83.9	4,233 J	26,000 J	2.30	9.13	27.3	30.1	22.4	33.6	13.7	365.3	22.4	607	11.0	84.9	957.7	7,110	205	491	756	1,053	**132** J

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
EPA = United States Environmental Protection Agency.
M = Mean. These results are the mean of the field replicates collected at this decision unit.
FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.
pg/g = Picograms per gram (parts per trillion).
Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent
Bolded values exceed the Preliminary Remediation Goal (PRG).
Shaded values exceed the hot spot level.
Italicized values represent a method detection limit that is above one or more applicable screening levels.
U = Analyte was not detected.
J = Result is estimated.
JN = The analyte was tentatively identified and did not meet method criteria for confirmation. The reported result is an estimated maximum possible concentration (EMPC).
PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Table 4a
Soil Results - PAHs and Dibenzofuran - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

| Sample Location | Decision Unit | Sample Type | Sample Depth (feet bgs) | Sample ID | Sample Date | PAHs and Dibenzofuran by EPA Method 8270E-SIM
Concentrations in µg/kg | | |

Table 4a
Soil Results - PAHs and Dibenzofuran - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

| Sample Location | Decision Unit | Sample Type | Sample Depth (feet bgs) | Sample ID | Sample Date | PAHs and Dibenzofuran by EPA Method 8270E-SIM
Concentrations in µg/kg | | |

Table 4a
Soil Results - PAHs and Dibenzofuran - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
				Ecological ISM PRG		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	5,600	29,000	--
				Ecological ISM Hot Spot		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	56,000	290,000	--
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	DU-42 (0-1)	11/30/2022	4.96 U	4.96 U	5.74 J	30.7	36.9	43.7 J	16.6 J	40.6	37.3	4.96 U	49.7	4.96 U	36.9	5.82 J	6.82 J	8.12 J	39.7	51.7	4.96 U	347	67.8	50.7 J
			1-2	DU-42 (1-2)	11/30/2022	4.76 U	4.76 U	4.76 U	20	21.4	27.8	10.3 J	25.5	23.9	4.76 U	33.3	4.76 U	22.1	4.76 U	5.21 J	6.01 J	22.2	33.2	4.76 U	220	42.9	30.9 J
			2-3	DU-42 (2-3)	11/30/2022	4.96 U	4.96 U	4.96 U	16.1	15.4	18	5.68 J	16.8	17.5	4.96 U	23.1	4.96 U	15.8	4.96 U	4.96 U	5.33 J	12	26.8	4.96 U	158	29.7	22.9 J
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)	10/05/2022	5 U	21.7	55.8	70.2	130	250	64.5 J	172	170	29.4	146	5 U	203	5 U	5 U	12	61.9	160	5.00 U	1,400 J	159	213 J
			1-2	DU-27 (1-2)	10/05/2022	4.94 U	37.1	65.2	117	162	243	69.4 J	165	195	24.8	304	12.5	180	5.93 J	8.7 J	22.3	215	316	**10.1**	1,780 J	363 J	242 J
			2-3	DU-27 (2-3)	10/05/2022	5.02 U	12.1	22	39.6	65.5	100	28.2 J	86.5	75.5	9.64 J	81.7	5.02 U	78.4	5.02 U	5.16 J	16	42.7	92	5.02 U	657 J	103 J	97.3 J
	DU-28	ISM	0-1	DU-28 (0-1)	09/14/2022	4.95 U	39.1	76.8	112	303	415	117 J	253	236	45.8	268	6.98 J	298	4.95 U	7.73 J	19.8	108	312	7.02 J	2,360 J	261 J	433 J
			1-2	DU-28 (1-2)	09/14/2022	5.14 J	34.8	105	220	353	562	137 J	269	372	62.2	424	8.53 J	330	4.88 U	6.31 J	16.5	133	409	8.50 J	3,140 J	309 J	528 J
			2-3	DU-28 (2-3)	09/14/2022	5 U	36.1	95	97.4	235	345	82.1 J	228	204	44.7	175	7.42 J	280	10.5	15.4	18.4	63.4	194	8.38 J	1,890 J	238 J	353 J
	DU-29	ISM	0-1	DU-29 (0-1)	09/15/2022	5.06 U	14.1	16	69.9	109	140	46.3 J	103	113	13.6	142	5.06 U	102	12.5	16.6	20.9	84.1	149	8.46 J	988 J	157	154 J
			1-2	DU-29 (1-2)	09/15/2022	5.05 U	6.51 J	7.61 J	44.7	49	63.6	22.7 J	33.1	51.7	5.94 J	83.9	5.05 U	37	5.05 U	5.53 J	8.88 J	30.5	86.4	5.05 U	478 J	64.1 J	69.7 J
			2-3	DU-29 (2-3)	09/15/2022	5 U	5.26 J	6.88 J	27.8	41.3	56.1	19.2 J	33.6	40.1	5.22 J	57.4	5 U	36.8	5 U	5 U	8.06 J	28.5	62.8	5.00 U	380 J	56.2 J	58.8 J
	DU-30	ISM	0-1	DU-30 (0-1)	09/16/2022	5.01 U	34.8	34.1	140	283	347	106 J	230	208	40	262	5.01 U	255	7.51 J	13.7	21	94.2	276	7.17 J	2,150 J	203	398 J
			1-2	DU-30 (1-2)	09/16/2022	5 U	19.5	14.2	63.2	119	146	50.5 J	108	100	17.1	135	5 U	115	5 U	8.62 J	18.3	53.9	147	5.00 U	1,000 J	120 J	169 J
			2-3	DU-30 (2-3)	09/16/2022	5.02 U	7.93 J	7.28 J	33.7	49.3	68.6	20.7 J	42.6	49.9	6.61 J	72.3	5.02 U	44.9	5.02 U	5.12 J	9.29 J	33.5	76.2	5.02 U	465 J	68.1 J	70.9 J
	DU-31	ISM	0-1	DU-31 (0-1)	11/03/2022	4.93 U	16.6	16	68.9	82.4	132	40.5 J	80	101	12.7	128	4.93 U	79.9	4.93 U	6.02 J	15.2	57.6	129	5.00 J	854	116	124 J
			1-2	DU-31 (1-2)	11/03/2022	5.02 U	21	14.6	57.4	79.8	120	41.3 J	79.8	86.9	13.1	106	5.02 U	78.5	5.02 U	6.09 J	17.8	62.2	105	5.38 J	768	127	119 J
			2-3	DU-31 (2-3)	11/03/2022	4.99 U	13.1	12.9	52.5	62	92.4	28.2 J	56.7	72.9	9.5 J	110	4.99 U	55.8	4.99 U	4.99 U	12.2	64.3	109	4.99 U	649	110	91.9 J
	DU-32	ISM	0-1	DU-32 (0-1)	09/22/2022	4.75 U	16.3	12.5	56.4	78.4	125	44.2 J	70.4	87.5	10.4	118	4.75 U	75.9	4.75 U	7.23 J	17.3	63.5	110	6.29 J	776 J	122 J	115 J
			1-2	DU-32 (1-2)	09/22/2022	4.68 U	9.57	8.09 J	35.5	51.3	74.3	25.2 J	59.8	57.3	7.29 J	61.2	4.68 U	55.2	4.68 U	4.68 U	10.5	33.2	64.1	4.68 U	491 J	68.4 J	75.4 J
			2-3	DU-32 (2-3)	09/22/2022	5.7 J	87.1	71.7	297	409	477	184 J	253	368	48.4	657	42.9	287	16	26.6	94.8	417	545	**40.5**	3,530 J	746 J	566 J
	DU-33	ISM	0-1	DU-33 (0-1)	09/20/2022	4.74 U	7.78 J	8.94 J	34.1	38.3	64	18.4 J	38.8	53.3 J	4.74 U	65.9 J	4.74 U	35	8.49 J	13.5	25	44.5	63.9 J	8.13 J	414 J	104 J	54.2 J
			1-2	DU-33 (1-2)	09/20/2022	4.91 U	10.5	10.2	36	36.6	61.1	17.9 J	33.9	61.7	4.91 U	85.5	4.91 U	29.1	4.91 J	9.28 J	27.7	65.3	86.5	6.56 J	451 J	128 J	51.9 J
			2-3	DU-33 (2-3)	09/20/2022	4.87 U	5.05 J	7.41 J	37.8	40.6	53.8	16.1 J	34.1	46.3	4.87 U	66.4	4.87 U	31.1	4.87 U	5.59 J	11.5	30.6	72.4	4.87 U	401 J	65.0 J	55.5 J
	DU-34	ISM	0-1	DU-34 (0-1)	09/27/2022	6.51 J	60.9	41.7	130	175	259	97.2 J	140	190	23.8	298	16.8	144	9.77 J	19.3	52	199	260	**17.8**	1,720 J	396 J	253 J
			1-2	DU-34 (1-2)	09/27/2022	5.07 U	40.6	23.9	95.3	126	185	59 J	102	132	18.7	181	7.87 J	102	5.44 J	10.9	28.9	95.6	185	9.78 J	1,190 J	210	184 J
			2-3	DU-34 (2-3)	09/27/2022	4.79 U	16.7	12.2	48.5	66.5	102	33.9 J	54.1	74.7	9.69	102	4.79 U	56.3	4.79 U	7.4 J	15.7	59.1	103	5.14 J	651 J	116 J	97.3 J
	DU-35	ISM	0-1	DU-35 (0-1)	10/07/2022	4.88 U	12.9	13.9	46.8	63.5	95.8	30.9 J	60.9	76.7	9.03 J	86.7	4.88 U	59.3	4.88 U	7.41 J	15.3	50	86.6	5.27 J	616	104	93.1 J
			1-2	DU-35 (1-2)	10/07/2022	5.03 U	19	15.6	52.8	81.8	114	34.9 J	74.9	74.5	12.1	88.1	5.03 U	77	5.03 U	6.35 J	14.1	45.8	94.2	5.03 U	704	106	119 J
			2-3	DU-35 (2-3)	10/07/2022	4.86 U	4.86 U	4.86 U	19.8	24.1	42.1 J	13.4 J	25.8	32.8	4.86 U	30.8	4.86 U	26.4	4.86 U	4.86 U	5.83 J	15.4	32.7	4.86 U	250	33.4	35.5 J
	DU-36	ISM	0-1	DU-36 (0-1)	11/01/2022	5.04 U	5.4 J	7.26 J	42.6	52.8	89.2	33.1 J	76.2	78.5	9.76 J	86.3	5.04 U	61.2	5.04 U	8.38 J	17.3	45.8	87.6	5.99 J	617	89.2	82.3 J
			1-2	DU-36 (1-2)	11/01/2022	4.99 U	9.87 J	18.3	55.3	68	107	36.2 J	86.3	91.5	10.9	116	4.99 U	74.6	6.15 J	12.3	22.9	61.1	131	8.23 J	777	129	103 J
			2-3	DU-36 (2-3)	11/01/2022	5.04 U	5.04 U	5.04 U	23.1	25.9	42.3	13.2 J	33.6	37.9	5.04 U	43.9	5.04 U	28	5.04 U	6.54 J	14.7	25.1	44.2	5.04 U	295	56.4	37.9 J
	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	4.88 U	5.9 J	7 J	36.5	33.1	59.4	17.8 J	30.3	49.8	4.94 J	66.9	4.88 U	29.1	4.88 U	4.88 U	8.39 J	35.2	64.3	4.88 U	392	63.8	50.8 J
			0-1 FR	DU-38 (0-1)B	11/14/2022	4.82 U	8.51 J	10.3	59.4	55.7	82.9 J	31.6 J	42.6	74.2	7.97 J	99.6	4.82 U	44.8	4.82 U	5.93 J	9.09 J	45.6	95.7	4.82 U	594	84.3	82.8 J
			0-1 FR	DU-38 (0-1)C	11/14/2022	5.04 U	10.2	8.9 J	46.6	50	73.9	26.4 J	40.7	60.1	7.19 J	89.7	5.04 U	42.5	5.04 U	6.31 J	13.2	48.3	78.8	5.56 J	516	92.0	73.8 J
			1-2	DU-38 (1-2)A	11/16/2022	5 U	5.27 J	8.19 J	38.5	35.5	56.6 J	19.2 J	30.8	55.6	5.05 J	77.4	5 U	29.6	5 U	7.08 J	14.8	37.2	73.2	5.00 U	421	77.5	53.3 J
			1-2 FR	DU-38 (1-2)B	11/16/2022	5.08 U	5.5 J	8.84 J	42.2	34.6	54.3	17.2 J	27.7	54.1	5.08 U	74.6	5.08 U	25.5	5.08 U	8.92 J	15.2	41.8	73.4	5.08 U	406	85.3	49.6 J
			1-2 FR	DU-38 (1-2)C	11/16/2022	5.04 U	5.91 J	8.4 J	46.8	42.8	62.6	23.4 J	35.7	60.6	6.06 J	72.3	5.04 U	34.3	5.04 U	6.9 J	14.3	38.4	70.5	5.04 U	455	79.0	63.5 J
			2-3	DU-38 (2-3)A	11/17/2022	4.98 U	4.98 U	5.5 J	36.2	27.8	44.1 J	15.2 J	20.5	41.4	4.98 U	63.5	4.98 U	21.9	4.98 U	4.98 U	6.47 J	25.6	59.8	4.98 U	333	47.5	40.7 J
			2-3 FR	DU-38 (2-3)B	11/17/2022	5.06 U	5.06 U	6.23 J	37.6	30.6	47.1 J	15.8 J	21.9	44.4	5.06 U	59.2	5.06 U	24	5.06 U	5.06 U	7.13 J	24.2	56.8	5.06 U	340	47.7	44.2 J
			2-3 FR	DU-38 (2-3)C	11/17/2022	5.35 J	5.07 U	15.6	50.9	28.3	51	19.7 J	18.4	68.2	5.07 U	146	5.07 U	20.8	5.07 U	5.07 U	7.88 J	37.4	113	5.07 U	519	73.8	43.4 J
			0-1	DU-38 (0-1) M	--	5.04 U	8.20 J	8.73 J	47.5	46.3	72.1 J	25.3 J	37.9	61.4	6.70 J	85.4	5.04 U	38.8	5.04 U	5.71 J	10.2 J	43.0	79.6	5.09 J	501	80.0	69.1 J
			1-2	DU-38 (1-2) M	--	5.08 U	5.56 J	8.48 J	42.5	37.6	57.8 J	19.9 J	31.4	56.8	5.40 J	74.8	5.08 U	29.8	5.08 U	7.63 J	14.8	39.1	72.4	5.08 U	427	80.6	55.5 J
			2-3	DU-38 (2-3) M	--	5.13 J	5.07 U	9.11 J	41.6	28.9	47.4 J	16.9 J	20.3	51.3	5.07 U	89.6	5.07 U	22.2	5.07 U	5.07 U	7.16 J	29.1	76.5	5.07 U	397	56.3	42.8 J
East Parcel Concrete Slabs	DU-37	Composite	0-1	DU-37 (0-1)	11/28/2022	5.03 U	5.03 U	5.03 U	7.17 J	7.09 J	10.6	5.03 U	13.4	8.11 J	5.03 U	10.8	5.03 U	9.61 J	5.03 U	5.03 U	5.03 U	5.87 J	11.6	5.03 U	83.4	21.0	12.4 J
			1-2	DU-37 (1-2)	11/28/2022	5.01 U	5.01 U	5.01 U	6.37 J	5.85 J	8.16 J	5.01 U	38.3	5.92 J	5.01 U	9.28 J	5.01 U	15.7	5.01 U	5.01 U	5.01 U	6.29 J	10.2	5.01 U	105	21.3	11.4 J
			2-3	DU-37 (2-3)	11/28/2022	5 U	19.8	36.3	79.1	66.2	76.4 J	27.6 J	104	93.8	8.12 J	164	22.4	67.4	9.38 J	8.06 J	8.03 J	157	164	**11.5**	851	254	97.0 J
	DU-39	Composite	0-1	DU-39 (0-1)	11/29/2022	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 UJ	4.9 UJ	4.9 U	4.9 J	4.90 U	27.0	17.2	5.66 J
			1-2	DU-39 (1-2)	11/29/2022	16.9	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	10.4	4.93 U	34.2	56.1	70.2	16.6	4.93 U	4.93 U	24.7	175	5.70
			2-3	DU-39 (2-3)	11/29/2022	7.48 J	4.94 U	4.94 U	12.1	6.92 J	10.9 J	4.94 U	6.14 J	11.5	4.94 U	18.4	4.94 U	6.65 J	24.2	40.3	62.8	11.2	17.9	4.94 U	95.5	129	12.4 J
	DU-40	Composite	0-1	DU-40 (0-1)	11/18/2022	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	24.9	17.4	5.74
			1-2	DU-40 (1-2)	11/18/2022	5.00 U	5.00 U	5.00 U	5.62 J	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	28.1	17.5	6.09 J
			2-3	DU-40 (2-3)	11/18/2022	5.05 U	5.05 U	5.05 U	5.18 J	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	27.9	17.7	6.10 J
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)	11/21/2022	4.94 U	4.94 U	4.94 U	9.79 J	10.1	12.1 J	4.94 U	24.1	11.8	4.94 U	15.0	4.94 U	15.5	4.94 U	4.94 U	4.94 U	8.74 J	16.4	4.94 U	120	23.6	16.3 J
			1-2	DU-43 (1-2)	11/21/2022	5.07 U	5.07 U	5.07 U	8.33 J	5.45 J	12.3 J	5.07 U	5.60 J	17.0	5.07 U	34.0	5.07 U	5.25 J	5.07 U	5.12 J	32.6	33.4	28.9	5.07 U	122	81.3	10.6 J
			2-3	DU-43 (2-3)	11/21/2022	4.98 U	4.98 U	4.98 U	7.88 J	5.06 J	8.04 J	4.98 U	4.98 U	7.27 J	4.98 U	10.5	4.98 U	5.01 J	4.98 U	4.98 U	4.98 U	4.98 U	10.4	4.98 U	61.6	17.4	9.68 J
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)	12/01/2022	4.95 U	4.95 U	4.95 U	17.0	11.1	16.8	5.07 J	12.1	18.9	4.95 U	25.0	4.95 U	9.55 J	4.95 U	4.95 U	5.35 J	11.7	25.5	4.95 U	143	29.4	18.0 J
			1-2	DU-44 (1-2)	12/01/2022	5.00 U	5.00 U	5.00 U	12.7	7.18 J	10.6	5.00 U	8.05 J	10.2	5.00 U	14.9	5.00 U	6.96 J	5.00 U	5.00 U	5.00 U	5.62 J	15.4	5.00 U	91.0	20.6	12.7 J
			2-3	DU-44 (2-3)	12/01/2022	4.88 U	4.88 U	4.88 U	12.8	7.60 J	10.1 J	4.88 U	4.88 U	9.86	4.88 U	15.8	4.88 U	5.61 J	4.88 U	4.88 U	4.88 U	4.88 U	14.9	4.88 U	84.0	17.1	12.9 J

Please see notes at end of table.

Table 4a
Soil Results - PAHs and Dibenzofuran - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg																								
						Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
				Ecological ISM PRG		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	5,600	29,000	--	
				Ecological ISM Hot Spot		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	56,000	290,000	--	
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	8.09 J	34.2	51.6	142	196 J	269	106 J	214 J	221	24.1	331	6.07 J	209 J	17.6	23	22.1	107	364	**11.6**	2,080	252	283 J	
			0-1 FR	DU-41 (0-1)B	10/24/2022	5.06 J	41.7	50.4	128	233	326	96.9 J	252	225	30.8	267	6.2 J	252	21.5	26.9	35.4	122	301	**13.1**	2,110	288	336 J	
			0-1 FR	DU-41 (0-1)C	10/24/2022	8.96 J	31.6	60.5	112	172	271	77.1 J	186	197	25.4	261	7.76 J	183	10.3	15.7	23.9	164	268	**18.4**	1,750	312	255 J	
			1-2	DU-41 (1-2)A	10/26/2022	30.0	25.1 U	56.8	139	172	247	97.1 J	188	226	25.1	315	23.4	173	80.3	92.6	70.1	274	354	**42.7**	1,940	559	254 J	
			1-2 FR	DU-41 (1-2)B	10/26/2022	14.2 U	28.3 U	56.6	123	189	287	92.3 J	190	235	26.4	277	13.7	183	101	115	83.8	254	319	**37.1**	1,920	544	276 J	
			1-2 FR	DU-41 (1-2)C	10/26/2022	10.1 U	22.2 U	27.0	86.1	134	212	65.4 J	144	161	18.9	194	6.46 J	135	55.9	62.8	56.4	138	215	**21.6**	1,370	307	197 J	
			2-3	DU-41 (2-3)A	10/28/2022	6.08 J	12.0	20.6	69.0	90.1	135	49.2 J	103	117	12.9	147	5.21 J	97.6	23.1	28.9	30.7	98.3	159	**10.8**	980	202	134 J	
			2-3 FR	DU-41 (2-3)B	10/28/2022	4.94 U	12.7	23.1	72.4	101	148	52.0 J	102	123	15.1	137	4.94 U	104	18.8	24.3	22.9	75.2	147	8.18 J	1,000	163	149 J	
			2-3 FR	DU-41 (2-3)C	10/28/2022	7.48 J	13.1	23.4	71.2	101	148	53.1 J	106	124	14.4	168	6.68 J	104	28.8	31.6	30.0	119	187	**12.9**	1,080	231	148 J	
			0-1	DU-41 (0-1) M	--	7.37 J	35.8	54.2	127	200 J	289	93.3 J	217 J	214	26.8	286	6.68 J	215 J	16.5	21.9	27.1	131	311	**14.4**	1,980	284	291 J	
			1-2	DU-41 (1-2) M	--	18.1	28.3 U	46.8	116	165	249	84.9 J	174	207	23.5	262	14.5 J	164	79.1	90.1	70.1	222	296	**33.8**	1,743	470	242 J	
			2-3	DU-41 (2-3) M	--	6.17 J	12.6	22.4	70.9	97.4	144	51.4 J	104	121	14.1	151	5.61 J	102	23.6	28.3	27.9	97.5	164	**10.6** J	1,020	199	144 J	

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
PAHs = Polycyclic aromatic hydrocarbons.
EPA = United States Environmental Protection Agency.
M = Mean. These results are the mean of the field replicates collected at this decision unit.
FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.
µg/kg = Micrograms per kilogram (parts per billion).
Bolded values exceed the Preliminary Remediation Goal (PRG).
Shaded values exceed the hot spot level.
Italicized values represent a method detection limit that is above one or more applicable screening levels.

U = Analyte was not detected.
J = Result is estimated.
PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

HPAH = High-molecular-weight polycyclic aromatic hydrocarbon
LPAH = Low-molecular-weight polycyclic aromatic hydrocarbon
cPAHs = carcinogenic polycyclic aromatic hydrocarbon

Table 4b
Soil Results - PAHs and Dibenzofuran - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
Human Health ISM PRG						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	550
Human Health ISM Hot Spot						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55,000
West Parcel	DU-1	ISM	0-1	DU-1 (0-1)	07/20/2022	14.1	33.9	48.5	187	308	394	122 J	232	293	53.3	373	12	249	15.9	24.5	18.9	185	449	7.76 J	2,660 J	337 J	446 J
			1-2	DU-1 (1-2)	07/20/2022	9.66 U	46.3	49	164	286	342	113 J	249	266	35.8	404	12.9	261	28.4	32.9	43.2	235	502	10.2	2,620 J	424 J	400 J
			2-3	DU-1 (2-3)	07/20/2022	8.52 J	35.2	40.9	136	234	279	82 J	187	207	31.1	331	9.12 J	202	5.52 J	7.62 J	15.8	169	416	4.80 U	2,110 J	286 J	328 J
	DU-2	ISM	0-1	DU-2 (0-1)	08/01/2022	10.4	5.05 U	14.2	78.0	116	143	49.3 J	103	112	15.6	144	6.68 J	106	5.05 U	5.58 J	9.09 J	78.7	153	5.11 J	1,020 J	127 J	165 J
			1-2	DU-2 (1-2)	08/01/2022	4.70 U	4.70 U	19.0	81.9	75.1	93.2	35.0 J	50.3	87.5	9.75	158	4.70 U	56.7	4.70 U	4.70 U	4.88 J	90.2	145	4.70 U	792 J	123 J	108 J
			2-3	DU-2 (2-3)	08/01/2022	5.00 U	5.00 U	5.00 U	15.5	21.9	31.6	11.0 J	27.0	24.9	5.00 U	29.1	5.00 U	26.3	5.00 U	5.00 U	5.00 U	12.5	33.2	5.00 U	223 J	27.5	31.9 J
	DU-3	ISM	0-1	DU-3 (0-1)	08/03/2022	5.54 J	4.99 J	13.2	65.5	105	138	54.7 J	90.1	110	16.4	140	4.78 U	104	4.78 U	6.89 J	11.0	76.8	152	4.78 U	976 J	121 J	153 J
			1-2	DU-3 (1-2)	08/03/2022	5.10 U	9.18 J	8.37 J	56.7	90.1	116	43.6 J	92.8	99.7	11.5	169	5.10 U	96.8	5.10 U	5.10 U	8.24 J	87.1	208	5.10 U	984 J	121 J	129 J
			2-3	DU-3 (2-3)	08/03/2022	4.95 U	6.86 J	8.05 J	43.3	73.4	96.1	32.5 J	75.6	78.2	7.59 J	116	4.95 U	79.3	5.64 J	16.5	12.3	64.9	143	4.95 U	745 J	114 J	103 J
	DU-4	ISM	0-1	DU-4 (0-1)	08/04/2022	7.89 J	36.9	36.3	160	310	354	107 J	255	265	37.3	319	9.26 J	277	12.3	25.8	45.7	167	432	5.73 J	2,520 J	329 J	428 J
			1-2	DU-4 (1-2)	08/04/2022	23.8 U	34.3 U	283	1460	1240	1140	261 J	650	2220	196	1300	109	493	53.6	96.4	59.0	2960	2940	33.4	11,900 J	3,540	**1,750** J
			2-3	DU-4 (2-3)	08/04/2022	6.77 J	91.5	54.5	223	561	657	191 J	489	448	62.0	643	19.4	534	13.3	20.9	47.7	393	844	9.42 J	4,650 J	634 J	**767** J
	DU-5	ISM	0-1	DU-5 (0-1)A	07/22/2022	7.41 J	9.82 J	14.5	109	168	239	66.3	119	160	50.7 U	175	6.08 J	131	5.90 J	8.66 J	10.0 J	82.2	207	5.07 U	1,400	139 J	242 J
			0-1 FR	DU-5 (0-1)B	07/22/2022	8.72 J	10.1	23.3	91.3	140	192	66.5 J	87.7	122	18.9	162	6.66 J	108	7.41 J	12.0	13.2	80.8	169	5.69 J	1,180 J	186 J	179 J
			0-1 FR	DU-5 (0-1)C	07/22/2022	10.9	13.1	31.1	106	172	233	77.3 J	107	156	21.8	213	9.26 J	128	6.95 J	10.6	12.6	113	226	7.34 J	1,240 J	173 J	192 J
			1-2	DU-5 (1-2)A	07/25/2022	8.16 J	13.2	29.8	91.2	126	174	55.7 J	81.7	132	16.9	204	7.23 J	93.6	7.06 J	10.0 J	11.1	107	208	5.04 J	1,160 J	155 J	199 J
			1-2 FR	DU-5 (1-2)B	07/25/2022	6.07 J	11.5	22.7	67.0	102	140	38.6 J	73.5	106	14.5	142	6.30 J	82.9	7.04 J	11.6	15.0	81.2	154	5.43 J	921 J	154 J	146 J
			1-2 FR	DU-5 (1-2)C	07/25/2022	9.53 J	24.6	28.9	114	193	265	74.6 J	133	182	24.7	244	7.57 J	158	8.21 J	13.1	20.1	113	289	6.09 J	1,120 J	147 J	177 J
			2-3	DU-5 (2-3)A	07/26/2022	6.04 J	15.8	29.7	95.0	134	172	54.3 J	96.9	150	20.1	191	6.84 J	110	5.74 J	9.36 J	12.6	92.2	218	5.00 U	1,440 J	201 J	241 J
			2-3 FR	DU-5 (2-3)B	07/26/2022	5.28 J	15.7	21.3	76.7	125	170	50.5 J	88.5	140	17.0	151	5.07 J	101	7.89 J	11.2	13.6	74.8	197	5.04 U	1,680 J	217 J	272 J
			2-3 FR	DU-5 (2-3)C	07/26/2022	18.0	21.8	86.9	226	292	378	130 J	163	310	34.2	518	17.7	199	10.2	12.5	16.3	374	629	9.88 J	2,880 J	547	408 J
			0-1	DU-5 (0-1) M	--	9.01 J	11.0 J	23.0	102	160	221	70.0 J	105	146	30.5	183	7.33 J	122	6.75 J	10.4 J	11.9 J	92.0	201	6.03 J	1,273 J	166 J	204 J
			1-2	DU-5 (1-2) M	--	7.92 J	16.4	27.1	90.7	140	193	56.3 J	96.1	140	18.7	197	7.03 J	112	7.44 J	11.6 J	15.4	100	217	5.52 J	1,067 J	152 J	174 J
			2-3	DU-5 (2-3) M	--	9.77 J	17.8	46.0 J	133 J	184	240	78.3 J	116	200	23.8	287 J	9.87 J	137	7.94 J	11.0 J	14.2	180 J	348 J	6.64 J	2,000 J	322 J	307 J
	DU-6	ISM	0-1	DU-6 (0-1)	07/28/2022	8.01 J	6.03 J	12.2	84.2	134	176	61.8 J	94.6	116	16.3	152	5.01 U	111	5.01 U	9.32 J	13.4	68.9	154	5.18 J	1,100 J	120 J	188 J
			1-2	DU-6 (1-2)	07/28/2022	13.4	8.14 J	18.7	95.2	143	194	61.8 J	115	134	18.7	190	8.86 J	130	6.64 J	14.1	18.6	109	211	9.02 J	1,290 J	191 J	204 J
			2-3	DU-6 (2-3)	07/28/2022	15.2	9.17 J	20.1	98.9	159	210	72.4 J	125	151	21.0	212	11.2	142	8.42 J	14.8	22.6	123	238	11.0	1,430 J	216 J	226 J
	DU-7	ISM	0-1	DU-7 (0-1)	07/29/2022	5.50 J	5.06 U	9.35 J	55.4	89.6	122	39.8 J	64.3	83.3	11.2	103	5.06 U	75.5	5.06 U	9.21 J	9.30 J	50.1	107	5.06 U	751 J	88.5 J	127 J
			1-2	DU-7 (1-2)	07/29/2022	5.02 U	5.02 J	7.63 J	30.7	49.4	67.2	22.9 J	47.0	47.8	6.59 J	56.3	5.02 U	50.5	5.02 U	7.90 J	11.0	33.9	61.8	5.02 U	440 J	70.5 J	71.1 J
			2-3	DU-7 (2-3)	07/29/2022	5.03 U	5.03 U	6.11 J	22.5	34.5	47.4	16.0 J	33.7	35.2	5.03 U	40.6	5.03 U	36.2	5.03 U	5.03 U	8.78 J	24.7	46.9	5.03 U	316 J	49.7 J	47.8 J
	DU-8	ISM	0-1	DU-8 (0-1)	08/05/2022	5.77 J	4.97 J	12.5	57.3	82.4	115	39.3 J	65.2	80.7	13.1	113	4.77 U	77.4	6.49 J	16.5	14.1	58.1	112	5.47 J	755 J	114 J	121 J
			1-2	DU-8 (1-2)	08/05/2022	4.84 U	5.98 J	11.7	36.7	49.0	79.0	26.1 J	41.1	55.6	7.41 J	73.9	4.84 U	48.0	7.30 J	16.6	16.1	45.9	77.0	5.53 J	494 J	101 J	73.1 J
			2-3	DU-8 (2-3)	08/05/2022	5.02 J	5.57 J	14.4	45.3	57.0	91.1	31.6 J	48.1	66.7	7.94 J	92.1	5.02 U	56.9	8.60 J	19.6	16.7	55.7	92.1	6.23 J	589 J	120 J	84.7 J
	DU-9	ISM	0-1	DU-9 (0-1)	08/08/2022	7.57 J	9.46 J	21.4	81.5	132	180	56.3 J	94.8	117	19.3	160	5.33 J	109	5.69 J	14.2 J	17.4	84.6	166	5.74 J	1,120 J	160 J	189 J
			1-2	DU-9 (1-2)	08/08/2022	4.79 U	5.27 J	8.43 J	34.2	54.6	76.4	25.4 J	44.7	47.9	6.14 J	66.0	4.79 U	49.6	4.79 U	9.51 J	12.6	34.7	71.6	4.79 U	477 J	75.3 J	77.1 J
			2-3	DU-9 (2-3)	08/08/2022	15.9	9.24 J	27.9	81.6	130	171	57.0 J	96.3	106	12.6	191	7.47 J	110	6.84 J	15.8	21.7	101	202	7.99 J	1,160 J	199 J	180 J
Central Parcel	DU-10	ISM	0-1	DU-10 (0-1)	08/12/2022	54	659	411	1790	3830	3600	1020 J	3480	2720	475	3590	123	3380	99.8	209	395	2000	5480	23.5 J	29,400 J	3,850	**5,190** J
			1-2	DU-10 (1-2)	08/12/2022	77.9	800	547	1950	3450	3120	993 J	2800	2790	454	3970	376	2740	363	560	1150	3080	5990	49.4	28,300 J	6,590	**4,700** J
			2-3	DU-10 (2-3)	08/12/2022	36.3	304	334	1230	1900	1850	565 J	1410	1900	241	2540	97.7	1420	92	187	308	2100	3890	24.4	16,900 J	3,370	**2,600** J
	DU-11	ISM	0-1	DU-11 (0-1)A	08/10/2022	70.6	820	455	2030	3990	3750	1300 J	2800	3130	522	4190	198	2920	218	506	799	2370	6630	46.9	31,300 J	5,220	**5,400** J
			0-1 FR	DU-11 (0-1)B	08/10/2022	104	1180	751	2130	3970	3820	1270 J	2520	3070	495	4530	511	2680	431	804	1670	4340	6470	81.9	31,000 J	9,360	**5,340** J
			0-1 FR	DU-11 (0-1)C	08/10/2022	51.2	390	246	1050	2030	2170	538 J	1340	1550	217	2030	95.4	1420	141	329	539	1190	3200	25.7	15,500 J	2,840	**2,720** J
			1-2	DU-11 (1-2)A	08/10/2022	44.5	358	230	1130	1960	1790	547 J	1320	1660	261	1920	122	1340	167	400	600	1230	3130	48.6	15,100 J	2,980	**2,650** J
			1-2 FR	DU-11 (1-2)B	08/10/2022	16.4	228	141	564	1050	994	277 J	756	904	138	943	70.1	779	107	230	345	682	1570	15.5	7,980 J	1,710	**1,430** J
			1-2 FR	DU-11 (1-2)C	08/10/2022	18.6	270	172	845	1510	1400	417 J	1060	1230	212	1310	59.0	1080	113	273	447	779	2260	17.5	11,300 J	2,020	**2,060** J
			2-3	DU-11 (2-3)A	08/10/2022	25.1	292	214	1040	1950	1760	495 J	1690	1650	293	1860	88.9	1570	137	318	496	1190	3000	24.1	15,300 J	2,620	**2,690** J
			2-3 FR	DU-11 (2-3)B	08/10/2022	42.8	445	345	1770	3270	2810	827 J	2450	2630	443	3120	157	2380	159	365	609	1870	5110	32.1	24,800 J	3,830	**4,420** J
			2-3 FR	DU-11 (2-3)C	08/10/2022	64.7	733	666	2130	3780	3460	900 J	2820	2880	506	4400	456	2780	310	582	870	3980	6540	61.3	30,200 J	7,350	**5,130** J
			0-1	DU-11 (0-1) M	--	75.3	797	484	1,737	3,330	3,247	1,036 J	2,220	2,583	411	3,583	268 J	2,340	263	546	1,003	2,633	5,433	51.5	25,933 J	5,807	**4,487** J
			1-2	DU-11 (1-2) M	--	26.5	285	181	846	1,507	1,395	414 J	1,045	1,265	204	1,391	83.7	1,066	129	301	464	897	2,320	27.2 J	11,460 J	2,237	**2,047** J
			2-3	DU-11 (2-3) M	--	44.2	490	408	1,647	3,000	2,677	741 J	2,320	2,387	414	3,127	234 J	2,243	202	422	658	2,347 J	4,883	39.2	23,433 J	4,600	**4,080** J
	DU-12	ISM	0-1	DU-12 (0-1)	08/16/2022	11.3	35.9	35.9	201	279	321	107 J	197	295	39.6	345	10.5	213	16.8	39	65.6	154	475	7.01 J	2,470 J	352	393 J
			1-2	DU-12 (1-2)	08/16/2022	9.06 J	9.63 J	17.2	83.3	101	130	41.4 J	69.5	115	12.7	169	7.5 J	79.1	6.64 J	14	23.9	109	196	5.85 J	997 J	190 J	143 J
			2-3	DU-12 (2-3)	08/16/2022	4.97 U	8.42 J	10.2	51.1	64.3	77.5	25.5 J	43.8	65.4	7.47 J	89.7	4.97 U	50.6	4.97 U	9.07 J	26.2	44.4	109	4.97 U	584 J	103 J	90.0 J
	DU-13	ISM	0-1	DU-13 (0-1)A	08/29/2022	8.01 J	46.9	44.9	196	284	328	94.5 J	250	309	36.8	316	11.5	233	26.6	58.9	94.7	177	433	8.41 J	2,480 J	442 J	398 J
			0-1 FR	DU-13 (0-1)B	08/29/2022	6.05 J	68.3	55.4	788	785	1070	368 J	617	985	127	1310	9.38 J	670	24.4	55.3	85.4	196	1210	8.20 J	7,930 J	476 J	**1,170** J
			0-1 FR	DU-13 (0-1)C	08/29/2022	7.84 J	37.2	32.1	206	314	340	95.6 J	291	321	41.8	313	10.9	262	24.9	55.2	82.4	160	444	7.23 J	2,630 J	386 J	438 J
			1-2	DU-13 (1-2)A	08/30/2022	5.06 U	16.7	15.1	91.9	141	160	44.5 J	152	134	18.8	155	5.54 J	134	9.79 J	17.9	25.5	91.1	199	5.06 U	1,230 J	174 J	199 J
			1-2 FR	DU-13 (1-2)B	08/30/2022	5.06 U	12.1	11.6	85.5	110	130	44.9 J	102	119	15.4	129	5.06 U	96.8	7.91 J	17.2	26.8	60.0	164	5.06 U	997 J	133	157 J
			1-2 FR	DU-13 (1-2)C	08/30/2022	20.4	30.4	68.1	280	316	382	115 J	232	348	42.7	555	31.3	240	21.5	34.3	65.6	426	553	15.5	3,060 J	676	450 J
			2-3	DU-13 (2-3)A	08/31/2022	6.59 J	22.0	28.0	134	189	197	68.3 J	178	184	23.9	238	7.56 J	164	11.9	23.6	37.8	122	292	5.20 J	1,670 J	248 J	263 J
			2-3 FR	DU-13 (2-3)B	08/31/2022	5.06 U	11.2	11.9	75.9	98.7	108	38.5 J	89.9	104	13.7	116	5.06 U	84.9	7.66 J	16.0	24.7	59.0	149	5.06 U	879 J	128	140 J
			2-3 FR	DU-13 (2-3)C	08/31/2022	5.05 U	8.98 J	10.5	67.3	87.7	109	31.5 J	83.8	95.3	12.4	106	5.05 U	78.7	6.28 J	11.7	18.4	53.1	126	5.05 U	798 J	108 J	126 J
			0-1	DU-13 (0-1) M	--	7.30 J	50.8	44.1	397 J	461	579 J	186 J	386	538 J	68.5 J	646 J	10.6 J	388 J	25.3	56.5	87.5	178	696 J	7.95 J	4,347 J	435 J	**669** J
			1-2	DU-13 (1-2) M	--	10.2 J	19.7	31.6 J	152 J	189	224 J	68.1 J	162	200 J	25.6	280 J	14.0 J	157	13.1 J	23.1	39.3	192 J	305 J	8.54 J	1,762 J	328 J	269 J
			2-3	DU-13 (2-3) M	--	5.57 J	14.1 J	16.8	92.4	125	138	46.1 J	117	128	16.7	153	5.89 J	109	8.61 J	17.1	27.0	78.0	189	5.10 J	1,116 J	161 J	176 J
	DU-14	ISM	0-1	DU-14 (0-1)	08/17/2022	9.79 U	9.79 U	17.6 U	74	99.1	147	43.3 J	97.4	138	17.1	132	8.47 J	98.9	73.9	86.5	65.4	122	145	22.9	992 J	301 J	149 J
			1-2	DU-14 (1-2)	08/17/2022	9.64 U	13.5 U	28 U	134	166	259	72.6 J	160	281	34.1	215	14.6	165	72.2	86.8	60.3	220	216	22.4	1,700 J	407	257 J
			2-3	DU-14 (2-3)	08/17/2022	10.2 U	13.2 U	23.3 U	107	130	188	57.7 J	108	200	23.8	190	9.51 J	112	39	56.5	45.1	152	202	14.3	1,320 J	286 J	195 J
	DU-15	ISM	0-1	DU-15 (0-1)	08/19/2022	5.04 U	8.47 J	14.5	81	92.9	139	47.6 J	74	112	14.2	157	5.04 U	83.4	18.3	24.1	24.4	67.3	158	8.14 J	959 J	144 J	138 J
			1-2	DU-15 (1-2)	08/19/2022	4.93 U	4.93 U	5.52 J	26.6	32.7	53.4	16.2 J	29.8	47.3	5.76 J	39.5	4.93 U	32.6	9.18 J	12	11	30.9	43.8	4.93 U	328 J	66.8 J	49.9 J
			2-3	DU-15 (2-3)	08/19/2022	4.88 U	7.35 J	11.7	64.4	69.5	93.5	33.3 J	49	77.7	9.1 J	116	4.88 U	57.8	4.88 U	7.05 J	10.9	44.9	121	4.88 U	691 J	86.8 J	101 J

Please see notes at end of table.

Table 4b
Soil Results - PAHs and Dibenzofuran - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg																							
						Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
				Human Health ISM PRG		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	550
				Human Health ISM Hot Spot		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55,000
Central Parcel	DU-16	ISM	0-1	DU-16 (0-1)A	09/12/2022	15.2 U	24.4 U	58.4	284	337	456	157 J	229	393	58.7	522	21.3	247	279	317	204	347	540	77.6	3,220 J	968	496 J
			0-1 FR	DU-16 (0-1)B	09/12/2022	10.2 U	21.0	33.8	195	286	387	130 J	227	290	51.4	350	9.77 J	243	44.0	51.6	49.1	183	373	20.4	2,530 J	353	421 J
			0-1 FR	DU-16 (0-1)C	09/12/2022	14.0 U	20.0 U	42.1	227	300	409	138 J	237	317	54.5	423	16.9	246	68.5	81.9	67.5	242	440	23.0	2,790 J	467	444 J
			0-1	DU-16 (0-1) M	--	15.2 U	21.8	44.8	235	308	417	142 J	231	333	54.9	432	16.0 J	245	131 J	150 J	107 J	257	451	40.3 J	2,847 J	596	454 J
			1-2	DU-16 (1-2)	11/07/2022	5 U	13.3	21.7	152	169	217	83 J	131	212	25.7	242	5.95 J	137	19.6	27.2	29.7	107	262	7.51 J	1,630 J	207	246 J
			2-3	DU-16 (2-3)	11/07/2022	5 U	5 U	7.22 J	42.9	38.7	53 J	19.6 J	27.6	51.5	5.09 J	70.9	5 U	32.8	5 U	5.34 J	6.72 J	35.6	74.7	5.00 U	417 J	62.4	56.9 J
	DU-17	ISM	0-1	DU-17 (0-1)	09/02/2022	5 U	5 U	9.99 U	33.4	40.9	67.1	20.7 J	42.9	62.4	8 J	53.3	5 U	42	7.14 J	13.1	16.3	43.2	57.7	5.00 U	428 J	85.1	63.4 J
			1-2	DU-17 (1-2)	09/02/2022	5.04 U	5.04 U	5.04 U	30.1	32.5	51.7	16.2 J	40.5	50.8	6.94 J	48.7	5.04 U	35.1	8.92 J	14.5	12.9	48.4	50	5.04 U	363 J	85.9	51.3 J
			2-3	DU-17 (2-3)	09/02/2022	4.95 U	4.95 U	4.95 U	21.3	21	30.2	10.1 J	22.5	26.3	4.95 U	33.1	4.95 U	21.4	4.95 U	5.16 J	5.68 J	14.1	34	4.95 U	222 J	34.8 J	30.9 J
	DU-18	ISM	0-1	DU-18 (0-1)A	09/29/2022	5.08 U	22.6	25.5	78.4	129	205	57.6 J	174	136	19.2	128	5.08 U	158	7.71 J	12.3	25.4	65.5	151	5.64 J	1,240 J	156	193 J
			0-1 FR	DU-18 (0-1)B	09/29/2022	5.08 U	21.0	27.8	95.4	137	211	62.9 J	159	157	19.9	170	6.01 J	149	7.86 J	12.5	24.4	93.3	193	6.94 J	1,350 J	188 J	203 J
			0-1 FR	DU-18 (0-1)C	09/29/2022	5.97 J	29.0	39.5	125	184	250	85.4 J	209	199	29.4	255	8.19 J	193	7.17 J	11.0	24.5	145	279	6.67 J	1,810 J	263 J	271 J
			1-2	DU-18 (1-2)A	09/30/2022	4.80 U	14.4	16.6	65.0	93.3	143	48.0 J	104	105	13.6	102	5.48 J	96.9	9.71	11.9	19.2	67.9	123	4.80 U	894 J	138 J	138 J
			1-2 FR	DU-18 (1-2)B	09/30/2022	4.96 U	8.03 J	11.1	58.9	74.5	115	31.5 J	73.6	85.9	10.3	95.0	4.96 U	70.9	4.96 U	6.60 J	13.2	38.5	107	4.96 U	723 J	82.4 J	110 J
			1-2 FR	DU-18 (1-2)C	09/30/2022	5.03 U	8.42 J	8.58 J	46.0	57.5	86.6	29.7 J	70.6	69.1	9.24 J	77.9	5.03 U	64.9	5.03 U	5.56 J	12.0	34.7	86.4	5.03 U	598 J	74.3 J	86.9 J
			2-3	DU-18 (2-3)A	10/03/2022	5.04 U	5.04 U	5.04 U	22.4	27.4	42.4 J	12.9 J	23.5	31.4	5.04 U	40.9	5.04 U	26.4	5.04 U	5.04 U	5.04 U	17.5	47.5	5.04 U	277 J	32.6	39.2 J
			2-3 FR	DU-18 (2-3)B	10/03/2022	5.06 U	8.08 J	12.7	45.9	59.3	79.5 J	30.2 J	63.5	65.6	7.99 J	83.7	5.06 U	60.4	5.06 U	5.06 U	11.5	44.2	91.4	5.06 U	587 J	84.1 J	86.2 J
			2-3 FR	DU-18 (2-3)C	10/03/2022	4.95 U	6.27 J	8.20 J	41.6	53.0	78.3 J	23.5 J	55.0	59.8	7.29 J	65.2	4.95 U	53.6	4.95 U	4.95 U	8.66 J	29.7	74.6	4.95 U	512 J	60.3 J	77.9 J
			0-1	DU-18 (0-1) M	--	5.38 J	24.2	30.9	100	150	222	68.6 J	181	164	22.8	184	6.43 J	167	7.58 J	11.9	24.8	101	208	6.42 J	1,467 J	202 J	222 J
			1-2	DU-18 (1-2) M	--	5.03 U	10.3 J	12.1 J	56.6	75.1	115	36.4 J	82.7	86.7	11.0 J	91.6	5.16 J	77.6	6.57	8.02 J	14.8	47.0	105	5.03 U	738 J	98.2 J	112 J
			2-3	DU-18 (2-3) M	--	5.06 U	6.46 J	8.65 J	36.6	46.6	66.7 J	22.2 J	47.3	52.3	6.8 J	63.3	5.06 U	46.8	5.06 U	5.06 U	8.40 J	30.5	71.2	5.06 U	459 J	59.0 J	68 J
	DU-19	ISM	0-1	DU-19 (0-1)	09/06/2022	5.93 J	44.4	38.2	163	282	356	125 J	265	242	41.6	305	10.4	259	13.7	17.9	39.2	187	335	12.1	2,370 J	343 J	403 J
			1-2	DU-19 (1-2)	09/06/2022	18.6	17.0	48.0	155	186	253	91.8 J	149	197	26.7	313	25.3	155	11.9	16.1	25.4	234	294	17.4	1,820 J	384	270 J
			2-3	DU-19 (2-3)	09/06/2022	5.07 U	7.99 J	7.78 J	40.5	53.7	76.7	26.5 J	48.1	54.0	8.25 J	69.5	5.07 U	50.0	5.07 U	5.07 U	7.12 J	32.2	86.5	5.07 U	514 J	62.7 J	79.0 J
	DU-20	ISM	0-1	DU-20 (0-1)	10/18/2022	4.81 U	14.2	10.1	51	99	164	59.7 J	91.2	115	15.3	81.4	4.9 J	86.8	5.34 J	9.47 J	13.9	42	129	4.81 U	892	97.0	145 J
			1-2	DU-20 (1-2)	10/18/2022	4.93 U	4.93 U	4.93 U	8.6 J	7.86 J	11.4 J	4.93 U	7.39 J	10.5	4.93 U	14.6	4.93 U	7.95 J	4.93 U	4.93 U	4.93 U	8.78 J	14.9	4.93 U	88.1	23.6	13.2 J
			2-3	DU-20 (2-3)	10/18/2022	4.73 U	4.73 U	4.73 U	13.7	12.7	17.2 J	7.52 J	9.69	16.5	4.73 U	21.9	4.73 U	10.4	4.73 U	4.73 U	4.73 U	10.5	23.2	4.73 U	135	24.7	19.3 J
	DU-21	ISM	0-1	DU-21 (0-1)	09/08/2022	9.34 U	30.3	49.9	132	201	346	83.8 J	231	320	42.5	249	18.8	212	36.7	61.5	53.3	246	273	18.7	2,090 J	464	314 J
			1-2	DU-21 (1-2)	09/08/2022	4.98 U	14.5	18.2	86.8	110	169	54.8 J	102	139	17.9	133	4.98 U	100	10.8	16.5	22.6	73.8	141	7.41 J	1,050 J	151	164 J
			2-3	DU-21 (2-3)	09/08/2022	4.68 U	8.57 J	13	44.4	57.1	89.6	27.6 J	62.7	89.2	11.3	92.9	5.57 J	57.4	11.8	16.9	16.2	85.6	91.4	5.24 J	624 J	148 J	87.9 J
	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	4.99 U	7.18 J	11.1	36.6	50.4	88.3	27.7 J	54.7	81.9	8.05 J	80.2	4.99 U	51.1	8.62 J	16.9	50.3	58.5	86.2	5.49 J	565	149	76.4 J
			0-1 FR	DU-22 (0-1)B	10/13/2022	4.9 U	4.9 U	8.3 J	25.9	30.8	64.4	17.9 J	34.7	68.2	6.22 J	40.8	4.9 U	31.9	10.3	15.5	14.5	48.7	52.9	4.90 U	374	94.4	49.5 J
			0-1 FR	DU-22 (0-1)C	10/13/2022	168	14.8 U	195	194	78.6	161	50.4 J	57.3	237	10.5	1130	240	60.8	28.7	33.6	17.2	1290	672	112	2,650	1,950	131 J
			1-2	DU-22 (1-2)A	10/14/2022	5.05 U	5.05 U	5.05 U	16 J	13	24.5 J	10.3 J	14.8	27.1	5.05 U	21.3	5.05 U	15.6	5.05 U	5.88 J	10.9	19.4	22.2	5.05 U	167	46.3	21.3 J
			1-2 FR	DU-22 (1-2)B	10/14/2022	4.9 U	4.9 U	4.9 U	19.2 J	18.4	38.4 J	18.6 J	19	36.4	4.9 U	26.1	4.9 U	20.2	4.9 U	5.13 J	7.85 J	17.5	36	4.90 U	235	40.3	28.9 J
			1-2 FR	DU-22 (1-2)C	10/14/2022	4.73 U	4.73 U	4.73 U	16.2 J	15.8	32.2 J	11.6 J	20.4	27.7	4.73 U	32.2	4.73 U	19.4	4.73 U	4.73 U	6.15 J	20.9	31.4	4.73 U	209	38.9	25.1 J
			2-3	DU-22 (2-3)A	10/14/2022	4.99 U	4.99 U	4.99 U	11.3 J	11.7	22.8 J	8.48 J	13.2	27	4.99 U	21.3	4.99 U	13.3	4.99 U	8.23 J	21.6	25.4	23.2	4.99 U	155	65.2	19.0 J
			2-3 FR	DU-22 (2-3)B	10/14/2022	4.96 U	4.96 U	4.96 U	17.9 J	17.3	31.6 J	12.6 J	28	34.5	4.96 U	25.8	4.96 U	25	4.96 U	8.61 J	12	26.4	30.2	4.96 U	225	56.9	27.4 J
			2-3 FR	DU-22 (2-3)C	10/14/2022	5.05 U	5.05 U	5.05 U	11.2 J	18.6	44.8 J	18 J	19.8	28.4 J	5.05 U	19.2	5.05 U	22.6	5.05 U	5.05 U	8.01 J	11.9	22.2	5.05 U	207	32.5	29.2 J
			0-1	DU-22 (0-1) M	--	59.3 J	8.96 J	71.5 J	85.5 J	53.3	105	32.0 J	48.9	129 J	8.26 J	417 J	83.3 J	47.9	15.9 J	22.0	27.3 J	466 J	270 J	40.8 J	1,196 J	731 J	85.6 J
			1-2	DU-22 (1-2) M	--	5.05 U	5.05 U	5.05 U	17.1 J	15.7	31.7 J	13.5 J	18.1	30.4	5.05 U	26.5	5.05 U	18.4	5.05 U	5.25 J	8.30 J	19.3	29.9	5.05 U	204	41.8	25.1 J
			2-3	DU-22 (2-3) M	--	5.05 U	5.05 U	5.05 U	13.5 J	15.9	33.1 J	13.0 J	20.3	30.0 J	5.05 U	22.1	5.05 U	20.3	5.05 U	7.30 J	13.87 J	21.2	25.2	5.05 U	196	51.5	25.2 J
	DU-23	ISM	0-1	DU-23 (0-1)	10/12/2022	5.06 U	8.72 J	10.9	47	69.7	122	38.9 J	80	109	11.8	94.3	5.06 U	71.3	8.36 J	16.9	36.4	63.1	111	6.11 J	755	141	106 J
			1-2	DU-23 (1-2)	10/12/2022	5.04 U	12.8	5.74 J	29.1 J	74.1	118	29.7 J	46.5	75.6 J	9.87 J	36	5.04 U	51.9	5.04 U	6 J	10.2	24	66	5.04 U	537	63.8	104 J
			2-3	DU-23 (2-3)	10/12/2022	5.05 U	5.05 U	5.05 U	18.9 J	25.1	45.7	15.6 J	17.4	33.4 J	5.05 U	23.2	5.05 U	19.3	5.05 U	5.05 U	6.41 J	12.3	29.9	5.05 U	231	31.3	36.2 J
Central Parcel	DU-24	ISM	0-1	DU-24 (0-1)	09/21/2022	4.99 U	8.87 J	9.1 J	56.9	63	90.3	29.5 J	46.2	75.1	7.52 J	105	4.99 U	50.5	4.99 U	4.99 U	5.45 J	50.3	106	4.99 U	630 J	81.2 J	90.7 J
			1-2	DU-24 (1-2)	09/21/2022	4.98 U	5.67 J	6.15 J	41.1	53.2	69.1	26.4 J	38.6	59.3	5.36 J	74	4.98 U	41.2	4.98 U	4.98 U	4.98 U	33	92.1	4.98 U	500 J	54.8 J	74.0 J
			2-3	DU-24 (2-3)	09/21/2022	4.96 U	4.96 U	4.96 U	8.77 J	9.02 J	13 J	4.96 U	7.04 J	10.3	4.96 U	12.9	4.96 U	8.05 J	4.96 U	4.96 U	4.96 U	5.33 J	14.3	4.96 U	88 J	20.2 J	14.5 J
	DU-25	ISM	0-1	DU-25 (0-1)	09/23/2022	4.86 U	41.3	33.8	183	275	353	125 J	230	327	33.5	503	10.8	223	7.84 J	15.6	40.2	283	516	12.3	2,770 J	427	386 J
			1-2	DU-25 (1-2)	09/23/2022	4.99 U	10.3	7.48 J	45.1	64.8	82.8	26.1 J	54.8	76.6	7.23 J	116	4.99 U	53	4.99 U	4.99 U	12.3	63.1	117	4.99 U	643 J	101 J	90.5 J
			2-3	DU-25 (2-3)	09/23/2022	4.83 U	7.83 J	7.02 J	46.1	63.2	75.6	28 J	48.3	71.4	6.6 J	111	4.83 U	50	4.83 U	4.83 U	7.72 J	57.5	113	4.83 U	613 J	87.3 J	87.3 J
	DU-26	ISM	0-1	DU-26 (0-1)A	11/09/2022	10	83.9	76.4	291	494	702	205 J	483	524	79.2	798	23.8	482	26	30.5	77.4	477	831	24.6	4,890 J	779	**723** J
			0-1 FR	DU-26 (0-1)B	11/09/2022	5.53 J	43.3	41.4	163	260	355	122 J	260	290	43.3	377	11.2	256	17.8	22.8	45.3	237	422	13.5	2,550 J	407 J	382 J
			0-1 FR	DU-26 (0-1)C	11/09/2022	5.99 J	44.9	44.9	175	267	381	121 J	268	301	44.1	403	12.3	259	14.8	20.9	46.3	249	438	13.8	2,660 J	424 J	394 J
			1-2	DU-26 (1-2)A	11/10/2022	4.93 U	7.66 J	6.79 J	34.9	51.9	76.1	24.5 J	54.7	58.8	7.86 J	67.3	4.93 U	53	4.93 U	5.57 J	10.7	39.2	76.2	4.93 U	505	74.9	76.5 J
			1-2 FR	DU-26 (1-2)B	11/10/2022	4.95 U	7.06 J	6.72 J	44.1	54.2	94.2	27.9 J	57.6	73.5	8.08 J	89.6	4.95 U	55.8	4.95 U	5.51 J	10.3	36.2	103	4.95 U	608	70.7	82.0 J
			1-2 FR	DU-26 (1-2)C	11/10/2022	4.89 J	31	18.2	127	197	246	73.8 J	181	180	28.2	194	4.65 U	179	5.77 J	8.86 J	16.7	75.7	257	4.65 U	1,660	158	281 J
			2-3	DU-26 (2-3)A	11/11/2022	4.93 U	8.01 J	7.6 J	36.1	44.2	68.1	20.5 J	51.2	53.4	6.47 J	72.9	4.93 U	49.1	4.93 U	4.93 U	9.45 J	36.8	85.4	4.93 U	487	69.3	66.3 J
			2-3 FR	DU-26 (2-3)B	11/11/2022	4.98 U	13	14.3	81.2	99.5	136	50.2 J	102	106	16.5	144	4.98 U	100	4.98 U	5.28 J	12.4	74.3	158	4.98 U	993	124	148 J
			2-3 FR	DU-26 (2-3)C	11/11/2022	4.99 U	11.5	9.11 J	50.6	70.6	94.4	29.2 J	83.6	76.5	10.4	100	4.99 U	72.6	4.99 U	5.46 J	11.9	50.5	108	4.99 U	696	93.5	103 J
			0-1	DU-26 (0-1) M	--	7.17 J	57.4	54.2	210	340	479	149 J	337	372	55.533	526	15.8	332	19.5	24.7	56.3	321	564	17.3	3,367 J	537 J	500 J
			1-2	DU-26 (1-2) M	--	4.92 J	15.2 J	10.6 J	68.7 J	101 J	139 J	42.1 J	97.8 J	104 J	14.713 J	117	4.95 U	95.9 J	5.22 J	6.65 J	12.6	50.4	145 J	4.95 U	924 J	101	147 J
			2-3	DU-26 (2-3) M	--	4.99 U	10.8 J	10.3 J	56.0	71.4	99.5	33.3 J	78.9	78.6	11.123 J	106	4.99 U	73.9	4.99 U	5.22 J	11.3 J	53.9	117	4.99 U	725	95.6	106 J

Please see notes at end of table.

Table 4b
Soil Results - PAHs and Dibenzofuran - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg																						
						Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
Human Health ISM PRG						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	550
Human Health ISM Hot Spot						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55,000
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	DU-42 (0-1)	11/30/2022	4.96 U	4.96 U	5.74 J	30.7	36.9	43.7 J	16.6 J	40.6	37.3	4.96 U	49.7	4.96 U	36.9	5.82 J	6.82 J	8.12 J	39.7	51.7	4.96 U	347	67.8	50.7 J
			1-2	DU-42 (1-2)	11/30/2022	4.76 U	4.76 U	4.76 U	20	21.4	27.8	10.3 J	25.5	23.9	4.76 U	33.3	4.76 U	22.1	4.76 U	5.21 J	6.01 J	22.2	33.2	4.76 U	220	42.9	30.9 J
			2-3	DU-42 (2-3)	11/30/2022	4.96 U	4.96 U	4.96 U	16.1	15.4	18	5.68 J	16.8	17.5	4.96 U	23.1	4.96 U	15.8	4.96 U	4.96 U	5.33 J	12	26.8	4.96 U	158	29.7	22.9 J
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)	10/05/2022	5 U	21.7	55.8	70.2	130	250	64.5 J	172	170	29.4	146	5 U	203	5 U	5 U	12	61.9	160	5.00 U	1,400 J	159	213 J
			1-2	DU-27 (1-2)	10/05/2022	4.94 U	37.1	65.2	117	162	243	69.4 J	165	195	24.8	304	12.5	180	5.93 J	8.7 J	22.3	215	316	10.1	1,780 J	363 J	242 J
			2-3	DU-27 (2-3)	10/05/2022	5.02 U	12.1	22	39.6	65.5	100	28.2 J	86.5	75.5	9.64 J	81.7	5.02 U	78.4	5.02 U	5.16 J	16	42.7	92	5.02 U	657 J	103 J	97.3 J
	DU-28	ISM	0-1	DU-28 (0-1)	09/14/2022	4.95 U	39.1	76.8	112	303	415	117 J	253	236	45.8	268	6.98 J	298	4.95 U	7.73 J	19.8	108	312	7.02 J	2,360 J	261 J	433 J
			1-2	DU-28 (1-2)	09/14/2022	5.14 J	34.8	105	220	353	562	137 J	269	372	62.2	424	8.53 J	330	4.88 U	6.31 J	16.5	133	409	8.50 J	3,140 J	309 J	528 J
			2-3	DU-28 (2-3)	09/14/2022	5 U	36.1	95	97.4	235	345	82.1 J	228	204	44.7	175	7.42 J	280	10.5	15.4	18.4	63.4	194	8.38 J	1,890 J	238 J	353 J
	DU-29	ISM	0-1	DU-29 (0-1)	09/15/2022	5.06 U	14.1	16	69.9	109	140	46.3 J	103	113	13.6	142	5.06 U	102	12.5	16.6	20.9	84.1	149	8.46 J	988 J	157	154 J
			1-2	DU-29 (1-2)	09/15/2022	5.05 U	6.51 J	7.61 J	44.7	49	63.6	22.7 J	33.1	51.7	5.94 J	83.9	5.05 U	37	5.05 U	5.53 J	8.88 J	30.5	86.4	5.05 U	478 J	64.1 J	69.7 J
			2-3	DU-29 (2-3)	09/15/2022	5 U	5.26 J	6.88 J	27.8	41.3	56.1	19.2 J	33.6	40.1	5.22 J	57.4	5 U	36.8	5 U	5 U	8.06 J	28.5	62.8	5.00 U	380 J	56.2 J	58.8 J
	DU-30	ISM	0-1	DU-30 (0-1)	09/16/2022	5.01 U	34.8	34.1	140	283	347	106 J	230	208	40	262	5.01 U	255	7.51 J	13.7	21	94.2	276	7.17 J	2,150 J	203	398 J
			1-2	DU-30 (1-2)	09/16/2022	5 U	19.5	14.2	63.2	119	146	50.5 J	108	100	17.1	135	5 U	115	5 U	8.62 J	18.3	53.9	147	5.00 U	1,000 J	120 J	169 J
			2-3	DU-30 (2-3)	09/16/2022	5.02 U	7.93 J	7.28 J	33.7	49.3	68.6	20.7 J	42.6	49.9	6.61 J	72.3	5.02 U	44.9	5.02 U	5.12 J	9.29 J	33.5	76.2	5.02 U	465 J	68.1 J	70.9 J
	DU-31	ISM	0-1	DU-31 (0-1)	11/03/2022	4.93 U	16.6	16	68.9	82.4	132	40.5 J	80	101	12.7	128	4.93 U	79.9	4.93 U	6.02 J	15.2	57.6	129	5.00 J	854	116	124 J
			1-2	DU-31 (1-2)	11/03/2022	5.02 U	21	14.6	57.4	79.8	120	41.3 J	79.8	86.9	13.1	106	5.02 U	78.5	5.02 U	6.09 J	17.8	62.2	105	5.38 J	768	127	119 J
			2-3	DU-31 (2-3)	11/03/2022	4.99 U	13.1	12.9	52.5	62	92.4	28.2 J	56.7	72.9	9.5 J	110	4.99 U	55.8	4.99 U	4.99 U	12.2	64.3	109	4.99 U	649	110	91.9 J
	DU-32	ISM	0-1	DU-32 (0-1)	09/22/2022	4.75 U	16.3	12.5	56.4	78.4	125	44.2 J	70.4	87.5	10.4	118	4.75 U	75.9	4.75 U	7.23 J	17.3	63.5	110	6.29 J	776 J	122 J	115 J
			1-2	DU-32 (1-2)	09/22/2022	4.68 U	9.57	8.09 J	35.5	51.3	74.3	25.2 J	59.8	57.3	7.29 J	61.2	4.68 U	55.2	4.68 U	4.68 U	10.5	33.2	64.1	4.68 U	491 J	68.4 J	75.4 J
			2-3	DU-32 (2-3)	09/22/2022	5.7 J	87.1	71.7	297	409	477	184 J	253	368	48.4	657	42.9	287	16	26.6	94.8	417	545	40.5	3,530 J	746 J	**566** J
	DU-33	ISM	0-1	DU-33 (0-1)	09/20/2022	4.74 U	7.78 J	8.94 J	34.1	38.3	64	18.4 J	38.8	53.3 J	4.74 U	65.9 J	4.74 U	35	8.49 J	13.5	25	44.5	63.9 J	8.13 J	414 J	104 J	54.2 J
			1-2	DU-33 (1-2)	09/20/2022	4.91 U	10.5	10.2	36	36.6	61.1	17.9 J	33.9	61.7	4.91 U	85.5	4.91 U	29.1	4.91 J	9.28 J	27.7	65.3	86.5	6.56 J	451 J	128 J	51.9 J
			2-3	DU-33 (2-3)	09/20/2022	4.87 U	5.05 J	7.41 J	37.8	40.6	53.8	16.1 J	34.1	46.3	4.87 U	66.4	4.87 U	31.1	4.87 U	5.59 J	11.5	30.6	72.4	4.87 U	401 J	65.0 J	55.5 J
	DU-34	ISM	0-1	DU-34 (0-1)	09/27/2022	6.51 J	60.9	41.7	130	175	259	97.2 J	140	190	23.8	298	16.8	144	9.77 J	19.3	52	199	260	17.8	1,720 J	396 J	253 J
			1-2	DU-34 (1-2)	09/27/2022	5.07 U	40.6	23.9	95.3	126	185	59 J	102	132	18.7	181	7.87 J	102	5.44 J	10.9	28.9	95.6	185	9.78 J	1,190 J	210	184 J
			2-3	DU-34 (2-3)	09/27/2022	4.79 U	16.7	12.2	48.5	66.5	102	33.9 J	54.1	74.7	9.69	102	4.79 U	56.3	4.79 U	7.4 J	15.7	59.1	103	5.14 J	651 J	116 J	97.3 J
	DU-35	ISM	0-1	DU-35 (0-1)	10/07/2022	4.88 U	12.9	13.9	46.8	63.5	95.8	30.9 J	60.9	76.7	9.03 J	86.7	4.88 U	59.3	4.88 U	7.41 J	15.3	50	86.6	5.27 J	616	104	93.1 J
			1-2	DU-35 (1-2)	10/07/2022	5.03 U	19	15.6	52.8	81.8	114	34.9 J	74.9	74.5	12.1	88.1	5.03 U	77	5.03 U	6.35 J	14.1	45.8	94.2	5.03 U	704	106	119 J
			2-3	DU-35 (2-3)	10/07/2022	4.86 U	4.86 U	4.86 U	19.8	24.1	42.1 J	13.4 J	25.8	32.8	4.86 U	30.8	4.86 U	26.4	4.86 U	4.86 U	5.83 J	15.4	32.7	4.86 U	250	33.4	35.5 J
	DU-36	ISM	0-1	DU-36 (0-1)	11/01/2022	5.04 U	5.4 J	7.26 J	42.6	52.8	89.2	33.1 J	76.2	78.5	9.76 J	86.3	5.04 U	61.2	5.04 U	8.38 J	17.3	45.8	87.6	5.99 J	617	89.2	82.3 J
			1-2	DU-36 (1-2)	11/01/2022	4.99 U	9.87 J	18.3	55.3	68	107	36.2 J	86.3	91.5	10.9	116	4.99 U	74.6	6.15 J	12.3	22.9	61.1	131	8.23 J	777	129	103 J
			2-3	DU-36 (2-3)	11/01/2022	5.04 U	5.04 U	5.04 U	23.1	25.9	42.3	13.2 J	33.6	37.9	5.04 U	43.9	5.04 U	28	5.04 U	6.54 J	14.7	25.1	44.2	5.04 U	295	56.4	37.9 J
	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	4.88 U	5.9 J	7 J	36.5	33.1	59.4	17.8 J	30.3	49.8	4.94 J	66.9	4.88 U	29.1	4.88 U	4.88 U	8.39 J	35.2	64.3	4.88 U	392	63.8	50.8 J
			0-1 FR	DU-38 (0-1)B	11/14/2022	4.82 U	8.51 J	10.3	59.4	55.7	82.9 J	31.6 J	42.6	74.2	7.97 J	99.6	4.82 U	44.8	4.82 U	5.93 J	9.09 J	45.6	95.7	4.82 U	594	84.3	82.8 J
			0-1 FR	DU-38 (0-1)C	11/14/2022	5.04 U	10.2	8.9 J	46.6	50	73.9	26.4 J	40.7	60.1	7.19 J	89.7	5.04 U	42.5	5.04 U	6.31 J	13.2	48.3	78.8	5.56 J	516	92.0	73.8 J
			1-2	DU-38 (1-2)A	11/16/2022	5 U	5.27 J	8.19 J	38.5	35.5	56.6 J	19.2 J	30.8	55.6	5.05 J	77.4	5 U	29.6	5 U	7.08 J	14.8	37.2	73.2	5.00 U	421	77.5	53.3 J
			1-2 FR	DU-38 (1-2)B	11/16/2022	5.08 U	5.5 J	8.84 J	42.2	34.6	54.3	17.2 J	27.7	54.1	5.08 U	74.6	5.08 U	25.5	5.08 U	8.92 J	15.2	41.8	73.4	5.08 U	406	85.3	49.6 J
			1-2 FR	DU-38 (1-2)C	11/16/2022	5.04 U	5.91 J	8.4 J	46.8	42.8	62.6	23.4 J	35.7	60.6	6.06 J	72.3	5.04 U	34.3	5.04 U	6.9 J	14.3	38.4	70.5	5.04 U	455	79.0	63.5 J
			2-3	DU-38 (2-3)A	11/17/2022	4.98 U	4.98 U	5.5 J	36.2	27.8	44.1 J	15.2 J	20.5	41.4	4.98 U	63.5	4.98 U	21.9	4.98 U	4.98 U	6.47 J	25.6	59.8	4.98 U	333	47.5	40.7 J
			2-3 FR	DU-38 (2-3)B	11/17/2022	5.06 U	5.06 U	6.23 J	37.6	30.6	47.1 J	15.8 J	21.9	44.4	5.06 U	59.2	5.06 U	24	5.06 U	5.06 U	7.13 J	24.2	56.8	5.06 U	340	47.7	44.2 J
			2-3 FR	DU-38 (2-3)C	11/17/2022	5.35 J	5.07 U	15.6	50.9	28.3	51	19.7 J	18.4	68.2	5.07 U	146	5.07 U	20.8	5.07 U	5.07 U	7.88 J	37.4	113	5.07 U	519	73.8	43.4 J
			0-1	DU-38 (0-1) M	--	5.04 U	8.20 J	8.73 J	47.5	46.3	72.1 J	25.3 J	37.9	61.4	6.70 J	85.4	5.04 U	38.8	5.04 U	5.71 J	10.2 J	43.0	79.6	5.09 J	501	80.0	69.1 J
			1-2	DU-38 (1-2) M	--	5.08 U	5.56 J	8.48 J	42.5	37.6	57.8 J	19.9 J	31.4	56.8	5.40 J	74.8	5.08 U	29.8	5.08 U	7.63 J	14.8	39.1	72.4	5.08 U	427	80.6	55.5 J
			2-3	DU-38 (2-3) M	--	5.13 J	5.07 U	9.11 J	41.6	28.9	47.4 J	16.9 J	20.3	51.3	5.07 U	89.6	5.07 U	22.2	5.07 U	5.07 U	7.16 J	29.1	76.5	5.07 U	397	56.3	42.8 J
East Parcel Concrete Slabs	DU-37	Composite	0-1	DU-37 (0-1)	11/28/2022	5.03 U	5.03 U	5.03 U	7.17 J	7.09 J	10.6	5.03 U	13.4	8.11 J	5.03 U	10.8	5.03 U	9.61 J	5.03 U	5.03 U	5.03 U	5.87 J	11.6	5.03 U	83.4	21.0	12.4 J
			1-2	DU-37 (1-2)	11/28/2022	5.01 U	5.01 U	5.01 U	6.37 J	5.85 J	8.16 J	5.01 U	38.3	5.92 J	5.01 U	9.28 J	5.01 U	15.7	5.01 U	5.01 U	5.01 U	6.29 J	10.2	5.01 U	105	21.3	11.4 J
			2-3	DU-37 (2-3)	11/28/2022	5 U	19.8	36.3	79.1	66.2	76.4 J	27.6 J	104	93.8	8.12 J	164	22.4	67.4	9.38 J	8.06 J	8.03 J	157	164	11.5	851	254	97.0 J
	DU-39	Composite	0-1	DU-39 (0-1)	11/29/2022	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 UJ	4.9 UJ	4.9 U	4.9 J	4.90 U	27.0	17.2	5.66 J
			1-2	DU-39 (1-2)	11/29/2022	16.9	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	10.4	4.93 U	34.2	56.1	70.2	16.6	4.93 U	4.93 U	24.7	175	5.70
			2-3	DU-39 (2-3)	11/29/2022	7.48 J	4.94 U	4.94 U	12.1	6.92 J	10.9 J	4.94 U	6.14 J	11.5	4.94 U	18.4	4.94 U	6.65 J	24.2	40.3	62.8	11.2	17.9	4.94 U	95.5	129	12.4 J
	DU-40	Composite	0-1	DU-40 (0-1)	11/18/2022	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	24.9	17.4	5.74
			1-2	DU-40 (1-2)	11/18/2022	5.00 U	5.00 U	5.00 U	5.62 J	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	28.1	17.5	6.09 J
			2-3	DU-40 (2-3)	11/18/2022	5.05 U	5.05 U	5.05 U	5.18 J	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	27.9	17.7	6.10 J
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)	11/21/2022	4.94 U	4.94 U	4.94 U	9.79 J	10.1	12.1 J	4.94 U	24.1	11.8	4.94 U	15.0	4.94 U	15.5	4.94 U	4.94 U	4.94 U	8.74 J	16.4	4.94 U	120	23.6	16.3 J
			1-2	DU-43 (1-2)	11/21/2022	5.07 U	5.07 U	5.07 U	8.33 J	5.45 J	12.3 J	5.07 U	5.60 J	17.0	5.07 U	34.0	5.07 U	5.25 J	5.07 U	5.12 J	32.6	33.4	28.9	5.07 U	122	81.3	10.6 J
			2-3	DU-43 (2-3)	11/21/2022	4.98 U	4.98 U	4.98 U	7.88 J	5.06 J	8.04 J	4.98 U	4.98 U	7.27 J	4.98 U	10.5	4.98 U	5.01 J	4.98 U	4.98 U	4.98 U	4.98 U	10.4	4.98 U	61.6	17.4	9.68 J
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)	12/01/2022	4.95 U	4.95 U	4.95 U	17.0	11.1	16.8	5.07 J	12.1	18.9	4.95 U	25.0	4.95 U	9.55 J	4.95 U	4.95 U	5.35 J	11.7	25.5	4.95 U	143	29.4	18.0 J
			1-2	DU-44 (1-2)	12/01/2022	5.00 U	5.00 U	5.00 U	12.7	7.18 J	10.6	5.00 U	8.05 J	10.2	5.00 U	14.9	5.00 U	6.96 J	5.00 U	5.00 U	5.00 U	5.62 J	15.4	5.00 U	91.0	20.6	12.7 J
			2-3	DU-44 (2-3)	12/01/2022	4.88 U	4.88 U	4.88 U	12.8	7.60 J	10.1 J	4.88 U	4.88 U	9.86	4.88 U	15.8	4.88 U	5.61 J	4.88 U	4.88 U	4.88 U	4.88 U	14.9	4.88 U	84.0	17.1	12.9 J

Please see notes at end of table.

Table 4b
Soil Results - PAHs and Dibenzofuran - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg																					
						Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
Human Health ISM PRG						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	550
Human Health ISM Hot Spot						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55,000
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	8.09 J	34.2	51.6	142	196 J	269	106 J	214 J	221	24.1	331	6.07 J	209 J	17.6	23	22.1	107	364	11.6	2,080	252	283 J
			0-1 FR	DU-41 (0-1)B	10/24/2022	5.06 J	41.7	50.4	128	233	326	96.9 J	252	225	30.8	267	6.2 J	252	21.5	26.9	35.4	122	301	13.1	2,110	288	336 J
			0-1 FR	DU-41 (0-1)C	10/24/2022	8.96 J	31.6	60.5	112	172	271	77.1 J	186	197	25.4	261	7.76 J	183	10.3	15.7	23.9	164	268	18.4	1,750	312	255 J
			1-2	DU-41 (1-2)A	10/26/2022	30.0	25.1 U	56.8	139	172	247	97.1 J	188	226	25.1	315	23.4	173	80.3	92.6	70.1	274	354	42.7	1,940	559	254 J
			1-2 FR	DU-41 (1-2)B	10/26/2022	14.2 U	28.3 U	56.6	123	189	287	92.3 J	190	235	26.4	277	13.7	183	101	115	83.8	254	319	37.1	1,920	544	276 J
			1-2 FR	DU-41 (1-2)C	10/26/2022	10.1 U	22.2 U	27.0	86.1	134	212	65.4 J	144	161	18.9	194	6.46 J	135	55.9	62.8	56.4	138	215	21.6	1,370	307	197 J
			2-3	DU-41 (2-3)A	10/28/2022	6.08 J	12.0	20.6	69.0	90.1	135	49.2 J	103	117	12.9	147	5.21 J	97.6	23.1	28.9	30.7	98.3	159	10.8	980	202	134 J
			2-3 FR	DU-41 (2-3)B	10/28/2022	4.94 U	12.7	23.1	72.4	101	148	52.0 J	102	123	15.1	137	4.94 U	104	18.8	24.3	22.9	75.2	147	8.18 J	1,000	163	149 J
			2-3 FR	DU-41 (2-3)C	10/28/2022	7.48 J	13.1	23.4	71.2	101	148	53.1 J	106	124	14.4	168	6.68 J	104	28.8	31.6	30.0	119	187	12.9	1,080	231	148 J
			0-1	DU-41 (0-1) M	--	7.37 J	35.8	54.2	127	200 J	289	93.3 J	217 J	214	26.8	286	6.68 J	215 J	16.5	21.9	27.1	131	311	14.4	1,980	284	291 J
			1-2	DU-41 (1-2) M	--	18.1	28.3 U	46.8	116	165	249	84.9 J	174	207	23.5	262	14.5 J	164	79.1	90.1	70.1	222	296	33.8	1,743	470	242 J
			2-3	DU-41 (2-3) M	--	6.17 J	12.6	22.4	70.9	97.4	144	51.4 J	104	121	14.1	151	5.61 J	102	23.6	28.3	27.9	97.5	164	10.6 J	1,020	199	144 J

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
PAHs = Polycyclic aromatic hydrocarbons.
EPA = United States Environmental Protection Agency.
M = Mean. These results are the mean of the field replicates collected at this decision unit.
FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.
µg/kg = Micrograms per kilogram (parts per billion).
Bolded values exceed the Preliminary Remediation Goal (PRG).
Shaded values exceed the hot spot level.
Italicized values represent a method detection limit that is above one or more applicable screening levels.
U = Analyte was not detected.
J = Result is estimated.
PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
HPAH = High-molecular-weight polycyclic aromatic hydrocarbon
LPAH = Low-molecular-weight polycyclic aromatic hydrocarbon
cPAHs = carcinogenic polycyclic aromatic hydrocarbon

Table 5a
Soil Results - PCB Aroclors - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg																	
						Aroclor 1016		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260		Aroclor 1262		Aroclor 1268		Total PCB Aroclors	
					Ecological ISM PRG	--		--		--		--		--		--		--		--		--		98	
					Ecological ISM Hot Spot	--		--		--		--		--		--		--		--		--		980	
West Parcel	DU-1	ISM	0-1	DU-1 (0-1)	07/20/2022	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	407		5.00	U	5.00	U	5.00	U	**427**	
			1-2	DU-1 (1-2)	07/20/2022	50.9	U	50.9	U	50.9	U	50.9	U	50.9	U	2,550		50.9	U	50.9	U	50.9	U	**2,750**	
			2-3	DU-1 (2-3)	07/20/2022	4.99	U	4.99	U	27.3	U	4.99	U	11.1	U	4.99	U	75.9		4.99	U	4.99	U	**110**	
	DU-2	ISM	0-1	DU-2 (0-1)	08/01/2022	5.09	U	5.09	U	5.09	U	5.09	U	5.09	U	5.09	U	166		5.09	U	5.09	U	**186**	
			1-2	DU-2 (1-2)	08/01/2022	5.02	U	5.02	U	5.02	U	5.02	U	5.02	U	5.02	U	538		5.02	U	5.02	U	**558**	
			2-3	DU-2 (2-3)	08/01/2022	4.68	U	4.68	U	4.68	U	4.68	U	4.68	U	5.18	J	8.30	J	4.68	U	4.68	U	29.9	J
	DU-3	ISM	0-1	DU-3 (0-1)	08/03/2022	4.82	U	4.82	U	4.82	U	4.82	U	4.82	U	4.82	U	5.74	J	4.82	U	4.82	U	25.0	J
			1-2	DU-3 (1-2)	08/03/2022	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U
			2-3	DU-3 (2-3)	08/03/2022	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U
	DU-4	ISM	0-1	DU-4 (0-1)	08/04/2022	4.94	U	4.94	U	4.94	U	4.94	U	4.94	U	6.06	J	8.35	J	4.94	U	4.94	U	31.7	J
			1-2	DU-4 (1-2)	08/04/2022	4.81	U	4.81	U	4.81	U	4.81	U	4.81	U	4.81	U	5.27	J	4.81	U	4.81	U	24.5	J
			2-3	DU-4 (2-3)	08/04/2022	4.99	U	4.99	U	4.99	U	4.99	U	4.99	U	11.0	J	6.62	J	4.99	U	4.99	U	35.1	J
	DU-5	ISM	0-1	DU-5 (0-1)A	07/22/2022	4.99	U	4.99	U	4.99	U	5.67	J	4.99	U	38.9	J	28.0	J	4.99	U	4.99	U	87.5	J
			0-1 FR	DU-5 (0-1)B	07/22/2022	4.71	U	4.71	U	4.71	U	4.71	U	4.71	U	23.9	J	32.5	J	4.71	U	4.71	U	72.9	J
			0-1 FR	DU-5 (0-1)C	07/22/2022	5.04	U	10.1	U	5.04	U	5.04	U	5.04	U	116	J	41.0	J	5.04	U	5.04	U	**177**	J
			1-2	DU-5 (1-2)A	07/25/2022	4.84	U	9.68	U	15.7	U	4.84	U	4.84	U	60.4	J	58.1	J	4.84	U	4.84	U	**143**	J
			1-2 FR	DU-5 (1-2)B	07/25/2022	4.88	U	4.88	U	4.88	U	4.88	U	4.88	U	56.9	J	49.9	J	4.88	U	4.88	U	**124**	J
			1-2 FR	DU-5 (1-2)C	07/25/2022	4.81	U	9.62	U	4.81	U	4.81	U	4.81	U	42.2	J	32.6	J	4.81	U	4.81	U	94.0	J
			2-3	DU-5 (2-3)A	07/26/2022	4.91	U	4.91	U	4.91	U	4.91	U	4.91	U	51.3	J	27.0	J	4.91	U	4.91	U	95.5	J
			2-3 FR	DU-5 (2-3)B	07/26/2022	4.81	U	4.81	U	4.81	U	4.81	U	4.81	U	49.8	J	27.6	J	4.81	U	4.81	U	94.2	J
			2-3 FR	DU-5 (2-3)C	07/26/2022	4.92	U	4.92	U	4.92	U	4.92	U	4.92	U	4.92	U	367		4.92	U	4.92	U	**387**	
			0-1	DU-5 (0-1) M	--	5.04	U	10.1	U	5.04	U	5.14	J	5.04	U	59.6	J	33.8	J	5.04	U	5.04	U	**112**	J
			1-2	DU-5 (1-2) M	--	4.88	U	9.68	U	15.7	U	4.88	U	4.88	U	53.2	J	46.9	J	4.88	U	4.88	U	**120**	J
			2-3	DU-5 (2-3) M	--	4.92	U	4.92	U	4.92	U	4.92	U	4.92	U	35.3	J	141	J	4.92	U	4.92	U	**192**	J
	DU-6	ISM	0-1	DU-6 (0-1)	07/28/2022	5.03	U	10.1	U	5.03	U	5.03	U	5.03	U	18.3	J	24.1	J	5.03	U	5.03	U	62.5	J
			1-2	DU-6 (1-2)	07/28/2022	5.01	U	10.0	U	5.01	U	5.01	U	5.01	U	28.5	J	62.0	J	5.01	U	5.01	U	**111**	J
			2-3	DU-6 (2-3)	07/28/2022	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	147		5.05	U	5.05	U	**167**	
	DU-7	ISM	0-1	DU-7 (0-1)	07/29/2022	5.07	U	5.07	U	5.07	U	5.07	U	5.07	U	10.1		24.9	J	5.07	U	5.07	U	52.7	J
			1-2	DU-7 (1-2)	07/29/2022	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	13.3	J	25.8	J	5.04	U	5.04	U	56.7	J
			2-3	DU-7 (2-3)	07/29/2022	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U	12.8	J	19.7	J	5.06	U	5.06	U	50.2	J
	DU-8	ISM	0-1	DU-8 (0-1)	08/05/2022	5.09	U	5.09	U	5.09	U	5.09	U	5.09	U	29.8	J	51.3	J	5.09	U	5.09	U	**98.9**	J
			1-2	DU-8 (1-2)	08/05/2022	5.09	U	5.09	U	5.09	U	5.09	U	5.09	U	5.09	U	47.4	JN	5.09	U	5.09	U	67.8	J
			2-3	DU-8 (2-3)	08/05/2022	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	78.5	JN	4.98	U	4.98	U	**98.4**	J
	DU-9	ISM	0-1	DU-9 (0-1)	08/08/2022	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	11.7	J	34.7	J	5.04	U	5.04	U	64.0	J
			1-2	DU-9 (1-2)	08/08/2022	5.11	U	5.11	U	5.11	U	5.11	U	5.11	U	5.11	U	14.9		5.11	U	5.11	U	35.3	
			2-3	DU-9 (2-3)	08/08/2022	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	10.7	J	19.4	J	5.05	U	5.05	U	47.8	J
Central Parcel	DU-10	ISM	0-1	DU-10 (0-1)	08/12/2022	4.97	U	4.97	U	4.97	U	4.97	U	4.97	U	8.58	J	7.73	J	4.97	U	4.97	U	33.7	J
			1-2	DU-10 (1-2)	08/12/2022	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	6.07	J	5.03	U	5.03	U	5.03	U	26.2	J
			2-3	DU-10 (2-3)	08/12/2022	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U
	DU-11	ISM	0-1	DU-11 (0-1)A	08/10/2022	4.90	U	4.90	U	4.90	U	4.90	U	4.90	U	8.89	J	10.9	J	4.90	U	4.90	U	36.9	J
			0-1 FR	DU-11 (0-1)B	08/10/2022	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	6.91	J	9.72	J	5.03	U	5.03	U	34.2	J
			0-1 FR	DU-11 (0-1)C	08/10/2022	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	6.55	J	9.95	J	4.98	U	4.98	U	33.9	J
			1-2	DU-11 (1-2)A	08/10/2022	5.10	U	5.10	U	5.10	U	5.10	U	5.10	U	8.13	J	11.2	J	5.10	U	5.10	U	37.2	J
			1-2 FR	DU-11 (1-2)B	08/10/2022	5.02	U	5.02	U	5.02	U	5.02	U	5.02	U	7.58	J	11.8	J	5.02	U	5.02	U	37.0	J
			1-2 FR	DU-11 (1-2)C	08/10/2022	4.94	U	4.94	U	4.94	U	4.94	U	4.94	U	6.06	J	10.5	J	4.94	U	4.94	U	33.9	J
			2-3	DU-11 (2-3)A	08/10/2022	4.91	U	4.91	U	4.91	U	4.91	U	4.91	U	8.30	J	13.4	J	4.91	U	4.91	U	38.9	J
			2-3 FR	DU-11 (2-3)B	08/10/2022	4.90	U	4.90	U	4.90	U	4.90	U	4.90	U	9.36	J	11.4	J	4.90	U	4.90	U	37.9	J
			2-3 FR	DU-11 (2-3)C	08/10/2022	4.77	U	4.77	U	4.77	U	4.77	U	4.77	U	6.71	J	10.9	J	4.77	U	4.77	U	34.3	J
			0-1	DU-11 (0-1) M	--	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	7.45	J	10.2	J	5.03	U	5.03	U	35.0	J
			1-2	DU-11 (1-2) M	--	5.10	U	5.10	U	5.10	U	5.10	U	5.10	U	7.26	J	11.2	J	5.10	U	5.10	U	36.0	J
			2-3	DU-11 (2-3) M	--	4.91	U	4.91	U	4.91	U	4.91	U	4.91	U	8.12	J	11.9	J	4.91	U	4.91	U	37.0	J

Please see notes at end of table.

Table 5a
Soil Results - PCB Aroclors - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
					Ecological ISM PRG	--	--	--	--	--	--	--	--	--	98
					Ecological ISM Hot Spot	--	--	--	--	--	--	--	--	--	980
Central Parcel	DU-12	ISM	0-1	DU-12 (0-1)	08/16/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	21.3 J	14.4 J	5.01 U	5.01 U	53.2 J
			1-2	DU-12 (1-2)	08/16/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	6.52 J	8.04 J	4.91 U	4.91 U	31.7 J
			2-3	DU-12 (2-3)	08/16/2022	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U
	DU-13	ISM	0-1	DU-13 (0-1)A	08/29/2022	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	23.5 J	9.40 J	5.02 U	5.02 U	50.5 J
			0-1 FR	DU-13 (0-1)B	08/29/2022	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	39.5 J	13.2 J	4.97 U	4.97 U	70.1 J
			0-1 FR	DU-13 (0-1)C	08/29/2022	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	28.2 J	12.2 J	4.99 U	4.99 U	57.9 J
			1-2	DU-13 (1-2)A	08/30/2022	4.90 U	4.90 U	4.90 U	4.90 U	4.90 U	5.91 J	4.90 U	4.90 U	4.90 U	25.5 J
			1-2 FR	DU-13 (1-2)B	08/30/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	7.25 J	4.98 U	4.98 U	4.98 U	27.2 J
			1-2 FR	DU-13 (1-2)C	08/30/2022	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	6.98 J	4.86 U	4.86 U	4.86 U	26.4 J
			2-3	DU-13 (2-3)A	08/31/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	10.8 J	4.93 U	4.93 U	4.93 U	30.5 J
			2-3 FR	DU-13 (2-3)B	08/31/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	13.0 J	5.01 U	5.01 U	5.01 U	33.0 J
			2-3 FR	DU-13 (2-3)C	08/31/2022	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	12.1 J	4.89 U	4.89 U	4.89 U	31.7 J
			0-1	DU-13 (0-1) M	--	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	30.4 J	11.6 J	5.02 U	5.02 U	59.5 J
			1-2	DU-13 (1-2) M	--	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	6.71 J	5.0 U	4.98 U	4.98 U	26.4 J
			2-3	DU-13 (2-3) M	--	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	11.97 J	5.0 U	5.01 U	5.01 U	31.7 J
	DU-14	ISM	0-1	DU-14 (0-1)	08/17/2022	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	5.96 J	5.02 J	4.94 U	4.94 U	28.3 J
			1-2	DU-14 (1-2)	08/17/2022	4.80 U	4.80 U	4.80 U	4.80 U	4.80 U	4.80 U	4.80 U	4.80 U	4.80 U	4.80 U
			2-3	DU-14 (2-3)	08/17/2022	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U
	DU-15	ISM	0-1	DU-15 (0-1)	08/19/2022	4.92 U	4.92 U	4.92 U	4.92 U	4.92 U	7.09 J	4.92 U	4.92 U	4.92 U	26.8 J
			1-2	DU-15 (1-2)	08/19/2022	4.77 U	4.77 U	4.77 U	4.77 U	4.77 U	4.77 U	4.77 U	4.77 U	4.77 U	4.77 U
			2-3	DU-15 (2-3)	08/19/2022	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U
	DU-16	ISM	0-1	DU-16 (0-1)A	09/12/2022	4.75 U	4.75 U	4.75 U	4.75 U	4.75 U	7.47 J	7.39 J	4.75 U	4.75 U	31.5 J
			0-1 FR	DU-16 (0-1)B	09/12/2022	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	6.65 J	5.69 J	4.79 U	4.79 U	29.1 J
			0-1 FR	DU-16 (0-1)C	09/12/2022	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	8.66 J	8.33 J	5.02 U	5.02 U	34.6 J
			0-1	DU-16 (0-1) M	--	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	5.68 J	5.66 J	4.81 U	4.81 U	13.7 J
			1-2	DU-16 (1-2)	11/07/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U
			2-3	DU-16 (2-3)	11/07/2022	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U
	DU-17	ISM	0-1	DU-17 (0-1)	09/02/2022	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.53 J	5.04 U	5.04 U	5.04 U	25.7 J
			1-2	DU-17 (1-2)	09/02/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U
			2-3	DU-17 (2-3)	09/02/2022	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U
	DU-18	ISM	0-1	DU-18 (0-1)A	09/29/2022	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	8.94 J	4.94 U	4.94 U	4.94 U	28.7 J
			0-1 FR	DU-18 (0-1)B	09/29/2022	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	38.9 JN	4.87 U	4.87 U	4.87 U	58.4 J
			0-1 FR	DU-18 (0-1)C	09/29/2022	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	20.8 J	10.1 U	5.06 U	5.06 U	43.6 J
			1-2	DU-18 (1-2)A	09/30/2022	4.62 U	4.62 U	4.62 U	4.62 U	4.62 U	12.2 J	5.19 J	4.62 U	4.62 U	33.6 J
			1-2 FR	DU-18 (1-2)B	09/30/2022	4.68 U	4.68 U	4.68 U	4.68 U	4.68 U	7.79 J	4.68 U	4.68 U	4.68 U	26.5 J
			1-2 FR	DU-18 (1-2)C	09/30/2022	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	44.6 UJ
			2-3	DU-18 (2-3)A	10/03/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	5.92 J	4.93 U	4.93 U	4.93 U	25.6 J
			2-3 FR	DU-18 (2-3)B	10/03/2022	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	10.1 J	4.89 U	4.89 U	4.89 U	29.7 J
			2-3 FR	DU-18 (2-3)C	10/03/2022	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	12.1 J	4.87 U	4.87 U	4.87 U	31.6 J

Please see notes at end of table.

Table 5a
Soil Results - PCB Aroclors - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
				Ecological ISM PRG		--	--	--	--	--	--	--	--	--	98
				Ecological ISM Hot Spot		--	--	--	--	--	--	--	--	--	980
Central Parcel	DU-18	ISM	0-1	DU-18 (0-1) M	--	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	22.9 J	10.1 U	5.06 U	5.06 U	43.5 J
			1-2	DU-18 (1-2) M	--	4.75 U	4.75 U	4.75 U	4.75 U	4.75 U	8.32 J	4.94 J	4.75 U	4.75 U	34.9 J
			2-3	DU-18 (2-3) M	--	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	9.37 J	4.93 U	4.93 U	4.93 U	29.0 J
	DU-19	ISM	0-1	DU-19 (0-1)	09/06/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	116	20.8 U	4.98 U	4.98 U	**144**
			1-2	DU-19 (1-2)	09/06/2022	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	8.64 J	10.0 U	5.00 U	5.00 U	31.1 J
			2-3	DU-19 (2-3)	09/06/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	16.3 J	22.8 J	5.05 U	5.05 U	56.8 J
	DU-20	ISM	0-1	DU-20 (0-1)	10/18/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	11.1 J	10.5 J	4.98 U	4.98 U	39.0 J
			1-2	DU-20 (1-2)	10/18/2022	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U
			2-3	DU-20 (2-3)	10/18/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U
	DU-21	ISM	0-1	DU-21 (0-1)	09/08/2022	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	16.0 J	15.9 J	4.94 U	4.94 U	49.2 J
			1-2	DU-21 (1-2)	09/08/2022	4.82 U	4.82 U	4.82 U	4.82 U	4.82 U	6.73 J	12.8 J	4.82 U	4.82 U	36.4 J
			2-3	DU-21 (2-3)	09/08/2022	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U
			0-1 FR	DU-22 (0-1)B	10/13/2022	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	15.3 J	9.91 J	4.97 U	4.97 U	42.6 J
			0-1 FR	DU-22 (0-1)C	10/13/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	9.15 J	17.1 J	5.01 U	5.01 U	43.8 J
			1-2	DU-22 (1-2)A	10/14/2022	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U
			1-2 FR	DU-22 (1-2)B	10/14/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	5.92 J	4.98 U	4.98 U	25.8 J
			1-2 FR	DU-22 (1-2)C	10/14/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U
			2-3	DU-22 (2-3)A	10/14/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U
			2-3 FR	DU-22 (2-3)B	10/14/2022	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U
			2-3 FR	DU-22 (2-3)C	10/14/2022	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.00 U
			0-1	DU-22 (0-1) M	--	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	9.77 J	10.6 J	5.01 U	5.01 U	30.4 J
			1-2	DU-22 (1-2) M	--	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	5.27 J	4.99 U	4.99 U	11.9 J
			2-3	DU-22 (2-3) M	--	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.0 U
	DU-23	ISM	0-1	DU-23 (0-1)	10/12/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	22.1 J	19.3 J	5.05 U	5.05 U	59.1 J
			1-2	DU-23 (1-2)	10/12/2022	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	6.63 J	4.96 U	4.96 U	26.5 J
			2-3	DU-23 (2-3)	10/12/2022	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U
	DU-24	ISM	0-1	DU-24 (0-1)	09/21/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	12.5	5.03 U	5.03 U	5.03 U	32.6
			1-2	DU-24 (1-2)	09/21/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U
			2-3	DU-24 (2-3)	09/21/2022	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U
	DU-25	ISM	0-1	DU-25 (0-1)	09/23/2022	4.95 U	4.95 U	4.95 U	4.95 U	4.95 U	32.1 J	15.9 J	4.95 U	4.95 U	65.3 J
			1-2	DU-25 (1-2)	09/23/2022	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U	5.04 U
			2-3	DU-25 (2-3)	09/23/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U
	DU-26	ISM	0-1	DU-26 (0-1)A	11/09/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	122 J	4.93 U	45.9 J	**185** J
			0-1 FR	DU-26 (0-1)B	11/09/2022	4.71 U	4.71 U	4.71 U	4.71 U	4.71 U	20.8 J	46.7 J	4.71 U	4.71 U	84.0 J
			0-1 FR	DU-26 (0-1)C	11/09/2022	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	23.6 J	48.1 J	4.96 U	4.96 U	89.1 J
			1-2	DU-26 (1-2)A	11/10/2022	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	51	4.88 U	4.88 U	70.5
			1-2 FR	DU-26 (1-2)B	11/10/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	17.5 J	27.5 J	5.05 U	5.05 U	62.7 J
			1-2 FR	DU-26 (1-2)C	11/10/2022	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	40.2	4.99 U	4.99 U	60.2
			2-3	DU-26 (2-3)A	11/11/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	14.9	5.05 U	5.05 U	35.1
			2-3 FR	DU-26 (2-3)B	11/11/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	169	4.93 U	4.93 U	**189**
			2-3 FR	DU-26 (2-3)C	11/11/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	21.5	5.01 U	5.01 U	41.5
			0-1	DU-26 (0-1) M	--	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	16.4 J	72.3 J	4.96 U	18.5 J	**119** J
			1-2	DU-26 (1-2) M	--	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	9.12 J	39.6 J	5.05 U	5.05 U	64.5 J
			2-3	DU-26 (2-3) M	--	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	68.5 J	5.05 U	5.05 U	88.5 J
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	DU-42 (0-1)	11/30/2022	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
			1-2	DU-42 (1-2)	11/30/2022	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
			2-3	DU-42 (2-3)	11/30/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U

Please see notes at end of table.

Table 5a
Soil Results - PCB Aroclors - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg																	
						Aroclor 1016		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260		Aroclor 1262		Aroclor 1268		Total PCB Aroclors	
					Ecological ISM PRG	--		--		--		--		--		--		--		--		--		98	
					Ecological ISM Hot Spot	--		--		--		--		--		--		--		--		--		980	
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)	10/05/2022	4.97	U	4.97	U	4.97	U	27.6	J	4.97	U	124	J	19.9	J	4.97	U	4.97	U	**186**	J
			1-2	DU-27 (1-2)	10/05/2022	4.88	U	4.88	U	4.88	U	4.88	U	4.88	U	148	JN	4.88	U	4.88	U	4.88	U	**168**	J
			2-3	DU-27 (2-3)	10/05/2022	4.92	U	4.92	U	4.92	U	4.92	U	4.92	U	158		4.92	U	4.92	U	4.92	U	**178**	
	DU-28	ISM	0-1	DU-28 (0-1)	09/14/2022	5.10	U	5.10	U	5.10	U	5.10	U	5.10	U	79.9		5.10	U	5.10	U	5.10	U	**100**	
			1-2	DU-28 (1-2)	09/14/2022	5.09	U	5.09	U	5.09	U	5.09	U	5.09	U	51.4		5.09	U	5.09	U	5.09	U	71.8	
			2-3	DU-28 (2-3)	09/14/2022	5.10	U	5.10	U	5.10	U	5.10	U	5.10	U	16.6		5.10	U	5.10	U	5.10	U	37.0	
	DU-29	ISM	0-1	DU-29 (0-1)	09/15/2022	4.91	U	4.91	U	4.91	U	4.91	U	4.91	U	4.91	U	5.34	J	4.91	U	4.91	U	25.0	J
			1-2	DU-29 (1-2)	09/15/2022	4.73	U	4.73	U	4.73	U	4.73	U	4.73	U	4.73	U	4.73	U	4.73	U	4.73	U	4.73	U
			2-3	DU-29 (2-3)	09/15/2022	4.93	U	4.93	U	4.93	U	4.93	U	4.93	U	4.93	U	4.93	U	4.93	U	4.93	U	4.93	U
	DU-30	ISM	0-1	DU-30 (0-1)	09/16/2022	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	5.57	J	9.23	J	5.05	U	5.05	U	32.5	J
			1-2	DU-30 (1-2)	09/16/2022	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U
			2-3	DU-30 (2-3)	09/16/2022	5.07	UJ	5.07	UJ	5.07	UJ	5.07	UJ	5.07	UJ	5.07	UJ	5.07	UJ	5.07	UJ	5.07	UJ	45.6	UJ
	DU-31	ISM	0-1	DU-31 (0-1)	11/03/2022	4.67	U	4.67	U	4.67	U	4.67	U	4.67	U	7	J	4.67	U	4.67	U	4.67	U	25.7	J
			1-2	DU-31 (1-2)	11/03/2022	4.99	U	4.99	U	4.99	U	4.99	U	4.99	U	9.85	J	4.99	U	4.99	U	4.99	U	29.8	J
			2-3	DU-31 (2-3)	11/03/2022	4.62	U	4.62	U	4.62	U	4.62	U	4.62	U	8.51	J	4.62	U	4.62	U	4.62	U	27.0	J
	DU-32	ISM	0-1	DU-32 (0-1)	09/22/2022	4.84	U	4.84	U	4.84	U	4.84	U	4.84	U	4.84	U	4.84	U	4.84	U	4.84	U	4.84	U
			1-2	DU-32 (1-2)	09/22/2022	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U
			2-3	DU-32 (2-3)	09/22/2022	4.65	U	4.65	U	4.65	U	4.65	U	4.65	U	4.65	U	4.65	U	4.65	U	4.65	U	4.65	U
	DU-33	ISM	0-1	DU-33 (0-1)	09/20/2022	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	65.3	JN	4.98	U	4.98	U	4.98	U	85.2	J
			1-2	DU-33 (1-2)	09/20/2022	4.77	U	4.77	U	4.77	U	4.77	U	4.77	U	31.0	JN	4.77	U	4.77	U	4.77	U	50.1	J
			2-3	DU-33 (2-3)	09/20/2022	4.66	U	4.66	U	4.66	U	4.66	U	4.66	U	39.3	JN	4.66	U	4.66	U	4.66	U	57.9	J
East Parcel	DU-34	ISM	0-1	DU-34 (0-1)	09/27/2022	5.01	U	5.01	U	5.01	U	5.01	U	5.01	U	13.0	JN	5.01	U	5.01	U	5.01	U	33.0	J
			1-2	DU-34 (1-2)	09/27/2022	5.02	U	5.02	U	5.02	U	5.02	U	5.02	U	20.0	JN	5.02	UJ	5.02	UJ	5.02	UJ	47.6	J
			2-3	DU-34 (2-3)	09/27/2022	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U	4.98	U
	DU-35	ISM	0-1	DU-35 (0-1)	10/07/2022	4.95	U	4.95	U	4.95	U	4.95	U	4.95	U	4.95	U	8.55	J	4.95	U	4.95	U	28.4	J
			1-2	DU-35 (1-2)	10/07/2022	5.01	U	5.01	U	5.01	U	5.01	U	5.01	U	15.1	J	6.97	J	5.01	U	5.01	U	39.6	J
			2-3	DU-35 (2-3)	10/07/2022	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U	5.04	U
	DU-36	ISM	0-1	DU-36 (0-1)	11/01/2022	4.66	U	4.66	U	4.66	U	4.66	U	4.66	U	6.34	J	5.21	J	4.66	U	4.66	U	27.9	J
			1-2	DU-36 (1-2)	11/01/2022	4.96	U	4.96	U	4.96	U	4.96	U	4.96	U	4.96	U	4.96	U	4.96	U	4.96	U	4.96	U
			2-3	DU-36 (2-3)	11/01/2022	5.06	U	5.06	U	5.06	U	5.06	U	5.06	U	8.15	J	5.06	U	5.06	U	5.06	U	28.4	J
	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	10.3	J	9.57	J	5.03	U	5.03	U	37.5	J
			0-1 FR	DU-38 (0-1)B	11/14/2022	5	U	5	U	5	U	5	U	5	U	10.7	J	13	J	5	U	5	U	41.2	J
			0-1 FR	DU-38 (0-1)C	11/14/2022	4.99	U	4.99	U	4.99	U	4.99	U	4.99	U	10.5	J	13.1	J	4.99	U	4.99	U	41.1	J
			1-2	DU-38 (1-2)A	11/16/2022	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	14	J	12.8	J	5.03	U	5.03	U	44.4	J
			1-2 FR	DU-38 (1-2)B	11/16/2022	5.02	U	5.02	U	5.02	U	5.02	U	5.02	U	13.7	J	5.74	J	5.02	U	5.02	U	37.0	J
			1-2 FR	DU-38 (1-2)C	11/16/2022	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	9.88	J	7.51	J	5.05	U	5.05	U	35.1	J
			2-3	DU-38 (2-3)A	11/17/2022	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	9.82	J	5.05	U	5.05	U	5.05	U	30.0	J
			2-3 FR	DU-38 (2-3)B	11/17/2022	4.96	U	4.96	U	4.96	U	4.96	U	4.96	U	7.88	J	4.96	U	4.96	U	4.96	U	27.7	J
			2-3 FR	DU-38 (2-3)C	11/17/2022	5.07	U	5.07	U	5.07	U	5.07	U	5.07	U	6.14	J	5.07	U	5.07	U	5.07	U	26.4	J
			0-1	DU-38 (0-1) M	--	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	10.5	J	11.9	J	5.03	U	5.03	U	39.9	J
			1-2	DU-38 (1-2) M	--	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	12.5	J	8.7	J	5.05	U	5.05	U	38.8	J
			2-3	DU-38 (2-3) M	--	5.07	U	5.07	U	5.07	U	5.07	U	5.07	U	7.95	J	5.1	U	5.07	U	5.07	U	28.1	J

Please see notes at end of table.

Table 5a
Soil Results - PCB Aroclors - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
					Ecological ISM PRG	--	--	--	--	--	--	--	--	--	98
					Ecological ISM Hot Spot	--	--	--	--	--	--	--	--	--	980
East Parcel Concrete Slab	DU-37	Composite	0-1	DU-37 (0-1)	11/28/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U
			1-2	DU-37 (1-2)	11/28/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U
			2-3	DU-37 (2-3)	11/28/2022	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U
	DU-39	Composite	0-1	DU-39 (0-1)	11/29/2022	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U
			1-2	DU-39 (1-2)	11/29/2022	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U
			2-3	DU-39 (2-3)	11/29/2022	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.90 U
	DU-40	Composite	0-1	DU-40 (0-1)	11/18/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U
			1-2	DU-40 (1-2)	11/18/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U
			2-3	DU-40 (2-3)	11/18/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)	11/21/2022	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U
			1-2	DU-43 (1-2)	11/21/2022	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U
			2-3	DU-43 (2-3)	11/21/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)	12/01/2022	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U
			1-2	DU-44 (1-2)	12/01/2022	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U
			2-3	DU-44 (2-3)	12/01/2022	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	14.5 J	12.5 J	5.03 U	5.03 U	44.61 J
			0-1 FR	DU-41 (0-1)B	10/24/2022	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	40.1 J	12.1 J	4.83 U	4.83 U	69.11 J
			0-1 FR	DU-41 (0-1)C	10/24/2022	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	21.6 J	17.9 J	4.88 U	4.88 U	56.58 J
			1-2	DU-41 (1-2)A	10/26/2022	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	58.4 J	17.3 J	4.83 U	4.83 U	92.61 J
			1-2 FR	DU-41 (1-2)B	10/26/2022	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	12.8 J	10.8 J	4.79 U	4.79 U	40.37 J
			1-2 FR	DU-41 (1-2)C	10/26/2022	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	46.6 J	12.6 J	4.94 U	4.94 U	76.49 J
			2-3	DU-41 (2-3)A	10/28/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	9.84 J	7.82 J	5.05 U	5.05 U	35.34 J
			2-3 FR	DU-41 (2-3)B	10/28/2022	4.92 U	4.92 U	4.92 U	4.92 U	4.92 U	5.41 J	6.56 J	4.92 U	4.92 U	29.19 J
			2-3 FR	DU-41 (2-3)C	10/28/2022	4.90 U	4.90 U	4.90 U	4.90 U	4.90 U	6.60 J	20.00 J	4.90 U	4.90 U	43.75 J
			0-1	DU-41 (0-1) M	--	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	25.4 J	14.2 J	5.03 U	5.03 U	56.8 J
			1-2	DU-41 (1-2) M	--	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	39.3 J	13.6 J	4.94 U	4.94 U	69.8 J
			2-3	DU-41 (2-3) M	--	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	7.28 J	11.5 J	5.05 U	5.05 U	36.1 J

Notes:

ISM = Incremental Sampling Methodology.

bgs = Below ground surface.

PCBs = Polychlorinated biphenyls.

EPA = United States Environmental Protection Agency.

M = Mean. These results are the mean of the field replicates collected at this decision unit.

FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.

µg/kg = Micrograms per kilogram (parts per billion).

Bolded values exceed the Preliminary Remediation Goal (PRG).

Shaded values exceed the hot spot level.

Italicized values represent a method detection limit that is above one or more applicable screening levels.

U = Analyte was not detected.

J = Result is estimated.

JN = The analyte was tentatively identified and did not meet method criteria for confirmation.

UJ = The analyte was analyzed for but was not detected. However, the detection limit may be inaccurate or imprecise.

PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Table 5b
Soil Results - PCB Aroclors - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

| Sample Location | Decision Unit | Sample Type | Sample Depth (feet bgs) | Sample ID | Sample Date | PCBs by EPA Method 8082A Concentrations in µg/kg | | |

Table 5b
Soil Results - PCB Aroclors - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

| Sample Location | Decision Unit | Sample Type | Sample Depth (feet bgs) | Sample ID | Sample Date | PCBs by EPA Method 8082A Concentrations in µg/kg | | |

Table 5b
Soil Results - PCB Aroclors - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

| Sample Location | Decision Unit | Sample Type | Sample Depth (feet bgs) | Sample ID | Sample Date | PCBs by EPA Method 8082A Concentrations in µg/kg | | |

Table 5b
Soil Results - PCB Aroclors - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

| Sample Location | Decision Unit | Sample Type | Sample Depth (feet bgs) | Sample ID | Sample Date | PCBs by EPA Method 8082A Concentrations in µg/kg | | |

Table 5b
Soil Results - PCB Aroclors - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg																	
						Aroclor 1016		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260		Aroclor 1262		Aroclor 1268		Total PCB Aroclors	
					Human Health ISM PRG	--		--		--		--		--		--		--		--		--		740	
					Human Health ISM Hot Spot	--		--		--		--		--		--		--		--		--		40,000	
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	14.5	J	12.5	J	5.03	U	5.03	U	44.61	J
			0-1 FR	DU-41 (0-1)B	10/24/2022	4.83	U	4.83	U	4.83	U	4.83	U	4.83	U	40.1	J	12.1	J	4.83	U	4.83	U	69.11	J
			0-1 FR	DU-41 (0-1)C	10/24/2022	4.88	U	4.88	U	4.88	U	4.88	U	4.88	U	21.6	J	17.9	J	4.88	U	4.88	U	56.58	J
			1-2	DU-41 (1-2)A	10/26/2022	4.83	U	4.83	U	4.83	U	4.83	U	4.83	U	58.4	J	17.3	J	4.83	U	4.83	U	92.61	J
			1-2 FR	DU-41 (1-2)B	10/26/2022	4.79	U	4.79	U	4.79	U	4.79	U	4.79	U	12.8	J	10.8	J	4.79	U	4.79	U	40.37	J
			1-2 FR	DU-41 (1-2)C	10/26/2022	4.94	U	4.94	U	4.94	U	4.94	U	4.94	U	46.6	J	12.6	J	4.94	U	4.94	U	76.49	J
			2-3	DU-41 (2-3)A	10/28/2022	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	9.84	J	7.82	J	5.05	U	5.05	U	35.34	J
			2-3 FR	DU-41 (2-3)B	10/28/2022	4.92	U	4.92	U	4.92	U	4.92	U	4.92	U	5.41	J	6.56	J	4.92	U	4.92	U	29.19	J
			2-3 FR	DU-41 (2-3)C	10/28/2022	4.90	U	4.90	U	4.90	U	4.90	U	4.90	U	6.60	J	20.00	J	4.90	U	4.90	U	43.75	J
			0-1	DU-41 (0-1) M	--	5.03	U	5.03	U	5.03	U	5.03	U	5.03	U	25.4	J	14.2	J	5.03	U	5.03	U	56.8	J
			1-2	DU-41 (1-2) M	--	4.94	U	4.94	U	4.94	U	4.94	U	4.94	U	39.3	J	13.6	J	4.94	U	4.94	U	69.8	J
			2-3	DU-41 (2-3) M	--	5.05	U	5.05	U	5.05	U	5.05	U	5.05	U	7.28	J	11.5	J	5.05	U	5.05	U	36.1	J

Notes:

ISM = Incremental Sampling Methodology.

bgs = Below ground surface.

PCBs = Polychlorinated biphenyls.

EPA = United States Environmental Protection Agency.

M = Mean. These results are the mean of the field replicates collected at this decision unit.

FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.

µg/kg = Micrograms per kilogram (parts per billion).

Bolded values exceed the Preliminary Remediation Goal (PRG).

Shaded values exceed the hot spot level.

Italicized values represent a method detection limit that is above one or more applicable screening levels.

U = Analyte was not detected.

J = Result is estimated.

JN = The analyte was tentatively identified and did not meet method criteria for confirmation.

UJ = The analyte was analyzed for but was not detected. However, the detection limit may be inaccurate or imprecise.

PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Table 6
Results Summary - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Sample Depth (feet bgs)	Number of Samples That Exceed	Metals									D/F	PAHs			PCBs	Risk Summary	
			Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Total D/F TEQ	Dibenzofuran	Total HPAHs	Total LPAHs	Total PCBs	PRG	Hot Spot
West Parcel 9 Decision Units (DU-1 through DU-9) 27 Samples 1 Field Replicate (DU-5)	0-1	MDL	4	9	9	9	9	8	9	1	9	9	7	9	9	9	Chromium, Copper, Lead, Mercury, Nickel, Zinc, Total D/F TEQ, Total PCBs	Chromium, Mercury
		PRG	0	0	1	3	4	7	4	0	6	9	0	0	0	4		
		Hot Spot	0	0	1	0	0	4	0	0	0	0	0	0	0	0		
		Max Conc ER	--	--	1.3	4.6	2.9	4.2	1.4	--	1.7	4.3	--	--	--	4.4		
	1-2	MDL	2	9	9	9	9	9	9	1	9	9	5	9	9	8	Chromium, Copper, Lead, Mercury, Nickel, Zinc, Total D/F TEQ, Dibenzofuran, Total HPAHs, Total PCBs	Chromium, Mercury, Total PCBs
		PRG	0	0	2	3	5	7	4	0	4	8	2	1	0	4		
		Hot Spot	0	0	2	0	0	3	0	0	0	0	0	0	0	1		
		Max Conc ER	--	--	1.1	3.2	9.7	2.8	1.7	--	1.4	4.2	3.3	2.1	--	28.1		
	2-3	MDL	1	9	9	9	9	9	9	1	9	9	5	9	9	8	Chromium, Copper, Lead, Mercury, Nickel, Zinc, Total D/F TEQ, Dibenzofuran, Total PCBs	Chromium, Mercury
		PRG	0	0	1	2	4	7	3	0	4	7	1	0	0	4		
		Hot Spot	0	0	1	0	0	2	0	0	0	0	0	0	0	0		
		Max Conc ER	--	--	1.1	2.5	2.4	2.4	1.2	--	1.6	3.8	1.1	--	--	2.0		
	All Depths	MDL	7	27	27	27	27	26	27	3	27	27	17	27	27	25	Chromium, Copper, Lead, Mercury, Nickel, Zinc, Total D/F TEQ, Dibenzofuran, Total HPAHs, Total PCBs	Chromium, Mercury, Total PCBs
		PRG	0	0	4	8	13	21	11	0	14	24	3	1	0	12		
		Hot Spot	0	0	4	0	0	9	0	0	0	0	0	0	0	1		
		Max Conc ER	--	--	1.3	4.6	9.7	4.2	1.7	--	1.7	4.3	3.3	2.1	--	28.1		
Central Parcel 17 Decision Units (DU-10 through DU-26) 51 Samples 6 Field Replicates (DU-11, DU-13, DU-16 (0-1 only), DU-22, DU-26)	0-1	MDL	14	17	17	17	17	17	17	1	17	17	14	17	17	17	Antimony, Copper, Lead, Mercury, Nickel, Selenium, Zinc, Total D/F TEQ, Dibenzofuran, Total HPAHs, Total PCBs	Mercury, Total D/F TEQ
		PRG	5	0	0	12	17	17	5	1	13	17	9	2	0	2		
		Hot Spot	0	0	0	0	0	17	0	0	0	7	0	0	0	0		
		Max Conc ER	1.4	--	-	3.2	9.3	52.2	1.3	1.04	2.8	65.0	5.2	5.3	--	1.5		
	1-2	MDL	9	17	17	17	17	17	17	1	17	17	8	17	17	10	Antimony, Copper, Lead, Mercury, Nickel, Selenium, Zinc, Total D/F TEQ, Dibenzofuran, Total HPAHs	Mercury, Total D/F TEQ
		PRG	1	0	0	4	15	17	4	1	10	11	4	2	0	0		
		Hot Spot	0	0	0	0	0	16	0	0	0	2	0	0	0	0		
		Max Conc ER	2.7	--	--	1.7	4.9	42.5	1.2	1.03	1.7	32.9	4.9	5.1	--	--		
	2-3	MDL	6	17	17	17	17	17	17	2	17	17	5	17	17	5	Antimony, Copper, Lead, Mercury, Nickel, Selenium, Zinc, Total D/F TEQ, Dibenzofuran, Total HPAHs	Mercury, Total D/F TEQ
		PRG	1	0	0	1	15	17	2	1	2	10	3	2	0	0		
		Hot Spot	0	0	0	0	0	13	0	0	0	1	0	0	0	0		
		Max Conc ER	1.1	--	--	2.6	4.9	34.3	1.1	1.04	1.4	24.5	3.9	4.2	--	--		
	All Depths	MDL	29	51	51	51	51	51	51	4	51	51	27	51	51	32	Antimony, Copper, Lead, Mercury, Nickel, Selenium, Zinc, Total D/F TEQ, Dibenzofuran, Total HPAHs, Total PCBs	Mercury, Total D/F TEQ
		PRG	7	0	0	17	47	51	11	3	25	38	16	6	0	2		
		Hot Spot	0	0	0	0	0	46	0	0	0	10	0	0	0	0		
		Max Conc ER	2.7	--	0	3.2	9.3	52.2	1.3	1.04	2.8	65.0	5.2	5.3	--	1.5		
Central Parcel Concrete Slabs 1 Decision Units (DU-42) 3 Samples No Field Replicate	0-1	MDL	0	1	1	1	1	1	1	1	1	1	0	1	1	0	Lead, Mercury, Nickel, Selenium, Zinc, Total D/F TEQ	Mercury
		PRG	--	0	0	0	1	1	1	1	1	1	--	0	0	--		
		Hot Spot	--	0	0	0	0	1	0	0	0	0	--	0	0	--		
		Max Conc ER	--	--	--	--	1.6	3.1	1.01	1.02	1.1	10.0	--	--	--	--		
	1-2	MDL	1	1	1	1	1	1	1	0	1	1	0	1	1	0	Mercury, Total D/F TEQ	Mercury
		PRG	0	0	0	0	0	1	0	--	0	1	--	0	0	--		
		Hot Spot	0	0	0	0	0	1	0	--	0	0	--	0	0	--		
		Max Conc ER	--	--	--	--	--	2.6	--	--	--	3.7	--	--	--	--		
	2-3	MDL	0	1	1	1	1	1	1	0	1	1	0	1	1	0	Mercury, Total D/F TEQ	--
		PRG	--	0	0	0	0	1	0	--	0	1	--	0	0	--		
		Hot Spot	--	0	0	0	0	0	0	--	0	0	--	0	0	--		
		Max Conc ER	--	--	--	--	--	1.7	--	--	--	1.4	--	--	--	--		
	All Depths	MDL	1	3	3	3	3	3	3	1	3	3	0	3	3	0	Lead, Mercury, Nickel, Selenium, Zinc, Total D/F TEQ	Mercury
		PRG	0	0	0	0	1	3	1	1	1	3	0	0	0	0		
		Hot Spot	0	0	0	0	0	2	0	0	0	0	0	0	0	0		
		Max Conc ER	--	--	--	--	1.6	3.1	1.01	1.02	1.1	10.0	--	--	--	--		

Please see notes at end of table

Table 6
Results Summary - Ecological Screening
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Sample Depth (feet bgs)	Number of Samples That Exceed	Metals									D/F	PAHs			PCBs	Risk Summary	
			Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Total D/F TEQ	Dibenzofuran	Total HPAHs	Total LPAHs	Total PCBs	PRG	Hot Spot
East Parcel 11 Decision Units (DU-27 through DU-36, and DU-38) 33 Samples 1 Field Replicate (DU-38)	0-1	MDL	10	11	11	11	11	9	11	1	11	11	10	11	11	10	Antimony, Copper, Lead, Mercury, Selenium, Zinc, Total D/F TEQ, Dibenzofuran, Total PCBs	Mercury, Total D/F TEQ
		PRG	1	0	0	3	8	3	0	1	8	11	1	0	0	2		
		Hot Spot	0	0	0	0	0	2	0	0	0	1	0	0	0	0		
		Max Conc ER	1.4	0.8	0.5	2.9	4.0	8.9	--	1.1	2.4	16.9	1.8	--	--	1.9		
	1-2	MDL	8	11	11	11	11	6	11	0	12	11	6	11	11	7	Antimony, Copper, Lead, Mercury, Nickel, Zinc, Total D/F TEQ, Dibenzofuran, Total PCBs	Mercury, Total D/F TEQ
		PRG	2	0	0	4	8	1	1	--	8	11	1	0	0	1		
		Hot Spot	0	0	0	0	0	1	0	--	0	1	0	0	0	0		
		Max Conc ER	1.3	0.7	0.4	4.7	6.1	9.7	1.1	--	3.0	11.5	1.0	--	--	1.7		
	2-3	MDL	7	11	11	11	11	4	11	0	11	11	3	11	11	6	Antimony, Copper, Lead, Mercury, Zinc, Total D/F TEQ, Dibenzofuran, Total PCBs	Mercury
		PRG	3	0	0	2	7	2	0	--	7	11	1	0	0	1		
		Hot Spot	0	0	0	0	0	2	0	--	0	0	0	0	0	0		
		Max Conc ER	2.5	0.9	0.4	3.3	6.7	2.8	--	--	2.3	5.0	4.1	--	--	1.8		
	All Depths	MDL	25	33	33	33	33	19	33	1	34	33	19	33	33	23	Antimony, Copper, Lead, Mercury, Nickel, Selenium, Zinc, Total D/F TEQ, Dibenzofuran, Total PCBs	Mercury, Total D/F TEQ
		PRG	6	0	0	9	23	6	1	1	23	33	3	0	0	4		
		Hot Spot	0	0	0	0	0	5	0	0	0	2	0	0	0	0		
		Max Conc ER	2.5	0.9	0.5	4.7	6.7	9.7	1.1	1.1	3.0	16.9	4.1	--	--	1.9		
East Parcel Concrete Slabs 5 Decision Units (DU-37, DU-39, DU-40, DU-43, DU-44) 15 Samples No Field Replicates	0-1	MDL	1	5	5	5	5	0	5	2	5	5	0	5	5	0	Lead, Selenium	--
		PRG	0	0	0	0	1	--	0	2	0	0	--	0	0	--		
		Hot Spot	0	0	0	0	0	--	0	0	0	0	--	0	0	--		
		Max Conc ER	--	--	--	--	1.2	--	--	1.1	--	--	--	--	--	--		
	1-2	MDL	0	5	5	5	5	1	5	2	5	5	0	5	5	0	Selenium	--
		PRG	--	0	0	0	0	0	0	2	0	0	--	0	0	--		
		Hot Spot	--	0	0	0	0	0	0	0	0	0	--	0	0	--		
		Max Conc ER	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--		
	2-3	MDL	0	5	5	5	5	0	5	0	5	5	1	5	5	0	Dibenzofuran	--
		PRG	--	0	0	0	0	--	0	--	0	0	1	0	0	--		
		Hot Spot	--	0	0	0	0	--	0	--	0	0	0	0	0	--		
		Max Conc ER	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--		
	All Depths	MDL	1	15	15	15	15	1	15	4	15	15	1	15	15	0	Lead, Selenium, Dibenzofuran	--
		PRG	0	0	0	0	1	0	0	4	0	0	1	0	0	0		
		Hot Spot	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Max Conc ER	--	--	--	--	1.19	--	--	1.2	--	--	1.15	--	--	--		
East Parcel Soil Berms 1 Decision Units (DU-41) 3 Samples 1 Field Replicate (DU-41)	0-1	MDL	1	1	1	1	1	1	1	0	1	1	1	1	1	1	Arsenic, Lead, Mercury, Zinc, Total D/F TEQ, Dibenzofuran	Total D/F TEQ
		PRG	0	1	0	0	1	1	0	--	1	1	1	0	0	0		
		Hot Spot	0	0	0	0	0	0	0	--	0	1	0	0	0	0		
		Max Conc ER	--	1.3	--	--	2.4	1.9	--	--	1.1	36.2	1.4	--	--	--		
	1-2	MDL	1	1	1	1	1	1	1	0	1	1	1	1	1	1	Lead, Mercury, Zinc, Total D/F TEQ, Dibenzofuran	Total D/F TEQ
		PRG	0	0	0	0	1	1	0	--	1	1	1	0	0	0		
		Hot Spot	0	0	0	0	0	0	0	--	0	1	0	0	0	0		
		Max Conc ER	--	--	--	--	3.7	1.4	--	--	1.3	36.8	3.4	--	--	--		
	2-3	MDL	1	1	1	1	1	1	1	0	1	1	1	1	1	1	Lead, Zinc, Total D/F TEQ, Dibenzofuran	Total D/F TEQ
		PRG	0	0	0	0	1	0	0	--	1	1	1	0	0	0		
		Hot Spot	0	0	0	0	0	0	0	--	0	1	0	0	0	0		
		Max Conc ER	--	--	--	--	2.7	--	--	--	1.4	21.6	1.1	--	--	--		
	All Depths	MDL	3	3	3	3	3	3	3	0	3	3	3	3	3	3	Arsenic, Lead, Mercury, Zinc, Total D/F TEQ, Dibenzofuran	Total D/F TEQ
		PRG	0	1	0	0	3	2	0	0	3	3	3	0	0	0		
		Hot Spot	0	0	0	0	0	0	0	0	0	3	0	0	0	0		
		Max Conc ER	--	1.3	--	--	3.7	1.9	--	--	1.4	36.8	3.4	--	--	--		

Notes:

bgs = Below ground surface.
D/Fs = Dioxins/furans
Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent
PAHs = Polycyclic aromatic hydrocarbons.
HPAH = High-molecular-weight polycyclic aromatic hydrocarbon
LPAH = Low-molecular-weight polycyclic aromatic hydrocarbon
PCBs = Polychlorinated biphenyls.

PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
MDL = Method detection limit
Max ER = Maximum exceedace ratio (ER is the sample concentration divided by the PRG)

Please see notes at end of table.

Table 7
Results Summary - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Location	Sample Depth (feet bgs)	Exceeds	Metals				D/F		PCBs	Risk Summary	
			Antimony	Arsenic	Copper	Lead	Total D/F TEQ	cPAHs	Total PCBs	PRG	Hot Spot
West Parcel 9 Decision Units (DU-1 through DU-9) 27 Samples 1 Field Replicate (DU-5)	0-1	MDL	4	9	9	9	9	9	9	Arsenic, Total D/F TEQ	--
		PRG	0	7	0	0	6	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	2.0	--	--	1.8	--	--		
	1-2	MDL	2	9	9	9	9	9	8	Arsenic, Total D/F TEQ, cPAHs, Total PCBs	--
		PRG	0	7	0	0	4	1	1		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	1.7	--	--	1.7	3.2	3.7		
	2-3	MDL	1	9	9	9	9	9	8	Arsenic, Total D/F TEQ, cPAHs	--
		PRG	0	7	0	0	2	1	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	1.5	--	--	1.6	1.4	--		
	All Depths	MDL	7	27	27	27	27	27	25	Arsenic, Total D/F TEQ, cPAHs, Total PCBs	--
		PRG	0	21	0	0	12	2	1		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	2.0	--	--	1.8	3.2	3.7		
Central Parcel 17 Decision Units (DU-10 through DU-26) 51 Samples 6 Field Replicates (DU-11, DU-13, DU-16 (0-1 only), DU-22, DU-26)	0-1	MDL	14	17	17	17	17	17	17	Arsenic, Total D/F TEQ, cPAHs	--
		PRG	0	15	0	0	16	3	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	2.4	--	--	14.1	9.4	--		
	1-2	MDL	9	17	17	17	17	17	10	Arsenic, Total D/F TEQ, cPAHs	--
		PRG	0	10	0	0	8	2	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	2.6	--	--	13.4	8.6	--		
	2-3	MDL	6	17	17	17	17	17	5	Arsenic, Total D/F TEQ, cPAHs	--
		PRG	0	5	0	0	4	2	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	1.3	--	--	10.0	7.4	--		
	All Depths	MDL	29	51	51	51	51	51	32	Arsenic, Total D/F TEQ, cPAHs	--
		PRG	0	30	0	0	28	7	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	2.6	--	--	14.1	9.4	--		
Central Parcel Concrete Slabs 1 Decision Units (DU-42) 3 Samples No Field Replicate	0-1	MDL	0	1	1	1	1	1	0	Total D/F TEQ	--
		PRG	--	0	0	0	1	0	--		
		Hot Spot	--	0	0	0	0	0	--		
		Max ER	--	--	--	--	4.1	--	--		
	1-2	MDL	1	1	1	1	1	1	0	Total D/F TEQ	--
		PRG	0	0	0	0	1	0	--		
		Hot Spot	0	0	0	0	0	0	--		
		Max ER	--	--	--	--	1.5	--	--		
	2-3	MDL	0	1	1	1	1	1	0	--	--
		PRG	--	0	0	0	0	0	--		
		Hot Spot	--	0	0	0	0	0	--		
		Max ER	--	--	--	--	--	--	--		
	All Depths	MDL	1	3	3	3	3	3	0	Total D/F TEQ	--
		PRG	0	0	0	0	2	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	--	--	--	4.1	--	--		

Please see notes at end of table.

Table 7
Results Summary - Human Health Screening
Willamette Cove Upland Facility
Portland, Oregon

Location	Sample Depth (feet bgs)	Exceeds	Metals				D/F		PCBs	Risk Summary	
			Antimony	Arsenic	Copper	Lead	Total D/F TEQ	cPAHs	Total PCBs	PRG	Hot Spot
East Parcel 11 Decision Units (DU-27 through DU-36, and DU-38) 33 Samples 1 Field Replicate (DU-38)	0-1	MDL	10	11	11	11	11	11	10	Arsenic, Total D/F TEQ	--
		PRG	0	8	0	0	11	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	3.3	--	--	6.9	--	--		
	1-2	MDL	8	11	11	11	11	11	7	Arsenic, Total D/F TEQ	--
		PRG	0	7	0	0	8	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	3.0	--	--	4.7	--	--		
	2-3	MDL	7	11	11	11	11	1	6	Arsenic, Total D/F TEQ, cPAHs	--
		PRG	0	4	0	0	4	1	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	3.6	--	--	2.0	1.03	--		
	All Depths	MDL	25	33	33	33	33	23	23	Arsenic, Total D/F TEQ, cPAHs	--
		PRG	0	19	0	0	23	1	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	3.6	--	--	6.9	1.03	--		
East Parcel Concrete Slabs 5 Decision Units (DU-37, DU-39, DU-40, DU-43, DU-44) 15 Samples No Field Replicates	0-1	MDL	1	5	5	5	5	5	0	--	--
		PRG	0	0	0	0	0	0	--		
		Hot Spot	0	0	0	0	0	0	--		
		Max ER	--	--	--	--	--	--	--		
	1-2	MDL	0	5	5	5	5	5	0	--	--
		PRG	--	0	0	0	0	0	--		
		Hot Spot	--	0	0	0	0	0	--		
		Max ER	--	--	--	--	--	--	--		
	2-3	MDL	0	5	5	5	5	5	0	--	--
		PRG	--	0	0	0	0	0	--		
		Hot Spot	--	0	0	0	0	0	--		
		Max ER	--	--	--	--	--	--	--		
	All Depths	MDL	1	15	15	15	15	15	0	--	--
		PRG	0	0	0	0	0	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	--	--	--	--	--	--		
East Parcel Soil Berms 1 Decision Units (DU-41) 3 Samples 1 Field Replicate (DU-41)	0-1	MDL	1	1	1	1	1	1	1	Arsenic, Total D/F TEQ	--
		PRG	0	1	0	0	1	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	5.2	--	--	14.7	--	--		
	1-2	MDL	1	1	1	1	1	1	1	Arsenic, Total D/F TEQ	--
		PRG	0	1	0	0	1	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	2.7	--	--	15.0	--	--		
	2-3	MDL	1	1	1	1	1	1	1	Arsenic, Total D/F TEQ	--
		PRG	0	1	0	0	1	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	3.2	--	--	8.8	--	--		
	All Depths	MDL	3	3	3	3	3	3	3	Arsenic, Total D/F TEQ	--
		PRG	0	3	0	0	3	0	0		
		Hot Spot	0	0	0	0	0	0	0		
		Max ER	--	5.2	--	--	15.0	--	--		

Notes:

bgs = Below ground surface.
D/Fs = Dioxins/furans
Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent
PAHs = Polycyclic aromatic hydrocarbons.
cPAHs = carcinogenic polycyclic aromatic hydrocarbon
PCBs = Polychlorinated biphenyls.

PRG = Preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).
MDL = Method detection limit
Max ER = Maximum exceedace ratio (ER is the sample concentration divided by the PRG)

Table 8
Exceedance Summary and Soil Removal
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Metals									D/F	PAHs				PCBs	Risk Summary	Excavation Thickness (ft)			Area		Excavation Volumes (cy)			Preliminary Soil Removal Depth (feet bgs)	Soil Removal Drivers	Leave Surface	
					Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Total D/F TEQ	Dibenzofuran	Total HPAH	Total LPAH	cPAHs	Total PCBs		Off-Site Disposal	Contingency Remedy[1]	Arsenic-Driven Excavation	Acres	Square Feet	Off-Site Disposal	Contingency Remedy[1]	Arsenic-Driven Excavation			Max Eco ER	Summed Eco ER[2]
West Parcel	DU-1	ISM	0-1	DU-1 (0-1)		HH PRG		Eco PRG	Eco PRG		Eco PRG		Eco PRG	Eco/HH PRG					Eco PRG	Eco/HH PRG									Arsenic, Chromium Total D/F TEQ Total PCBs	Unknown	Unknown
			1-2	DU-1 (1-2)		HH PRG	Eco HS		Eco PRG	Eco PRG	Eco PRG		Eco PRG	Eco/HH PRG	Eco PRG				Eco HS/HH PRG	Eco HS/HH PRG	1	2	1	0.50	21,780	807	1,613	807	3			
			2-3	DU-1 (2-3)		HH PRG			Eco PRG	Eco PRG	Eco PRG		Eco PRG	Eco PRG					Eco PRG	Eco/HH PRG											
	DU-2	ISM	0-1	DU-2 (0-1)		HH PRG		Eco PRG	Eco PRG	Eco PRG				Eco PRG					Eco PRG	Eco/HH PRG											
			1-2	DU-2 (1-2)		HH PRG		Eco PRG	Eco PRG	Eco PRG									Eco PRG	Eco/HH PRG	0	3	2	0.50	21,780	0	2,420	1,613	3	Arsenic	Unknown	Unknown
			2-3	DU-2 (2-3)		HH PRG														HH PRG											
	DU-3	ISM	0-1	DU-3 (0-1)		HH PRG								Eco/HH PRG						Eco/HH PRG											
			1-2	DU-3 (1-2)		HH PRG								Eco PRG						Eco/HH PRG	0	3	3	0.43	18,731	0	2,081	2,081	3	Arsenic Total D/F TEQ	Unknown	Unknown
			2-3	DU-3 (2-3)		HH PRG														HH PRG											
	DU-4	ISM	0-1	DU-4 (0-1)		HH PRG				Eco PRG	Eco PRG			Eco/HH PRG						Eco/HH PRG											
			1-2	DU-4 (1-2)		HH PRG					Eco PRG			Eco/HH PRG	Eco PRG	Eco PRG		HH PRG		Eco/HH PRG	0	3	0	0.42	18,295	0	2,033	0	3	Arsenic Total D/F TEQ cPAHs	Unknown	Unknown
			2-3	DU-4 (2-3)		HH PRG			Eco PRG	Eco PRG				Eco PRG				HH PRG		Eco/HH PRG											
	DU-5	ISM	0-1	DU-5 (0-1) M		HH PRG	Eco HS	Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco PRG					Eco PRG	Eco HS/HH PRG											
			1-2	DU-5 (1-2) M		HH PRG	Eco HS	Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco PRG					Eco PRG	Eco HS/HH PRG	3	0	0	0.53	23,087	2,565	0	0	3	Arsenic, Chromium Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-5 (2-3) M		HH PRG	Eco HS	Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco/HH PRG					Eco PRG	Eco HS/HH PRG											
	DU-6	ISM	0-1	DU-6 (0-1)		HH PRG				Eco PRG			Eco PRG	Eco PRG						Eco/HH PRG											
			1-2	DU-6 (1-2)		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco/HH PRG					Eco PRG	Eco HS/HH PRG	1	2	2	0.53	23,087	855	1,710	1,710	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-6 (2-3)		HH PRG		Eco PRG	Eco PRG	Eco PRG				Eco PRG	Eco PRG				Eco PRG	Eco/HH PRG											
	DU-7	ISM	0-1	DU-7 (0-1)						Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-7 (1-2)						Eco PRG				Eco PRG						Eco PRG	1	0	0	0.49	21,344	791	0	0	1	Mercury Total D/F TEQ	2.03 (Total TEQ)	7.8
			2-3	DU-7 (2-3)						Eco PRG				Eco PRG						Eco PRG											
	DU-8	ISM	0-1	DU-8 (0-1)					Eco PRG	Eco HS			Eco PRG	Eco/HH PRG					Eco PRG	Eco HS/HH PRG											
			1-2	DU-8 (1-2)						Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG	3	0	0	0.44	19,166	2,130	0	0	3	Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-8 (2-3)						Eco HS			Eco PRG	Eco/HH PRG					Eco PRG	Eco HS/HH PRG											
	DU-9	ISM	0-1	DU-9 (0-1)		HH PRG				Eco HS	Eco PRG		Eco PRG	Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-9 (1-2)		HH PRG			Eco PRG	Eco PRG	Eco PRG			Eco PRG						Eco/HH PRG	1	2	2	0.43	18,731	694	1,387	1,387	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-9 (2-3)		HH PRG				Eco PRG	Eco PRG		Eco PRG	Eco PRG						Eco/HH PRG											
Central Parcel	DU-10	ISM	0-1	DU-10 (0-1)		HH PRG			Eco PRG	Eco HS	Eco PRG			Eco/HH PRG	Eco PRG	Eco PRG		HH PRG		Eco HS/HH PRG											
			1-2	DU-10 (1-2)		HH PRG			Eco PRG	Eco HS	Eco PRG				Eco PRG	Eco PRG		HH PRG		Eco HS/HH PRG	3	0	0	0.49	21,344	2,372	0	0	3	Arsenic, Mercury Total D/F TEQ cPAHs	Unknown	Unknown
			2-3	DU-10 (2-3)		HH PRG			Eco PRG	Eco HS					Eco PRG	Eco PRG		HH PRG		Eco HS/HH PRG											
	DU-11	ISM	0-1	DU-11 (0-1) M					Eco PRG	Eco HS	Eco PRG			Eco PRG	Eco PRG	Eco PRG		HH PRG		Eco HS/HH PRG											
			1-2	DU-11 (1-2) M					Eco PRG	Eco HS	Eco PRG				Eco PRG	Eco PRG		HH PRG		Eco HS/HH PRG	3	0	0	0.54	23,522	2,614	0	0	3	Mercury cPAHS	Unknown	Unknown
			2-3	DU-11 (2-3) M					Eco PRG	Eco HS	Eco PRG			Eco PRG	Eco PRG	Eco PRG		HH PRG		Eco HS/HH PRG											
	DU-12	ISM	0-1	DU-12 (0-1)		HH PRG		Eco PRG		Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-12 (1-2)					Eco PRG	Eco HS										Eco HS	3	0	0	0.44	19,166	2,130	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-12 (2-3)					Eco PRG	Eco HS										Eco HS											
	DU-13	ISM	0-1	DU-13 (0-1) M		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco HS/HH PRG				HH PRG		Eco HS/HH PRG											
			1-2	DU-13 (1-2) M		HH PRG			Eco PRG	Eco HS				Eco/HH PRG						Eco HS/HH PRG	3	0	0	0.52	22,651	2,517	0	0	3	Arsenic, Mercury Total D/F TEQ cPAHs	Unknown	Unknown
			2-3	DU-13 (2-3) M					Eco PRG	Eco HS				Eco/HH PRG						Eco HS/HH PRG											
	DU-14	ISM	0-1	DU-14 (0-1)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco HS/HH PRG	Eco PRG					Eco HS/HH PRG											
			1-2	DU-14 (1-2)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco/HH PRG	Eco PRG					Eco HS/HH PRG	3	0	0	0.44	19,166	2,130	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-14 (2-3)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco PRG	Eco PRG					Eco HS/HH PRG											
	DU-15	ISM	0-1	DU-15 (0-1)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco HS/HH PRG						Eco HS/HH PRG											
			1-2	DU-15 (1-2)					Eco PRG	Eco HS				Eco HS/HH PRG						Eco HS/HH PRG	3	0	0	0.49	21,344	2,372	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-15 (2-3)					Eco PRG	Eco HS				Eco HS/HH PRG						Eco HS/HH PRG											
	DU-16	ISM	0-1	DU-16 (0-1) M	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco HS/HH PRG	Eco PRG					Eco HS/HH PRG											
			1-2	DU-16 (1-2)		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG	3	0	0	0.40	17,424	1,936	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-16 (2-3)					Eco PRG	Eco HS		Eco PRG		Eco PRG						Eco HS											
	DU-17	ISM	0-1	DU-17 (0-1)		HH PRG			Eco PRG	Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-17 (1-2)					Eco PRG	Eco HS										Eco HS	2	0	0	0.50	21,780	1,613	0	0	2	Arsenic Mercury Total D/F TEQ	1.66 (Mercury)	6.1
			2-3	DU-17 (2-3)					Eco PRG	Eco PRG				Eco PRG						Eco PRG											
	DU-18	ISM	0-1	DU-18 (0-1) M		HH PRG		Eco PRG	Eco PRG	Eco HS	Eco PRG		Eco PRG	Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-18 (1-2) M		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG	3	0	0	0.41	17,860	1,984	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-18 (2-3) M		HH PRG			Eco PRG	Eco HS				Eco PRG						Eco HS/HH PRG											
	DU-19	ISM	0-1	DU-19 (0-1)		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco HS/HH PRG	Eco PRG				Eco PRG	Eco HS/HH PRG											
			1-2	DU-19 (1-2)		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco HS/HH PRG	Eco PRG					Eco HS/HH PRG	3	0	0	0.51	22,216	2,468	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-19 (2-3)		HH PRG			Eco PRG	Eco HS				Eco/HH PRG						Eco HS/HH PRG											
	DU-20	ISM	0-1	DU-20 (0-1)		HH PRG			Eco PRG	Eco HS				Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-20 (1-2)						Eco PRG	Eco PRG									Eco PRG	1	0	0	0.68	29,621	1,097	0	0	1	Arsenic Mercury Total D/F TEQ	1.86 (Mercury)	6.2
			2-3	DU-20 (2-3)						Eco PRG										Eco PRG											
	DU-21	ISM	0-1	DU-21 (0-1)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco HS/HH PRG	Eco PRG					Eco HS/HH PRG											
			1-2	DU-21 (1-2)		HH PRG			Eco PRG	Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG	3	0	0	0.39	16,988	1,888	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-21 (2-3)		HH PRG			Eco PRG	Eco HS				Eco PRG						Eco HS/HH PRG											
	DU-22	ISM	0-1	DU-22 (0-1) M		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco/HH PRG	Eco PRG					Eco HS/HH PRG											
			1-2	DU-22 (1-2) M		HH PRG			Eco PRG	Eco HS			Eco PRG	Eco PRG						Eco HS/HH PRG	3	0	0	0.62	27,007	3,001	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-22 (2-3) M					Eco PRG	Eco HS										Eco HS											
	DU-23	ISM	0-1	DU-23 (0-1)		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-23 (1-2)		HH PRG			Eco PRG	Eco HS			Eco PRG	Eco PRG						Eco HS/HH PRG	3	0	0	0.62	27,007	3,001	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-23 (2-3)					Eco PRG	Eco HS										Eco HS											
	DU-24	ISM	0-1	DU-24 (0-1)					Eco PRG	Eco HS				Eco/HH PRG						Eco HS/HH PRG											
			1-2	DU-24 (1-2)						Eco HS			Eco PRG	Eco PRG						Eco HS	2	0	0	0.44	19,166	1,420	0	0	2	Mercury Total D/F TEQ	1.46 (Total TEQ)	5.3
			2-3	DU-24 (2-3)						Eco PRG				Eco PRG						Eco PRG											

Please see notes at end of table.

Table 8
Exceedance Summary and Soil Removal
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Metals									D/F	PAHs					PCBs	Risk Summary	Excavation Thickness (ft)			Area		Excavation Volumes (cy)			Preliminary Soil Removal Depth (feet bgs)	Soil Removal Drivers	Leave Surface	
					Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Total D/F TEQ	Dibenzofuran	Total HPAH	Total LPAH	cPAHs	Total PCBs		Off-Site Disposal	Contingency Remedy[1]	Arsenic-Driven Excavation	Acres	Square Feet	Off-Site Disposal	Contingency Remedy[1]	Arsenic-Driven Excavation			Max Eco ER	Summed Eco ER[2]
Central Parcel	DU-25	ISM	0-1	DU-25 (0-1)		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco HH PRG	Eco PRG						Eco HS/HH PRG												
			1-2	DU-25 (1-2)					Eco PRG	Eco HS			Eco PRG								Eco HS	2	0	0	0.45	19,602	1,452	0	0	2	Arsenic Mercury Total D/F TEQ	Unknown	6.2
			2-3	DU-25 (2-3)					Eco PRG	Eco PRG			Eco PRG								Eco PRG												
	DU-26	ISM	0-1	DU-26 (0-1)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS		Eco PRG	Eco PRG	Eco HS/HH PRG	Eco PRG					Eco PRG	Eco HS/HH PRG												
			1-2	DU-26 (1-2)		HH PRG			Eco PRG	Eco HS		Eco PRG	Eco PRG	Eco/HH PRG							Eco HS/HH PRG	3	0	0	0.44	19,166	2,130	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-26 (2-3)					Eco PRG	Eco HS				Eco/HH PRG							Eco HS/HH PRG												
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite*	0-1	DU-42 (0-1)					Eco PRG	Eco HS	Eco PRG	Eco PRG	Eco PRG	Eco/HH PRG							Eco HS/HH PRG												
			1-2	DU-42 (1-2)						Eco HS				Eco/HH PRG							Eco HS/HH PRG	2	0	0	0.09	3,920	290	0	0	2	Mercury Total D/F TEQ	1.71 (Mercury)	6.3
			2-3	DU-42 (2-3)						Eco PRG				Eco PRG							Eco PRG												
East Parcel	DU-27	ISM	0-1	DU-27 (0-1)		HH PRG		Eco PRG	Eco PRG	Eco HS		Eco PRG	Eco PRG	Eco HS/HH PRG					Eco PRG		Eco HS/HH PRG												
			1-2	DU-27 (1-2)		HH PRG		Eco PRG	Eco PRG				Eco PRG	Eco HS/HH PRG	Eco PRG				Eco PRG		Eco HS/HH PRG	1	2	0	0.40	19,166*	710	1,420	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-27 (2-3)		HH PRG			Eco PRG				Eco PRG	Eco/HH PRG					Eco PRG		Eco/HH PRG												
	DU-28	ISM	0-1	DU-28 (0-1)		HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco/HH PRG					Eco PRG		Eco HS/HH PRG												
			1-2	DU-28 (1-2)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco/HH PRG							Eco HS/HH PRG	3	0	0	0.43	23,087*	2,565	0	0	3	Arsenic Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-28 (2-3)	Eco PRG	HH PRG		Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco PRG							Eco HS/HH PRG												
	DU-29	ISM	0-1	DU-29 (0-1)		HH PRG			Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG												
			1-2	DU-29 (1-2)		HH PRG			Eco PRG					Eco/HH PRG							Eco/HH PRG	0	3	0	0.42	23,522*	0	2,614	0	3	Asenic Total D/F TEQ	Unknown	Unknown
			2-3	DU-29 (2-3)					Eco PRG					Eco/HH PRG							Eco/HH PRG												
	DU-30	ISM	0-1	DU-30 (0-1)					Eco PRG	Eco PRG			Eco PRG	Eco/HH PRG							Eco/HH PRG												
			1-2	DU-30 (1-2)				Eco PRG	Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG	1	2	0	0.42	24,394*	903	1,807	0	3	Mercury Total D/F TEQ	Unknown	Unknown
			2-3	DU-30 (2-3)	Eco PRG			Eco PRG	Eco PRG	Eco HS			Eco PRG	Eco PRG							Eco HS												
	DU-31	ISM	0-1	DU-31 (0-1)		HH PRG			Eco PRG					Eco/HH PRG							Eco/HH PRG												
			1-2	DU-31 (1-2)		HH PRG			Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG	0	3	1	0.29	12,632	0	1,404	468	3	Arsenic Total D/F TEQ	Unknown	Unknown
			2-3	DU-31 (2-3)		HH PRG								Eco PRG							Eco/HH PRG												
	DU-32	ISM	0-1	DU-32 (0-1)		HH PRG								Eco/HH PRG							Eco/HH PRG												
			1-2	DU-32 (1-2)		HH PRG								Eco PRG							Eco/HH PRG	0	3	1	0.46	20,038	0	2,226	742	3	Arsenic Total D/F TEQ cPAHs	Unknown	Unknown
			2-3	DU-32 (2-3)					Eco PRG					Eco PRG	Eco PRG			HH PRG			Eco/HH PRG												
	DU-33	ISM	0-1	DU-33 (0-1)		HH PRG		Eco PRG	Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG												
			1-2	DU-33 (1-2)		HH PRG		Eco PRG	Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG	0	3	1	0.39	16,988	0	1,888	629	3	Arsenic Total D/F TEQ	Unknown	Unknown
			2-3	DU-33 (2-3)		HH PRG			Eco PRG				Eco PRG	Eco PRG							Eco/HH PRG												
	DU-34	ISM	0-1	DU-34 (0-1)		HH PRG			Eco PRG				Eco PRG	Eco/HH PRG	Eco PRG						Eco/HH PRG												
			1-2	DU-34 (1-2)		HH PRG					Eco PRG		Eco PRG	Eco/HH PRG							Eco/HH PRG	0	3	0	0.40	17,424	0	1,936	0	3	Arsenic Total D/F TEQ	Unknown	Unknown
			2-3	DU-34 (2-3)									Eco PRG	Eco/HH PRG							Eco/HH PRG												
	DU-35	ISM	0-1	DU-35 (0-1)									Eco PRG	Eco/HH PRG							Eco/HH PRG												
			1-2	DU-35 (1-2)									Eco PRG	Eco PRG							Eco PRG	0	1	0	0.39	16,988	0	629	0	1	Total D/F TEQ	2.15 (Total TEQ)	6.3
			2-3	DU-35 (2-3)									Eco PRG	Eco PRG							Eco PRG												
	DU-36	ISM	0-1	DU-36 (0-1)	Eco PRG	HH PRG			Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG												
			1-2	DU-36 (1-2)	Eco PRG				Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG	0	3	0	0.26	11,326	0	1,258	0	3	Arsenic Total D/F TEQ	Unknown	Unknown
			2-3	DU-36 (2-3)	Eco PRG				Eco PRG				Eco PRG	Eco/HH PRG							Eco/HH PRG												
	DU-38	ISM	0-1	DU-38 (0-1) M										Eco/HH PRG							Eco/HH PRG												
			1-2	DU-38 (1-2) M					Eco PRG					Eco PRG							Eco PRG	0	1	0	0.47	20,473	0	758	0	1	Total D/F TEQ	2.45 (Total TEQ)	4.3
			2-3	DU-38 (2-3) M										Eco PRG							Eco PRG												
	DU-37	Composite	0-1	DU-37 (0-1)					Eco PRG			Eco PRG									Eco PRG												
			1-2	DU-37 (1-2)								Eco PRG									Eco PRG	0	0	0	0.25	10,890	0	0	0	--	--	1.2 (Lead)	9.9
			2-3	DU-37 (2-3)											Eco PRG						Eco PRG												
	DU-39	Composite	0-1	DU-39 (0-1)																													
			1-2	DU-39 (1-2)								Eco PRG									Eco PRG	0	0	0	0.50	21,780	0	0	0	--	--	<1	2.8
			2-3	DU-39 (2-3)																													
East Parcel Concrete Slabs	DU-40	Composite	0-1	DU-40 (0-1)																													
			1-2	DU-40 (1-2)																		0	0	0	0.49	21,344	0	0	0	--	--	<1	2.0
			2-3	DU-40 (2-3)																													
	DU-43 (Within DU-31)	Composite	0-1	DU-43 (0-1)								Eco PRG									Eco PRG												
			1-2	DU-43 (1-2)																		0	0	0	0.14	6,098	0	0	0	--	--	1.004 (Selenium)	3.7
			2-3	DU-43 (2-3)																													
	DU-44 (Within DU-36)	Composite	0-1	DU-44 (0-1)																													
			1-2	DU-44 (1-2)																		0	0	0	0.20	8,712	0	0	0	--	--	<1	2.9
			2-3	DU-44 (2-3)																													
East Parcel Soil Berms	DU-41	ISM	0-1	DU-41 (0-1) M		Eco/HH PRG			Eco PRG	Eco PRG			Eco PRG	Eco HS/HH PRG	Eco PRG						Eco HS/HH PRG												
			1-2	DU-41 (1-2) M		HH PRG			Eco PRG	Eco PRG			Eco PRG	Eco HS/HH PRG	Eco PRG						Eco HS/HH PRG	0	4	0	0.40	3,915	0	580	0	3	Arsenic Total D/F TEQ	Unknown	Unknown
			2-3	DU-41 (2-3) M		HH PRG			Eco PRG				Eco PRG	Eco HS/HH PRG	Eco PRG						Eco HS/HH PRG												

Excavation Totals	Off-Site Disposal	Contingency Remedy[1]	Arsenic-Driven Excavation	Preliminary Soil Removal Depth (feet bgs)
West Parcel	7,841	11,245	7,599	2.8
Central Parcel	36,413	0	0	2.7
East Parcel	4,179	16,520	1,839	2.0
Total	48,432	27,765	9,438	2.5

Notes:

bgs = Below ground surface.
M = Mean. These results are the mean of the field replicates collected at this decision unit.
Orange shading indicates a ecological non-dioxin hot spot screening level exceedance
Yellow shading indicates a human health PRG exceedance
Grey shading indicates an ecological PRG exceedance
D/F = Dioxin/Furans
Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent
PAHs = Polycyclic aromatic hydrocarbons.
PCBs = Polychlorinated biphenyls.
ER = Exceedance Ratio
PRG = Preliminary remediation goal
Eco = Ecoloigcal

HH = Human health
HS = Hot spot
Soil Removal Drivers = Analytes that have ecological non-dioxin hot spot or human health PRG exceedances; there are no human health hot spot exceedances
HPAH = High-molecular-weight polycyclic aromatic hydrocarbon
LPAH = Low-molecular-weight polycyclic aromatic hydrocarbon

cPAHs = carcinogenic polycyclic aromatic hydrocarbon
Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent

1. Off-site disposal
* = Soil removal in DU-41 will be driven by concentrations above grade, additional removal in DU-41 is assumed to be the same as the adjacent DU, the volume of DU-41 adjacent to these DUs is added to this total
2. Summed ER includes Ers for all analytes above the MDL even if they are below the PRG

Table 9
Average Concentrations by Depth
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Sample Depth (feet bgs)	Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Total D/F TEQ	Dibenzofuran	Total HPAH	Total LPAH	cPAH	Total PCB Aroclors
West Parcel	0-1	0.634	5.86	26.1	94.4	43.4	0.133	22.6	0.513	131	17.8	5.65	1,353	174	225	118
	1-2	0.562	5.52	26.0	78.1	74.2	0.123	23.7	0.504	112	15.8	9.25	2,229	533	332	414
	2-3	0.520	5.42	23.6	59.2	36.3	0.108	21.6	0.498	118	11.6	6.78	1,469	219	231	81.7
	Trend	Decreasing	Decreasing	Decreasing	Decreasing	No Trend	Decreasing	No Trend	Decreasing	No Trend	Decreasing	No Trend	No Trend	No Trend	No Trend	No Trend
Central Parcel	0-1	1.70	6.24	17.9	93.0	171	0.984	21.9	0.524	178	88.7	17.1	4,877	858	811	50.5
	1-2	1.20	5.23	15.5	57.7	101	0.779	20.7	0.517	137	28.3	11.2	3,120	655	515	21.2
	2-3	0.707	4.08	14.1	44.7	65.2	0.489	19.1	0.515	102	18.9	8.69	2,839	546	462	17.8
	Trend	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
Central Parcel Concrete Slab	0-1	0.512 U	4.38	17.8	36.3	53.3	0.226	23.3	0.531	126	60.7	4.96 U	347	67.8	50.7	5.00 U
	1-2	0.667	4.11	18.4	25.4	30.3	0.186	22.6	0.549 U	109	22.7	4.76 U	220	42.9	30.9	5.00 U
	2-3	0.531 U	3.76	17.4	21.1	20.1	0.125	20.7	0.531 U	87.0	8.27	4.96 U	158	29.7	22.9	4.91 U
	Trend	No Trend	Decreasing	No Trend	Decreasing	Decreasing	Decreasing	Decreasing	No Trend	Decreasing	Decreasing	No Trend	Decreasing	Decreasing	Decreasing	No Trend
East Parcel	0-1	1.52	6.65	14.8	71.8	60.4	0.110	18.3	0.523	176	43.7	7.19	1,040	151	167	49.4
	1-2	1.42	5.99	13.7	72.9	59.5	0.103	17.8	0.518	167	23.1	6.53	943	144	144	39.2
	2-3	1.85	5.30	12.5	57.5	56.5	0.067	16.9	0.518 U	150	14.8	8.78	868	159	134	35.6
	Trend	No Trend	Decreasing	Decreasing	No Trend	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	No Trend	Decreasing	No Trend	Decreasing	Decreasing
East Parcel Concrete Slabs	0-1	0.541	2.90	13.5	18.6	7.07	0.041 U	16.7	0.514	61.2	2.20	4.94 U	78.7	21.9	11.4	4.94 U
	1-2	0.524 U	3.19	14.2	16.9	6.12	0.042 U	17.9	0.538	52.5	1.00	5.00 U	66.5	73.6	8.77	4.96 U
	2-3	0.520 U	3.17	14.2	16.6	5.07	0.042 U	18.0	0.520 U	47.8	0.83	4.96 U	67.3	45.3	10.3	4.94 U
	Trend	Decreasing	No Trend	No Trend	Decreasing	Decreasing	No Trend	Increasing	No Trend	Decreasing	Decreasing	No Trend	No Trend	No Trend	No Trend	No Trend
East Parcel Soil Berms	0-1	1.73	22.7	16.7	66.2	79.2	0.137	16.1	0.531	127	221	14.4	1,980	284	291	56.8
	1-2	1.89	11.9	19.1	61.8	122	0.100	18.1	0.514	156	224	33.8	1,743	470	242	69.8
	2-3	1.49	14.0	21.1	43.6	87.8	0.059	21.4	0.511	168	132	10.6	1,020	199	144	36.1
	Trend	No Trend	No Trend	Increasing	Decreasing	No Trend	Decreasing	Increasing	Decreasing	Increasing	No Trend	No Trend	Decreasing	No Trend	Decreasing	No Trend

Notes:

bgs = Below ground surface.

HPAH = High-molecular-weight polycyclic aromatic hydrocarbon

LPAH = Low-molecular-weight polycyclic aromatic hydrocarbon

cPAHs = carcinogenic polycyclic aromatic hydrocarbon

Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent

PCBs = Polychlorinated biphenyls.

U = all results used to calculate the average were below the method detection limit

Yellow shading indicates exceedance of human health preliminary remediation goal.

Blue shading indicates exceedance of ecological PRG.

Orange shading indicates exceedance of ecological hot spot.

Table 10
Cumulative Exceedance Ratio
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Cumulative Exceedance Ratio	
				Ecological	Human Health
West Parcel	DU-1	ISM	0-1	19.1	4.5
			1-2	49.7	8.2
			2-3	10.8	2.9
	DU-2	ISM	0-1	12.1	2.5
			1-2	16.4	2.7
			2-3	4.8	1.3
	DU-3	ISM	0-1	7.9	3.6
			1-2	5.1	2.3
			2-3	4.3	2.0
	DU-4	ISM	0-1	9.5	3.7
			1-2	13.0	5.8
			2-3	10.3	4.2
	DU-5	ISM	0-1	19.1	3.7
			1-2	17.4	3.2
			2-3	18.1	3.6
	DU-6	ISM	0-1	9.4	2.2
			1-2	13.9	3.3
			2-3	12.2	2.5
	DU-7	ISM	0-1	11.5	2.4
			1-2	7.7	1.9
			2-3	6.0	1.2
	DU-8	ISM	0-1	12.2	2.9
			1-2	11.7	2.7
			2-3	11.8	2.8
	DU-9	ISM	0-1	11.7	2.7
			1-2	9.1	2.2
			2-3	9.9	2.3
Central Parcel	DU-10	ISM	0-1	31.5	11.8
			1-2	27.8	10.3
			2-3	20.1	6.4
	DU-11	ISM	0-1	26.7	9.9
			1-2	18.3	5.1
			2-3	21.0	8.7
	DU-12	ISM	0-1	19.2	3.9
			1-2	12.6	1.8
			2-3	8.1	1.3

Please see notes at end of table.

Table 10
Cumulative Exceedance Ratio
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Cumulative Exceedance Ratio	
				Ecological	Human Health
Central Parcel	DU-13	ISM	0-1	60.6	17.1
			1-2	20.9	3.5
			2-3	20.9	2.8
	DU-14	ISM	0-1	43.2	7.4
			1-2	66.0	5.2
			2-3	50.2	3.1
	DU-15	ISM	0-1	85.6	28.3
			1-2	55.9	14.4
			2-3	36.7	11.0
	DU-16	ISM	0-1	106.9	17.3
			1-2	36.2	3.6
			2-3	11.6	1.5
	DU-17	ISM	0-1	21.1	4.1
			1-2	9.6	1.2
			2-3	6.0	1.2
	DU-18	ISM	0-1	40.6	6.8
			1-2	24.6	3.0
			2-3	15.8	2.2
	DU-19	ISM	0-1	47.3	12.3
			1-2	41.1	9.1
			2-3	18.1	4.7
	DU-20	ISM	0-1	17.1	4.1
			1-2	6.2	1.2
			2-3	5.1	1.1
	DU-21	ISM	0-1	40.5	8.5
			1-2	16.0	3.1
			2-3	10.0	2.1
	DU-22	ISM	0-1	26.9	4.0
			1-2	10.7	1.7
			2-3	10.0	1.5
	DU-23	ISM	0-1	36.4	4.9
			1-2	15.5	2.1
			2-3	12.3	1.5
	DU-24	ISM	0-1	12.5	2.8
			1-2	7.1	1.4
			2-3	5.3	1.2

Please see notes at end of table.

Table 10
Cumulative Exceedance Ratio
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Cumulative Exceedance Ratio	
				Ecological	Human Health
Central Parcel	DU-25	ISM	0-1	32.2	5.4
			1-2	10.7	1.4
			2-3	6.2	1.1
	DU-26	ISM	0-1	56.5	9.5
			1-2	27.7	4.4
			2-3	16.3	2.6
Central Parcel Concrete Slab	DU-42 (Within DU-16)	Composite	0-1	19.0	5.2
			1-2	10.4	2.4
			2-3	6.3	1.4
East Parcel	DU-27	ISM	0-1	31.2	10.9
			1-2	20.5	7.3
			2-3	12.7	5.7
	DU-28	ISM	0-1	24.0	4.8
			1-2	29.0	6.5
			2-3	19.3	3.8
	DU-29	ISM	0-1	17.6	5.4
			1-2	6.8	2.4
			2-3	6.2	2.1
	DU-30	ISM	0-1	19.2	5.4
			1-2	15.8	3.2
			2-3	17.4	2.9
	DU-31	ISM	0-1	16.1	5.6
			1-2	9.5	2.6
			2-3	6.5	2.3
	DU-32	ISM	0-1	10.6	4.6
			1-2	4.4	2.3
			2-3	9.1	2.3
	DU-33	ISM	0-1	16.7	4.3
			1-2	12.6	3.5
			2-3	8.1	2.2
	DU-34	ISM	0-1	18.1	5.7
			1-2	11.7	3.3
			2-3	10.1	3.0
	DU-35	ISM	0-1	12.4	3.9
			1-2	6.3	2.0
			2-3	4.7	1.4

Please see notes at end of table.

Table 10
Cumulative Exceedance Ratio
Willamette Cove Upland Facility
Portland, Oregon

Sample Location	Decision Unit	Sample Type	Sample Depth (feet bgs)	Cumulative Exceedance Ratio	
				Ecological	Human Health
East Parcel	DU-36	ISM	0-1	16.3	4.4
			1-2	17.2	4.1
			2-3	12.4	3.1
	DU-37	ISM	0-1	9.8	2.9
			1-2	7.4	2.1
			2-3	6.1	1.5
	DU-38	ISM	0-1	4.9	0.8
			1-2	4.3	0.7
			2-3	3.5	0.8
East Parcel Concrete Slabs	DU-39	Composite	0-1	2.8	0.9
			1-2	3.7	0.7
			2-3	2.6	0.8
	DU-40	Composite	0-1	2.0	0.7
			1-2	2.0	0.8
			2-3	1.9	0.7
	DU-43 (Within DU-31)	Composite	0-1	3.6	0.9
			1-2	2.6	0.7
			2-3	2.2	0.7
	DU-44 (Within DU-36)	Composite	0-1	3.1	0.7
			1-2	2.3	0.7
			2-3	2.1	0.7
East Parcel Soil Berms	DU-41	ISM	0-1	47.8	20.6
			1-2	51.1	18.4
			2-3	31.5	12.4

Notes:
bgs = Below ground surface.

Cumulative ER <10 for Eco or <4 for Human Health
Cumulative ER between 10 and 30 for Eco or between 4 and 10 for Human Health
Cumulative ER >30 for Eco or >10 for Human Health



Note: Base map prepared from USGS 7.5-minute quadrangles of Linnton and Portland, OR, dated 2020 as provided by USGS.gov.





0 2,000 4,000

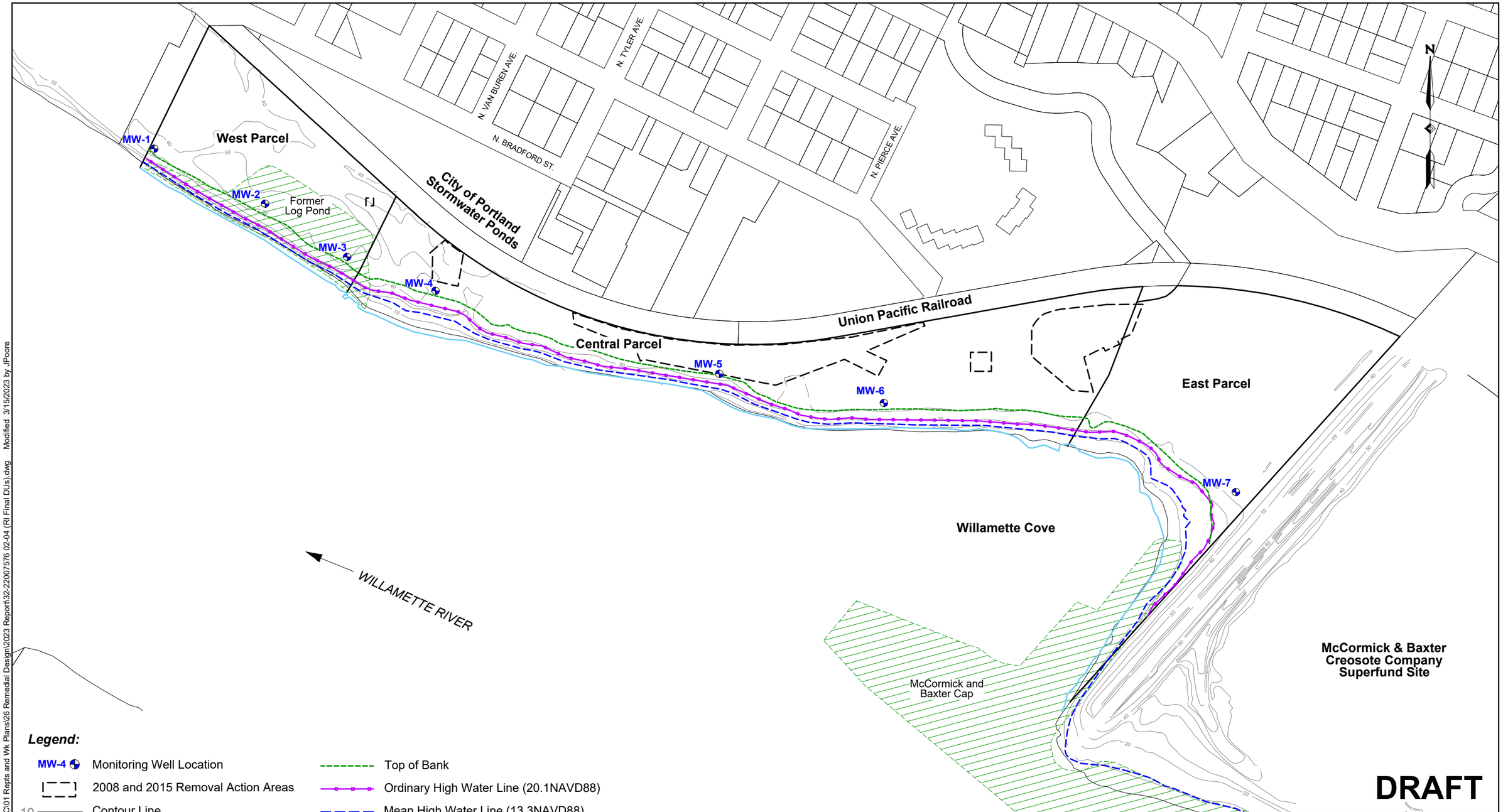
Approximate Scale in Feet

Facility Location Map

Remedial Design Investigation Report
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: SM	Figure 1
	March 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\Report 2023\32-22007576 01 (Facility Location).des



Legend:

- MW-4 — Monitoring Well Location
- 2008 and 2015 Removal Action Areas
- 10 — Contour Line
- Top of Bank
- Ordinary High Water Line (20.1NAVD88)
- Mean High Water Line (13.3NAVD88)
- Ordinary Low Water Line (6.9NAVD88)

NOTE: Base map prepared from Bing Imagery. Tax lot information from ©Oregon Metro www.oregonmetro.gov/rlis (2023). Historical base layer information from an electronic file provided by Hart Crowser.

0 250 500
Scale in Feet

DRAFT

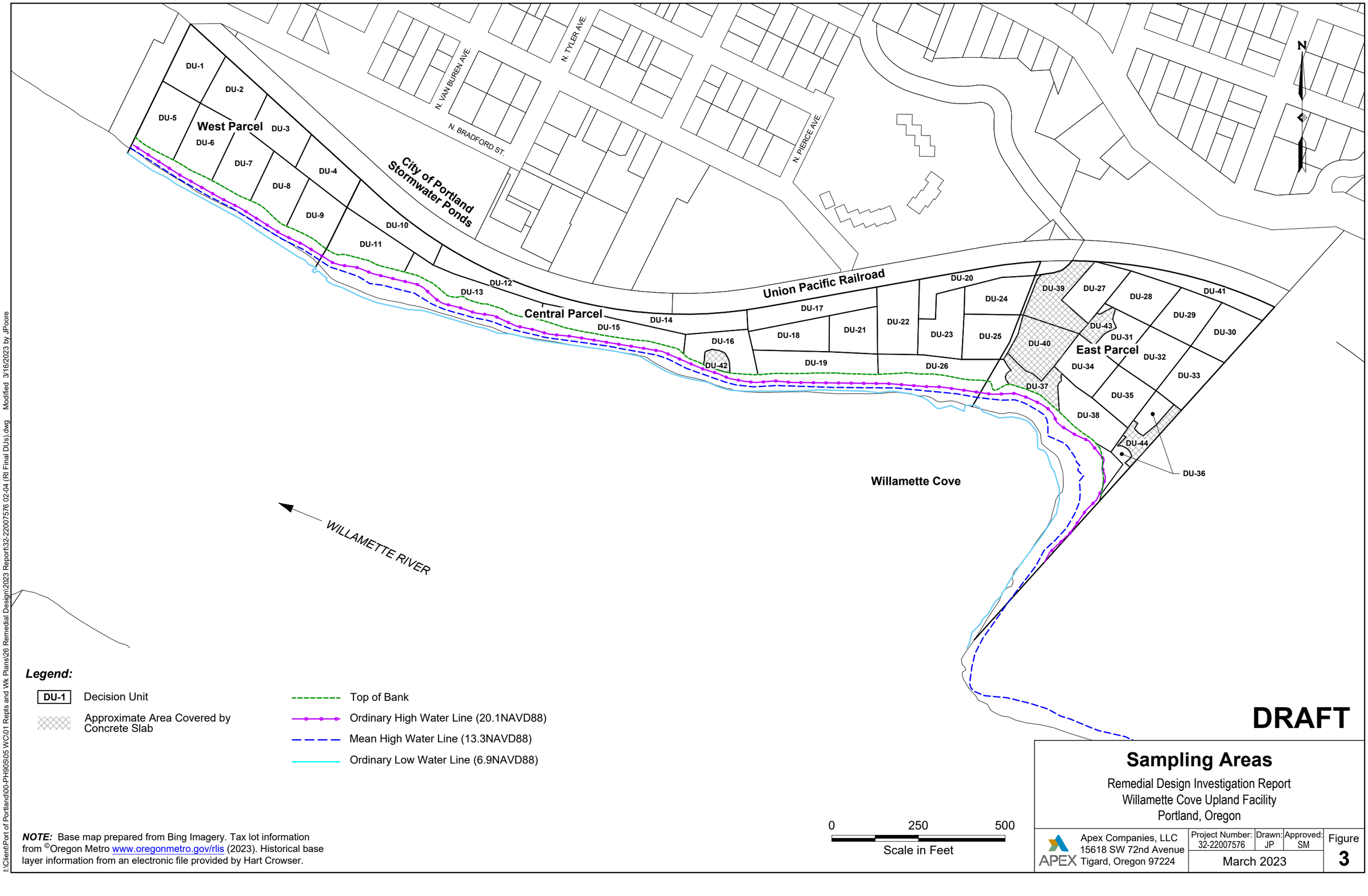
Facility Plan

Remedial Design Investigation Report
Willamette Cove Upland Facility
Portland, Oregon

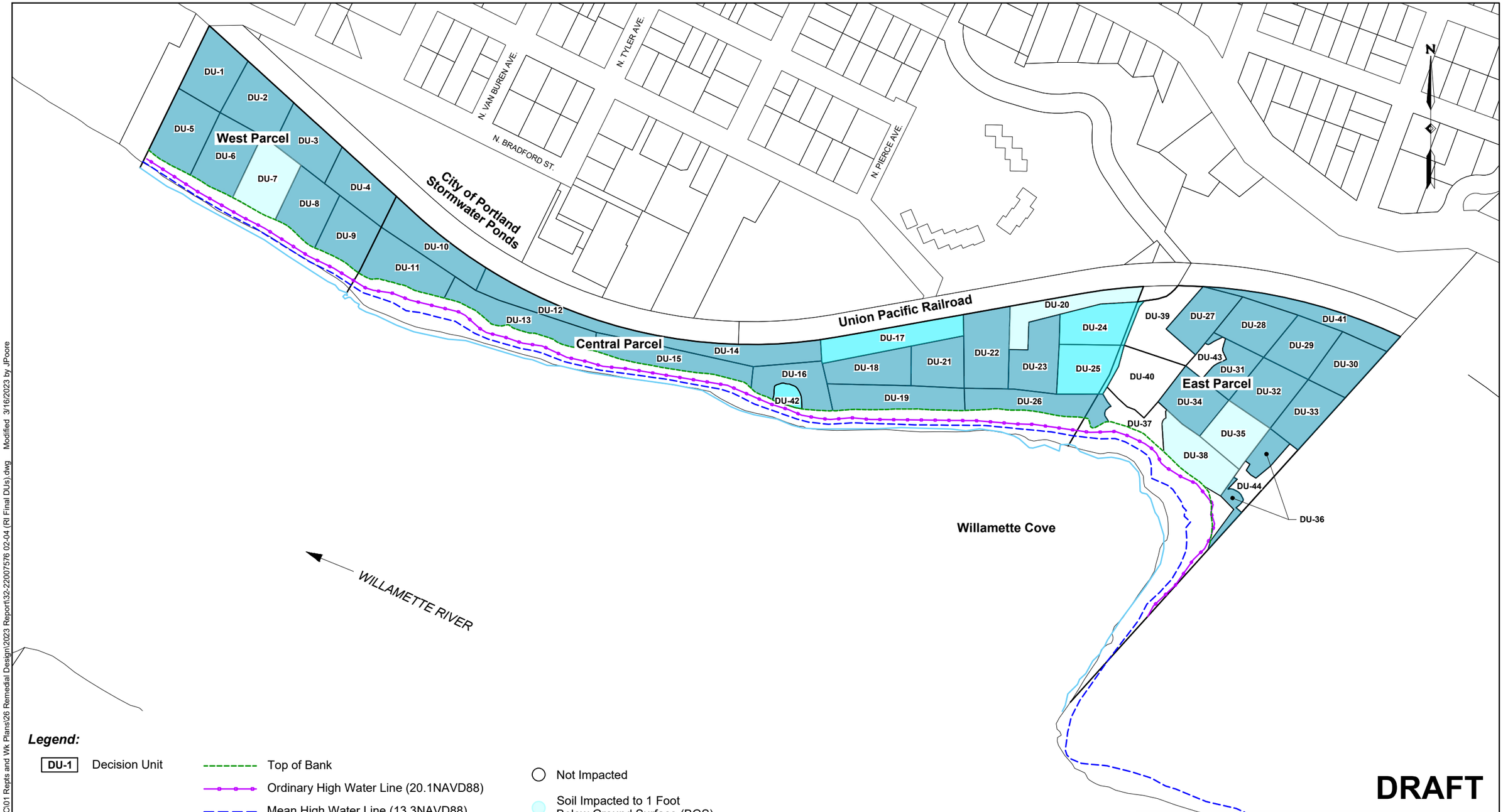
Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Figure
32-22007576	JP	SM	2
March 2023			

I:\Client\Port of Portland\000-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\2023 Report\32-22007576 02-04 (RI Final DUs).dwg Modified 3/15/2023 by JPoore



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Legend:

DU-1 Decision Unit

Top of Bank

Ordinary High Water Line (20.1NAVD88)

Mean High Water Line (13.3NAVD88)

Ordinary Low Water Line (6.9NAVD88)

Not Impacted

Soil Impacted to 1 Foot Below Ground Surface (BGS)

Soil Impacted to 2 Feet BGS

Soil Impacted to at Least 3 Feet BGS

Impacted = Exceeds Non-Dioxin Ecological Hot Spot or Human Health Preliminary Remediation Goal.

NOTE: Base map prepared from Bing Imagery. Tax lot information from ©Oregon Metro www.oregonmetro.gov/rlis (2023). Historical base layer information from an electronic file provided by Hart Crowser.

0 250 500

Scale in Feet

DRAFT

Depth of Soil Impact

Remedial Design Investigation Report
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Figure
32-22007576	JP	SM	4
March 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\2023 Report\32-22007576 02-04 (RI Final DUs).dwg Modified 3/16/2023 by JPoore

Appendix A

Soil Sampling Field Documentation

07/18/22 Robert Schottler High Temp 75°

0806- Arrive on site and meet AEC representatives. Introductions made and gear unpacked.

0830- Tailgate safety meeting conducted and sign in forms completed.

0900- Pick up gear and load to sampling location

0930- Unload gear and prep for sampling

1030- Begin sampling

1130- I leave site for scheduled PTO.

Rite in the Rain

4 07/19/22 Robert Schettler High Temp: 90°

0800 - Arrive on site

0830 - Conduct tailgate safety meeting

0845 - Pick gear and load to site

0900 - Begin sampling and marking DU-5

1445 - Katy (Metro) and Jennifer (DEQ) visit to observe sampling.

DEQ requests sample located on roadway be relocated to nearest edge of road where native soils begin.

DEQ requests samples containing significantly more mass than target of 130g be homogenized and ~~reduced~~ AS reduced to achieve target mass range.

1525 Katy and Jennifer depart

1600 DU-5 flagging complete

1645 Off site

Soil = Sandy silt with trace organics, DU-1 brick fragments, and concrete

5

Rite in the Rain

07/20/22 Robert Schettler High Temp: 91°

0820 - Arrive on site

0820 - Conduct tailgate safety meeting

0900 - Gear loaded - head to site

0915 - Begin sampling

1600 - no visitors, 14 sample locations complete - DU-1 finished. DU-5 prepped for tomorrow. Less concrete found today. Concrete is primarily in NW Corner.

Rite in the Rain.

07/21/22 Robert Schaffer High Temp 86°

0800 - Arrive on site
0820 - Conduct tailgate Safety meeting
0830 - Load gear
0850 - Arrive at DU-5 and unload gear
0910 - Begin Sampling
1000 - Complet marking A, B, and C Sample locations
1600 - Sampling complet for day. (6 Sample(s) (with replicates) complete. DU-5 contained very thick vegetation including poison hemlock, Hackberry, and Hawthorne. Safety briefings for each plant given.

DU-5 Soil : Sandy silt, trace organics, trace brick frag, trace concrete, trace gravel

Rite in the Rain

10

07/22/22 Robert Schettler High Temp: 78°

0800- Arrive on site

0820- Conduct tailgate Safety meeting

0830- Pick truck

0900- Gear prepped and sampling begins

1057- Paul Slyman and Katy Weil, (both from Metro) stop by to observe sampling and discuss artifact procedures

1134- Paul and Katy off site

1400- DU-6 flagged. DU-6 similar to DU-5, more H. blackberry & ivy.

1600- Off site / done sampling

Scrap metal and logs have been found under ivy ground cover

11

Rite in the Rain

12

07/25/22 Robert Schuttler High Temp: 98°

~~0700~~ - Arrive on site

~~0715~~ - Conduct tailgate safety meeting

~~0720~~ Load truck

~~0745~~ On site, unload truck & sampling gear

0800 - Begin sampling

1110 - Tom Stubblefield (adjacent property owner) stopped by and advised of loud partying at the cement pad at night.

1115 Tom leaves a Tom was given a safety briefing of the site

1400 - 1-2 ft sample intervals complete

1500 - Sampling complete. 85 of the 2-3 ft samples complete

Soil type ~~Silty~~ Sandy Silt with trace DU-5 organics, brick, concrete, gravel

In the morning we discovered that over the weekend our markers for DU-5 and ~~DU-6~~ as DU-6 had been removed. Much of the day was spent re-marking these locations.

13

Rite in the Rain

07/26/22 Robert Schattler High Temp: 101°

0700- Arrive on site

0715- Conduct tailgate safety meeting

0720- Pack gear in truck

0750- At sample location - unload gear.

0800- Begin sampling

0900- Kevin Woolhouse (H+A) and David Walker (AEC) visited the staging area with Steve Misner. They inspected the electrical hook-ups for the office U-box.

0950 - Kevin, David, and Steve depart.

1400 - DU-6 sample locations have been marked at. DU-6 has thicker vegetation than DU-5, and has made maneuvering with the excavator difficult.

1500- Pack up equipment.

1530- Off site.

Rite in the Rain

07/27/22

~~07/26/22~~ Robert Schettler High Temp 97°

0700- On site
0715- Conduct tailgate safety meeting
0720- Pack gear
0750- On sample site (DU-6) - truck unloaded
0800- Begin sampling
0900- Begin flagging DU-7
1300- UTV arrived at staging area. Pictures were taken to show condition.
1430- DU-7 flagging completed
1500- End sampling / pack up gear.
1530- Off site.

DU-7 vegetation similar to DU-6.
Soil DU-6 soil: Sandy silt with trace organics, brick frag, concrete.

Rite in the Rain

07/28/11 Robert Schettler High Temp: 97°

0700 - On site

0715 - Conduct tailgate safety meeting

0745 - On site - unloading gear. Britta is being trained on drilling procedures

0900 - Trailer was delivered by Steve, we are attaching the reciever to the UTV.

0930 - UTV and New trailer are delivered to the sample location.

0945 Sampling begins

1230 DU-6 sampling complete

1259 DU-2 vegetation is removed in select areas for tomorrows sampling

1500 Sampling complete for the day. An additional 12 samples were collected in DU-7.

1530 - Off site

Soil - DU-7 soil is sandy silt with trace organics, concrete, and occasional scrap metal.

Rite in the Rain

7/29/22 Robot Science High temp: 99°

0700 - Arrive at staging area
0715 - Conduct tailgate safety meeting
0730 - Load gear onto trailer.
0745 - Arrive at sample location (DU-7).
0800 - Begin sampling
0930 - Pin holding main bucket of excavator broke. Jason is calling for a replacement. Temp workers continue sampling at the locations previously excavated.
0949 - Steve is notified of issue with excavator after talking with Jason.
1306 - Sampling complete for the day. Ended early due to excessive heat. DU-7 complete.
1330 - Gear being stowed.
1345 - Off site.

DU-7 Soil: Sandy silt with trace organics, concrete, scrap metal

Rite in the Rain

22

8/01/22 Robert Schettler High Temp: 89°

0700 - On site.

0715 - Conduct tailgate safety meeting

0720 - AEC has connected electricity to field office. Inspector to come at unknown future time

0725 - Head to DU-2 for Sampling

0740 - Begin sampling

1000 - Sample locations below moved:

~~DU-02-4 → DU-2r:~~ N

DU-02-4 → DU-2-4r

- moved 13ft SSE of original due to granit retaining blocks

DU-02-14 → DU-2-14r

- moved 12 ft SSW of original due to fiber optic lines.

DU-02-21 → DU-2-21r

- moved 21 ft SW of original due to fiber optics / trees

1506 - Sampling complete

1530 - off site

S.I: Sandy silt, trace organics, cement, sandy mud

23

Rite in the Rain

8/12/22 Robert Schaller High temp - 97°

1030- On site - Site start for meeting

Crew started at normal time

- DU-3 sampling in progress

- Jobs performed this week today meetings.

1580- Sampling complete

1530- Off site

Rite in the Rain

8/3/22 Robert Sketchley High Temp: 85°

0700- On site

0730- Perform tailgate safety meeting.
Alex is on site today as is
Steve to conduct a field audit

0745- Pack gear.

0800- On site, begin sampling

1030- DV-4 marked out relocates below
04-01A → 11'S of original - due to fiber optics
04-03A → 8'W of original -
04-07A → 8'SW of original -
04-13A → 6'W of original -
04-19A → 8'WSW of original -
04-25A → 16'W of original -

1245 Call Century Link to have them re-mark fiber optics after concern about lack of delineation.

1300- Century Link locate scheduled

~~2455~~ 1445 - Visit tomorrow

1500- Sampling complete for the day

1530- off site

Soil: Sandy silt with trace organics, concrete, metal scrap, NPF

Rite in the Rain

9/4/22 Robert Schaffler high temp: 77

0700- On site - Century Link on site

0720- Perform full site Safety meeting

0730- Pull gear

0745- At sample site, unload and sample

0800- Century link marking Fiber Optics

1000- Century Link off site

1525- Erin McDonnal & Jennifer Peterson (DEQ) perform site visit.

1645- DEQ off site
- 24 sample locations complete
- begin flagging DUP.

Soil- Sandy silt, trace organics, metal scrap, concrete

Rite in the Rain

30

8/5/22 Robert Sketchley high temp: 83

0700 - On site

0715 - Conduct tailgate safety meeting

0745 - On site, gear unpacked, begin sampling

1100 - DU-1 flagged

1500 - Sampling complete for the day

1530 - off site

Sol - Sandy silt, trace organics, concrete, scrap metal

31

Rite in the Rain.

8/8/22 Robert Sletter High Temp: 88

0700- On site
0715- Conduct tailgate Safety meeting
0730- Pack gear and head to sampling site
0745- Unpack and begin sampling
1300- DU-11 flagging complete
1400- Hydraulic hose broke on excavator
1420- Left to get absorbant pads for leaking hydraulic fluid
1450- Excavator stored at staging area- absorbant pads in place. We will use small amount of hydraulic fluid of blacktop. Excavator repairs planned for 0800 tomorrow.
1500- Sampling complete
1530- Off site

Soil Sandy silt - trace organics, concrete, metal debris. NPF

Rite in the Rain

8/5/22 Robert Schetter High Temp: 86

0700- On site

0715- Contact tailgate safety meeting
- mechanic on site working on fixing hydraulic hose - repairs expected to be complete shortly

0745- Arrive on site, unpack, begin Sampling

0922- Update Steve on excavator repair status

1013- Mechanic believes repairs will take until early afternoon - 2:00 PM? Call Steve and ask about ending day early. Temps will mark out DU-10 under supervision of J. Ike.
- We are sorting equipment, cleaning, decanning equipment, and prepping for tomorrow.

1230 Off site

Rite in the Rain

8/10/22 Robert Schetter His temp: 80

0700- Arrive on site

0715- Conduct tailgate Safety meeting
- Excavator repaired

0745- Gear unloaded at DU-11,
begin sampling DU-10
flagged yesterday by temps/J.Hu.

1104- Relocate due to fiber optics below
10-29A 2 feet SSW of original

1300- W.C. RDI Check-in meeting

1330- Meeting over

1500- End sampling for day/pack up

1530- Off site

DU-11

Soil: Sandy Silt with trace organics, cement, scrap metal.
- ~~Western~~ Eastern most portion of DU-11 had silty-sand in 3 sample locations.

Rite in the Rain

08/11/22 Robert Schettler High Temp: 95°

0700 ~~0700~~ 0645- Arrive on site - no security present. Security guard has not been seen in the mornings by earliest workers this week.

0715- Conduct tailgate safety meeting.

0725- Park gear

0740- Arrive on site for sampling in DU-10. Wes begins clearing vegetation. Temps unpark gear. Jake and I met with several people clearing vegetation for Metra.

0845- Sampling begins in DU-10.

0935- Flagging in DU-10 complete
- Flags reset for relocations
- Relocations in DU-10 - 11 for filter optics
  - 10-11r → 17.5' SSW of original
  - 10-17r → 8.5' SW " "
  - 10-23r → 10.5' WSW " "
  - 10-26r → 5.25' SW " "
  - 10-29r → 2.5' SSW " "

1500 - End sampling for day

1530 - Off site.

Rite in the Rain

8/12/22 Robert Schettler High Temp: 86°

0700 - Arrive on site.
0715 - Conduct tailgate safety meeting
0730 - Head to sampling location (DU-12)
0745 - Begin sampling
1200 - Perimeter at DU-12 flagged
1200 - End day early due to issues with the lube. Lab can't keep up with sampling rate.

Rite in the Rain

8/15/22

~~SH~~ @ Robert Schottler High Temp: 86°

0700 - Arrive on site.

0715 - Conduct tailgate safety meeting

0725 - Pack gear and head to sample site

0740 - Unpack, continue flagging DU-12.

1000 - Complete flagging DU-12.

1500 - End sampling for day

1530 - Off site

Rite in the Rain

6/16/22 Robert Schmidt High Temp: 89°

0700 - Arrive on site

0715 - Conduct tailgate safety meeting

0730 - Put gear, head to DU-12

0745 - Unpack gear
- begin sampling
- continue flagging DU-12

1100 - Lunch break - pizza ordered for the crew
- Wes is changing belt on the excavator

1500 - End sampling for the day, pack gear.

1530 - Off site

Soil - Majority of soil in DU-12 is Sandy silt found in other DUs a little less than ½ of the eastern part of DU-12 is silty sand with gravel, trace glass nickel, and organics. Concrete still present in some samples.

Rite in the Rain.

8/17/22 Robert Schaffer High Temp 98°

0700 - Arrive on site,

0715 - Jake conducts tailgate safety meeting. There is more poison oak in the central gorge.

0730 - Pack gear, haul to site

0745 - Unpack gear and continue flossing DU-14.

0815 - Begin sampling

1020 - Steve arrives on site for sampling observation and to meet with Dwight.

1220 - All visitors off site

1500 - Complete sampling for day, bring gear back to staging area

1530 - Off site

Rite in the Rain

48 8/1 8/22 Robert Schiller High Temp = 95°

0700 Arrive on site

0715 Conduct tailgate safety meeting

0720- Park gear and load to DU-15

0740- begin sampling and flossing

0900- Flossing of DU-15 complete

1500- Sampling complete & tools packed

1530- Off site

WHAT to write with? for BEST results

USE WET OR DRY
most pens stop writing when wet
- ALL PENCILS
- RITE IN THE RAIN PENS
- WAX MARKERS
- CRAYONS
- OIL PASTELS / PAINT

WHEN DRY ONLY
what you write won't wash off
- PERMANENT MARKERS
- STANDARD BALLPOINTS

WON'T WORK
water-based inks bead off sheet
- GEL PENS
- MOST HIGHLIGHTERS
- FOUNTAIN PENS
- WATER COLORS
- ACRYLIC PAINT

TACOMA, WA, USA
— EST. 1916 —
Rite in the Rain®
— DEFYING MOTHER NATURE —

Yes, Rite in the Rain is a wood-based & recyclable paper, but unlike plain paper... it won't turn to mush when exposed to:

rain storms | heavy sweat | oil & grease | mud & grime | laundry mishap

ALL-WEATHER TOUGH!

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The Rite in the Rain story began a century ago in the forests of the Great Pacific Northwest. Entrepreneur Jerry Darling recognized the logging industry's need for a durable material that could be written on and survive in poor weather conditions. Jerry developed a special coating that created a unique moisture shield on the hand-dipped sheets of paper that he and his wife, Mary, processed at their home.

J.L. DARLING est. 1916

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8/19/22 Robert Schaffer High Temp: 83°

0700- Arrive on site

0715- Conduct tailgate safety meeting

0725- Pick gear, head to DU-15

0745- Arrive on site at DU-15, unpack and prepare to survey

1200- DU-15 complete

1200- Fly DU-13

1300- DU-13 flown

1500- Survey complete for the day

1530- Off site

Rite in the Rain

8/29/22 Robert Schiffler High Temp: 83°

0700- Arrive on site

0715- Conduct tailgate safety meeting

0720- Pick gear, head to DU-13

0740- Arrive on site, unpack gear.

0750- Flags and stakes have been stolen / misplaced at several sample locations. We will begin re-flagging these areas.

0900- All flags and stakes have been replaced.

0920 - Sampling resumes

1500- Sampling complete for the day

1530- Off site

Rite in the Rain

8/30/22 Robert Schaffer High Temp: 106°

0700 - Arrive on site

0715 - Conduct tailgate safety meeting

0725 - Park gear and head to DU-13

0740 - Arrive on site / unpark / prep for sampling

0830 - Trudy came out excavator. Was to called for a replacement excavator. There are plenty of holes pre-dug for the temp workers to continue working

1100 - Excavator is replaced

1500 - Sampling complete for the day.

1530 - Off site

Rite in the Rain.

8

6/30/22 Robert Schaller High Temp: 92°

0700 - Arrive on site

0715 - Conduct tailgate safety meeting

0720 - Pick gear, load to site

0740 - Unpack gear, prep for sampling.

0750 - Begin sampling DU-13 2'-3'

1100 - DEQ visit will not occur today. Dwight and Steve arrive for site visit

1145 - Dwight and Steve are off site

1430 - DU-14 flagged.

1500 - Sampling complete for the day.

1550 - Off site.

9

Rite in the Rain.

09/01/22 Robert Schettler High Temp = 90°

0700 - Arrive on site

0715 - Conduct tailgate safety meeting

0730 - Pack gear, head to DU-17.

0745 - Unpack gear for sampling

0757 - Begin sampling

1430 - Remove of DU-19 flyspeck

1500 - Done sampling for the day

1530 - Off site.

Rite in the Rain

12

09/02/22 Rain Sched High Temp: 83°

0700- Arrive on site

0715- Conduct Tailgate safety meeting

0730- Pack gear, Load to DU-17.

1100- DU-17 complete

1200- DU-19 flipped

1230- Begin sampling DU-19

1500- Done sampling for the day

1530- Off site

13

Rite in the Rain.

14

09/06/22 Robert Schaffer High Temp: 93°

0700- Arrive on site

0715- Conduct tailgate safety meeting

0720 Pick gear - haul to DU-19

0740 Gear unpacked - ~~continue~~ AS begin sampling DU-19

1100- Begin flagging DU-21

1115 - A fire burned 1000 - 2000 sq ft near DU-37. Stone & Kelly on scene.

1500- End sampling for the day, DU-19 complete

1530- Off site.

15

Rite in the Rain

16

09/07/22 Robert Schettler High Temp: 83°

0700- Arrive on site

0720- Conduct tailgate Safety meeting

0730- Pick gear, head to DU-21.

0745- Unpack gear at DU-21, prep for sampling

0830- Yellow jacket nest found in sampling location near rock - rail used to kill yellow jackets - several dozen still remain, more spray needed

1300- Weekly RDI meeting begins

1410- Meeting over

1500- Sampling complete for day - 2 samples remain in DU-21 due to yellow jackets

1530- Off site

17

Rite in the Rain

05/08/22 Robert Schmitt - High Temp: 80°

0700 - Arrive on site

0715 - Conduct tailgate safety meeting

0730 - Pick gear, head to DU-21

0745 - Arrive on site, unpack gear

0800 - Remaining yellow jackets have been spread - we will give some time to make sure they do not return.

0815 - Several yellow jackets remain, more spray used

0830 - Several more yellow jackets spotted

0905 - Complete sampling DU-21

0930 - Begin flossing DU-24

1110 - Complete flossing DU-24, we were swarmed by yellow jackets, Brittany was stung 4 times, I was stung once - see daily report for more details.

1130 - Work area called

1215 - Nobody is having allergic reactions due to stings - Cells being made to relevant parties - Moving to DU-20.

1400 ~~PM~~ - DU-20 - setting large amount of silt fence - Moving to DU-16

1500 - DU-16 flossing complete

1501 - Off site

Rite in the Rain

09/09/22 Robert Sebelius High Temp: 88°

- Alexis & Britting went to take measurements and map obstructions in the remaining D.U.s I was not on site

Rite in the Rain

22

09/12/22 Robert Schaffer High Temp: 78°

0700- Arrive on site - Meet w/n Hwy

0715- Conduct tailgate Safety meeting
- special emphasis put on yellow jackets

0730- Pick gear, load to DU-16

0745- Unpack gear, prep for sampling

0800- Begin sampling

1500- Sampling complete in DU-16 for
0-1" interval

1520- Off site

23

Rite in the Rain.

09/13/22 Robert Schaffer High Temp: 73

0700 - Arrive on site

0715 - Conduct tailgate safety meeting

0720 - Park gear, haul to DU-16

0730 - Arrive at DU-16

0845 - Very hazy, hit multiple places where there is concrete under the sample area - Holes continued to naval trails back filled - heading to DU-18 next

0940 - DU-18 contains concrete & metal pipes - more consideration needed - choosing next DU. - DU-25

1020 - DU-25 contains too many yellow jackets - adjacent DU-24 with most

1100 - DU-26 flossing begins

1130 - DU-26 also contains too much concrete to sample without more consideration

1200 - Begin flossing DU-28

1300 - Begin sampling DU-24

1500 - Sampling complete for the day

1530 - Off site

Rite in the Rain

05/14/24 Robert Scheetz High Temp: 75°

0700- Arrive on site

0715- Conduct full site safety meeting

0720- Park gear

0730- Arrive on site in DU-24

0745- Use continuous digging in DU-24 for the 1'-2' interval

1030 - Begin digging test pits in DU-27 to determine extent of buried concrete

1100 - DU-27 concrete mapped

1300 - Begin ~~mapping~~ as flagging DU-24 for the day

1500- Sampling complete

1530- Off site.

Rite in the Rain

09/15/22 Robert Schettler High Temp: 75°

0700- Arrive on site
0715- Vector control briefed on site safety. Vector control shown area where yellow jackets were found near the cement pad
0720- Tailgate safety meeting performed
0730- Pick gear and head to DU-29
0800- Meet with Vector control. A nest was sprayed for yellow jackets but it is not clear if it was the nest originally found. The spray was not applied in an area that should interfere with sampling.
0815- Begin sampling
1100- Map DU-16
1300- Map DU-27
1400- Willamette Cove Tech Condition Meeting
1500- Stake perimeter of DU-30.
1520- Complete sampling for the day
1530- Off site

Rite in the Rain

09/16/22 Robot Schedule High Temp: 70°

0700- Arrive on site
0715- Conduct tailgate safety meeting
0720- Pack gear and head to DU-30
0740- Continue staking DU-30.
1000- Make minor adjustments to maps in DU-16 & DU-27
1300- Stake perimeter of DU-33
1515- Complete sampling for the day
1530- Off site.

Rite in the Rain

Willamette Cove 9/19/22

0700 Apex arrives w/ AEC to staging site

0730 Apex Deprefs everyone on safety protocal and plan for the day

0810 Apex and Aec pack up and head to DV-33

0830 Apex and AEC Begin to prep for drilling.

0900 Apex Begins to drill

(Note: Due to accumulated Brick, drilling is very slow)

1230 Sampling Break for apex

1500 Apex and aec finish for the day. Apex finished 22 sample locations

1540 Apex and aec leave the site for the day

Rite in the Rain

Willamette Cove 9/20/22

0700 Apex and aec arrive to the staging area
0730 Apex debreifs everyone one on plan for the day and safety protocal
0800 Apex and AEC pack up and head to DU-~~33~~
0830 Apex and aec prepare for drilling at site
0845 Apex Begins drilling
0922 Apex finishes Drilling at DU-33
0930 Hops on call with Steve to decide what unit to go to next
0940 Apex and acc pack up and head to DU-24
1230 Apex and aec tak a break form decon
1245 Apex Begins take out of DU-24
1330 Apex comes back to staging and orginizes staging area
1510 Apex and Aec leave for the day

Willamette Cove 9/21/22

0700 Apex and aec arrive to the staging area
0730 Apex Debreifs everyone on safty protocals and plan for the day
0800 Apex and Aec pack up and head to DU-24
0845 Apex and aec Begin to prep for Drilling
0915 Apex Begins Drilling
1210 Apex take Break from drilling
1220 Apex resumes Drilling
1~~4~~50 Apex finishes for the Day and finishes DU-24 and started DU-25
0550 Apex leaves and AEC as well.

Rite in the Rain

9/22/22 Willamette Cove

0700 Apex and AEC arrive to staging area for the day

0730 Apex Debreifs every one on safety plan and plan for the day

0800 Apex and Aec pack up and head to DU-32

0830 Apex and Aec prepare for drilling

0900 Apex begins drilling

1210 Apex take Break from drilling

1230 Apex resumes Drilling

1450 Apex finishes DU-32 and Begins to pack up for the day

1530 Apex and aec leave the staging site

9/23/22 willamette Cove:

0700 Apex and AEC arrive to the staging site for the day

0780 Apex debriefs everyone on plan for the day and safety protocal

0820 Apex and aec head out to DU-25

0850 Apex and AEC Begins to set up for drilling at DU-25

0920 Apex begins Drilling

(Note: Due to presence of Bees drillers went as slow as they seemed fit for safety

1250 Apex finishes for the day and finishes DU-25

1530 Apex leaves for the day With AEC as well

Rite in the Rain.

9/26/22 Robert Schedler High Temp: 88°

0700- Arrive on site

0715- Conduct tailgate safety meeting

0720- Focus of the day will be adding smaller details to maps of DU's with obstacles. Many test pits will be made to find the edges of concrete and asphalt throughout DU's.

0730- Begin mapping DU-18.

0900- Begin mapping and test pits in DU-26.

0955- Begin mapping and test pits in DU-34.

1230- Begin mapping and test pits in DU-36

1400- Begin mapping and test pits in DU-37

1445- Begin mapping and test pits in DU-38.

1500- Mapping and test pits complete for the day. More info will be added tomorrow.

1530 - Off site.

Rite in the Rain

34 9/28/22 willamette Cove

0700 Apex and Aec arrive to the staging site for the day

0730 Apex debreifs everyone one plan for the day and safety protocals

0810 Apex and Aec pack up and head to DU-34

0830 Apex and aec begin to prep for drilling

0900 Apex Begins drilling

1220 Apex takes Break

1450 Apex finishes DU-34 and finishes Drilling for the day

1530 Apex and Aec leave for the day

9/28/22 Robert Schaffer High Temp: 70°

0700- Arrive on site.
0720- Conduct tailgate safety meeting
0730- Pack gear and head to DU-18
0745- Begin sampling 0-1' interval in DU-18
1000 Dwight, Jennifer, and Paul visit for a sit visit.
1400 Walk site with crew and show them areas identified during the site visit. Several areas will be marked to show smaller details on the map.
1500- Samples complete for the day
1530- Off site

Rite in the Rain

9/29/22 Willamette Cove

0700 Apex and Aec arrive to staging area
0730 Apex debriefs everyone on safety protocols and plan for the day
0800 Apex and Aec pack up and head to DU-18.
0820 Apex begins set up for drilling as well as Aec
0850 Apex Begins drilling
1200 Apex takes Break from drilling
1220 Apex resumes Drilling
1450 Apex finishes DU-18 and is done for the day
1530 Apex and Aec leave for the day

Rite in the Rain.

9/30/22 Robert Schaffer High Temp: 72°

0700- Arrive on site
0730- Conduct tailgate safety meeting
0740- Pack gear and head to DU-18
1030- Conduct site walk with Steve, discuss
high areas identified during the
site visit on 9/28/22
1300 - Map more of DU-31 after
discovering more buried concrete
1500- Complete 1-2' interval in DU-18,
1550- Off site

Rite in the Rain

10/03/22 Robert Schettler High temp: 82°

0700 - Arrive on site
0720 - Conduct tailgate Safety meeting
0730 - Park gear and haul to DU-18
0745 - Unpack gear
0800 - Begin sampling DU-18
~~0~~1130 - Begin test pits in DU-31
1300 - DU-31 test pits and mapping is complete
1400 - DU-18 complete
1430 - Begin staking DU-35
1530 - Off site

Rite in the Rain

2 10/04/22 Wilbamette Cove
0700 Apex and AEC arrive to the staging site
0730 Apex Employee Debreifs everyone on safety protocals
0745 Apex and AEC pack up and head to DU-27
0810 Apex and aec arrive to DU and Begin prep
0910 Apex Begins drilling
1210 Apex takes Break and AEC
1230 Apex resumes Drilling
1430 Apex finishes DU-27 and Begins to pack
1520 Apex and AEC Leave the facility

10/05/22 Robert Schettler High Temp: 72°

0700- Arrive on sit

0715 - Conduct tailgate safety meeting

0720- Meet Vector cont.l - go over site safety, show V.C. th yellow jacket vest in DV-35

0745 - Pack gear, head to DV-27

0810- Begin sampling DV-27

0900- Vector control off sit

1100- Begin mapping DV-37

1500- End sampling for day

1530- Off site.

Rite in the Rain

10/06/22 Robert Schettler High Temp 91°

0700 - Arrive on site
0715 - Conduct tailgate safety meeting
0740 - Park gear and head to DU-35
1000 - Begin mapping DU-36
1130 - Begin mapping DU-37
1215 - Begin mapping DU-38
1500 - Complete sampling for the day
1550 - Off site.

Rite in the Rain

6

10/07/22 Robert Schettler High Temp 91°

0700- Arrive on site
0715- Conduct tailgate safety meeting
0735- Pack gear, head to DU-35
0755- Begin sampling
1000- Update maps for DU-16 until more test pits dug
1400- End sampling for day
1430- End day early - off site

7

Rite in the Rain

14 Willamette COVE 10/10/22
0700 Apex and AEC Arive on site
0730 Apex updates them on plan
for the day and safty protocal.
0800 Apex and AEC pack up and
head to DV-23
0830 Apex Begins set up as excavator
Begins digging the holes
0900 Apex begins Drilling
(note Difficulty Drilling/Excavating)
1430 Apex Bigins to pack up for the day
1515 Apex and AEC Exit willamette cove

10/11/22 Willamette Cove

0700 Apex and Aec arrive to site for the day

0730 Apex debriefs everyone on plan for the day and safety protocal

0800 Apex and Aec pack up and head to DU-23

0845 Apex begins set up for drilling

0910 Apex begins Drilling

(Note: Drillers are going very slow Due to bee activity. For safety they wanted to work at a slow pace)

1430 drilling finishes for the day

1520 Apex and Aec leave for the day

Rite in the Rain

Willamette Cove ~~10/20/2022~~ 10/21/2022 (AE)

0700 Apex and AEC arrive at site

0730 Apex Employee informs what the plan is and safety protocals

0830 Apex and aec pack up and head to DU 22

0900 Apex prepares drill and Begins Drilling

1200 takes Break

1445 Apex packs up drill and heads Back

1530 Apex and AEC Exit the site for the day

Willamette Cove 10/13/22

0700 Apex and AEC arrive to to the site

0730 Apex Employee reveiws plan and safety protocals

0820 Apex and AEC pack up and go to DU-22

0920 Apex begins drilling

1200 Apex takes Break

1450 Apex finishes drilling and packs up

1530 Apex and AEC Leave the Location

Rite in the Rain

Willamette Cove 10/14/22

0700 Apex and AEC arrive at site
0730 Apex Employee reviews plan and safety protocals
0800 Apex and AEC head out to DU-22
0900 AEC redigs locations and Apex sets up drill and Begins
1200 Apex takes Break
1420 Apex finishes Du-22 and packs up for day
1515 Apex and AEC Finis for the day and leave the site

Willamette Cove 10/17/22

0700 Apex and AEC Arrive at site
0750 Apex And AEC go over safety protocals and plan for the day
0810 Apex and AEC pack up and head out to DU-20
0910 Apex staked and set up the drill while AEC Began Digging
1100 reached concrete/Asphalt steve came onto site
1300 steve came and decided wheat is to Be done
1450 Apex finished and exited site

Rite in the Rain

Willamette Cove 10/18/22

0700 Apex and AEC entered site
0730 Apex Employee reviewed safety protocals and plan for the day
0810 Apex and AEC packed up and headed out for day to DV-20
0900 Apex prepared Drill and Began
1200 Apex took Break
1430 Apex finished DV-20
1530 Apex and AEC pack up and headed out ~~to~~ from site
AE

Willamette Cove 10/19/22

0700 Apex and AEC Arrived at site (Note: Air quality is very Bad)

* Used work stop athority and went Back to office)

Rite in the Rain

22 Willamette cove ~~10/20/22~~ 10/20/22 (AE)

(Note) No work Due to Air Quality

Willamette Cove ~~10/20/22~~ (AE) 10/21/22 23

0700 Apex and AEC Arrive at the Site
0730 Apex Employee reveiws safety protocal and plan for the day
0800 Apex and aec pack up and head to DU-41
0800 Apex and Aec stake out Next unit and prepare to drill
0910 Apex begin to drill
1430 Apex and aec finish for the day
1510 Apex and aec exit the site

Rite in the Rain

10/24/22 Robert Schettler High Temp: 58° Rain

0700- Arrive on site

0715- Conduct tailgate safety meeting

0730- Pack gear back to DCH

0800- begin sampling

1520- End sampling for day

1545- Off site.

Rite in the Rain

10/25/22 Robert Schaffer High Temp 57°

0700- Arrive on site

0715- Conduct tailgate safety meeting

0730- Pick gear, haul to DU-41

0845- Core driller from ACA arriving

0800- Core driller has been notified of all safety factors at the site

0805- Begin coring

0950- All cores in DU-39 & DU-41 complete, ACA off site

1000- Update steve on coring activities

1015- Continue sampling DU-41

1500- End sampling for the day

1530- Off site

Rite in the Rain

Willamette Cove 10/26/22

0700 Apex employee Robert [redacted] arrive at site with AEC excavator

0730 Apex Employee Debreifs everyone on safety protocals with the plan for the day

0800 All workers packed up with material needed for working at DU-41

0845 All workers reach site location and is setting up Nesissary utilities for the day. (Tent, sample log, Dill)

0912 Begin drilling process with one driller one person running Buckets, and an excavator

1210 runs into multiple locations with concrete Extending time frame of drilling

1230 Everyone takes a Break

1300 All workers return to work for rerrander of time

1430 Reaching End of time of drilling, Begins pack up of material used for drilling

1500 All workers reach back to staging area from decision unit

1530 All packed up and AEC with Apex exit the staging area

Rite in the Rain

Willamette Cove 10/27/2022

0700 Apex Employees and AEC Arrive to staging area

0730 Apex Employee Debrcifs all workers on safety protocals and the plan for the day

0800 All workers pack up to head out to DU41 to Begin work

0815 Apex Employees set up Location for Drilling and sampling

0830 Begin Drilling and sampling

0950 Apex Employee (Franklin Sullivan) enters premisise for work

0955-1050 Depreif Apex Employee on overveiw of project and teaching on drilling process

1055 Apex Employee (Robert Schelter) exits willamette cove of other Business. Apex continues drilling

1130 Takes Break

1145 Begins work

1420 Apex Employee (Franklin) Exits willamette cove

1450 Apex Employee packs up with AEC

1500 Project manager Enter willamette Cove.

1500-1600 PM and Employee mark out core Locations for coring

1630 - Apex Employee Exits Willamette cove

Willamette Cove 10/28/22

0700 Apex Employee and AEC arrive to willamette cove

0730 Apex Employee Depreifs everyone on safety protocals and plan for the day

0800 All workers pack up and leave for DU-41, closing gate on the way

0815 Apex Sets up at drilling locations

0845 Apex Begins drilling

1030 Apex finishs drilling and completes rest of DU-41 (all incraments)

1035 pack up utilities from drill while AEC Back fills the locations

1055 finishs packing and moves to DU36

1100 AEC leaves for the day

1100 Apex Employees Stake out DU36

1330 Heads back to staging area and Apex Employees leave Early for the day

Rite in the Rain.

Willamette cove 10/31/22

0700 Apex Employees and AEC arive at willamette Cove (Note New excavator Begins today)
0745 Apex Employee Debreifs the safety protocals and the plan for the day
0830 Everyone packs up and heads to DU36
Note: Weather is overcast with Down pour of Rain
0900 Arrive at location and Wes shows Noah (New) the proper way to dig the holes
0945 Apex Sets ups drilling utensils and Begins drilling. (Rain picks up)
1200 Apex and AEC Takes Break Due to rain. (Down pouring)
1230 restart drilling At Location DU-36
1430 stop work and apex packs up drilling and AEC drive Excavator back to staging area.
1500 reaches staging area, unpacks splies
1520 Apex and AEC Exits willamette cove
(Note: Raining inhibited ability to finish unit)

Willamette Cove 11/1/22

0700 Apex Employees and AEC arrive to site
0730 Apex Employee Debreifs everyone present on safety procedures and the plan for the day
0800 Apex and AEC pack up and head out to DU-36
0845 Apex sets up drilling tools and Begins drilling second half of DU36
(Note: Locations 25-30 of DU-36 were hard to drill Due to hard material underneath (Not concrete))
1120 Apex take break
1150 Apex resumes work (light rain
1400 DU-36 is completed and packing up material
1420 Apex all packed up and headed to DU31
1425 Apex Reaches DU31 and Begins Staking unit
1440 Apex stakes out 5 stake of DU-31
1450 Apex heads Back to staging area.
1520 Apex And AEC packs up and Exits willamette cove

Rite in the Rain

Notes from meeting w/ POP and Metro

* Scatter seed and rake
* putting monument together for index
* walk through core possible fill
* fill w/ Bentonite
* Pricing for seed contractor
* look through 41
* walk through 36 for soil
* filling holes in 16 / core location
* talk about holes and infill (steve)
*

11/2/22 Willamette cove

0700 Apex and AEC arrive to willamette cove
0730 Apex Employee Debreif Every one on safety procedures and the plan for the day
0800 Apex and AEC pack up and head to DU-31
0830 Apex sets up material for drilling and finishes staking last 25 stakes
0900 AEC excavates all holes for drilling
0930 Apex Begins drilling
1145 Apex stops for Breake
(Note) There are large amounts of Bricks for 90% of the unit
1220 Apex resumes Drilling
1450 Apex Begins to pack up for the day
1520 Apex and AEC exit willamette cove for the day

Rite in the Rain

Willamette Cave 11/3/22

0700 Apex and AEC arive at the site
0730 Apex Employee debreifs everyone on safety protocols and plan for the day
0800 Apex and AEC pack up for the day
0830 Apex and AEC head out to DV31
0900 Apex sets up for drilling
0930 Apex Begins drilling
1130 Apex takes Break from drilling. everything (Drilling) is going smoothly
1140 Apex resumes drilling
1450 Apex finishes DV-30 and packs up for the day.
1530 Apex and AEC Finish For the day

Willamette Cove 11/4/22

0700 Apex and AEC arrive at the site
0730 Apex Employee reviews the group on task for the day and the safety Protocals that must Be followed.
0800 Apex and AEC pack and head to DV-16
0830 Begin staking location and removing invasive material, inhibiting the Drilling process
0845 had excavator go through and remove and locate any locations of concrete.

Rite in the Rain

Willamette Cove 11/7/22

0700 Apex and AEC arive to the site

0730 Apex Employee goes over plan for the week and safety protocals

0800 Apex and AEC Pack up and head out to du-16

0830 Apex sets up to drill while AEC excavates holes

0900 Apex Begins drilling

1200 Apex takes Break

~~1430~~ 1430 Finishes DU-16

1440 Apex heads to DU-26 and stakes out the proper locations

1530 Apex and AEC finish for the Day and exit the facility

11/08/22 Robert Schettler High Temp: 51°

0700 - Arrive on site

0730 - Conduct tailgate safety meeting

0745 - Park gear, head to DU-26

0800 - Unpack and begin sampling

0920 - At about 0850, Noel encountered yellow jackets while using the excavator. They were swarming the sample area. Noel informed me he is allergic to yellow jackets, but was not stung. I stopped work and had him get his Epi-pen just in case. I called Metro to have the yellow jackets sprayed. Vector control will be out tomorrow to treat the area. The area near the yellow jackets will not be sampled until after the treatment.

1100 - I have to leave the site to collect/transport supplies - Alex will provide oversight for the d.

Rite in the Rain

Willamette Cove 11/9/22

0700 Apex and aec arrive to site for the day
0730 Apex debreifs everyone on plan for the day and safety protocal
0800 Apex and aec pack up and head to DV-26
0845 apex and aec begin to prep for Drilling
0945 Apex begins drilling
1220 Apex takes Break
1430 Apex finishes for the day
1510 Apex and aec leaves for the day

Rite in the Rain

11/10/22 Robert Schaffer. High Temp: 49°

0700- Arrive on site

0730- Conduct tailgate safety meeting

0745- Pick gear, haul to DU-26.

0800- Noel continues digging sample locations

0900- Continue sampling DU-26

1500- End sampling for the day.

1530- Off site.

Rite in the Rain

11/11/22 Robert Sokoll High temp: 53°

0700- Arrive on site

0725- Conduct tailgate safety meeting

0740- Pack car, head to DU-26

0745- Unpack gear

- Noel digs 2-3' increment

0800- Begin sampling

0900- Check all cores that have been dug. People have been randomly pulling the cores out of their holes.

1000 - All cores have been accounted for.

1245- DU-26 complete

1300- Begin striking DU-38

1400- DU-38 struck

1415- Begin scraping surface layer

1500- Surface layer prepped for sampling

1530- Off site

Return to Rite in the Rain

~~Willamette Cove 10/26/22~~

Willamette Cove 10/26/22

0700 Apex and AEC arrive to the site

0700 Apex Employee reviews the plan for the day and safety prdeals

0820 Apex and AEC pack up and head to du-26

0910 Apex Sets up drill and a EC works on ~~proper~~ increment holes to be duy (AE)

0930 Apex Begins drilling

1300 Apex takes break

1245 Apex finishes drilling for the day and packs up

1530 Apex and AEC leaves site.

Willamette Cove 11/14/22

0700 apex and aec arrive to the site

0730 Apex employee overviews the plan for the Day and safety protocols

0810 Apex and aec pack up and head to DU-38

0910 Apex Sets up drill and AEC Digs the ~~proper~~ increment holes. (AE)

0950 Apex Begins drills

1300 Apex takes Break

1450 Apex Ends drilling and packs

1540 Apex And AEC Exit the site

Rite in the Rain

Willamette Cove 11/15/22

0700 Apex and AEC arrive to the site

0730 Apex reviews plan for the day and reviews safety protocals

0810 Apex and AEC pack up and head to DU-38

0845 Apexs Begins to set up and AEC digs ~~proper~~ increment holes

0910 Apex Begins drilling

(Note: Lock on gate had issues and people needed apex's help)

1300 Apex takes Break

1500 Apex finishes drilling

1600 Apex and AEC leave for the day.

11/16/22 Robert Schell High Temp = 47°

0700- Arrive on site

0730- Conduct tailgate safety meeting

0745- Haul to DU-38

0800- Continue sampling 1-2' in DU-38

1100 - Complete sampling 1-2' in DU-38

1115- Begin sampling 2-3' in DU-38

1515- End sampling for the day

1530- Begin packing unused gear
Stored in Dry Box

1400- Dry Box storage has been
cleared out

1430- Off site

11/17/22 Robert Sackett- Hi's Temp: 48

0700- Arrive on site

0715 - Conduct tailgate safety meeting

0730- Pick gear - haul to DU-38

0735- Beg. re-staking DU-38

0800- Steve is on site to observe sampling

0800- United Rentals on site to pick up UTV.

0815- UTV collected by United Rentals.

1100- DU-38 complete.

1115- Pack gear from UTV - transfer to truck

1200- I checked the roof of the Melrose in DU-16 - roof are covered

1215- Begin prep for moving straw wattles

1500- Straw wattles are in place - off site

Rite in the Rain

11/18/22 Robert Schettler High Temp: 42°

0700- Arrive on site

0715- Conduct tailgate safety briefing

0730- Pack gear - head to DU-40 to begin surging

0800- Begin surging DU-40

1200- DU-40 complete.
DU-40- Silty sand with fine gravel and fine concrete

1205- Off site

Rite in the Rain

11/21/22 Robert Schaffer Hazel Tug / 46

0700 - On site

0715 - Conduct tailgate safety meeting

0730 - Pick gear - haul to DU-41

0745 - Begin sampling DU-43.

1106 - DU-43 complete - Save suite of DU-45

1105 - Move to DU-37.

1130 - Begin sampling DU-37.

1530 - Done sampling for day. DU-37 containing mostly cobble, sandy silt, and trace concrete pieces.

1550 - off site

Rite in the Rain

11/28/22 Robot Scketch Hi: Temp: 42°

0700- Arrive on sit

0715- Conduct Tailgate safety meeting

0730- Park gear + head to DU-39

0830- Steve is onsite to observe Sampling

0900- We hit refusal in DU-3 5-01. We will use a jackhammer to remove the concrete from the area in order to continue Sampling.

0930 - Roto hammer will be used in place of jack hammer

1500 - Off sit.

Rite in the Rain

11/29/22 Rig 4 Sable High Temp 47°

0700- Arrive on site

0715- Conduct tailgate Safety meeting

07xx- back to DU-39

1300- DU-39 complete

final equipment blank collected

A Cut Above re-drilled DU-39-01

Off site

Rite in the Rain

11/30/22 Robit Schaller High temp: 48

0700: Arrive on site

0705 Conduct tailgate safety meeting

0730: Haul to DU-44

0745: Begin sampling

0900: One of the cores was not drilled all the way through - we may need it re-cut or drilled with the rotohammer

1300 - Complete sampling for day. The hole that is not complete will be re-visited tomorrow - Off site.

Rite in the Rain

12/01/22 Robert Sobsey High Tide 7.4'

0900 - Arrive on site

0915 - Conduct tailgate Safety meeting

0930 - haul to DU-44

0945 - Begin rotohammer removal of concrete around incomplete boring

1130 - Hole cleared via roto-hammer

1145 - Continue sampling

1400 - Sampling complete

1408 - Call Steve to inform him all sampling is complete at Willamette Cove

1430 - Off site.

Rite in the Rain

Appendix B

Photographs

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 1 **Photo Date:** July 18, 2022 **Orientation:** Northwest **Description:** Excavating increment location in DU-1.	

Photo No: 2 **Photo Date:** July 18, 2022 **Orientation:** East **Description:** Typical drilling 0-1 foot interval at increment in DU-1.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 3 **Photo Date:** July 18, 2022 **Orientation:** Northwest **Description:** Typical drilling 1-2 foot interval at increment in DU-1.	

Photo No: 4 **Photo Date:** July 18, 2022 **Orientation:** Northwest **Description:** Typical drilling 1-2 foot interval at increment in DU-1.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 5	
Photo Date: July 19, 2022	
Orientation: East	
Description: Marking increment sample locations in DU-5 using GPS.	

Photo No: 6	
Photo Date: July 28, 2022	
Orientation: East	
Description: Drilling 0-1 foot interval in DU-6.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 7 **Photo Date:** July 28, 2022 **Orientation:** West **Description:** Sample process station set up on utility ATV.	

Photo No: 8 **Photo Date:** August 1, 2022 **Orientation:** North **Description:** Increment location in DU-2 prepared for sampling.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 9	
Photo Date: August 5, 2022	
Orientation: North	
Description: Typical sampled 2-3 foot interval in DU-8.	

Photo No: 10	
Photo Date: August 10, 2022	
Orientation: NA	
Description: Weighing increment sample in DU-11 (typical).	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 11	
Photo Date: August 10, 2022	
Orientation: NA	
Description: One-gallon sample jar with all increments included.	

Photo No: 12	
Photo Date: August 19, 2022	
Orientation: West	
Description: Increment location in DU-15 relocated to edge of gravel (recent fill) road	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

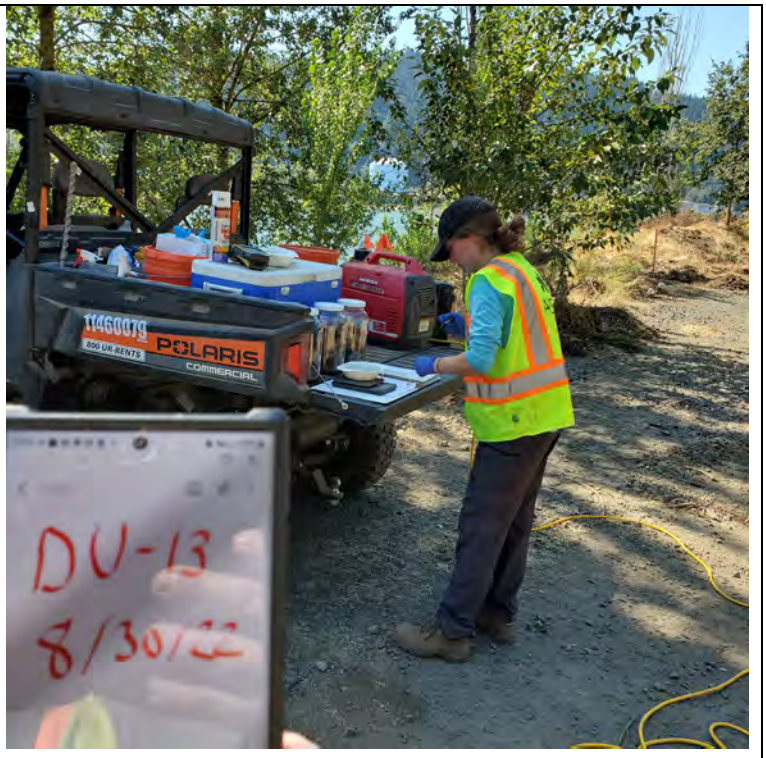
Photo No: 13	
Photo Date: August 29, 2022	
Orientation: NA	
Description: Sample processing area with scale, sample recording sheet and partially filled sample jars.	

Photo No: 14	
Photo Date: August 29, 2022	
Orientation: North	
Description: Concrete structure in DU-16.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 15	
Photo Date: August 29, 2022	
Orientation: West	
Description: Concrete structure and a portion of concrete slab in DU-16. Concrete slab became DU-42.	

Photo No: 16	
Photo Date: August 30, 2022	
Orientation: Northwest	
Description: Typical sample processing in DU-13.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 17	
Photo Date: September 2, 2022	
Orientation: Southwest	
Description: Typical sample increment collected in bucket in DU-19.	

Photo No: 18	
Photo Date: September 6, 2022	
Orientation: West	
Description: Small area burned in DU-37 (original configuration). Burned area was approximately 1,000 square feet.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 19	
Photo Date: September 19, 2022	
Orientation: NA	
Description: Increment location in DU-33. Note concrete debris.	

Photo No: 20	
Photo Date: September 19, 2022	
Orientation: NA	
Description: Poison oak in DU-33.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 21	
Photo Date: September 30, 2022	
Orientation: West	
Description: Burned area in DU-18. Approximately 10,000 square feet was burned on July 18, 2022.	

Photo No: 22	
Photo Date: September 30, 2022	
Orientation: North	
Description: Asphalt pavement in DU-20.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 23	
Photo Date: October 26, 2022	
Orientation: East	
Description: Sample processing set up for wet weather. Location is in DU-41.	

Photo No: 24	
Photo Date: November 4, 2022	
Orientation: Southwest	
Description: Installation of straw wattles along top of riverbank prior to heavy precipitation.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 25	
Photo Date: November 7, 2022	
Orientation: Southwest	
Description: Coring concrete slab in DU-42.	

Photo No: 26	
Photo Date: November 14, 2022	
Orientation: South	
Description: Increment location in DU-38. Note brick fragments. BNSF Railway track is in background.	

PHOTOGRAPH LOG

Project Name: Port of Portland Willamette Cove Remedial Design Investigation **Client:** Port of Portland
Project Number: 22007576 **Location:** Portland, OR

Photo No: 27	
Photo Date: November 29, 2022	
Orientation: East	
Description: Sampling composite location beneath concrete slab in DU-39.	

Appendix C

Weekly Reports and Field Audit Form

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #1 Date: Week of 7/11/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/ DEQ**
Katy Weil/ Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: None

Safety

Issues Encountered and Resolution: None

Activities Performed

- Participated in RDI field sampling kickoff meeting with DEQ, set up RDI sampling staging area, initiated layout of decision unit increment locations.

Samples Collected

Samples collected include: No samples collected

Upcoming Planned Activities

RDI sampling scheduled to begin on Monday 7/18/22

General Issues/Comments

None.

Photographs

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #2 Date: Week of 7/18/22

TO: Dwight Leisle/Port of Portland COPIES: Erin McDonnell/ DEQ
Katy Weil/ Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: Jennifer Peterson (DEQ) and Katy Weil (Metro) 7/19/2022
Paul Slyman and Katy Weil (Metro) 7/22/2022

Safety

Issues Encountered and Resolution: None

Activities Performed

- Completed layout of DU-1 and DU-5 increments and began collection of ISM samples.
- Completed layout of DU-6 increments.

Samples Collected

- Collected ISM samples from all increment locations in DU-1
- Collected ISM samples from all of the 0-1 foot intervals and 9 of the 1-2 foot intervals in DU-5, including replicates.

Upcoming Planned Activities

Continue collection of ISM samples.

General Issues/Comments

Higher than normal temperatures are expected week of 7/25 and heat illness prevention is being implemented including an earlier start time, adjusting work/rest cycles, emphasis on hydration, access to shade, etc.

Photographs



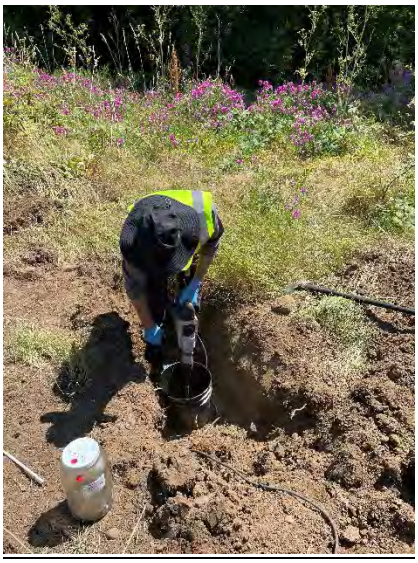
DU-1 increment excavation



0-1 foot interval sampling in DU-1



1-2 foot interval sampling in DU-1



2-3 foot interval sampling in DU-1



ISM sample staging area in DU-1

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #3 Date: Week of 7/25/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/ DEQ**
Katy Weil/ Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: An excessive heat warning was in effect during the week of 7/25/22. Heat illness prevention measures taken included adjusting work schedule with an earlier start time, modification to work/rest cycle, emphasis on hydration and monitoring each other for signs of heat illness.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: Tom Stubblefield, adjacent property owner visited site on Monday 7/25

Safety

Issues Encountered and Resolution: None other than heat illness prevention described above.

Activities Performed

- Completed layout of DU-5, DU-6, DU-7, and DU-2
- Completed sampling of DU-5, DU-6 and DU-7

Samples Collected

- Collected ISM samples from all increment locations in DU-5 (including replicates), DU-6 and DU-7

Upcoming Planned Activities

Continue collection of ISM samples in the West Parcel.

General Issues/Comments

Rate of ISM sample collection is increasing as efficiencies in sample collection methods are realized.

Photographs



DU-5 increment 23 2-3 foot interval



DU-5 increment 21 2-3 foot interval



DU-6 0-1 foot interval, typical



DU-6 vegetation clearing



Utility ATV sampling setup

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #4 Date: Week of 8/1/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/DEQ**
Katy Weil/Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions were observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: Dwight Leisle visited the site on Wednesday 8/3/2022
Erin McDonnell and Jennifer Peterson of DEQ visited the site on Thursday 8/4/2022

Safety

Issues Encountered and Resolution: None.

Activities Performed

- Completed sampling DU-2, DU-3, DU-4 and DU-8
- Initiated sampling of DU-9
- Completed layout of DU-9
- Conducted a field audit on Wednesday 8/3/2022

Samples Collected

See Activities performed

Upcoming Planned Activities

Complete collection of ISM samples in the West Parcel and move into the Central Parcel.

General Issues/Comments

Field Change Request (FCR) numbers 1 and 2 are being prepared under separate emails. FCR No.1 addresses

relocating increment locations that fall on gravel roadways where recent fill material has been deposited. FCR No. 2 requests a change from Level 4 to Level 2A laboratory data package.

Changes in sample locations:

- Increment 04-20 was relocated 4 ft WNW of original due to fiber optics and large concrete barriers. New coordinates recorded and location renamed 4-20r on GPS.
- Increment 04-25 was relocated for the same reasons as above 16 ft W of original. New coordinates recorded and location renamed 4-25r on GPS.

Photographs



Typical daily safety meeting



DU-3 typical 2-3 foot interval



DU-2 1-2 foot interval, typical



DU-8 1-2 foot interval, typical

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #5 Date: Week of 8/8/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/DEQ**
Katy Weil/Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions were observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: None.

Activities Performed

- Completed sampling DU-9 (completing West Parcel sampling), DU-11 (including replicates) and DU-10

Samples Collected

See Activities performed

Upcoming Planned Activities

- Complete collection of ISM samples in DU-12, DU-14 and DU-15
- A site visit by the Port and DEQ is planned for Wednesday August 17th

General Issues/Comments

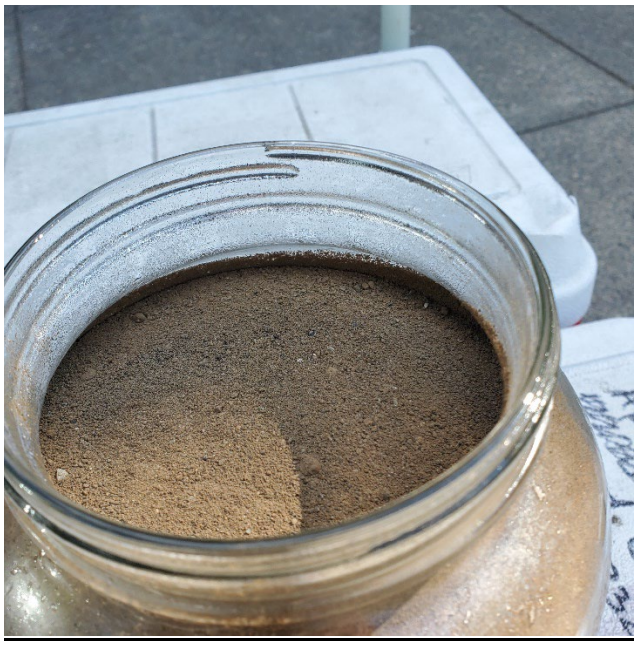
- DEQ approved Field Change Requests (FCR) #1 and #2 by email dated 8/10/2022 with additional input by DEQ possible
- DEQ is planning a site visit for EPA and possibly other DEQ folks: date and time TBD.
- The Port provided the confidential and proprietary laboratory SOP for Representative Sampling Methodology to DEQ on 8/10/22

- The lab has asked that we pause on sample submittal for a few days to allow them to catch up on sample processing. Apex will continue sampling through the week of August 15th (DU-12, DU-14 and DU-15, none of these have replicates) and will not collect any samples the week of August 22nd which should allow the lab to get caught up.

Photographs



Sampling DU-11 2-3 foot interval – typical increment



Filled sample jar – typical level for all samples

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #6 Date: Week of 8/15/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/DEQ**
Katy Weil/Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions were observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: Erin McDonnell and Jennifer Peterson (DEQ, Paul Slyman (Metro) and Dwight Leisle (Port) visited the site on Wednesday August 17, 2022.

Safety

Issues Encountered and Resolution: Significantly more poison oak (both growing and previously cut) is observed in the Central Parcel than the West Parcel and the team is proceeding with caution to avoid contact poison oak as both living and dead plants can cause rashes.

Activities Performed

- Completed sampling DU-12, DU-14 and DU-15. None of these DUs have replicate samples.
- Initiated collection of DU-13 samples. Replicates samples will be collected in DU-13.

Samples Collected

See Activities performed

Upcoming Planned Activities

- No samples will be collected during the week of August 22 to allow the laboratory to process submitted samples.
- Sampling will resume on Monday August 29, 2022 in DU-13

General Issues/Comments

- DEQ provided the RDI Work Plan approval letter to the Port on Tuesday August 16, 2022
- DEQ is planning a site visit for EPA and possibly other DEQ folks: date and time TBD.

Photographs



Sampling DU-12 0-1 foot interval – typical increment



Excavating increment for DU-14



Sampling in DU-15 2-3 foot interval - typical

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #7 Date: Week of 8/22/22

TO: **Dwight Leisle/Port of Portland**
Katy Weil/Metro

COPIES: **Erin McDonnell/DEQ**

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: N/A

Apex Project Staffing

N/A

Site Visitors

Organization and Name: N/A

Safety

Issues Encountered and Resolution: N/A

Activities Performed

No sampling was conducted during the week of August 22, 2022.

Samples Collected

None

Upcoming Planned Activities

Sampling will resume on Monday August 29, 2022 in DU-13

General Issues/Comments

DEQ is planning a site visit for EPA and possibly other DEQ folks: date and time TBD.

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #8 Date: Week of 8/29/22

TO: Dwight Leisle/Port of Portland
Katy Weil/Metro

COPIES: Erin McDonnell/DEQ

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: Dwight Leisle (Port) visited site on Wednesday August 31, 2022

Safety

Issues Encountered and Resolution: The mini-excavator operator (Apex Subcontractor Wes Noel of AEC, LLC) injured his ankle while exiting the machine. Initial treatment included applying ice to ankle. The injury was not serious and Wes was able to continue working and no lost time resulted.

Activities Performed

- Completed sampling DU-13 (including replicates), DU-17 and the 0-1 foot interval of DU-19
- Initiated staking out of DU-18

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Collection of ISM samples in DU-19, DU-21, and DU-20
- A site visit by the Port and DEQ is anticipated for the week of September 12, 2022.

General Issues/Comments

DEQ is planning a site visit for EPA: date and time TBD.

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #9 Date: Week of 9/5/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/DEQ**
Katy Weil/Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: A Red Flag Warning was in effect from Friday, September 9 through Saturday, September 10. Motorized equipment was not utilized, and sampling was not conducted during this time due to increased fire risk.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: While staking sample locations in DU-24, the crew was swarmed by yellow jackets and two crew members were stung. Self-applied first aid was administered, and no additional adverse symptoms were noted after a period of monitoring. Vector Control will address with yellow jacket issue on Monday, September 12.

Activities Performed

- Completed sampling in DU-19 and DU-21.
- Staking completed in DU-16.
- Delineated paved areas in DU-20, DU-22, and DU-23.
- Performed reconnaissance of remaining DUs to determine areas where sampling may be inhibited by hard surfaces or poison oak.

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Collection of ISM samples in DU-16 (includes field replicates).

General Issues/Comments

The Port had a call with the DEQ on 9/7/22. The fowling items were discussed.

- How to collect the 0-1 foot interval in areas that have burned recently. DEQ agreed with our approach to sweep the ash from the ground surface at the 0-1 sample location prior to sample collection to reduce inclusion of ash material in the sample.
- Collection of samples in the area where pavement is present (spanning the edges of DU-22 and DU-23). We will hold off on collecting sample in these two DUs until DEQ and the Port have resolution on the paved area. The options discussed were: separate out the paved area from the DUs an sample as a separate DU (one 5 point composite for each depth interval); or sample the soil beneath the pavement in the one increment that is in the center of the paved area and move the other increments that are near the edge of the pavement off the pavement. We will also hold off on sampling DU-20 where additional pavement is present.

DEQ is planning a site visit for EPA: date and time TBD.

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #10 Date: Week of 9/12/22

TO: Dwight Leisle/Port of Portland
Katy Weil/Metro

COPIES: Erin McDonnell/DEQ

FROM: Kelsi Evans/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Kelsi Evans, Robert Schettler

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: None.

Activities Performed

- Completed sampling in DU-16 for the 0-1 foot interval (including field replicates).
- Completed sampling in DU-28 and DU-29 for all intervals.
- Staked perimeter of DU-30.
- Delineated hard surfaces in DU-16 and DU-27.

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Collection of ISM samples in DU-30, DU-32, and DU-33.

General Issues/Comments

Sampling could not be completed below 1 foot in DU-16 due to buried concrete. Additional concrete and gravel surfaces were encountered in DU-27. Maps of these areas are forthcoming.

Vector control sprayed one yellow jackets nest in DU-24/25 on Thursday 9/15. The SDS was received, reviewed, and sent to the laboratory. Semi-volatile organics in the spray may interfere with PAH analysis and we are currently working to assess whether the sprayed area is subject to sampling.

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #11 Date: Week of 9/19/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/DEQ**
Katy Weil/Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Kelsi Evans, Robert Schettler

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: Yellow jackets were encountered in a couple of places and were sprayed. None of the sprayed areas are near increment sample locations.

Activities Performed

- Completed sampling in DU-24, DU-25, DU-32 and DU-33
- Evaluated areas where concrete/pavement have been observed for potential impact on sampling locations.

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collection of ISM samples in decision units that do not have areas of concrete or pavement.

General Issues/Comments

- The Port and DEQ discussed reconfiguration of several DUs based on observed presence of concrete/pavement.
    - Reconfigured DU-16 to exclude the concrete area and sample as a separate DU using a five-

point composite approach similar to DU-39 and DU-40.
    - Reconfigured DU-20, DU-22 and DU-23 where significant paved area is observed. The paved area will be separated out and sampled as a separate DU and DU-22 and DU-23 will be expanded to cover the area in DU-20 that does not include paved surface.
    - Concrete present in a linear feature in DU 27. Increments that are located on the feature were moved slightly to the northwest.
    - The Port will be providing updated maps of these decision units.
- The Port and DEQ will meet on site on Wednesday September 28. The primary purpose of this site meeting is to observe and discuss the concrete and paved surfaces.

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #12 Date: Week of 9/26/22

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/DEQ**
Katy Weil/Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: Dwight Leisle (Port), Jennifer Peterson (DEQ) and Paul Slyman (Metro) visited the site on Wednesday September 28, 2022 to observe pavement and concrete present in some of the DUs.

Safety

Issues Encountered and Resolution: None.

Activities Performed

- Completed sampling in DU-24, DU-25, DU-32 and DU-33
- Evaluated areas where concrete/pavement have been observed for potential impact on sampling locations.

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collection of ISM samples
- Submit reconfigured DU maps for DU-20, 22, and 23 based on DEQ comments and submit a reconfigured map for DU-16 for DEQ approval.
- Evaluate extent of concrete or pavement in other DUs and reconfigure if necessary.

General Issues/Comments

- The Port and DEQ met on site on Wednesday September 28. The primary purpose of this site meeting was to observe and discuss the concrete and paved surfaces. Suggested revisions to the reconfigured DU-20, 22 and 23 were provided by DEQ.

Sampling Progress as of September 30, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-17, DU-18, DU-19, DU-21, DU-24, DU-25	DU-16, DU-20, DU-22, DU-23, DU-26
East Parcel: DU-28 through DU-30, DU-32, DU-33, DU-34	DU-27, DU-31, DU-35 through DU-41

Photographs



Paved area in DU-22 extending into DU-20, view is to northeast.



Edge of pavement in DU-23. Pavement is approximately 2-3 inches thick and easily removed using the excavator.



Concrete in DU-16. Slab in foreground appears to be continuous to the north beneath the rubble in background, view is to north.

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #13 Date: Week of 10/3/22

TO: **Dwight Leisle/Port of Portland**
Katy Weil/Metro

COPIES: **Erin McDonnell/DEQ**

FROM: **Steve Misner/Apex**

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: None.

Activities Performed

- Completed sampling in DU-18 (including replicates), DU-27 and DU-35
- Evaluated areas where concrete/pavement have been observed for potential impact on sampling locations and updated field maps
- Submitted reconfigured maps for DU-20, DU-22 and DU-23 to DEQ and DEQ approved them

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collection of ISM samples
- Submit proposed reconfigured maps for DU-16, DU-26, DU-31, DU-36, DU-37 and DU-38, where concrete or other obstructions are observed, for DEQ approval

General Issues/Comments

- None

Sampling Progress as of October 7, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-17, DU-18, DU-19, DU-21, DU-24, DU-25	DU-16, DU-20, DU-22, DU-23, DU-26
East Parcel: DU-27 through DU-30, DU-32, DU-33, DU-34, DU-35	DU-31, DU-36 through DU-41

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #14 **Date: Week of 10/10/22**

TO: **Dwight Leisle/Port of Portland**
Katy Weil/Metro

COPIES: **Erin McDonnell/DEQ**

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler, Alex Evernden

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: None.

Activities Performed

- Completed sampling in DU-23 and DU-22, including replicates
- Submitted maps for DU-16, DU-31, DU-36, DU-37 and DU-38 to DEQ with a proposed approach for sampling these DUs that have significant concrete or other obstructions

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collection of ISM samples
- Discuss and resolve the approach with DEQ for sampling DU-16, DU-26, DU-31, DU-36, DU-37 and DU-38
- Initiate concrete coring for sampling beneath concrete slabs

General Issues/Comments

- None

Sampling Progress as of October 14, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-17, DU-18, DU-19, DU-21, DU-22, DU-23, DU-24, DU-25	DU-16, DU-20, DU-26
East Parcel: DU-27 through DU-30, DU-32, DU-33, DU-34, DU-35	DU-31, DU-36 through DU-41

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #15 **Date: Week of 10/17/22**

TO: **Dwight Leisle/Port of Portland**
Katy Weil/Metro

COPIES: **Erin McDonnell/DEQ**

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler, Alex Evernden

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: Sampling was suspended for health and safety reasons on Wednesday and Thursday 10/19 and 10/20 due to unhealthy air quality.

Activities Performed

- Completed sampling in DU-20
- Initiated sampling in DU-41, including replicates
- Discussed and resolved the approach with DEQ for sampling DU-16, DU-26, DU-31, DU-36, DU-37 and DU-38

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collection of ISM samples
- Submit reconfigured DU maps for DEQ approval
- Initiate concrete coring for sampling beneath concrete slabs
- Submit a Field Change Request to document the reconfigured DUs

General Issues/Comments

- None

Sampling Progress as of October 21, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-17, DU-18, DU-19, DU-20, DU-21, DU-22, DU-23, DU-24, DU-25	DU-16, DU-26, new DU-42 (concrete within DU-16 area)
East Parcel: DU-27 through DU-30, DU-32, DU-33, DU-34, DU-35	DU-31, new DU-43 (concrete within DU-31 area), DU-36, new DU-44 (concrete within DU-36 area), DU-37 through DU-41

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #16 **Date: Week of 10/24/22**

TO: **Dwight Leisle/Port of Portland**
Katy Weil/Metro

COPIES: **Erin McDonnell/DEQ**

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler, Alex Evernden, Franklin Sullivan

Site Visitors

Organization and Name: No visitors this week.

Safety

Issues Encountered and Resolution: None

Activities Performed

- Completed sampling in DU-41, including replicates
- Staked the increment locations of DU-36
- Cored the concrete at all increment locations in DU-39 and DU-40
- Marked out the remaining concrete core locations in DU-42, DU-43 and DU-44

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collection of ISM samples
- Complete concrete coring for sampling beneath concrete slabs
- Submit a Field Change Request to document the reconfigured DUs

General Issues/Comments

- None

Sampling Progress as of October 28, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-17, DU-18, DU-19, DU-20, DU-21, DU-22, DU-23, DU-24, DU-25	DU-16, DU-26, new DU-42 (concrete within DU-16 area)
East Parcel: DU-27 through DU-30, DU-32, DU-33, DU-34, DU-35, DU-41	DU-31, new DU-43 (concrete within DU-31 area), DU-36, new DU-44 (concrete within DU-36 area), DU-37 through DU-40

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #17 **Date: Week of 10/31/22**

TO: **Dwight Leisle/Port of Portland** **COPIES:** **Erin McDonnell/DEQ**
Katy Weil/Metro

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: Sampling was suspended on Friday November 4 due to heavy rain and high winds.

Apex Project Staffing

Steve Misner, Robert Schettler, Alex Evernden

Site Visitors

Organization and Name: Dwight Leisle and Katy Weil conducted a site visit on Thursday November 3, primarily to discuss a plan for post-sampling erosion control measures.

Safety

Issues Encountered and Resolution: See Weather above.

Activities Performed

- Completed sampling in DU-36 and DU-31
- Staked the increment locations of DU-16
- Cored the concrete at all remaining increment locations (DU-37, DU-42, DU-43 and DU-44)
- Installed erosion control (approximately 420 linear feet of straw wattles) in areas along the top of bank where soil has been disturbed from sampling activities in anticipation of heavy rain (see photographs).

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collection of ISM samples
- Collect composite samples under concrete slabs
- Submit a Field Change Request to document the reconfigured DUs

General Issues/Comments

- None

Sampling Progress as of November 4, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-17, DU-18, DU-19, DU-20, DU-21, DU-22, DU-23, DU-24, DU-25	DU-16, DU-26, new DU-42 (concrete within DU-16 area)
East Parcel: DU-27 through DU-30, DU-31, DU-32, DU-33, DU-34, DU-35, DU-36, DU-41	New DU-43 (concrete within DU-31 area), new DU-44 (concrete within DU-36 area), DU-37 through DU-40

Photograph



Installation of straw wattles near top of bank

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #18 Date: Week of 11/7/22

TO: Dwight Leisle/Port of Portland
Katy Weil/Metro

COPIES: Erin McDonnell/DEQ

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler, Alex Evernden

Site Visitors

Organization and Name: No site visitors this week.

Safety

Issues Encountered and Resolution: On November 9, a Metro security person notified the sampling team that a verbally aggressive houseless camper was encountered and subsequently evicted. The sampling team avoided the area where this person was and reminded by the field lead to be vigilant in observing surroundings.

Activities Performed

- Completed sampling of DU-16 and DU-26, including replicates
- Staked out increment locations in DU-38, the final ISM DU.

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue and complete collection of ISM samples (anticipated completion date of Thursday, November 17, 2022)
- Collect composite samples under concrete slabs (anticipated start date of Friday November 18, 2022)
- Submit a Field Change Request to document the reconfigured DUs

General Issues/Comments

- None

Sampling Progress as of November 11, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-16, DU-17, DU-18, DU-19, DU-20, DU-21, DU-22, DU-23, DU-24, DU-25, DU-26	New DU-42 (concrete within DU-16 area)
East Parcel: DU-27 through DU-30, DU-31, DU-32, DU-33, DU-34, DU-35, DU-36, DU-41	New DU-43 (concrete within DU-31 area), new DU-44 (concrete within DU-36 area), revised DU-37 (concrete in original DU-37 area), DU-38, DU-39 (concrete), DU-40 (concrete)

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #19 **Date: Week of 11/14/22**

TO: **Dwight Leisle/Port of Portland**
Katy Weil/Metro

COPIES: **Erin McDonnell/DEQ**

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler, Alex Evernden

Site Visitors

Organization and Name: No site visitors this week.

Safety

Issues Encountered and Resolution: None

Activities Performed

- Completed sampling of the final ISM DU (DU-38), including replicates
- Completed sampling of composite DU-40 (southern portion of large concrete slab)
- Completed backfilling of all DU excavations
- Installed additional straw wattles in areas with potential for soil erosion
- Demobilized the excavator and other equipment no longer needed

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collecting composite samples under concrete slabs
- Anticipate completion of sampling on Tuesday November 29, 2022
- Submit a Field Change Request to document the reconfigured DUs

General Issues/Comments

- None

Sampling Progress as of November 18, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-16, DU-17, DU-18, DU-19, DU-20, DU-21, DU-22, DU-23, DU-24, DU-25, DU-26	New DU-42 (concrete within DU-16 area)
East Parcel: DU-27 through DU-30, DU-31, DU-32, DU-33, DU-34, DU-35, DU-36, DU-38, DU-40, DU-41	New DU-43 (concrete within DU-31 area), new DU-44 (concrete within DU-36 area), revised DU-37 (concrete in original DU-37 area), DU-39 (concrete)

Willamette Cove Upland Facility – Weekly Field Report
Remedial Design Investigation
Port of Portland

Report: #20 **Date: Week of 11/21/22**

TO: **Dwight Leisle/Port of Portland**
Katy Weil/Metro

COPIES: **Erin McDonnell/DEQ**

FROM: Steve Misner/Apex

This weekly field report provides a summary of completed field activities, collected samples, safety issues and other significant issues for the Willamette Cove Upland Facility Remedial Design Investigation.

Weather

Conditions: No adverse weather conditions observed.

Apex Project Staffing

Steve Misner, Robert Schettler, Alex Evernden

Site Visitors

Organization and Name: No site visitors this week.

Safety

Issues Encountered and Resolution: None

Activities Performed

- Completed sampling of composite DU-43
- Initiated sampling of composite DU-37 (sampling conducted on 11/21 only due to short holiday week)

Samples Collected

See Activities Performed.

Upcoming Planned Activities

- Continue collecting composite samples under concrete slabs
- Anticipate completion of sampling on Wednesday November 30, 2022
- Submit a Field Change Request to document the reconfigured DUs

General Issues/Comments

- None

Sampling Progress as of November 21, 2022

DUs Completed	DUs Remaining
West Parcel: DU-1 through DU-9	None
Central Parcel: DU-10 through DU-15, DU-16, DU-17, DU-18, DU-19, DU-20, DU-21, DU-22, DU-23, DU-24, DU-25, DU-26	New DU-42 (concrete within DU-16 area)
East Parcel: DU-27 through DU-30, DU-31, DU-32, DU-33, DU-34, DU-35, DU-36, DU-38, DU-40, DU-41, DU-43	New DU-44 (concrete within DU-36 area), revised DU-37 (concrete in original DU-37 area), DU-39 (concrete)

APEX
3015 SW First Avenue
Portland, Oregon 97201-4707
(503) 924-4704 Phone
(503) 943-6357 Fax

Field Audit Checklist

Project Number: 7576-00
Project Name: WC RDI Implementation
Project Location: Port of Portland W. Hayden Island
Client: Port of Portland
Project Manager: Steve Misner
Field Audit Number: 1
Page 1 of 2
Field Auditor Name: Steve Misner
Date: 8/3/22

Item to be Evaluated	Yes	No	N/A	Comments
Part 1: Record Keeping				
Are there SOPs for field activities and are they accessible to everyone on the sampling team?	X			
Are COC forms filled out completely and legibly using black, waterproof ink?	X			
Are all errors in documentation correctedand initiated without obliteration?	X			
Part 2: Safety				
Is the Heatlh and Safety Plan on site?	X			
Are tailgate safety meetings being conducted at the beginning of each work day and when site conditions change?	X			
Is there documentation that everyone on the sampling team has read and understands the HASP?	X			
Does the HASP include emergency contact information and the route to hospital?	X			
Are proper lifting techniques being used?	X			
Is the correct PPE being worn?	X			
Are gloves being worn when collecting and/or handling samples?	X			
Are new gloves being used for each sample collected?	X			
Are proper procedures being followed when operating equipment with moving or rotating parts?	X			
Are the proper tools being used for sampling?	X			
Are proper procedures being followed when working in confined spaces?	X		X	
Are all injuries or accidents being reported immediately to the appropriate supervisor?			X	No injuries or accidents to date (8/3/2022)
Are all traffic laws and posted signs being obeyed?	X			

APEX
5015 SW First Avenue
Portland, Oregon 97201-4707
(503) 924-4704 Phone
(503) 945-6757 Fax

Field Audit Checklist Continued

Project Number: 7576-00
Project Name: WC RDI Implementation
Page 2 of 2
Date: 8/3/2022

Item to be Evaluated	Yes	No	N/A	Comments
Part 3: Sampling Equipment				
Is the correct sampling equipment being used for the project?	X			
Is the sampling equipment inspected before use and repaired/replaced when needed?	X			
Is the sampling equipment properly cleaned before each use following decontamination procedures in the SAP?	X			
Is the sampling equipment properly stored when not in use?	X			
Is an equipment blank being performed?	X			will be collected for each sampling method
Part 4: Sampling				
Are sample containers the correct material, correct size, in good condition and contain the correct preservation?	X			
Are samples collected for all required analyses?	X			
Are samples being collected using the appropriate sampling method?	X			
Is care taken to avoid sample contamination?	X			
Part 5: Sample Handling				
Are samples uniquely identified to ensure no confusion regarding identity of such samples at any time?	X			
Are samples placed on ice immediately after collection?	X			
Are samples recorded on the chain-of-custody form immediately following collection?	X			
Are samples stored and transported on ice?	X			
Are samples protected from breakage and cross-contamination during transport?	X			
Are samples shipped in a timely manner?	X			

Additional Notes: Sampling methods have become more efficient since sampling began while maintaining sample integrity.

Appendix D

As Sampled Increment Locations

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-1	1	706904.2	7624994
	2	706871.3	7624976
	3	706878.1	7625002
	4	706838.3	7624957
	5	706845.2	7624984
	6	706852	7625010
	7	706858.9	7625036
	8	706812.3	7624965
	9	706819.1	7624992
	10	706826	7625018
	11	706832.8	7625044
	12	706839.7	7625071
	13	706779.3	7624947
	14	706786.2	7624973
	15	706793.1	7624999
	16	706799.9	7625026
	17	706806.8	7625052
	18	706813.6	7625078
	19	706746.4	7624928
	20	706753.3	7624955
	21	706760.1	7624981
	22	706767	7625007
	23	706773.9	7625034
	24	706780.7	7625060
	25	706727.2	7624962
	26	706734.1	7624989
	27	706740.9	7625015
	28	706747.8	7625041
	29	706708	7624997
	30	706714.9	7625023
	1	706799.3	7625096
	2	706765.8	7625078
	3	706773.6	7625104
	4r	706768.5	7625133
	5	706732.4	7625060
	6	706740.1	7625086
	7	706747.9	7625111
	8	706755.6	7625137
	9	706698.9	7625042
	10	706706.7	7625068

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-2	11	706714.4	7625093
	12	706722.1	7625119
	13	706729.9	7625145
	14r	706726.5	7625165
	15	706673.2	7625050
	16	706680.9	7625075
	17	706688.7	7625101
	18	706696.4	7625127
	19	706704.1	7625153
	20	706711.9	7625178
	21r	706705.6	7625190
	22	706655.2	7625083
	23	706662.9	7625109
	24	706670.7	7625135
	25	706678.4	7625160
	26	706686.2	7625186
	27	706637.2	7625117
	28	706645	7625142
	29	706652.7	7625168
	30	706619.2	7625150
DU-3	1	706681.5	7625204
	2	706689.7	7625227
	3	706649.6	7625188
	4	706657.9	7625212
	5	706666.1	7625235
	6	706617.8	7625173
	7	706626	7625196
	8	706634.3	7625220
	9	706642.5	7625244
	10	706650.7	7625267
	11	706594.2	7625181
	12	706602.4	7625205
	13	706610.6	7625228
	14	706618.9	7625252
	15	706627.1	7625276
	16	706578.8	7625213
	17	706587	7625237
	18	706595.3	7625260
	19	706603.5	7625284
	20	706611.7	7625307

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	706563.4	7625245
	22	706571.7	7625268
	23	706579.9	7625292
	24	706588.1	7625316
	25	706539.8	7625253
	26	706548.1	7625277
	27	706556.3	7625300
	28	706564.5	7625324
	29	706524.4	7625285
	30	706532.7	7625308
DU-4	1r	706570.7	7625344
	2	706557.3	7625346
	3r	706559.3	7625363
	4	706531.5	7625323
	5	706532.8	7625348
	6	706534	7625372
	7r	706528.6	7625392
	8	706505.7	7625300
	9	706507	7625324
	10	706508.2	7625349
	11	706509.4	7625373
	12	706510.7	7625398
	13r	706510.2	7625418
	14	706482.4	7625325
	15	706483.6	7625350
	16	706484.9	7625375
	17	706486.1	7625399
	18	706487.3	7625424
	19r	706484.8	7625441
	20r	706461.1	7625347
	21	706460.3	7625376
	22	706461.5	7625400
	23	706462.8	7625425
	24	706464	7625450
	25r	706471.2	7625459
	26	706437	7625402
	27	706438.2	7625426
	28	706439.4	7625451
	29	706413.6	7625427
	30	706414.9	7625452

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-5	1	706736.2	7624920
	2	706701	7624903
	3	706709.9	7624929
	4	706718.8	7624956
	5	706665.7	7624886
	6	706674.6	7624912
	7	706683.6	7624938
	8	706692.5	7624964
	9	706701.4	7624991
	10	706630.4	7624868
	11	706639.4	7624894
	12	706648.3	7624921
	13	706657.2	7624947
	14	706666.2	7624973
	15	706675.1	7625000
	16	706595.2	7624851
	17	706604.1	7624877
	18	706613	7624903
	19	706622	7624930
	20	706630.9	7624956
	21	706639.8	7624982
	22	706568.9	7624860
	23	706577.8	7624886
	24	706586.7	7624912
	25	706595.7	7624939
	26	706604.6	7624965
	27	706551.5	7624895
	28	706560.4	7624921
	29	706569.3	7624948
	30	706534.1	7624930
	1	706673.7	7625024
	2	706638.1	7625008
	3	706647.7	7625034
	4	706657.2	7625060
	5	706602.5	7624991
	6	706612.1	7625017
	7	706621.7	7625043
	8	706631.2	7625069
	9	706640.8	7625095
	10	706567	7624975

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-6	11	706576.5	7625001
	12	706586.1	7625027
	13	706595.7	7625053
	14	706605.2	7625079
	15	706614.8	7625105
	16	706624.4	7625131
	17	706531.4	7624959
	18	706541	7624985
	19	706550.5	7625011
	20	706560.1	7625037
	21	706569.7	7625063
	22	706579.2	7625089
	23	706515	7624994
	24	706524.5	7625020
	25	706534.1	7625046
	26	706543.7	7625072
	27	706489	7625004
	28	706498.5	7625030
	29	706508.1	7625056
	30	706472.6	7625039
DU-7	1	706606.1	7625131
	2	706571.5	7625116
	3	706581.3	7625141
	4	706591.1	7625166
	5	706536.9	7625101
	6	706546.7	7625126
	7	706556.4	7625151
	8	706566.2	7625176
	9	706502.3	7625086
	10	706512	7625111
	11	706521.8	7625136
	12	706531.6	7625161
	13	706541.4	7625186
	14	706551.1	7625210
	15	706467.7	7625071
	16	706477.4	7625096
	17	706487.2	7625121
	18	706497	7625146
	19	706506.7	7625171
	20	706516.5	7625195

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	706526.3	7625220
	22	706452.6	7625106
	23	706462.4	7625131
	24	706472.1	7625155
	25	706481.9	7625180
	26	706491.7	7625205
	27	706437.5	7625140
	28	706447.3	7625165
	29	706457	7625190
	30	706412.7	7625150
DU-8	1	706537.4	7625234
	2	706504.7	7625220
	3	706513.6	7625243
	4	706472	7625205
	5	706480.9	7625228
	6	706489.8	7625252
	7	706498.7	7625276
	8	706439.4	7625190
	9	706448.2	7625214
	10	706457.1	7625237
	11	706466	7625261
	12	706474.9	7625285
	13	706483.8	7625309
	14	706406.7	7625175
	15	706415.6	7625199
	16	706424.4	7625222
	17	706433.3	7625246
	18	706442.2	7625270
	19	706451.1	7625294
	20	706460	7625318
	21	706391.8	7625207
	22	706400.6	7625231
	23	706409.5	7625255
	24	706418.4	7625279
	25	706427.3	7625303
	26	706376.9	7625240
	27	706385.7	7625264
	28	706394.6	7625288
	29	706353.1	7625249
	30	706361.9	7625273

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-9	1	706436.5	7625339
	2	706445.1	7625362
	3	706404.5	7625324
	4	706413.1	7625347
	5	706421.7	7625371
	6	706372.5	7625309
	7	706381.1	7625333
	8	706389.7	7625356
	9	706398.3	7625379
	10	706406.9	7625403
	11	706332	7625271
	12	706340.6	7625294
	13	706349.2	7625318
	14	706357.8	7625341
	15	706366.3	7625365
	16	706374.9	7625388
	17	706383.5	7625411
	18	706392.1	7625435
	19	706317.2	7625303
	20	706325.8	7625326
	21	706334.4	7625350
	22	706343	7625373
	23	706351.6	7625397
	24	706360.2	7625420
	25	706302.4	7625335
	26	706311	7625358
	27	706319.6	7625382
	28	706328.2	7625405
	29	706287.6	7625367
	30	706296.2	7625390
	1	706454.9	7625487
	2	706421.3	7625470
	3	706429.5	7625495
	4	706387.6	7625453
	5	706395.9	7625478
	6	706404.1	7625503
	7	706412.3	7625529
	8	706370.5	7625486
	9	706378.7	7625512
	10	706386.9	7625537

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-10	11r	706378.4	7625557
	12	706353.3	7625520
	13	706361.5	7625545
	14	706369.8	7625571
	15	706336.2	7625554
	16	706344.4	7625579
	17r	706347.5	7625597
	18	706310.8	7625562
	19	706319	7625587
	20	706327.2	7625613
	21	706293.6	7625596
	22	706301.8	7625621
	23r	706304.7	7625637
	24	706276.4	7625629
	25	706284.7	7625655
	26r	706289.8	7625676
	27	706259.3	7625663
	28	706267.5	7625688
	29r	706273.4	7625713
	30	706242.1	7625696
DU-11	1	706373.6	7625447
	2	706338	7625430
	3	706347.1	7625456
	4	706356.2	7625482
	5	706302.3	7625412
	6	706311.5	7625439
	7	706320.6	7625465
	8	706329.8	7625492
	9	706266.7	7625395
	10	706275.9	7625421
	11	706285	7625448
	12	706294.2	7625474
	13	706303.3	7625501
	14	706312.5	7625527
	15	706258.6	7625457
	16	706267.7	7625483
	17	706276.9	7625510
	18	706286	7625536
	19	706295.1	7625563
	20	706241.2	7625493

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	706250.4	7625519
	22	706259.5	7625545
	23	706268.7	7625572
	24r	706273.1	7625596
	25	706223.9	7625528
	26	706233.1	7625555
	27	706242.2	7625581
	28	706251.4	7625608
	29	706215.7	7625590
	30	706224.9	7625617
DU-12	1	706240.3	7625717
	2	706249.8	7625740
	3	706217	7625726
	4	706226.5	7625749
	5r	706234.5	7625766
	6	706203.1	7625759
	7	706212.6	7625782
	8r	706211.2	7625808
	9	706189.2	7625792
	10	706198.7	7625815
	11r	706192.7	7625836
	12	706175.3	7625825
	13	706184.8	7625848
	14r	706181.4	7625874
	15	706161.4	7625857
	16	706170.9	7625881
	17r	706171.8	7625904
	18	706157	7625914
	19	706166.5	7625937
	20	706143.1	7625946
	21r	706139.3	7625974
	22	706129.3	7625979
	23r	706133	7626004
	24	706115.4	7626012
	25r	706110.9	7626037
	26r	706109.4	7626069
	27	706097.1	7626101
	28r	706094.4	7626119
	29	706083.2	7626134
	30	706092.6	7626157

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-13	1	706245.4	7625641
	2	706209.2	7625627
	3	706220.1	7625652
	4	706194.9	7625663
	5	706205.8	7625688
	6	706180.6	7625699
	7	706191.5	7625725
	8	706155.4	7625710
	9	706166.3	7625735
	10r	706166.5	7625760
	11	706141.1	7625746
	12	706152	7625772
	13r	706157.9	7625798
	14	706126.8	7625783
	15	706137.7	7625808
	16r	706130.4	7625834
	17	706112.5	7625819
	18	706123.4	7625844
	19r	706117.6	7625869
	20	706145.3	7625894
	21	706109.1	7625880
	22r	706107.4	7625905
	23	706131	7625931
	24	706094.8	7625916
	25r	706098.6	7625941
	26	706116.7	7625967
	27	706080.5	7625952
	28	706091.4	7625978
	29	706102.4	7626003
	30	706066.2	7625989
	1	706073.8	7626183
	2	706091.2	7626201
	3	706072.8	7626218
	4	706071.9	7626254
	5	706053.5	7626272
	6	706070.9	7626290
	7	706052.6	7626307
	8	706070	7626326
	9	706051.6	7626343
	10r	706062.5	7626361

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-14	11	706033.3	7626361
	12	706050.7	7626379
	13	706068.1	7626397
	14	706032.3	7626396
	15	706049.7	7626415
	16	706067.2	7626433
	17	706031.4	7626432
	18	706048.8	7626450
	19	706066.2	7626469
	20	706030.5	7626468
	21	706047.9	7626486
	22	706065.3	7626505
	23	706029.5	7626504
	24	706046.9	7626522
	25	706064.3	7626540
	26	706081.7	7626559
	27	706046	7626558
	28	706063.4	7626576
	29	706080.8	7626594
	30	706045	7626594
DU-15	1	706097.9	7626019
	2	706061.2	7626011
	3	706075.4	7626033
	4	706089.6	7626056
	5	706052.9	7626048
	6	706067.1	7626070
	7	706081.3	7626093
	8	706044.8	7626085
	9	706058.8	7626107
	10	706073	7626129
	11	706036.3	7626121
	12	706050.5	7626143
	13	706064.6	7626166
	14	706028	7626158
	15	706042.1	7626180
	16	706056.3	7626203
	17	706019.6	7626194
	18	706033.8	7626217
	19	706048	7626239
	20	706011.3	7626231

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	706025.5	7626253
	22	706039.7	7626276
	23	706017.2	7626290
	24	706031.4	7626313
	25	706008.9	7626327
	26	706023	7626349
	27	706000.5	7626364
	28	706014.7	7626386
	29	705992.2	7626400
	30	705969.7	7626414
DU-16	1	705983.2	7626423
	2r	706013.4	7626433
	3	706019.9	7626454
	4	705967.6	7626442
	5	705985.9	7626457
	6	706004.3	7626473
	7	706022.7	7626488
	8	705952	7626460
	9	705970.4	7626476
	10	705988.7	7626491
	11	706007.1	7626507
	12	706025.5	7626522
	13	705991.5	7626525
	14r	705946	7626496
	15	706028.3	7626556
	16	705976	7626543
	17	705994.3	7626559
	18	706012.7	7626575
	19	706031.1	7626590
	20r	705913.8	7626525
	21	705978.8	7626577
	22	705997.1	7626593
	23r	705973	7626580
	24r	706022.6	7626602
	25	705963.2	7626596
	26	705981.6	7626611
	27	705910.8	7626583
	28	705929.2	7626599
	29r	705953.8	7626617
	30	705913.6	7626617

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-17	1	706060.1	7626606
	2	706082.5	7626621
	3r	706049.4	7626628
	4	706067	7626643
	5	706089.4	7626659
	6r	706057.8	7626664
	7	706073.9	7626681
	8	706096.3	7626697
	9r	706066.4	7626703
	10	706080.8	7626719
	11	706103.1	7626735
	12r	706073.5	7626743
	13	706087.7	7626757
	14	706110	7626772
	15r	706078.7	7626779
	16	706094.6	7626795
	17	706116.9	7626810
	18r	706083.3	7626817
	19	706101.4	7626833
	20	706123.8	7626848
	21r	706091.4	7626857
	22	706108.3	7626870
	23	706130.7	7626886
	24r	706098.2	7626894
	25	706115.2	7626908
	26	706137.6	7626924
	27r	706104.5	7626931
	28	706122.1	7626946
	29	706144.5	7626962
	30r	706117	7626968
	1r	706026.8	7626619
	2	705982.6	7626621
	3r	705986.7	7626646
	4	706016.5	7626656
	5	706033.4	7626674
	6	705981.8	7626655
	7	705998.7	7626673
	8	706015.7	7626691
	9	706032.6	7626708
	10	706049.5	7626726

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-18	11	705981	7626690
	12r	706008.5	7626715
	13	706014.9	7626725
	14	706031.8	7626743
	15	706048.8	7626761
	16	705980.3	7626724
	17	705997.2	7626742
	18	706014.1	7626760
	19	706031	7626778
	20	706048	7626795
	21	706064.9	7626813
	22	705979.5	7626759
	23	705996.4	7626777
	24	706013.3	7626795
	25	706030.3	7626812
	26	706047.2	7626830
	27	705978.7	7626794
	28	705995.6	7626811
	29	706012.5	7626829
	30	705977.5	7626829
DU-19	1	705962.4	7626628
	2	705924	7626627
	3	705942.6	7626647
	4	705961.2	7626667
	5	705904.2	7626646
	6	705922.8	7626666
	7	705941.4	7626685
	8	705960	7626705
	9	705921.6	7626704
	10	705940.2	7626724
	11	705958.8	7626744
	12	705920.3	7626742
	13	705939	7626762
	14	705957.6	7626782
	15	705919.1	7626781
	16	705937.7	7626801
	17	705956.4	7626821
	18	705917.9	7626819
	19	705936.5	7626839
	20	705955.1	7626859

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	705916.7	7626858
	22	705935.3	7626878
	23	705953.7	7626897
	24	705915.4	7626896
	25	705934.1	7626916
	26	705952.7	7626936
	27	705914.3	7626935
	28	705932.9	7626955
	29	705951.5	7626974
	30	705913.1	7626973
DU-20	1	706171.4	7627096
	2	706137.4	7627092
	3	706152.7	7627111
	4	706167.9	7627130
	5	706183.1	7627148
	6	706103.5	7627089
	7	706118.8	7627108
	8	706134	7627126
	9	706149.2	7627145
	10	706174.6	7627154
	11	706174.9	7627183
	12	706194.9	7627201
	13	706069.6	7627085
	14	706084.9	7627104
	15	706100.1	7627123
	16	706161	7627198
	17	706150.9	7627216
	18	706193.4	7627230
	19	706066.2	7627119
	20	706161.1	7627251
	21	706188	7627269
	22	706203.2	7627287
	23	706184.5	7627303
	24	706199.8	7627321
	25	706215	7627340
	26	706196.3	7627355
	27	706211.5	7627374
	28	706192.9	7627389
	29	706208.1	7627408
	30	706223.3	7627427

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-21	1	706061.5	7626850
	2	706076.8	7626868
	3	706028.3	7626847
	4	706043.2	7626865
	5	706058	7626883
	6	706072.9	7626902
	7	706087.7	7626920
	8	705995.1	7626843
	9	706010	7626861
	10	706024.8	7626880
	11	706039.7	7626898
	12	706054.5	7626916
	13	706069.4	7626935
	14	706084.2	7626953
	15	705976.8	7626858
	16	705991.6	7626876
	17	706006.5	7626895
	18	706021.3	7626913
	19	706036.2	7626931
	20	706051	7626950
	21	706065.9	7626968
	22	705973.3	7626891
	23	705988.1	7626909
	24	706003	7626928
	25	706017.9	7626946
	26	706032.7	7626964
	27	705969.8	7626924
	28	705984.7	7626943
	29	705999.5	7626961
	30	705966.3	7626958
	1	706132.1	7626964
	2	706156.5	7626981
	3	706091.2	7626972
	4	706115.6	7626988
	5	706140	7627005
	6	706164.4	7627022
	7	706025.8	7626963
	8	706050.2	7626980
	9	706074.6	7626996
	10	706099	7627013

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-22	11	706123.4	7627029
	12	706147.8	7627046
	13	706172.2	7627063
	14	705984.8	7626971
	15	706009.2	7626987
	16	706033.6	7627004
	17	706058	7627021
	18	706082.4	7627037
	19	706106.8	7627054
	20	706131.2	7627070
	21	705968.2	7626995
	22	705992.6	7627012
	23	706017	7627028
	24	706041.4	7627045
	25	706065.8	7627062
	26	706090.2	7627078
	27	705976	7627036
	28	706000.4	7627053
	29	706024.8	7627069
	30	705959.4	7627061
DU-23	1	706019.2	7627079
	2	706040.3	7627096
	3	706061.3	7627112
	4	706082.3	7627129
	5	706103.4	7627146
	6	706124.4	7627163
	7	706145.4	7627180
	8	705981.4	7627083
	9	706002.5	7627100
	10	706023.5	7627117
	11	706044.5	7627133
	12	706065.6	7627150
	13	706086.6	7627167
	14	706107.6	7627184
	15	706128.7	7627201
	16	705964.7	7627104
	17	705985.7	7627121
	18	706006.7	7627138
	19	706027.8	7627155
	20	706048.8	7627171

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	706069.8	7627188
	22	706090.9	7627205
	23	705968.9	7627142
	24	705990	7627159
	25	706010.8	7627175
	26	706032	7627192
	27	705952.2	7627163
	28	705973.2	7627180
	29	705994.2	7627197
	30	705956.4	7627201
DU-24	1	706122.7	7627238
	2	706143.6	7627253
	3	706164.6	7627267
	4	706087.4	7627245
	5	706108.3	7627259
	6	706129.2	7627274
	7	706150.2	7627288
	8	706171.1	7627302
	9	706093.9	7627280
	10	706114.9	7627295
	11	706135.8	7627309
	12	706156.8	7627323
	13	706177.7	7627338
	14	706079.6	7627301
	15	706100.5	7627315
	16	706121.5	7627330
	17	706142.4	7627344
	18	706163.3	7627359
	19	706184.3	7627373
	20	706086.1	7627336
	21	706107.1	7627351
	22	706128	7627365
	23	706149	7627380
	24	706169.9	7627394
	25	706092.7	7627372
	26	706113.7	7627386
	27	706134.6	7627400
	28	706155.6	7627415
	29	706176.5	7627429
	30	706078.4	7627393

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-25	1	706068.2	7627239
	2	706032.2	7627235
	3	706048.5	7627255
	4	706064.8	7627274
	5	705996.3	7627232
	6	706012.6	7627251
	7	706028.9	7627271
	8	706045.2	7627291
	9	706061.4	7627310
	10	705960.4	7627228
	11	705976.7	7627248
	12	705993	7627268
	13	706009.3	7627287
	14	706025.5	7627307
	15	706041.8	7627327
	16	706058.1	7627346
	17	706074.4	7627366
	18	705957.1	7627264
	19	705973.4	7627284
	20	705989.6	7627304
	21	706005.9	7627323
	22	706022.2	7627343
	23	706038.4	7627363
	24	706054.7	7627382
	25	705953.7	7627300
	26	705970	7627320
	27	705986.3	7627340
	28	706002.5	7627359
	29	706018.8	7627379
	30	705950.4	7627336
	1	705934.8	7626993
	2	705954	7627012
	3	705915.9	7627012
	4	705935.2	7627031
	5	705954.3	7627050
	6	705916.3	7627050
	7	705935.5	7627069
	8	705954.7	7627088
	9	705916.6	7627088
	10	705935.8	7627107

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-26	11	705955	7627126
	12	705916.9	7627126
	13	705936.1	7627145
	14	705917.3	7627164
	15	705936.5	7627183
	16	705898.4	7627183
	17	705917.6	7627202
	18	705936.8	7627221
	19	705898.8	7627221
	20	705917.9	7627240
	21	705937.1	7627259
	22	705899.1	7627259
	23	705918.3	7627278
	24	705937.5	7627297
	25	705899.4	7627298
	26	705918.6	7627316
	27	705937.8	7627335
	28	705880.6	7627317
	29	705899.8	7627336
	30	705918.9	7627354
DU-27	1	706114.7	7627521
	2	706132.7	7627536
	3	706150.8	7627552
	4	706168.8	7627568
	5	706186.9	7627583
	6	706204.9	7627599
	7	706223	7627615
	8	706099	7627539
	9	706117.1	7627554
	10	706135.1	7627570
	11	706153.2	7627586
	12	706171.2	7627601
	13	706189.3	7627617
	14	706207.3	7627633
	15	706083.3	7627557
	16	706101.4	7627573
	17	706119.5	7627588
	18	706137.5	7627604
	19	706155.6	7627620
	20	706173.6	7627635

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	706191.7	7627651
	22	706209.7	7627666
	23	706067.7	7627575
	24	706085.7	7627591
	25	706103.8	7627606
	26	706121.8	7627622
	27	706139.9	7627638
	28	706158	7627653
	29	706176	7627669
	30	706194.1	7627685
DU-28	1	706180.5	7627702
	2	706188.8	7627725
	3	706140.4	7627663
	4	706148.6	7627686
	5	706156.9	7627710
	6	706165.2	7627734
	7	706173.4	7627757
	8	706108.5	7627648
	9	706116.8	7627671
	10	706125.1	7627695
	11	706133.3	7627718
	12	706141.6	7627742
	13	706149.9	7627765
	14	706158.1	7627789
	15	706166.4	7627813
	16	706093.2	7627679
	17	706101.5	7627703
	18	706109.7	7627727
	19	706118	7627750
	20	706126.3	7627774
	21	706134.5	7627797
	22	706142.8	7627821
	23	706151.1	7627845
	24	706077.9	7627711
	25	706086.1	7627735
	26	706094.4	7627758
	27	706102.7	7627782
	28	706110.9	7627806
	29	706062.5	7627743
	30	706070.8	7627767

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-29	1	706128.2	7627840
	2	706132.2	7627864
	3	706136.3	7627889
	4	706099.8	7627819
	5	706103.8	7627844
	6	706107.8	7627868
	7	706111.8	7627893
	8	706115.8	7627917
	9	706119.8	7627942
	10	706071.3	7627799
	11	706075.3	7627823
	12	706079.3	7627848
	13	706083.3	7627872
	14	706087.3	7627897
	15	706091.3	7627921
	16	706095.3	7627946
	17	706042.8	7627778
	18	706046.8	7627803
	19	706050.8	7627827
	20	706054.8	7627852
	21	706058.8	7627876
	22	706062.8	7627901
	23	706066.8	7627925
	24	706022.3	7627807
	25	706026.3	7627831
	26	706030.3	7627856
	27	706034.3	7627880
	28	706038.4	7627905
	29	706005.9	7627860
	30	706009.9	7627884
	1	706105.1	7627971
	2	706076.6	7627951
	3	706080.8	7627975
	4	706085.1	7628000
	5	706048.1	7627931
	6	706052.4	7627955
	7	706056.6	7627980
	8	706060.8	7628004
	9	706065.1	7628028
	10	706069.3	7628052

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-30	11	706019.7	7627911
	12	706023.9	7627935
	13	706028.1	7627960
	14	706032.4	7627984
	15	706036.6	7628008
	16r	706044.8	7628020
	17r	706049.5	7628049
	18	705991.2	7627891
	19	705995.4	7627915
	20	705999.7	7627940
	21	706003.9	7627964
	22	706008.1	7627988
	23	706012.4	7628012
	24r	706020.3	7628029
	25	705971.2	7627920
	26	705975.4	7627944
	27	705979.7	7627968
	28	705983.9	7627992
	29	705988.1	7628017
	30	705955.4	7627972
DU-31	1	706094.6	7627627
	2	706095.6	7627648
	3	706075.8	7627670
	4	706076.8	7627691
	5	706054.9	7627671
	6	706055.9	7627692
	7	706056.9	7627713
	8	706034	7627672
	9	706035	7627693
	10	706036	7627714
	11	706037.1	7627735
	12	706038.1	7627756
	13	706011.1	7627631
	14	706012.1	7627652
	15	706013.1	7627673
	16	706014.1	7627694
	17	706015.2	7627715
	18	706016.2	7627736
	19	705989.2	7627612
	20	705990.2	7627633

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	705991.2	7627653
	22	705992.3	7627674
	23	705993.3	7627695
	24	705994.3	7627716
	25	705969.3	7627634
	26	705970.4	7627654
	27	705971.4	7627675
	28	705972.4	7627696
	29	705949.5	7627655
	30	705950.5	7627676
DU-32	1	706033.6	7627767
	2	706019.2	7627788
	3	706004.8	7627809
	4	705990.4	7627831
	5	705976	7627852
	6	706012.3	7627752
	7	705997.9	7627774
	8	705983.5	7627795
	9	705969.1	7627816
	10	705954.7	7627838
	11	705991	7627738
	12	705976.6	7627759
	13	705962.2	7627781
	14	705947.8	7627802
	15	705933.4	7627823
	16	705969.7	7627724
	17	705955.3	7627745
	18	705940.9	7627766
	19	705926.5	7627787
	20	705912.1	7627809
	21	705948.4	7627709
	22	705934	7627730
	23	705919.6	7627752
	24	705905.2	7627773
	25	705890.8	7627794
	26	705927.1	7627695
	27	705912.7	7627716
	28	705898.3	7627737
	29	705883.9	7627759
	30	705869.5	7627780

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-33	1	705972.1	7627876
	2	705972.3	7627900
	3	705948.1	7627852
	4	705948.2	7627876
	5	705948.4	7627900
	6	705948.6	7627924
	7	705948.7	7627948
	8	705924.2	7627852
	9	705924.3	7627876
	10	705924.5	7627900
	11	705924.7	7627924
	12	705924.8	7627948
	13	705900.1	7627829
	14	705900.3	7627853
	15	705900.4	7627877
	16	705900.6	7627900
	17	705900.8	7627924
	18	705876.1	7627805
	19	705876.2	7627829
	20	705876.1	7627853
	21	705876.5	7627877
	22r	705882.8	7627892
	23	705852.2	7627805
	24	705852.3	7627829
	25	705852.5	7627853
	26	705852.6	7627877
	27	705828.4	7627829
	28r	705835	7627848
	29	705828.7	7627877
	30	705804.7	7627853
	1	706015.1	7627559
	2r	705985.3	7627606
	3	705991.2	7627563
	4	705995	7627587
	5r	705951.4	7627553
	6	705963.5	7627543
	7	705967.3	7627567
	8	705971.1	7627591
	9r	705946.6	7627542
	10	705935.8	7627523

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-34	11	705939.6	7627547
	12	705943.4	7627571
	13	705947.2	7627594
	14	705951.1	7627618
	15	705911.9	7627527
	16	705915.7	7627550
	17	705919.5	7627574
	18	705923.3	7627598
	19	705927.2	7627622
	20	705931	7627646
	21	705888	7627530
	22	705891.8	7627554
	23	705895.6	7627578
	24	705899.4	7627602
	25	705903.3	7627626
	26	705907.1	7627650
	27	705867.9	7627558
	28	705871.7	7627582
	29	705875.5	7627606
	30	705847.8	7627586
DU-35	1	705905.8	7627670
	2	705909.9	7627694
	3	705874.3	7627628
	4	705878.4	7627651
	5	705882.4	7627674
	6	705886.4	7627698
	7	705890.4	7627721
	8	705846.8	7627608
	9	705850.9	7627632
	10	705854.9	7627655
	11	705858.9	7627679
	12	705863	7627702
	13	705867	7627725
	14	705871	7627749
	15	705823.4	7627612
	16	705827.4	7627636
	17	705831.4	7627659
	18	705835.5	7627683
	19	705839.5	7627706
	20	705843.5	7627729

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
	21	705847.6	7627753
	22	705804	7627640
	23	705808	7627663
	24	705812	7627687
	25	705816	7627710
	26	705820.1	7627733
	27	705784.5	7627667
	28	705788.6	7627691
	29	705792.6	7627714
	30	705765.1	7627695
DU-36	1	705839.5	7627766
	2	705844.4	7627787
	3	705814.3	7627751
	4	705819.2	7627771
	5	705824.1	7627792
	6	705828.9	7627812
	7	705789.1	7627735
	8r	705747	7627696
	9	705798.9	7627776
	10	705803.7	7627796
	11	705808.6	7627817
	12	705768.8	7627740
	13	705773.7	7627761
	14	705778.5	7627781
	15	705783.4	7627801
	16r	705768.4	7627703
	17	705748.5	7627745
	18r	705749.1	7627765
	19	705708.6	7627669
	20	705683.4	7627653
	21	705688.3	7627674
	22	705668	7627679
	23	705672.8	7627699
	24	705647.6	7627683
	25	705627.3	7627688
	26	705622.4	7627668
	27	705601.8	7627673
	28	705597.2	7627653
	29	705572	7627637
	30	705546.8	7627622

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-37	1	705943.3	7627359
	2r	705890.7	7627365
	3	705863.9	7627427
	4	705875.1	7627472
	5r	705849.9	7627465
DU-38	1	705890.9	7627514
	2	705853.4	7627507
	3	705869	7627529
	4	705815.8	7627501
	5	705831.5	7627523
	6	705847.2	7627545
	7	705794	7627517
	8	705809.6	7627539
	9	705825.3	7627561
	10	705841	7627583
	11	705772.1	7627533
	12	705787.8	7627554
	13	705803.4	7627576
	14	705819.1	7627598
	15	705750.2	7627548
	16	705765.9	7627570
	17	705781.6	7627592
	18	705797.3	7627614
	19	705744.1	7627586
	20	705759.7	7627608
	21	705775.4	7627630
	22	705722.2	7627602
	23	705737.9	7627623
	24	705753.5	7627645
	25	705769.2	7627667
	26	705700.3	7627617
	27	705716	7627639
	28	705731.7	7627661
	29	705747.4	7627683
	30	705694.1	7627655
DU-39	1	706221	7627564
	2	706172.1	7627521
	3	706123.2	7627478
	4	706080.4	7627527
	5	706074.2	7627435

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-40	1	706041.5	7627401
	2	706009.3	7627457
	3r	705984.6	7627512
	4	705985	7627369
	5	705952.8	7627425
DU-41	1r	705943.3	7626499
	2	706213.7	7627685
	3r	705926.9	7626520
	4	706214.8	7627739
	5	706193.6	7627750
	6	706204.8	7627772
	7	706183.5	7627783
	8	706194.8	7627804
	9	706173.5	7627815
	10	706184.7	7627837
	11	706163.4	7627848
	12	706174.7	7627869
	13	706153.4	7627880
	14r	706148.8	7627893
	15	706143.3	7627913
	16	706154.6	7627934
	17	706133.3	7627946
	18	706144.6	7627967
	19	706123.2	7627978
	20	706134.5	7628000
	21	706101.9	7627989
	22	706113.2	7628011
	23	706124.5	7628032
	24	706091.9	7628022
	25	706103.2	7628043
	26r	706111.7	7628057
	27	706081.8	7628055
	28r	706089.6	7628065
	29	706104.4	7628097
	30r	706056.9	7628092
DU-42	1	705943	7626483
	2r	705957.1	7626508
	3	705924.5	7626504
	4	705945.6	7626523
	5	705927.2	7626544

Table D-1
Actual GPS Coordinates
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Increment Number	Northing	Easting
DU-43	1	706012.3	7627586
	2	706034.5	7627605
	3	706056.7	7627625
	4	706078.9	7627644
	5r	706034.2	7627628
DU-44	1	705729.2	7627706
	2r	705685.3	7627724
	3r	705691.5	7627740
	4r	706069.8	7627645
	5	705790.4	7627823

Note
r = Revised from original proposed location

Appendix E

Field Change Requests

APEX
3015 SW First Avenue
Portland, Oregon 97201-4707
(503) 924-4704 Phone
(503) 943-6357 Fax

FIELD CHANGE REQUEST FORM

PROJECT NUMBER *7576*
FIELD REPORT NUMBER 1
PAGE 1 OF 1
DATE *8/10/2022*

PROJECT **Willamette Cove RDI Sampling** APEX PROJECT MANAGER Steve Misner
LOCATION **Port of Portland Willamette Cove Upland Facility** CLIENT Port of Portland

Description of modification:	ISM sample increment location modification in areas where recent fill material has been emplaced on gravel roads. Based on discussions with DEQ, the Port is proposing to relocate ISM increment sample locations that fall within areas of recent fill material out of the recent fill to the nearest location where surface material type matches surrounding grade.
Reason for modification:	Including recent fill material in the ISM sample may bias the sample and the sample would not be representative of the entire decision unit.
Reference to Work Plan/SAP/QAPP (pg # and section):	Remedial Design Investigation Work Plan, Section 6.3.1

REVIEW AND APPROVAL

Review comments:

Approval documentation:

_____ Port (email or phone) Date: _____ Port Personnel: _____

_____ DEQ (email) Date: _____ DEQ Personnel: _____

Approval comments/notes:

APEX
3015 SW First Avenue
Portland, Oregon 97201-4707
(503) 924-4704 Phone
(503) 943-6357 Fax

FIELD CHANGE REQUEST FORM

PROJECT NUMBER *7576*
FIELD REPORT NUMBER 2
PAGE 1 OF 1
DATE *8/10/2022*

PROJECT **Willamette Cove RDI Sampling** APEX PROJECT MANAGER Steve Misner
LOCATION **Port of Portland Willamette Cove Upland Facility** CLIENT Port of Portland

Description of modification:	Report analytical laboratory data as Level 2A data packages instead of Level 4 data packages as stated in Appendix C, Sampling and Analysis Plan.
Reason for modification:	The typical data quality review includes a level 2A evaluation, which uses the standard lab report and analytical batch quality assurance samples to evaluate the usability of the data. For evaluation of the Willamette Cove samples, a standard level 2A report and data quality review will be sufficient for the intended use of the data. If a data quality issue arises that cannot be resolved through the Level 2A evaluation, the Port will discuss with DEQ and potentially request a Level 4 data package for that specific data report.
Reference to Work Plan/SAP/QAPP (pg # and section):	RDI Work Plan, Appendix C, Section 11.4.3

REVIEW AND APPROVAL

Review comments:

Approval documentation:

_____ Port (email or phone) Date: _____ Port Personnel: _____

_____ DEQ (email) Date: _____ DEQ Personnel: _____

Approval comments/notes:

FIELD CHANGE REQUEST FORM

PROJECT NUMBER *7576*

Apex Companies, LLC
15618 SW 72nd Ave
Tigard, Oregon 97224

FIELD REPORT NUMBER 3
PAGE 1 OF 1
DATE *2/16/2023*

PROJECT **Willamette Cove RDI Sampling** APEX PROJECT MANAGER Steve Misner
LOCATION **Port of Portland Willamette Cove Upland Facility** CLIENT Port of Portland

Description of modification:	Reconfigure nine decision units (DU-16, DU-20, DU-22, DU-23, DU-26, DU-31, DU-36, DU-37 and DU-38) and add three new decision units (DU-42, DU-43 and DU-44) due to the presence of unanticipated significant areas of pavement or concrete. These modifications were discussed with and approved by DEQ.
Reason for modification:	The following summarizes the reconfigurations and additions: - DU-20, DU-22 and DU-23 were reconfigured so that the paved surface in this area is entirely within DU-20. The layout of the 30 increments in each of these DUs was realigned to match the new DU shapes and ISM samples in DU-20 were collected beneath the pavement. - New DU-42 (concrete area within DU-16), new DU-43 (concrete area within DU-31) and new DU-44 (concrete area within DU-36) are five-point composite samples accessed through holes cored through the concrete. - The 30 increment locations in the remaining portions of DU-16, DU-31 and DU-36 were realigned. - Existing DU-37 was converted to a five-point composite sample accessed through holes cored through the concrete. - The eastern portion of former DU-37 was added to DU-26 and the western portion of DU-37 was added to DU-38 and the 30 increment locations in DU-26 and DU-38 were realigned. - Replicate samples were eliminated from DU-16 due to uneven topography and presence of debris and replicates were added to DU-26 as a replacement. - Replicate samples were eliminated from DU-37 because it was converted to a five-point composite DU and replicates were added to DU-41 as a replacement. - The southeastern portion of original DU-38 was identified to be below the top of bank and this portion of the DU was eliminated.
Reference to Work Plan/SAP/QAPP (pg # and section):	RDI Work Plan, Appendix C, Section 11.4.3 and Appendix C Figures C1-C44

REVIEW AND APPROVAL

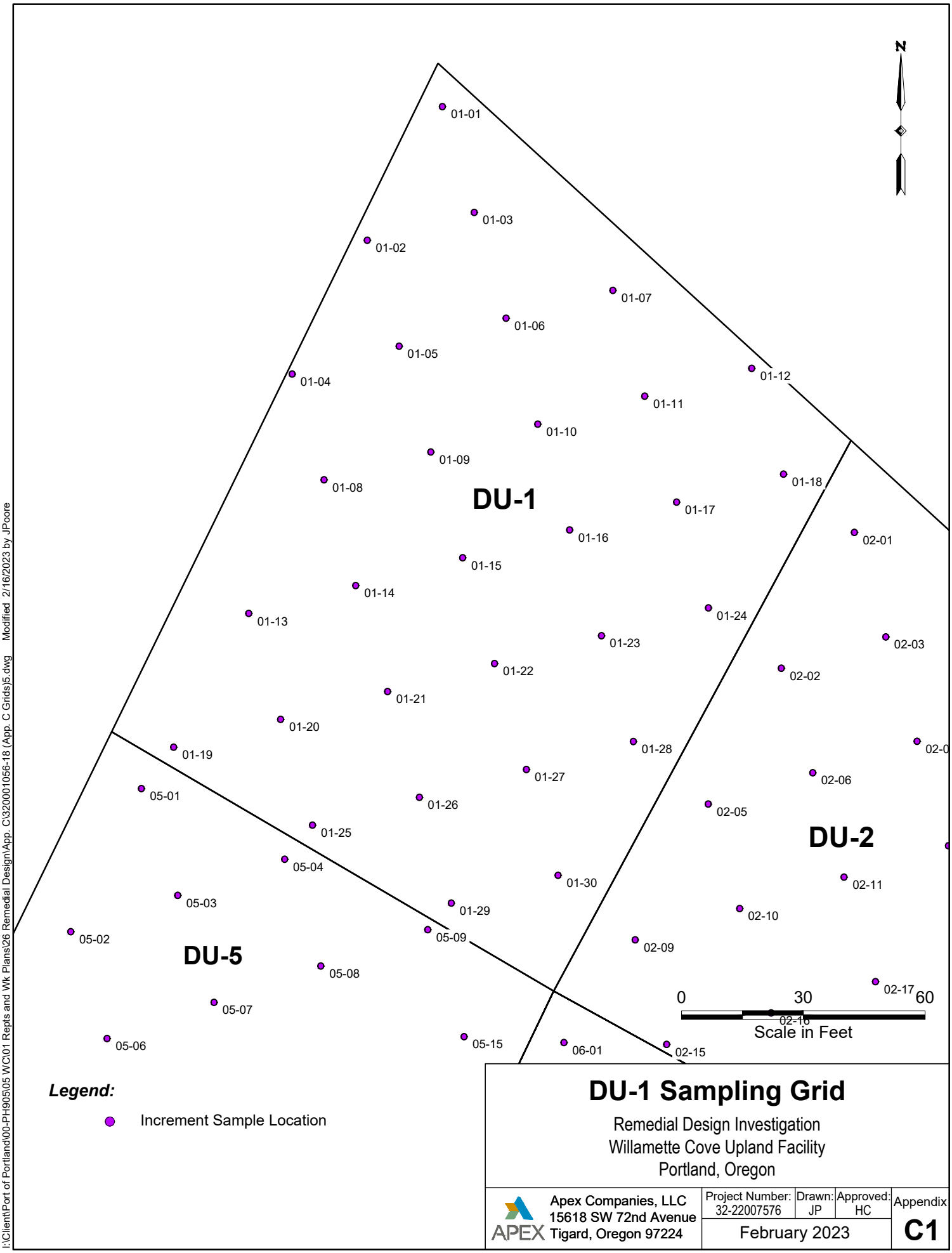
Review comments:

Approval documentation:

_____ Port (email or phone) Date: _____ Port Personnel: _____

_____ DEQ (email) Date: _____ DEQ Personnel: _____

Approval comments/notes:



Legend:

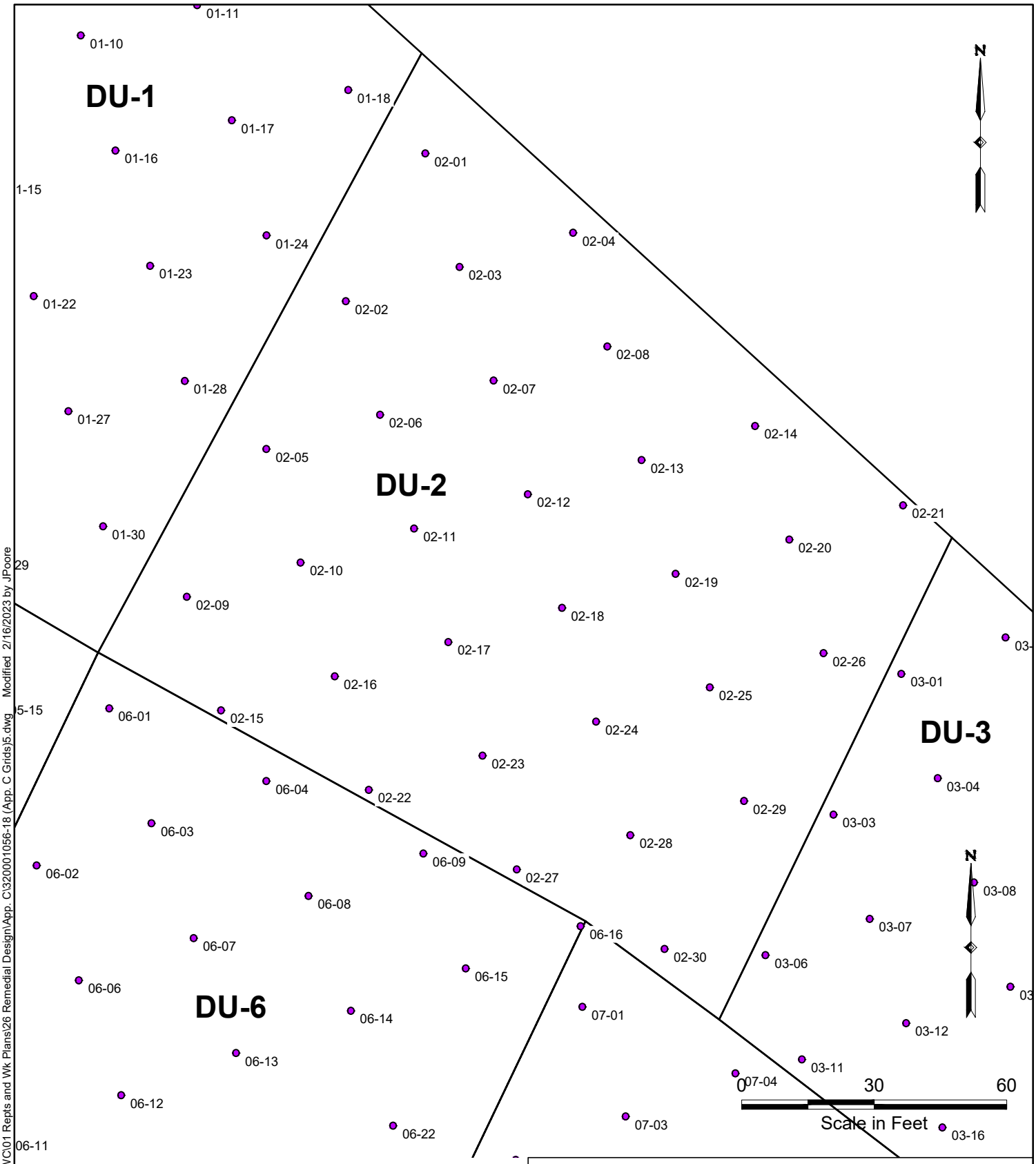
Increment Sample Location

DU-1 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C1**
	February 2023			

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Legend:

Increment Sample Location

DU-2 Sampling Grid

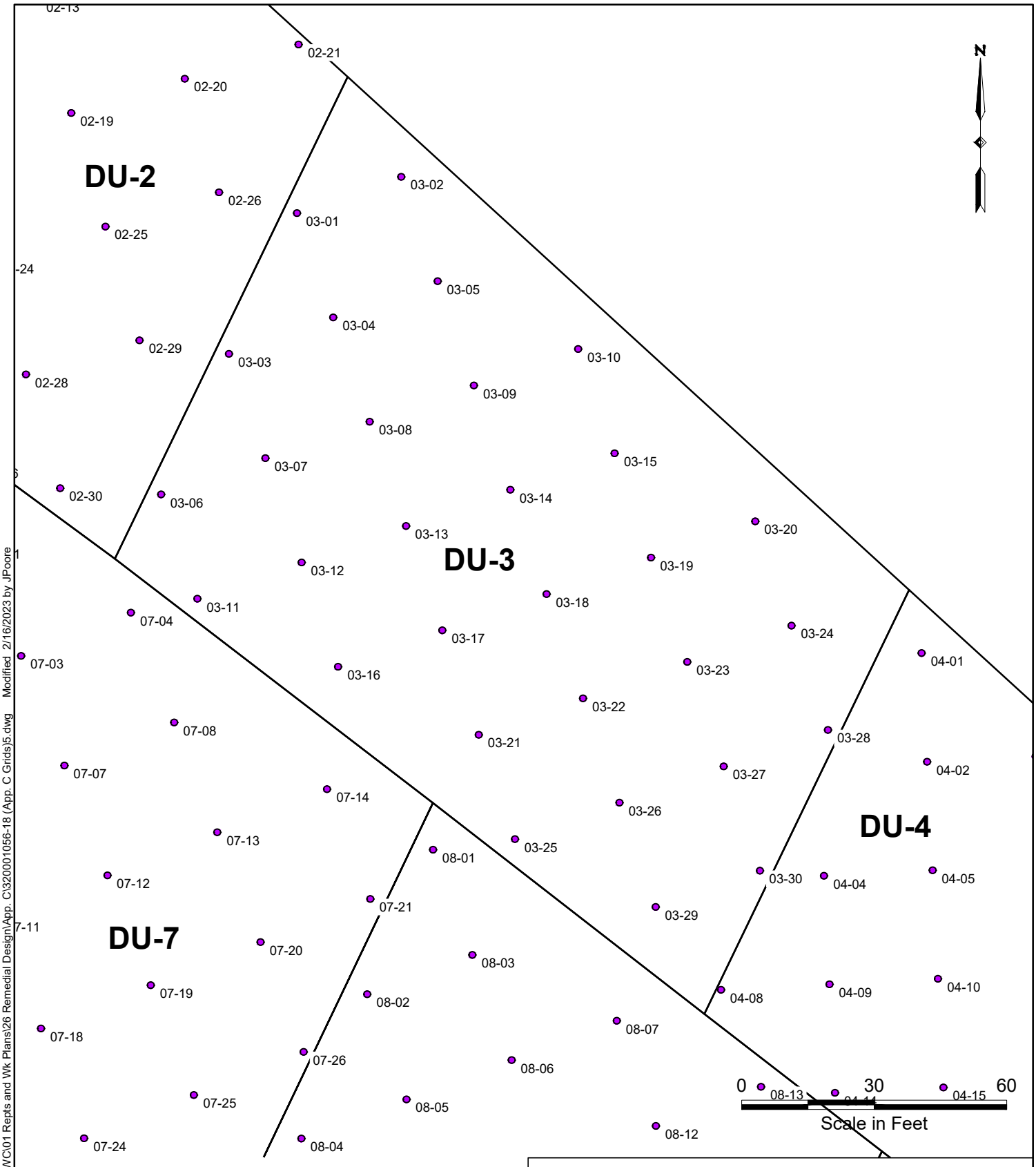
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Appendix
32-22007576	JP	HC	C2

February 2023

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore

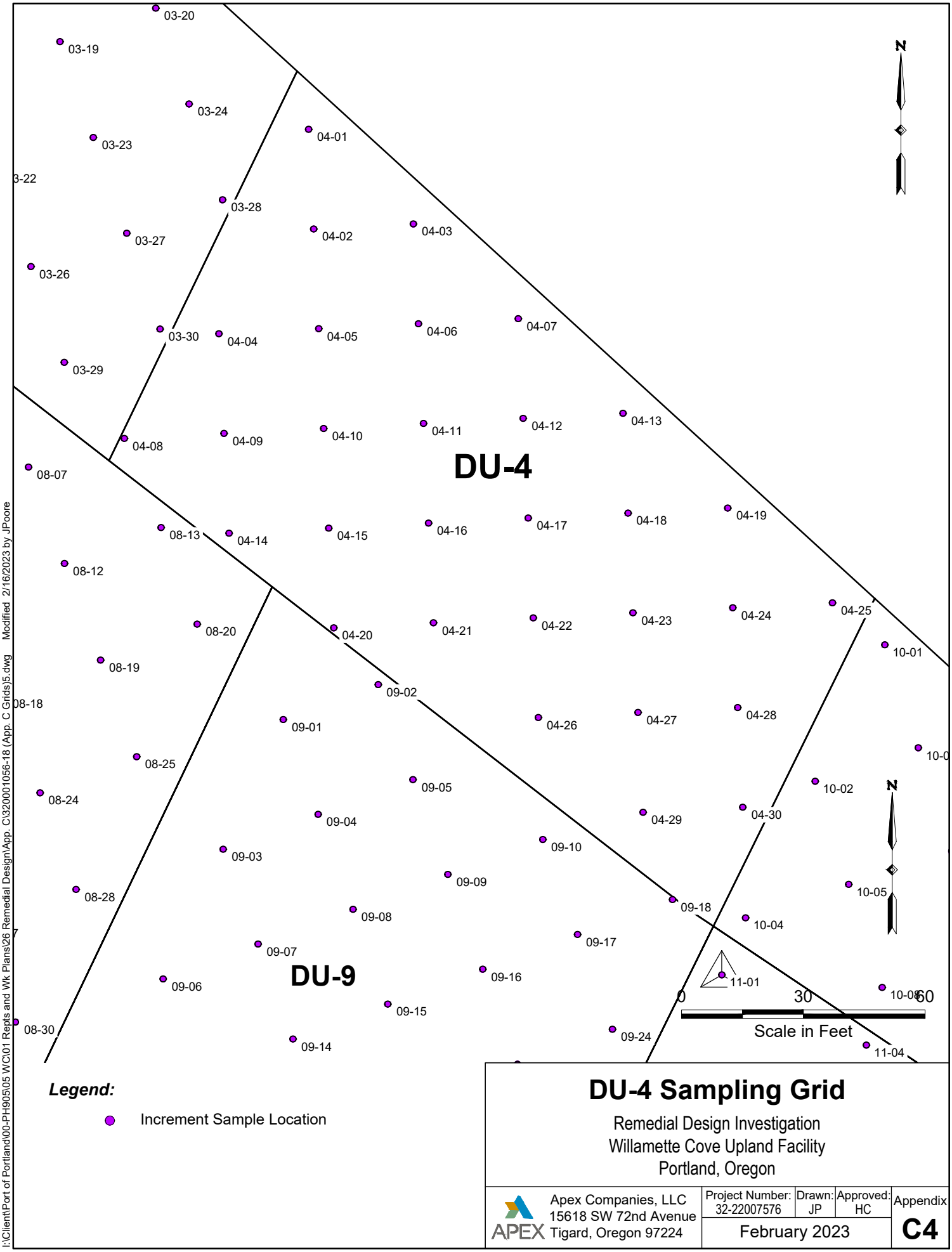


DU-3 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C3**
	February 2023			

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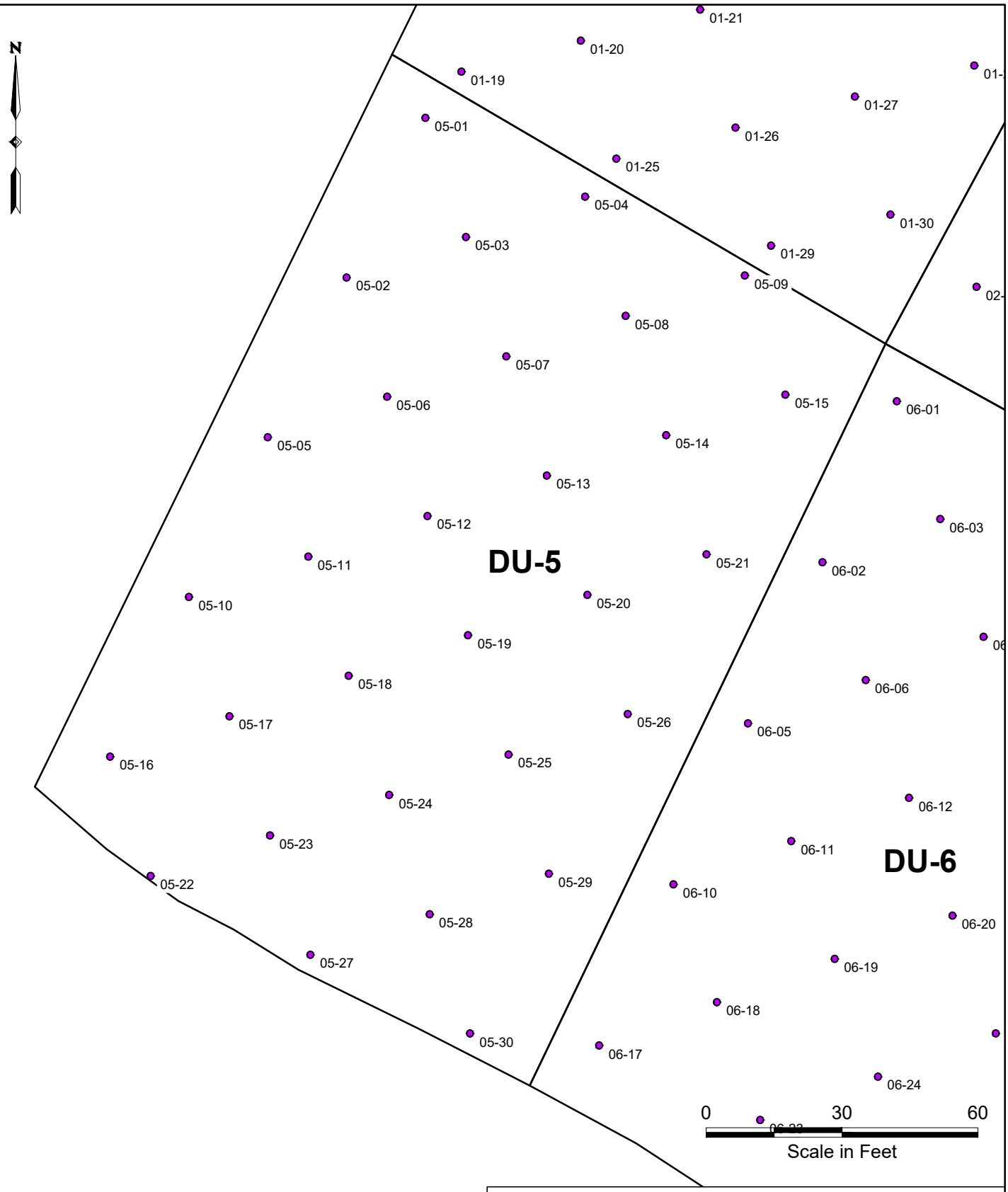
● Increment Sample Location

DU-4 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C4**
	February 2023			

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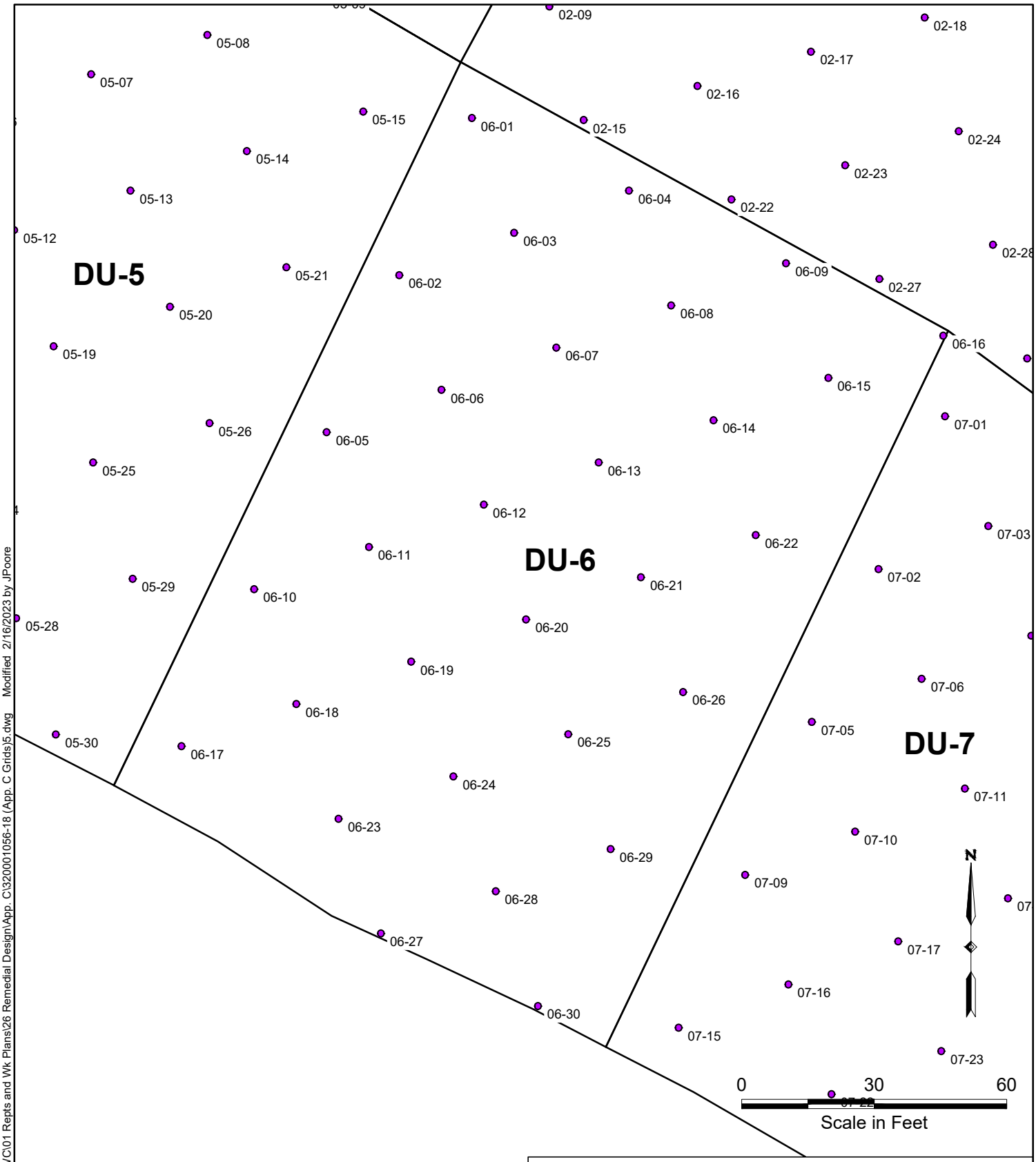
- Increment Sample Location

DU-5 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C5**
	February 2023			

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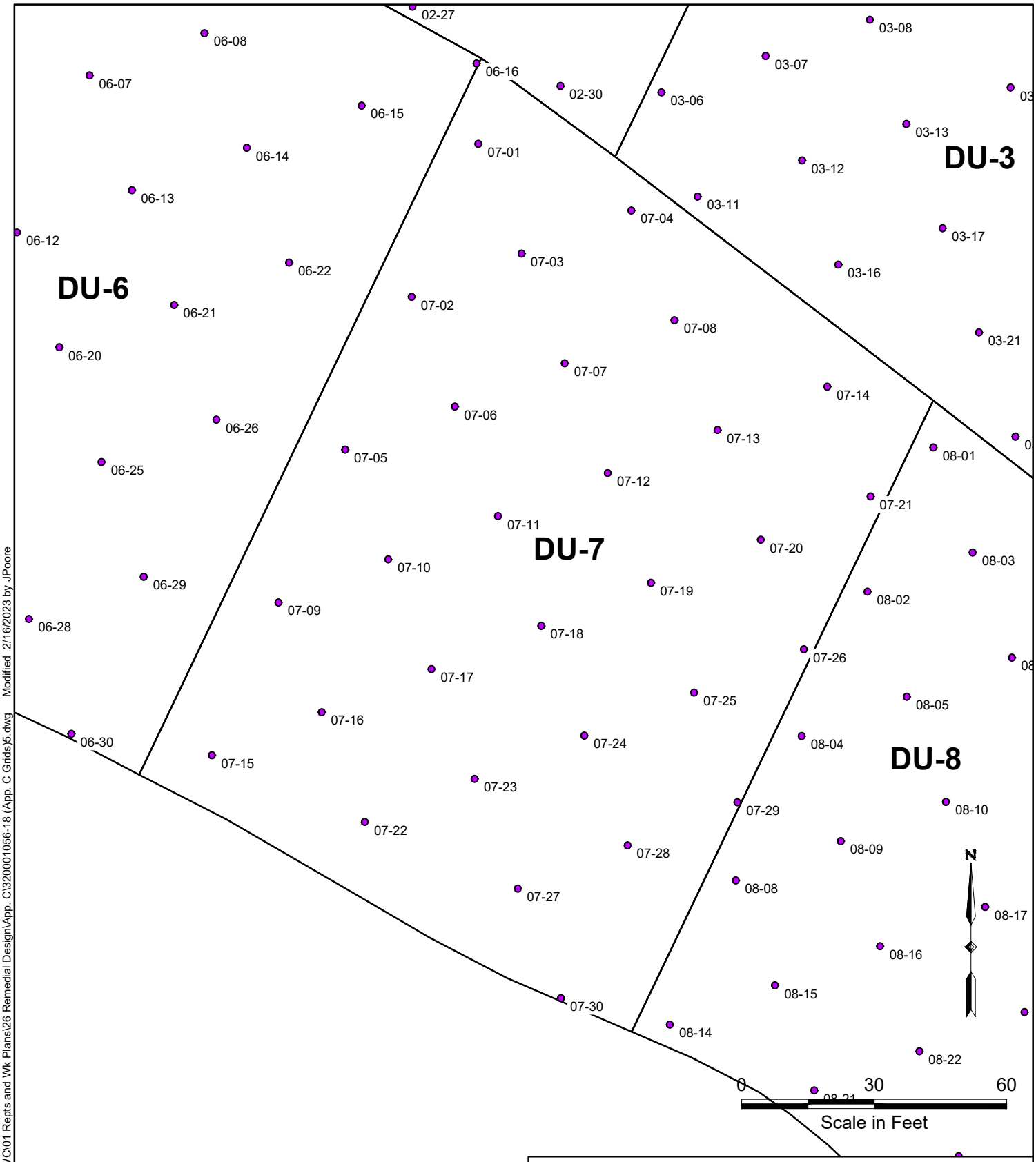
- Increment Sample Location

DU-6 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C6**
	February 2023			

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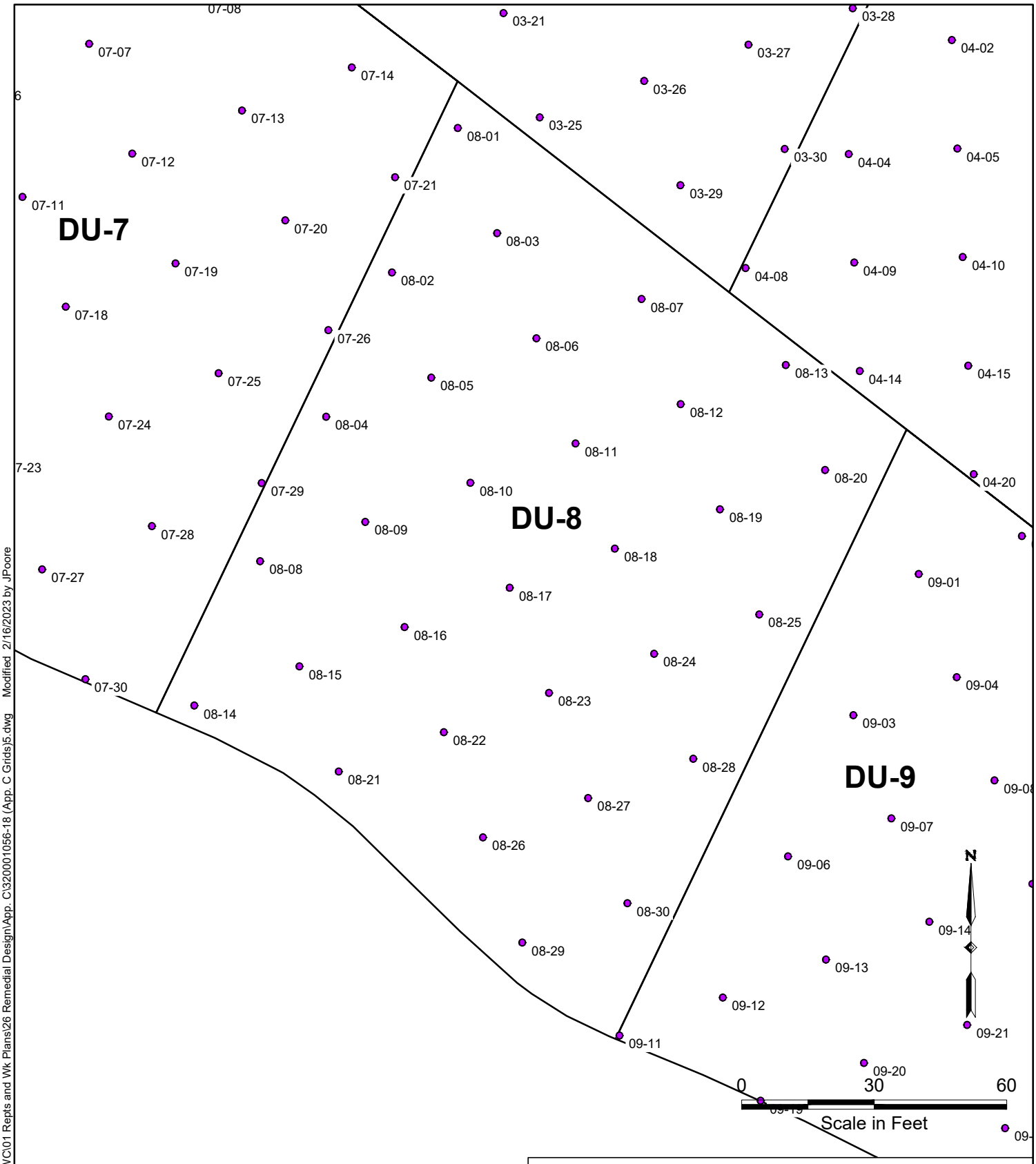
- Increment Sample Location

DU-7 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C7**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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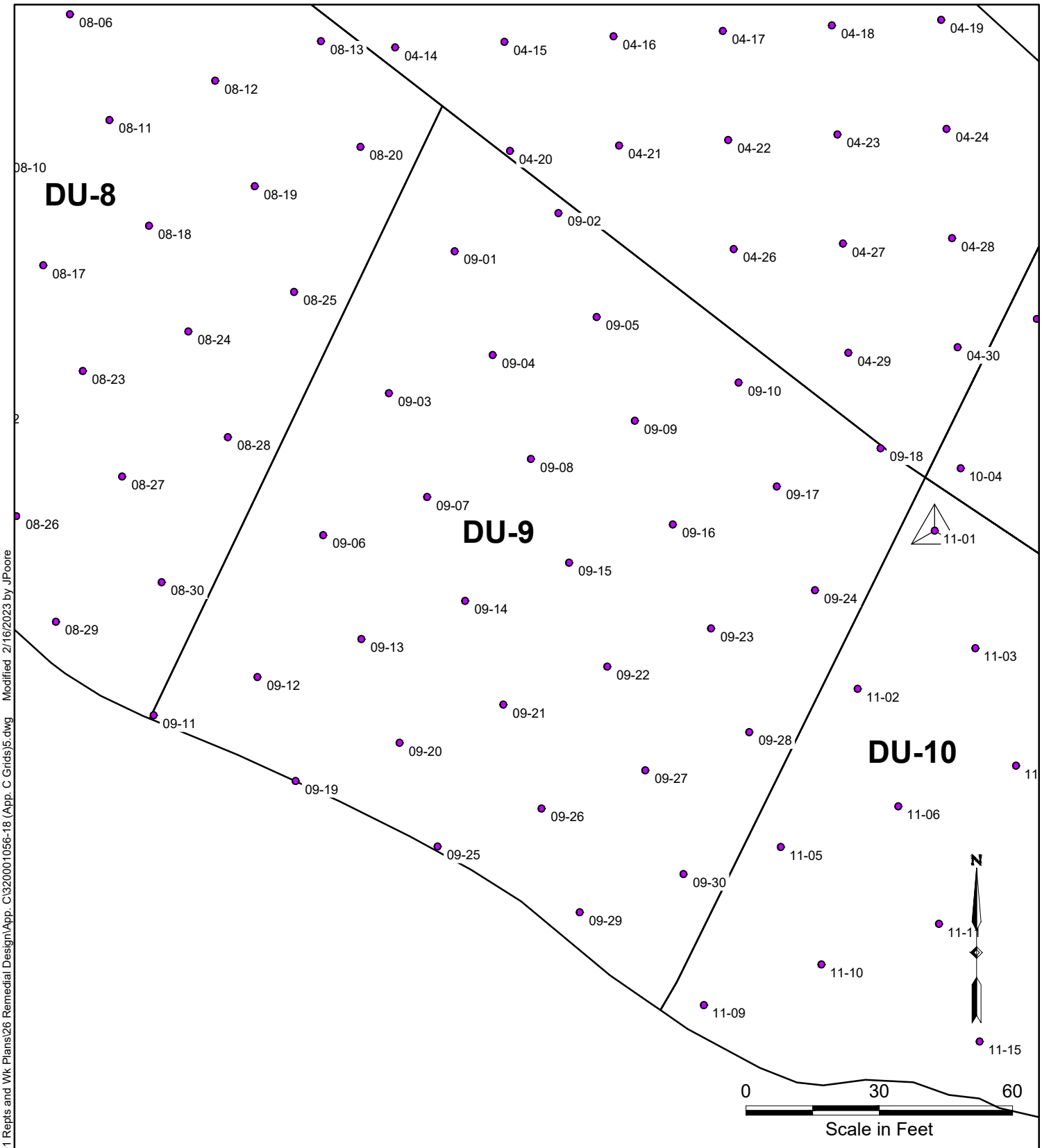
Legend:

- Increment Sample Location

DU-8 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C8**
	February 2023			



Legend:

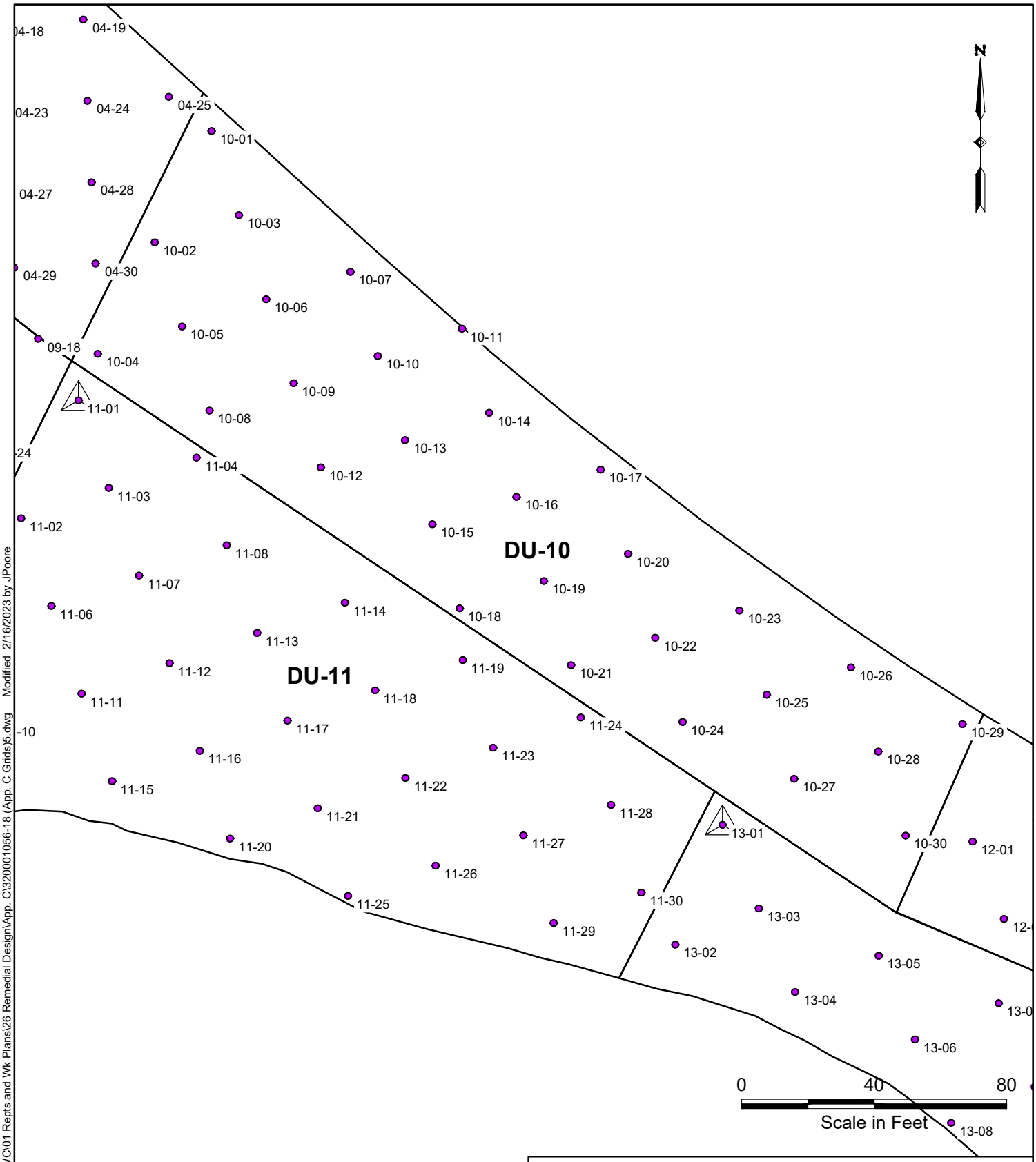
- Increment Sample Location

DU-9 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C9**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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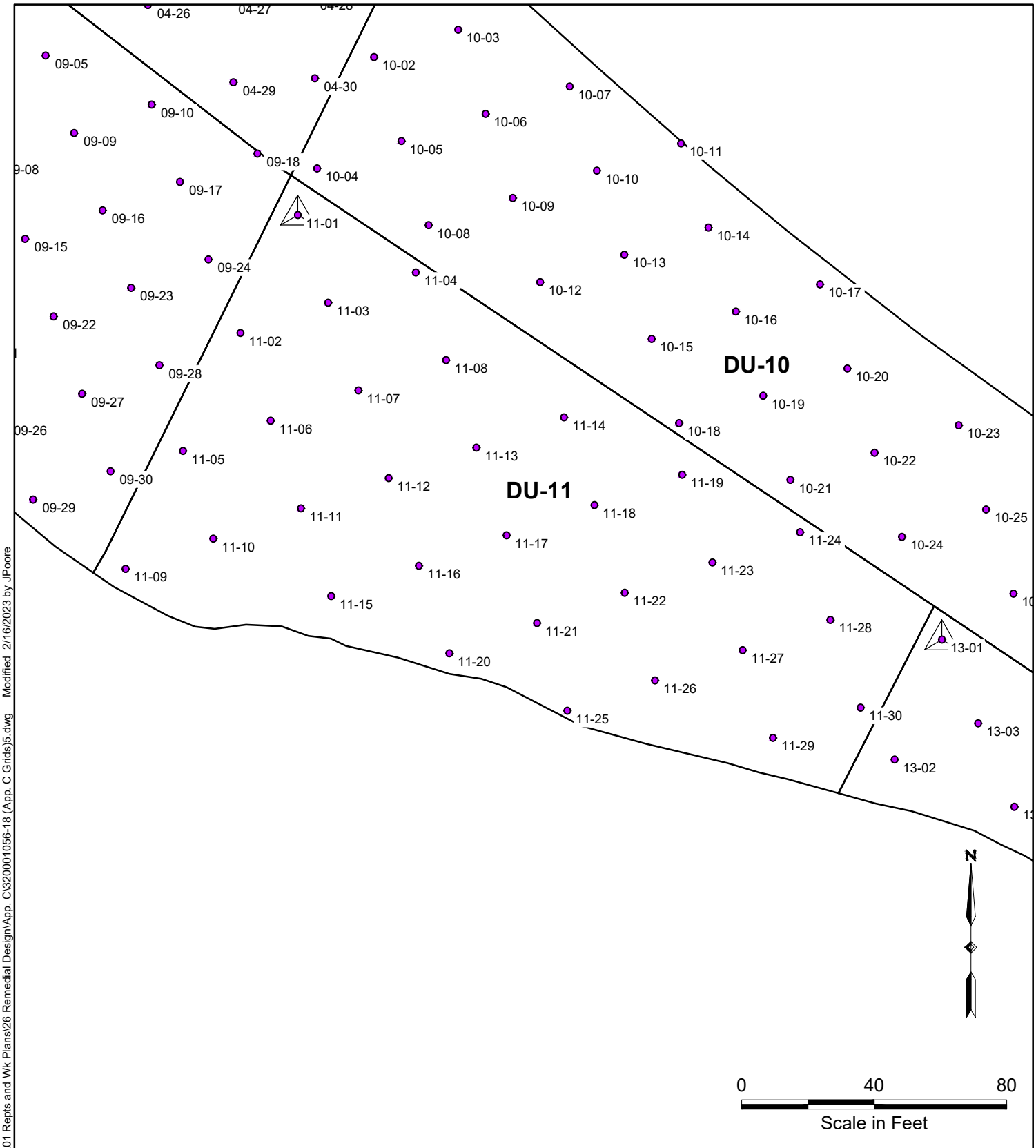
- Increment Sample Location

DU-10 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C10**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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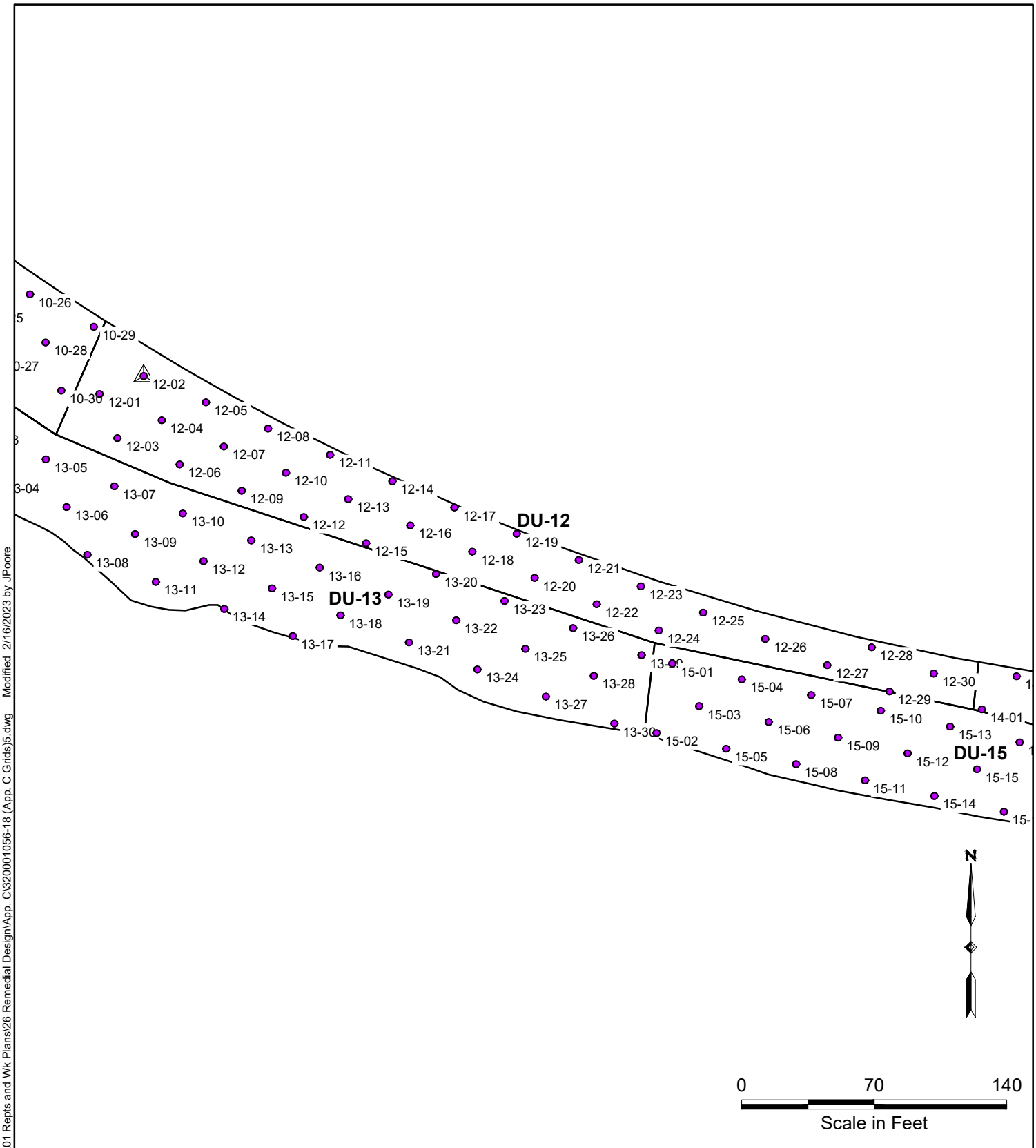
- Increment Sample Location
- Offset Sample Location

DU-11 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C11**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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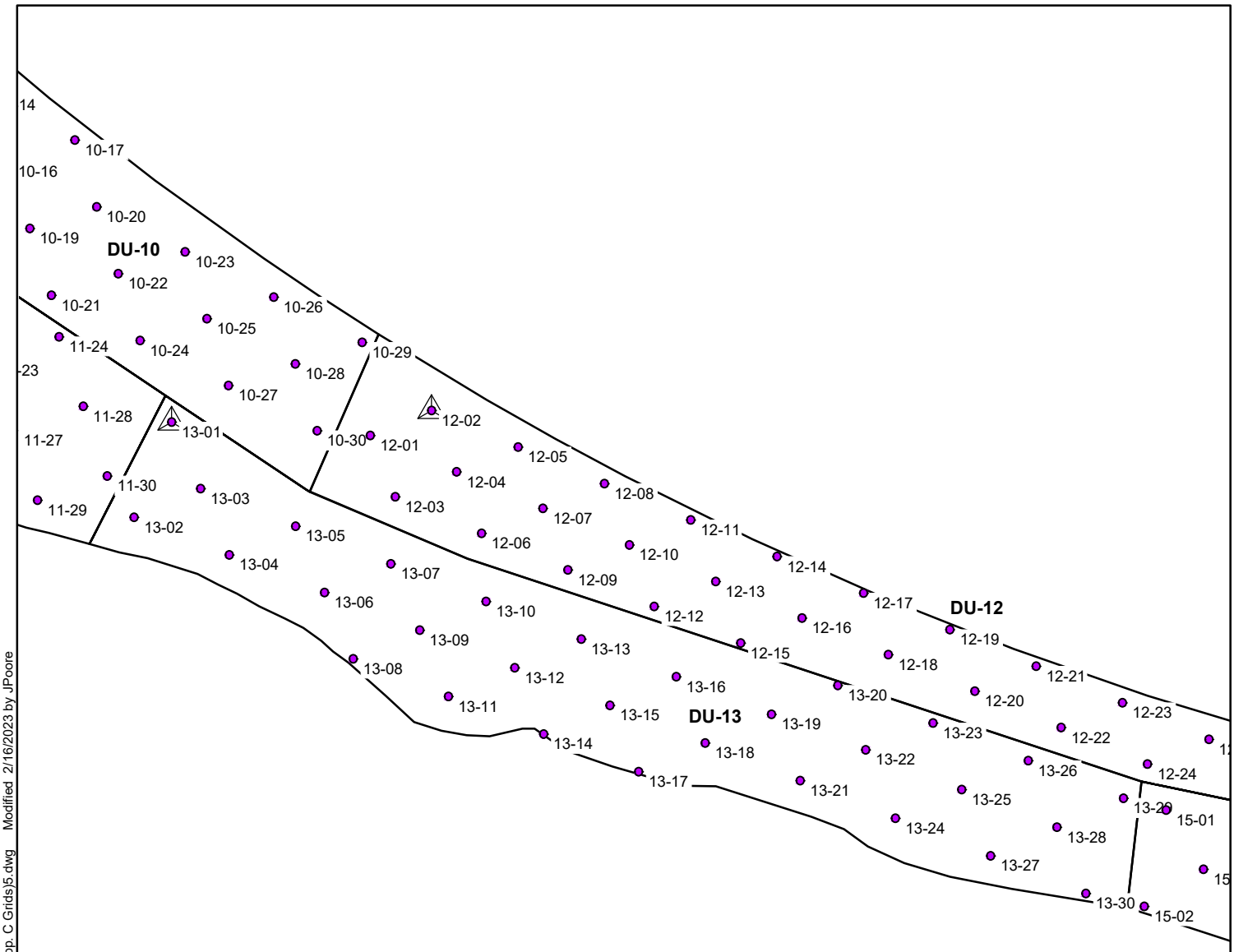
- Increment Sample Location
- Offset Sample Location

DU-12 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C12**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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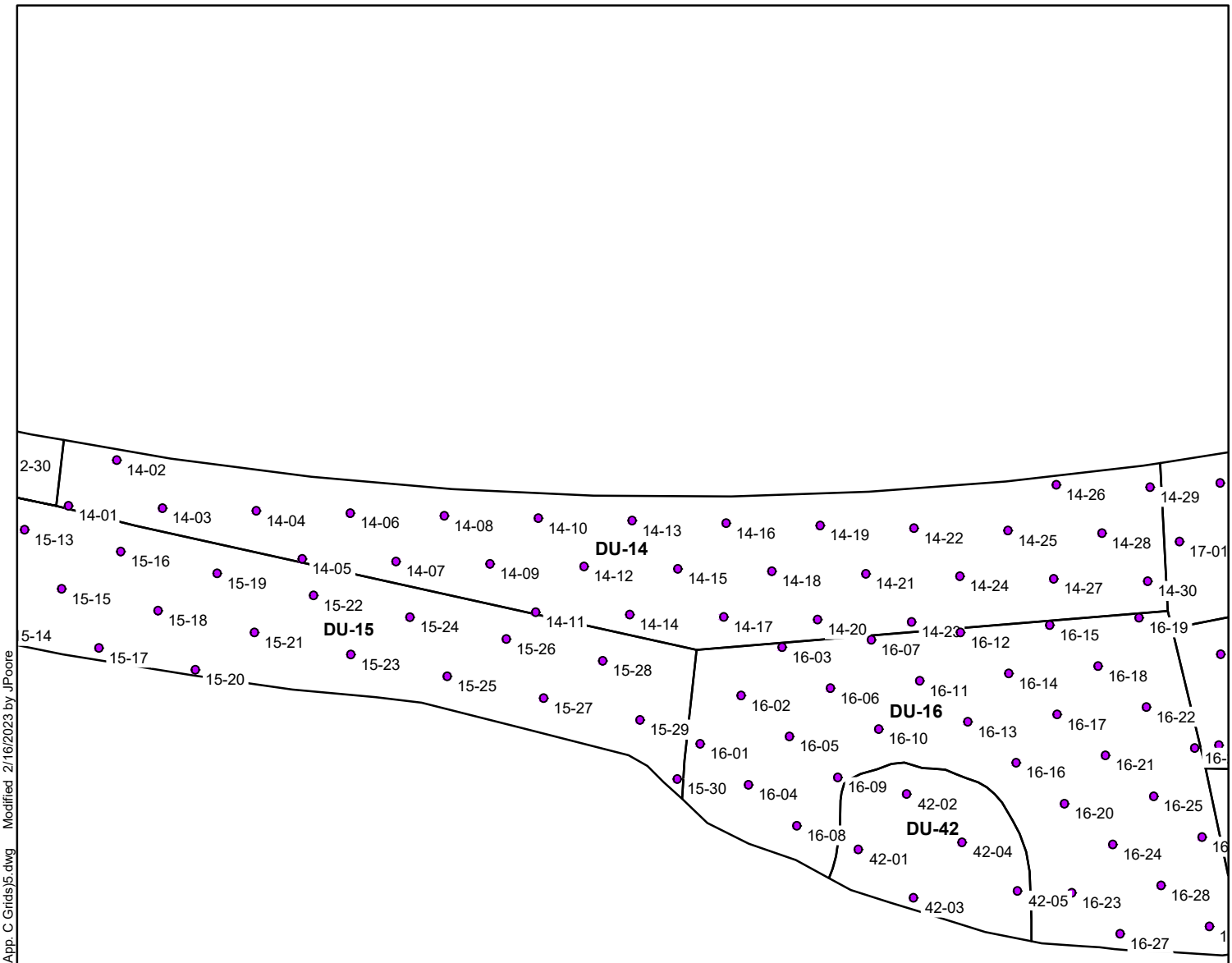
- Increment Sample Location
- Offset Sample Location

DU-13 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C13**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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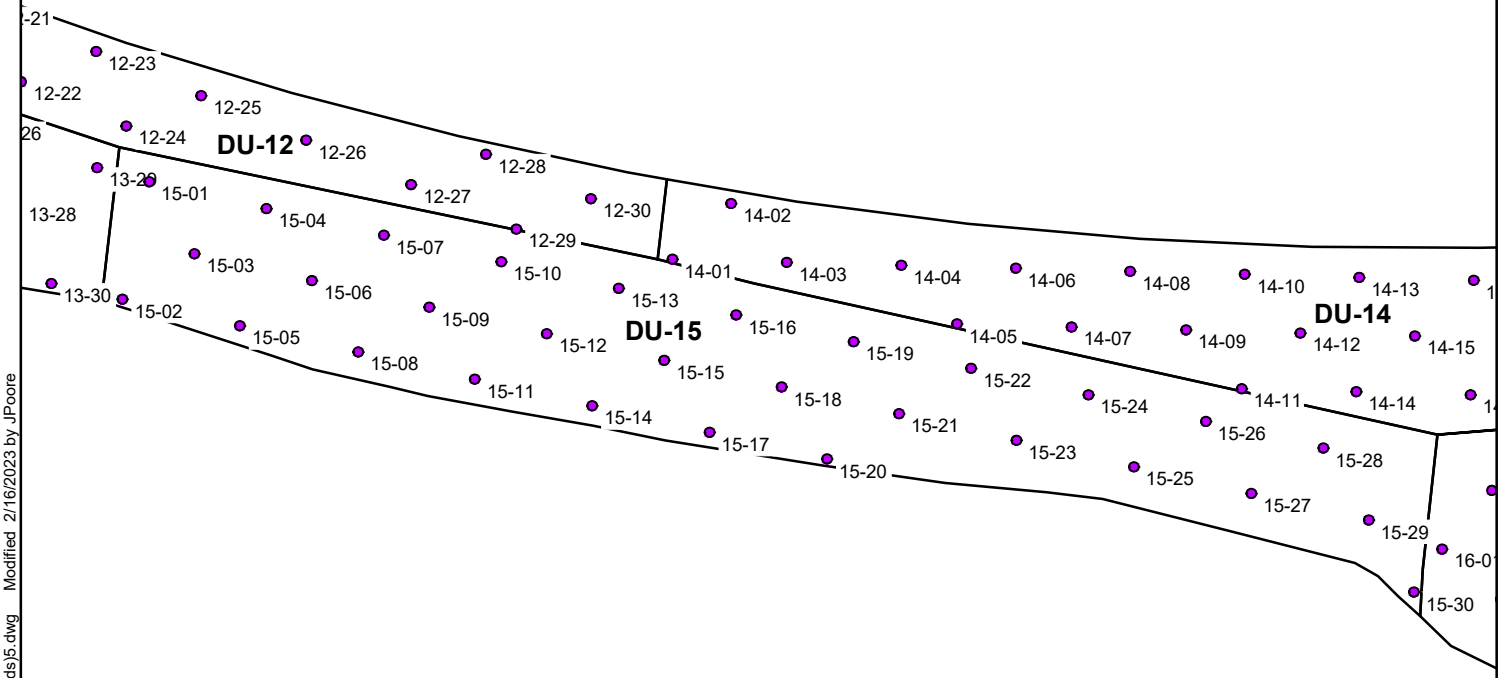
- Increment Sample Location

DU-14 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C14**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



N

0 60 120

Scale in Feet

Legend:

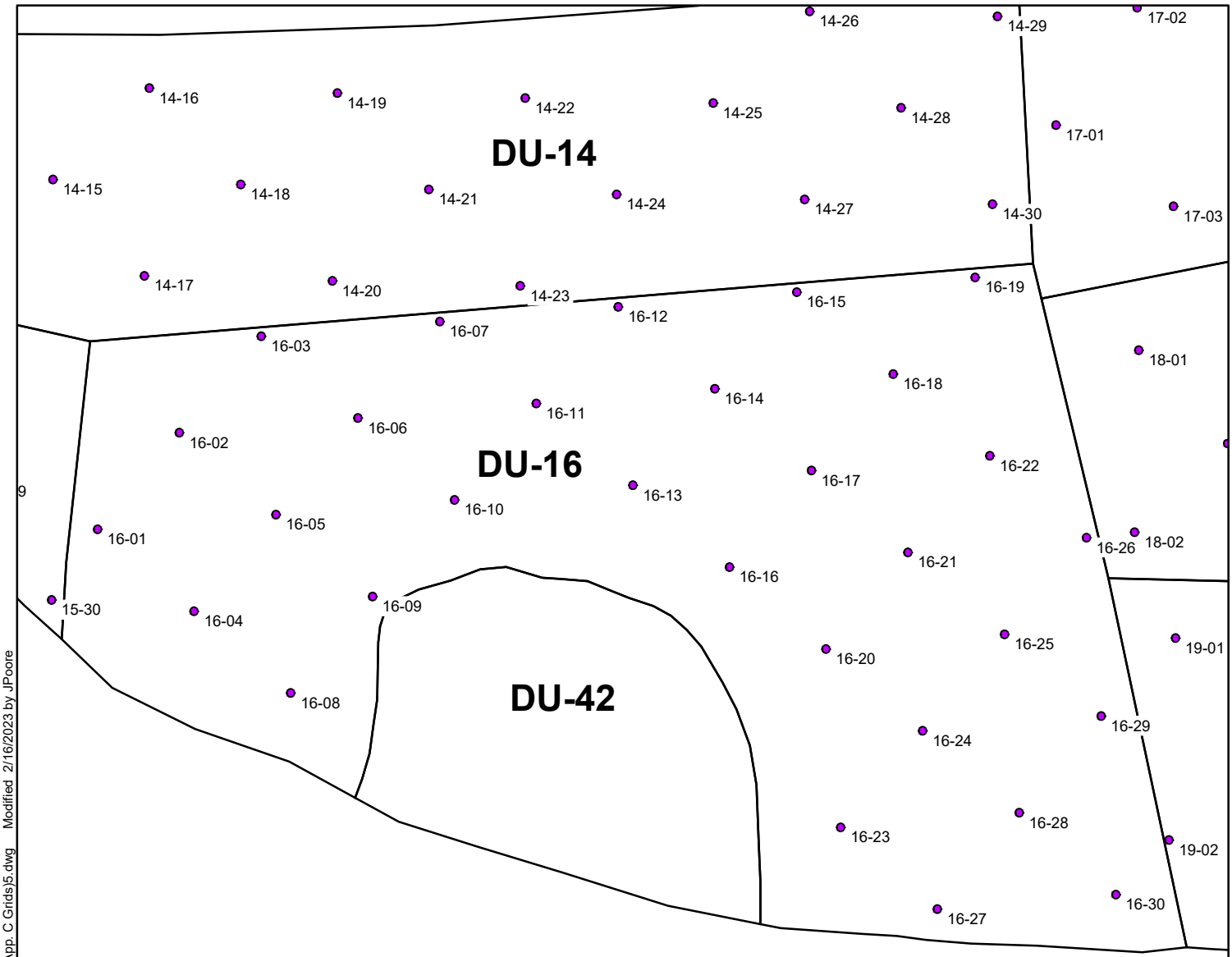
- Increment Sample Location

DU-15 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C15**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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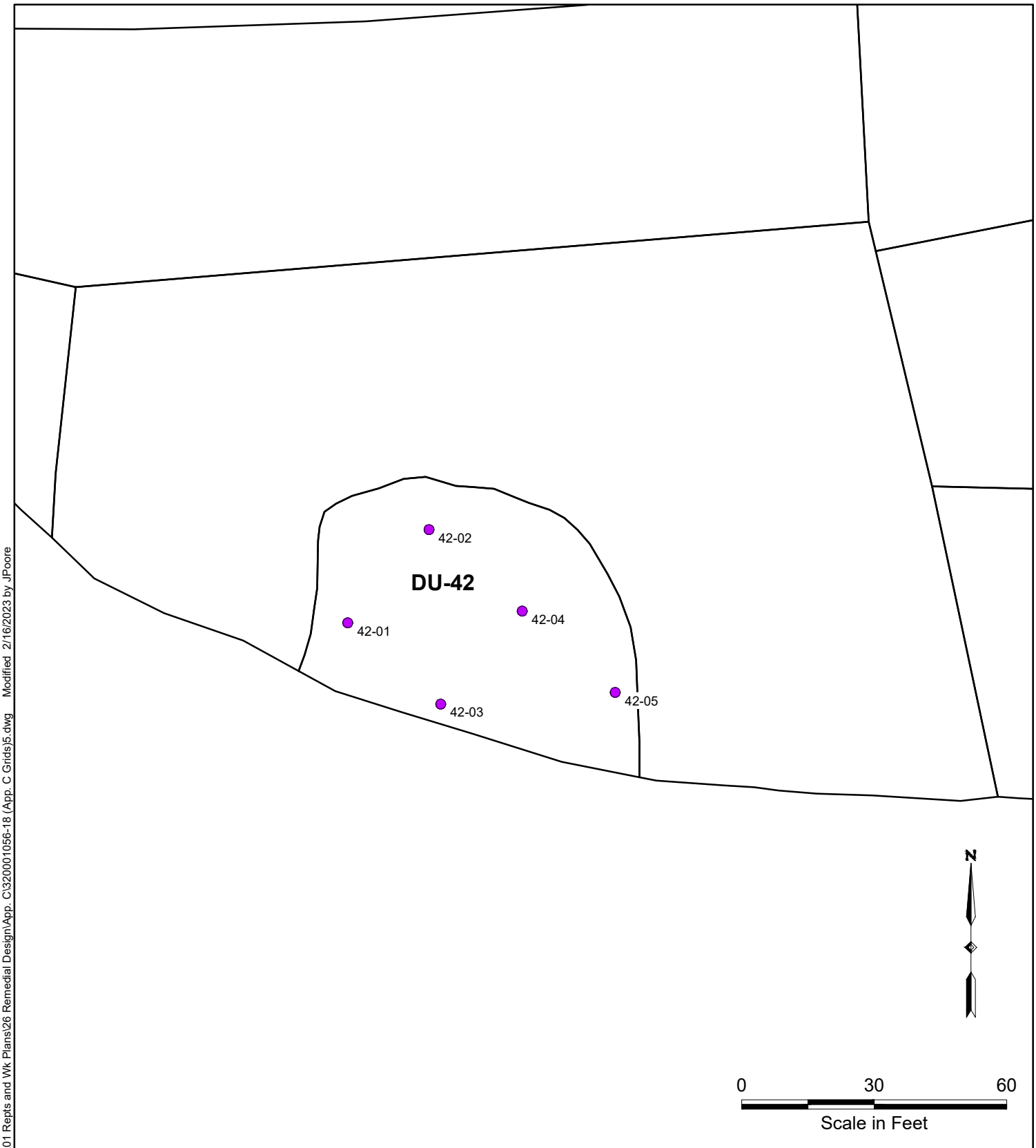
- Increment Sample Location

DU-16 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C16**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

- Increment Sample Location

DU-42 Sampling Grid

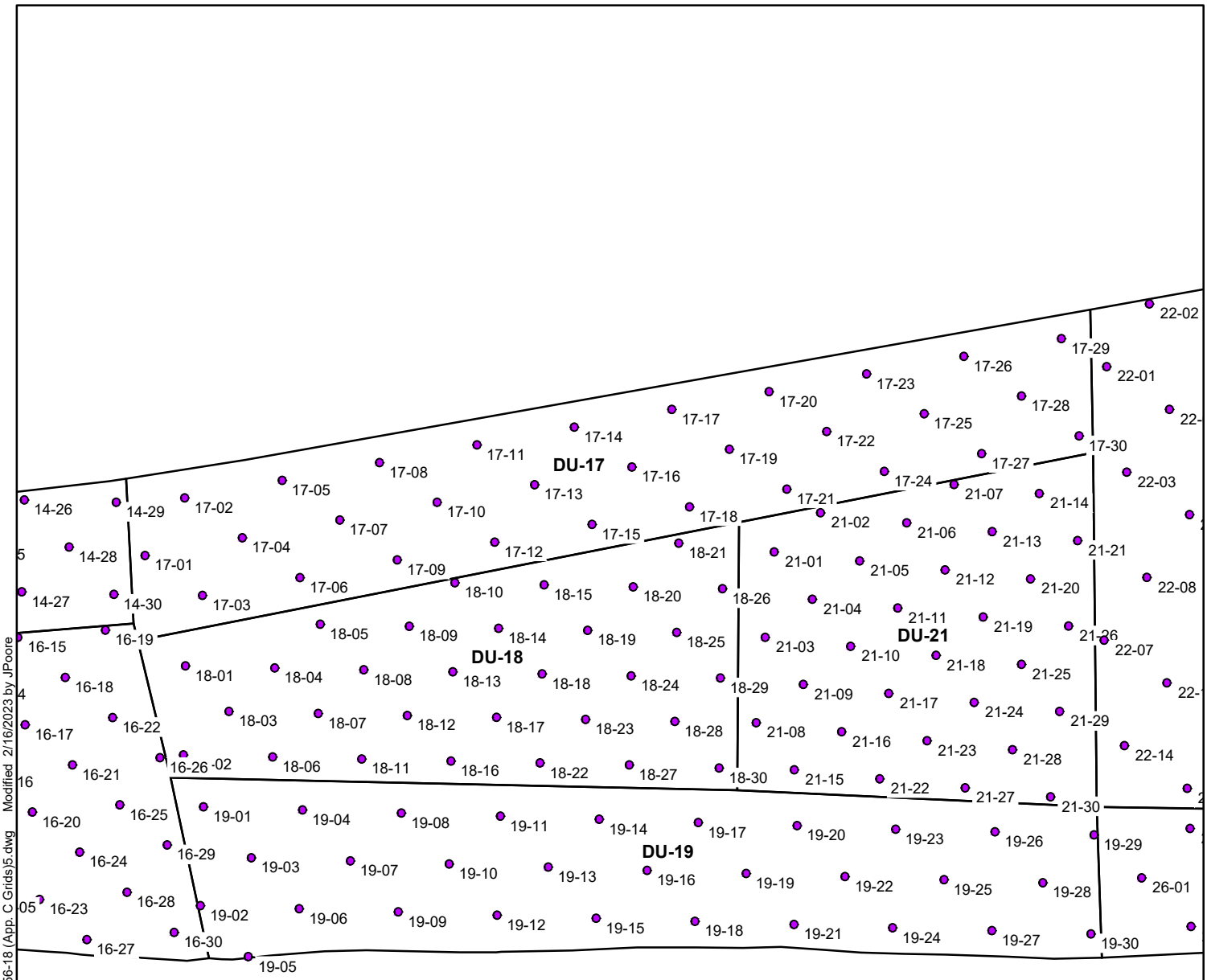
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Appendix
32-22007576	JP	HC	C17

February 2023

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

- Increment Sample Location

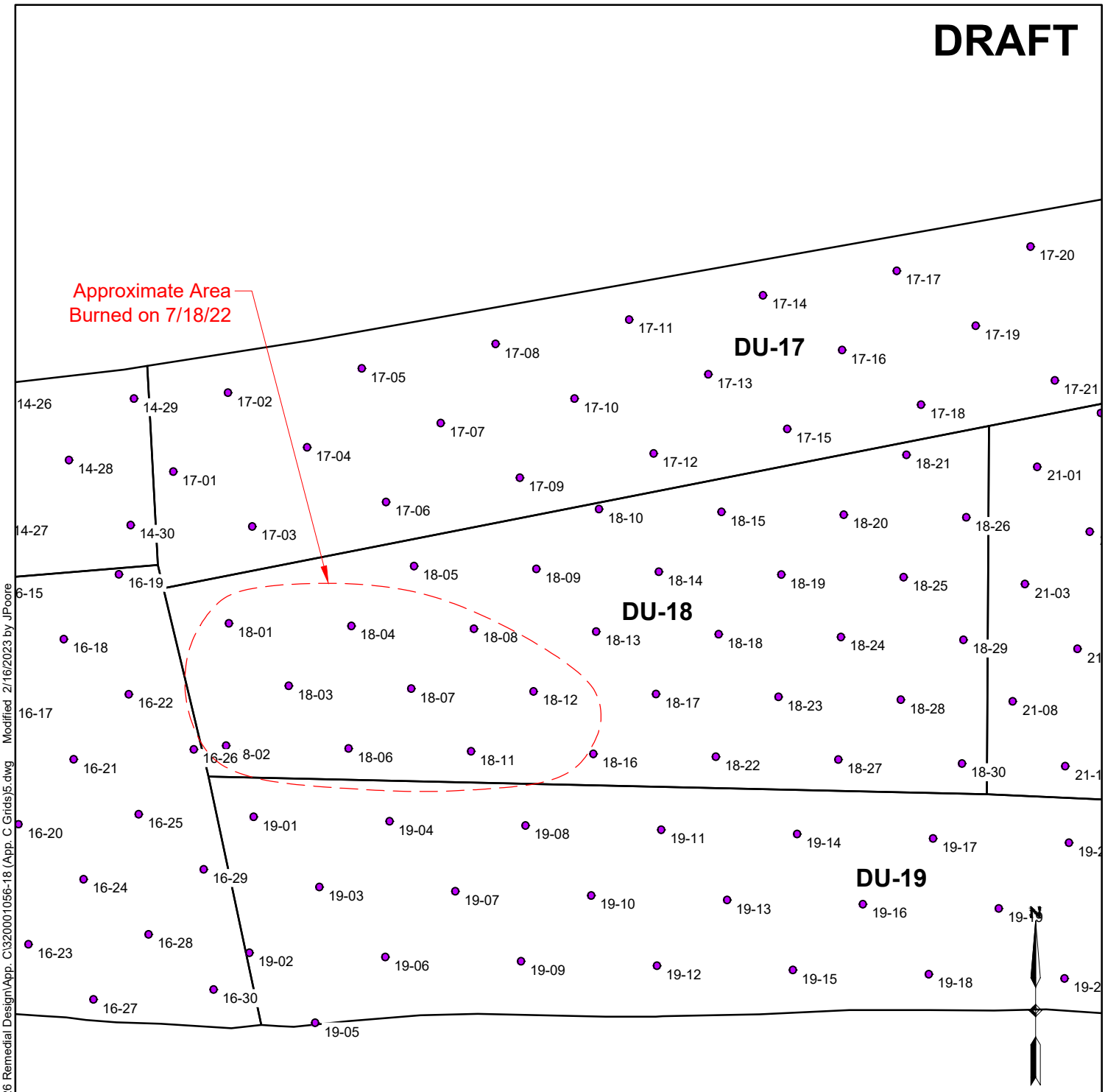
DU-17 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C18**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore

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Legend:

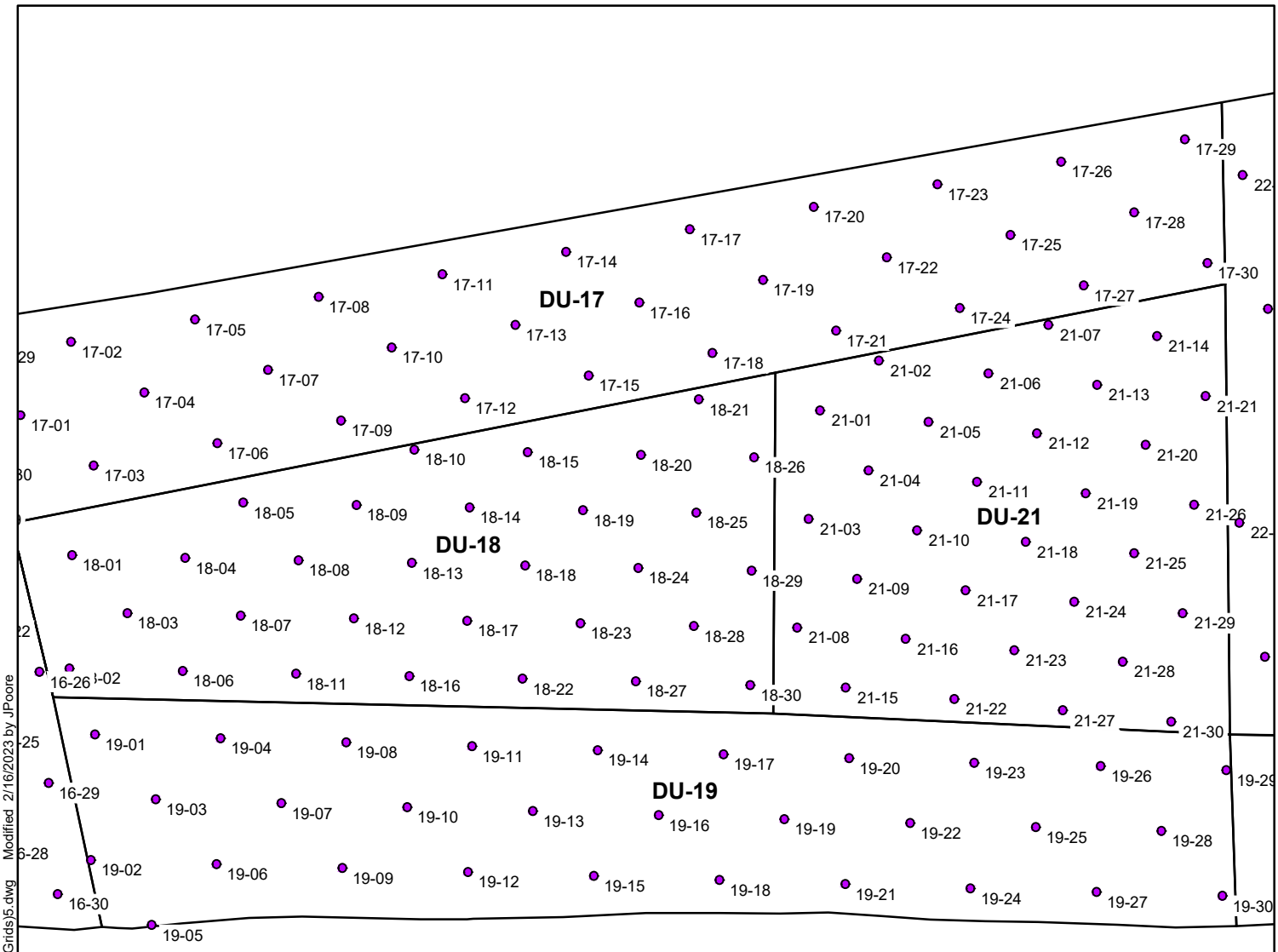
- Increment Sample Location

DU-18 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C19**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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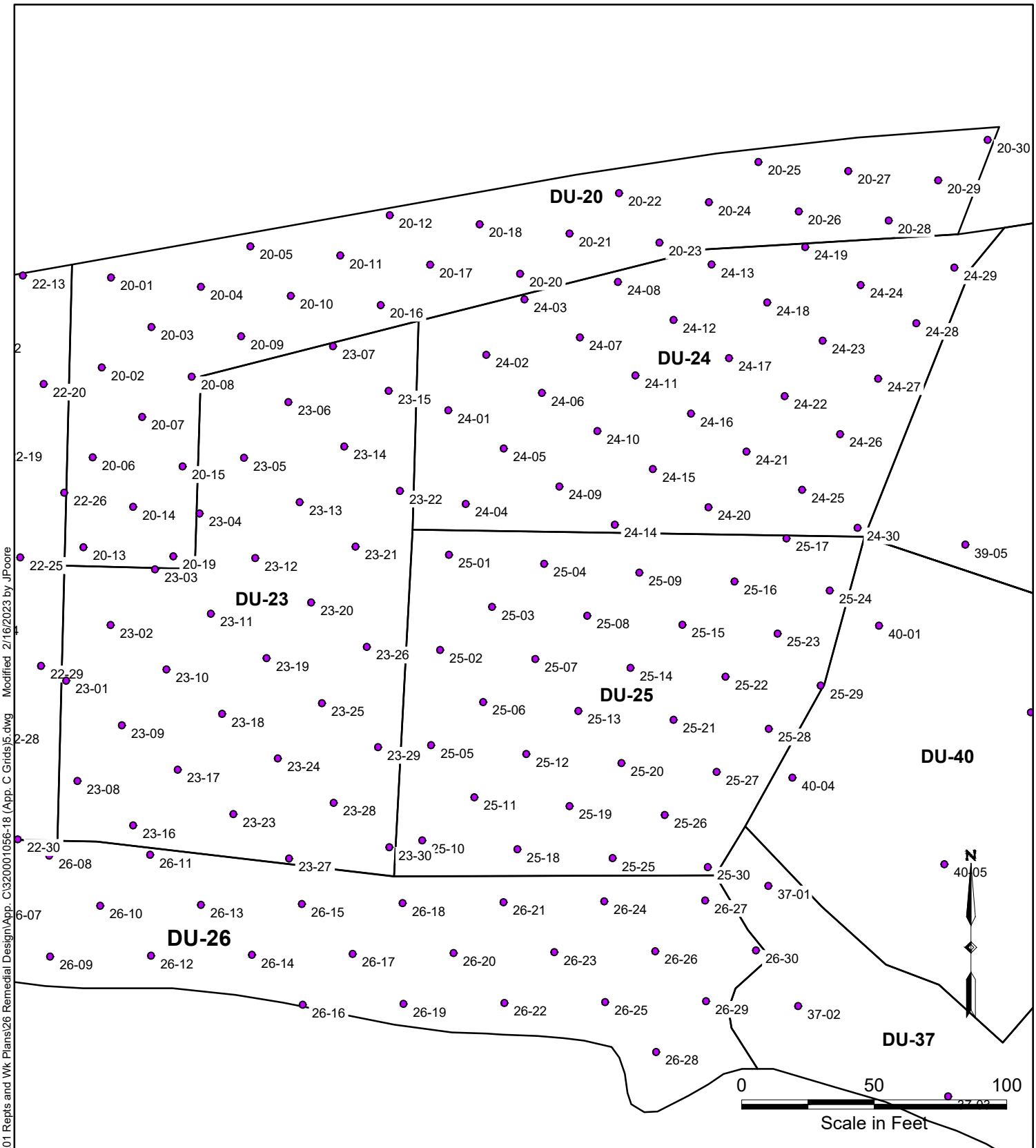
- Increment Sample Location

DU-19 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C20**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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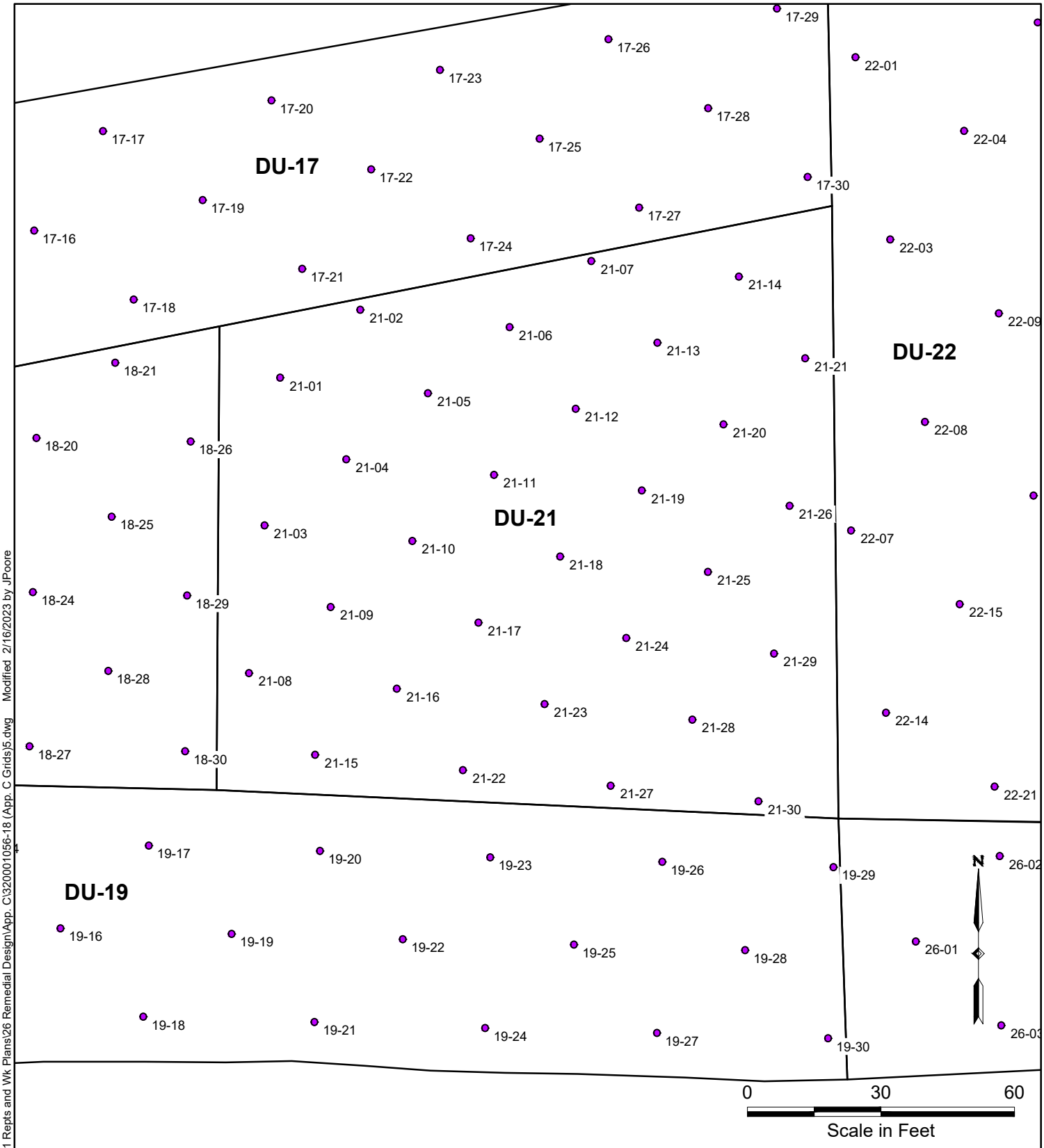
- Increment Sample Location

DU-20 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C21**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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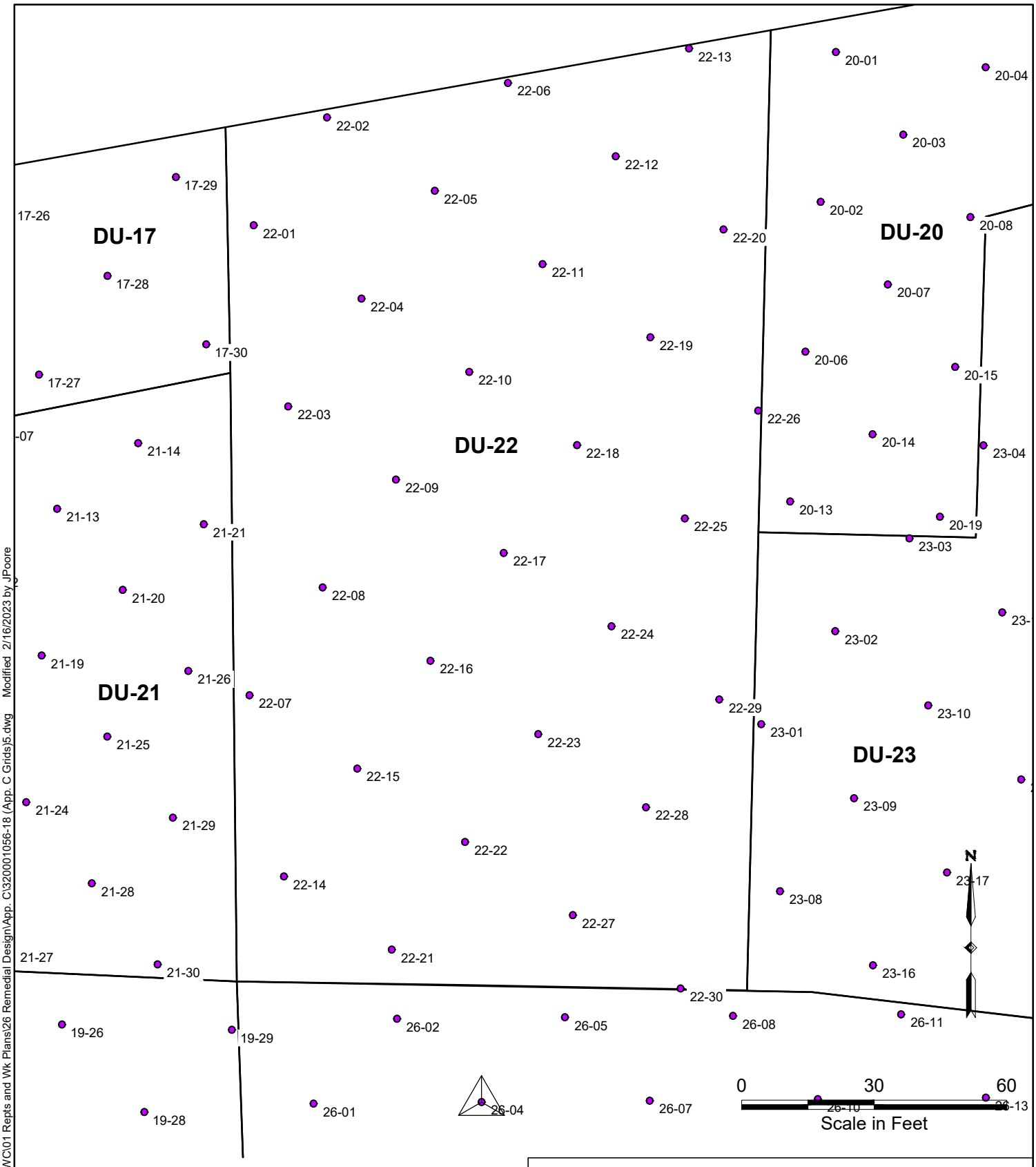
- Increment Sample Location

DU-21 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C22**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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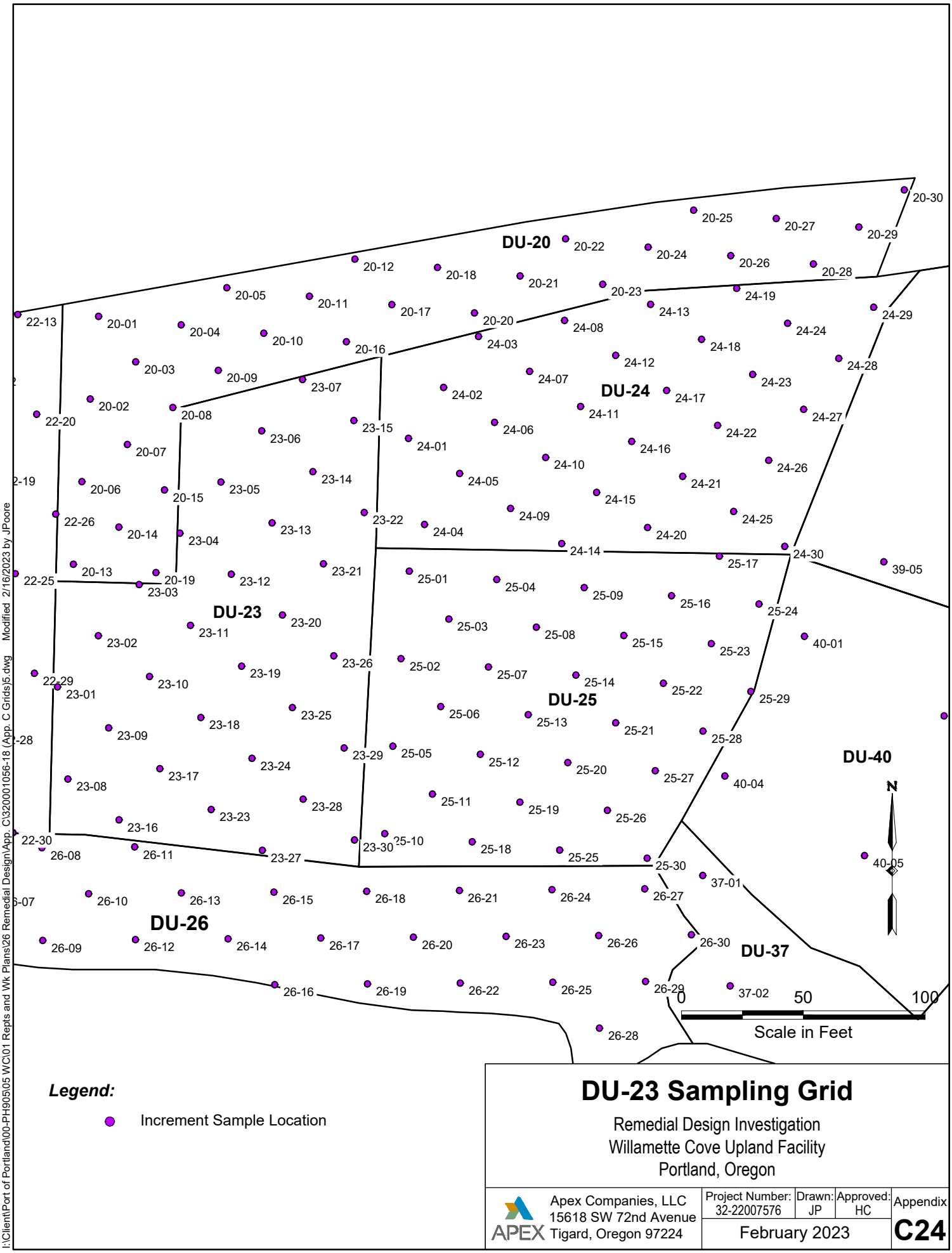
- Increment Sample Location
- Offset Sample Location

DU-22 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C23**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore

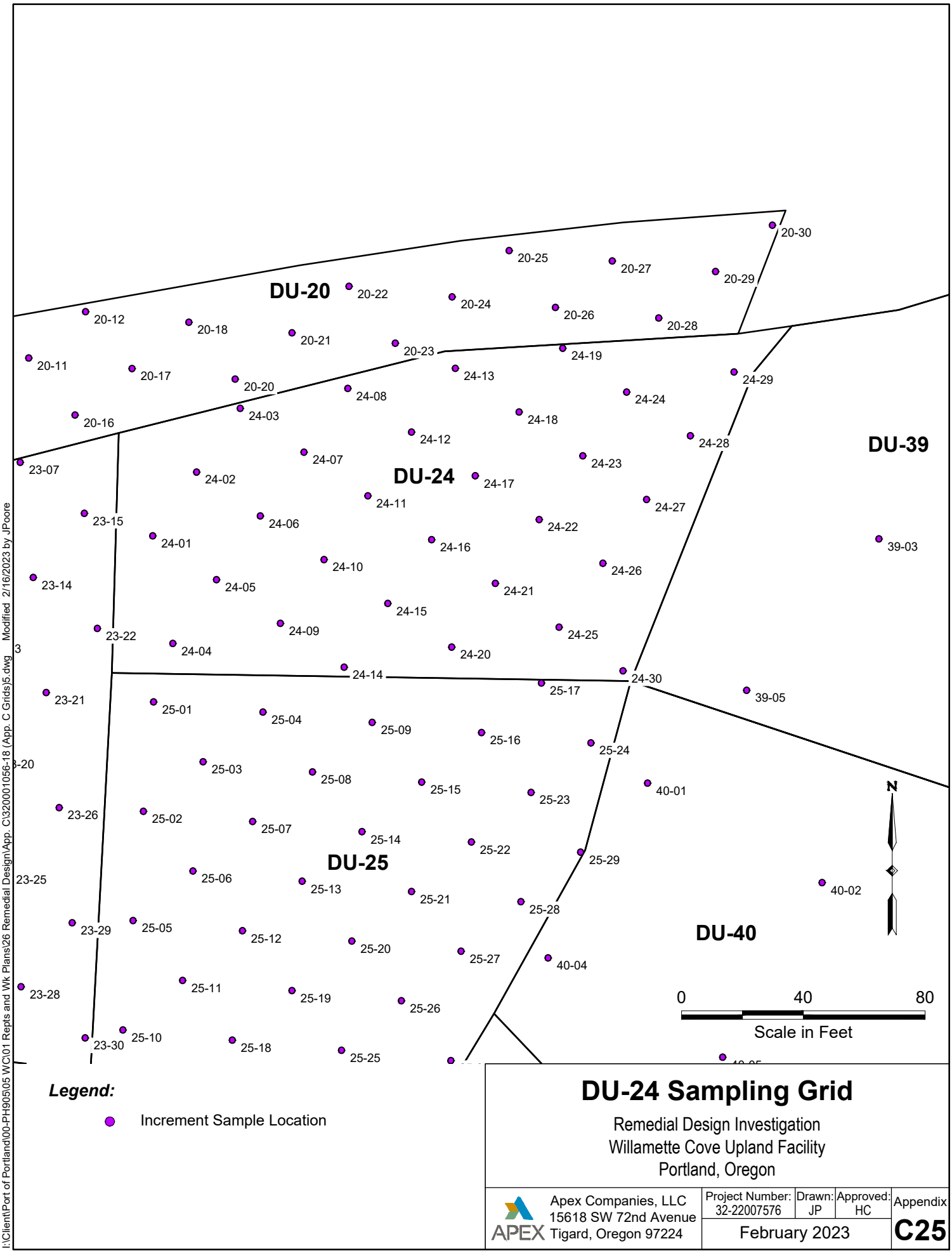


DU-23 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C24**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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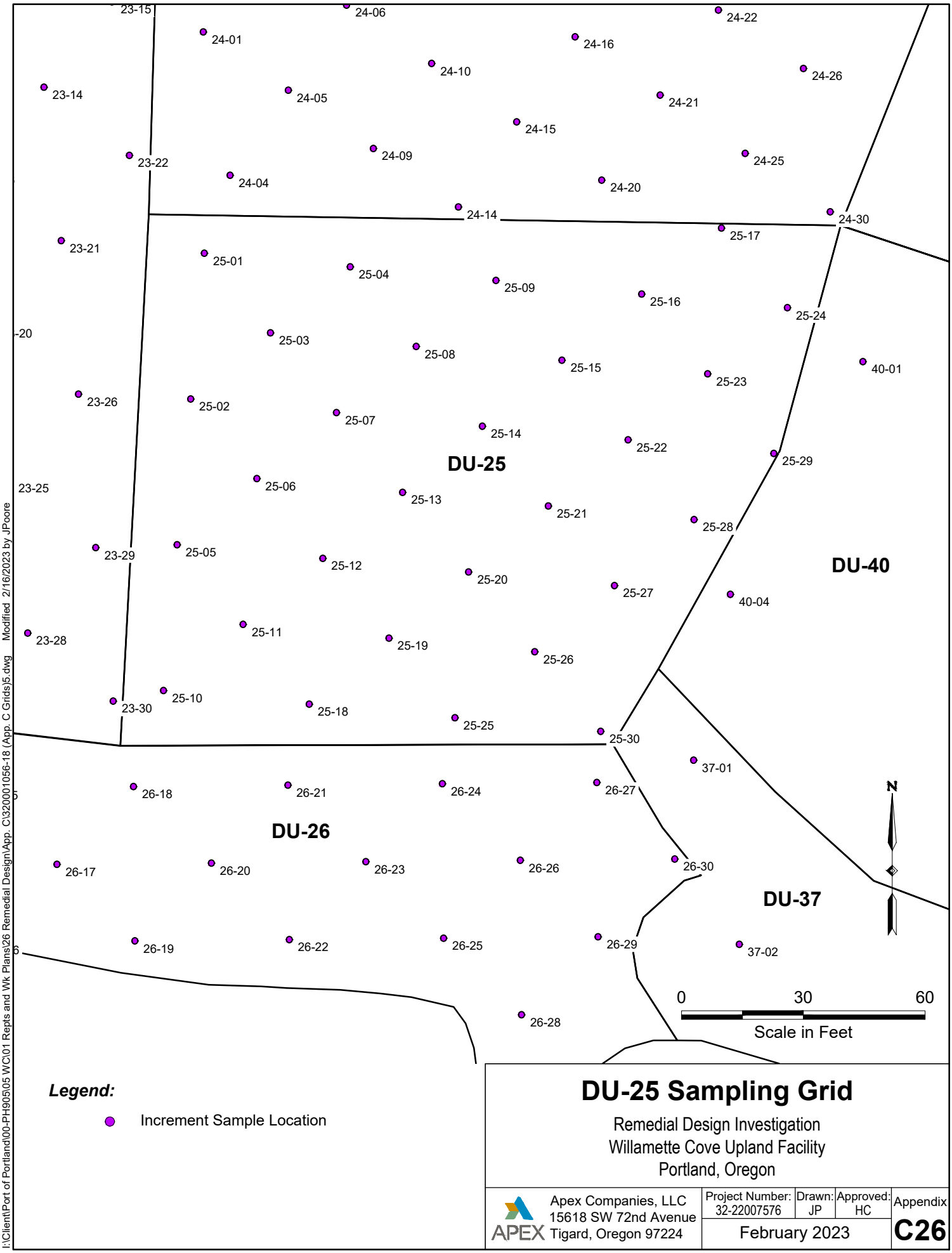
Increment Sample Location

DU-24 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C25**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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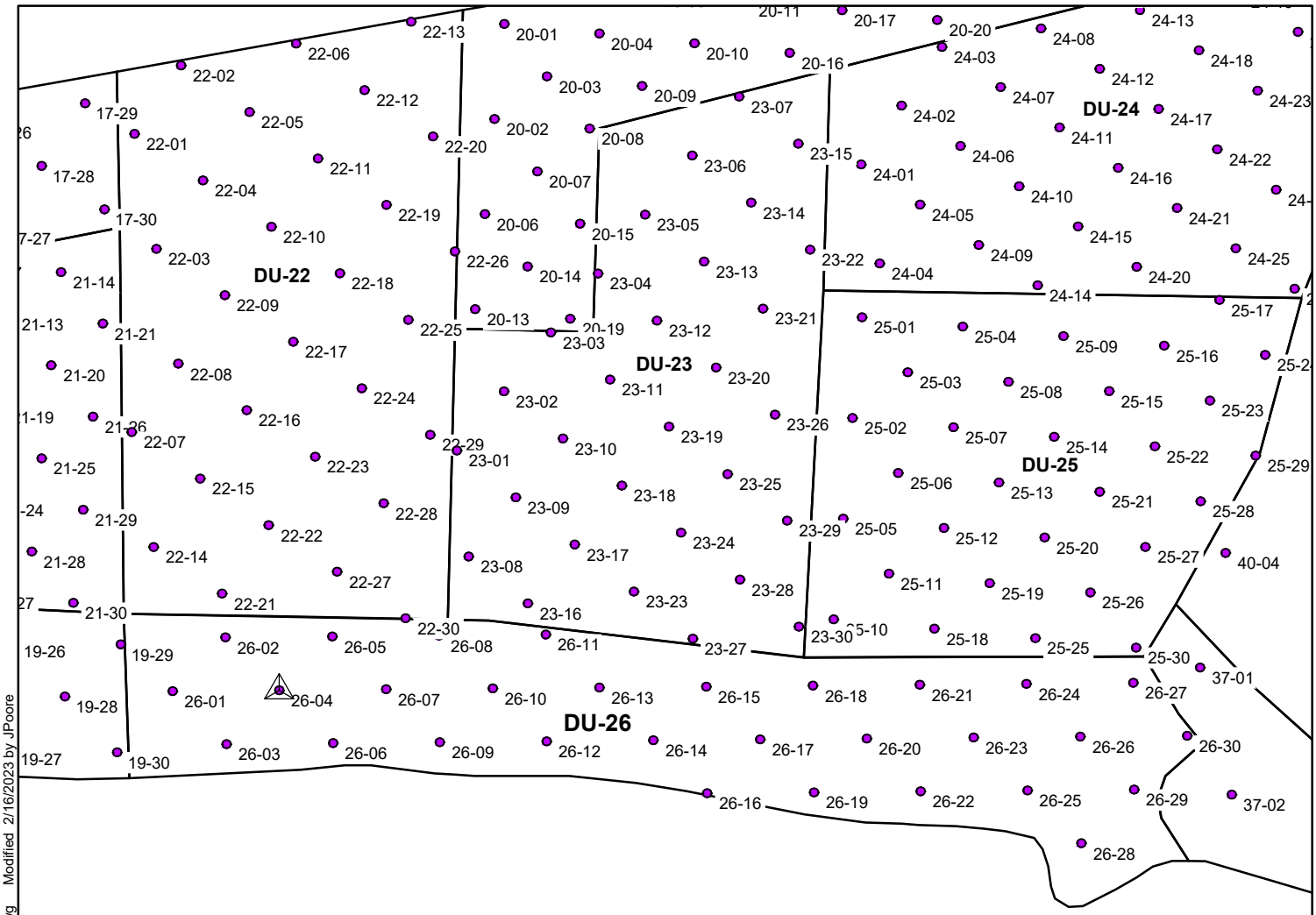
- Increment Sample Location

DU-25 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C26**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

- Increment Sample Location
- Offset Sample Location

DU-26 Sampling Grid

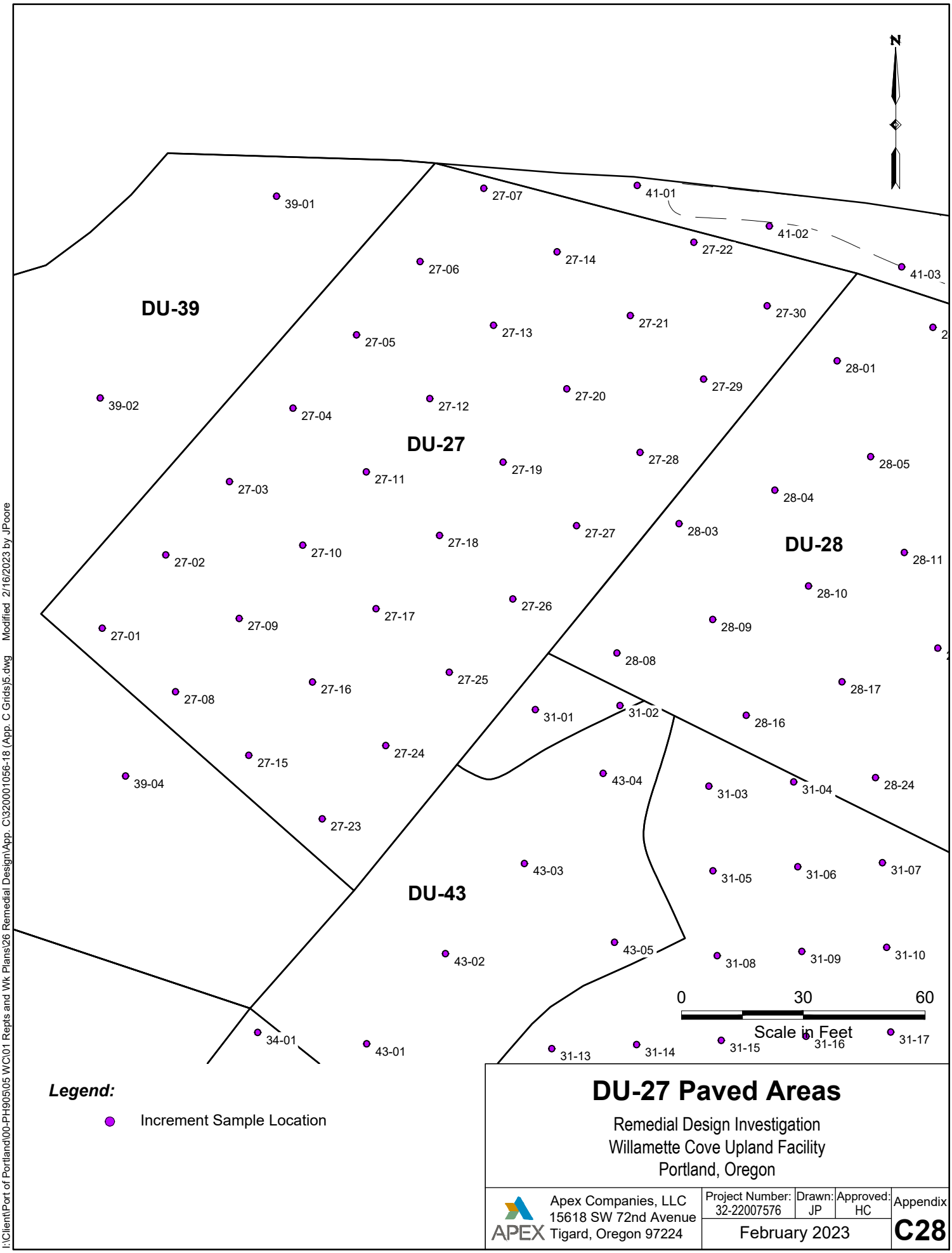
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Appendix
32-22007576	JP	HC	C27

February 2023

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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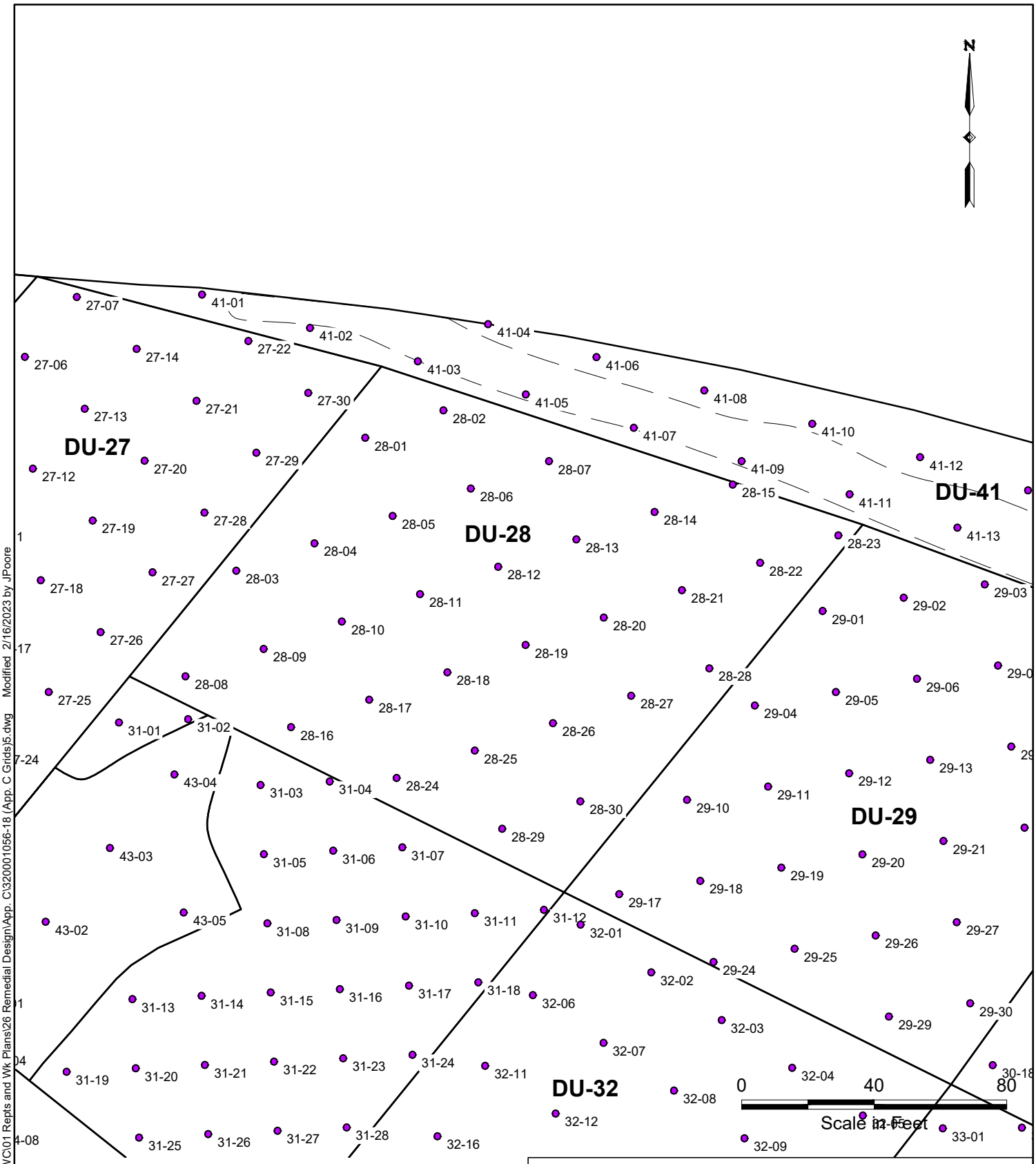
- Increment Sample Location

DU-27 Paved Areas

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C28**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

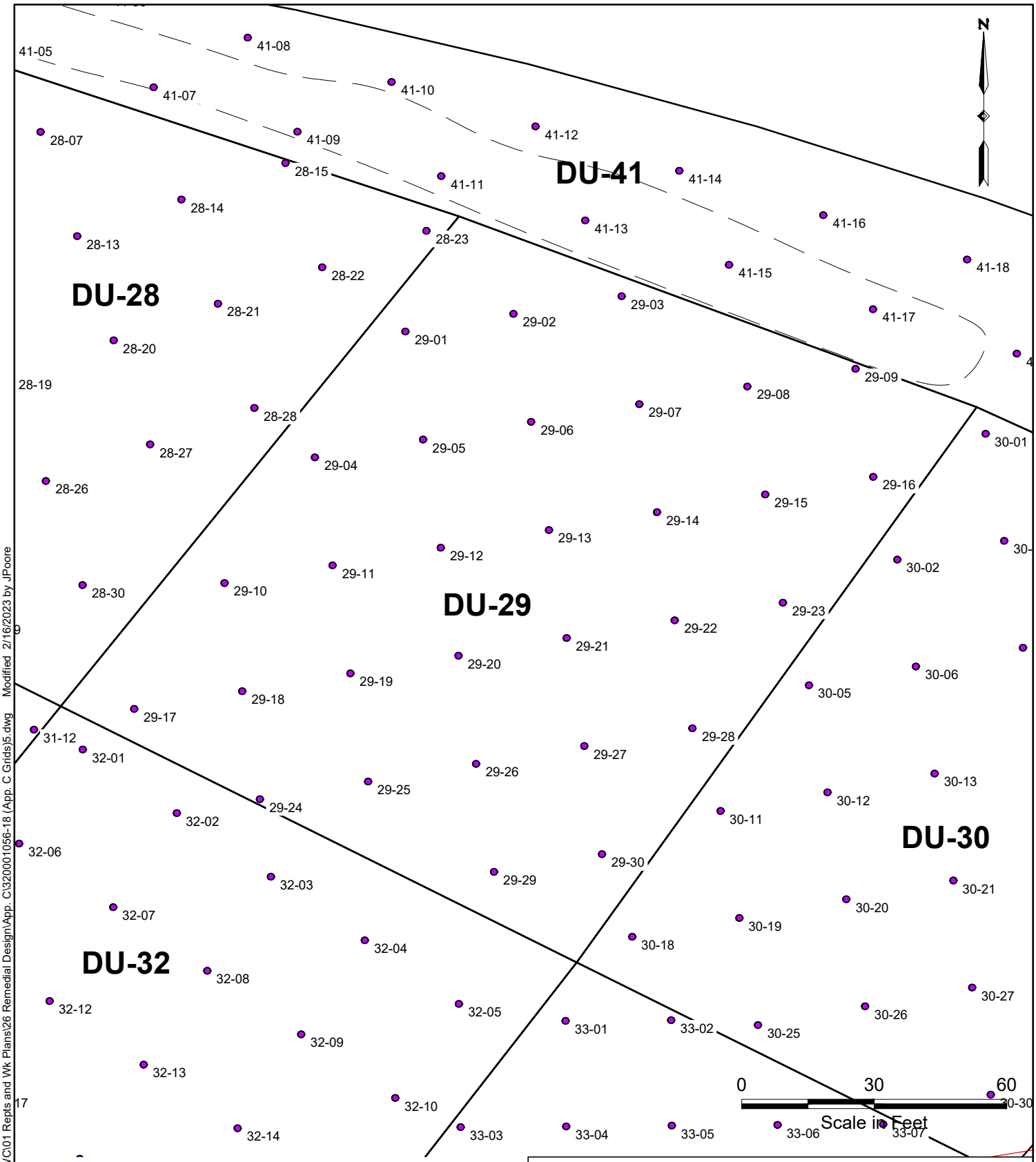
- Increment Sample Location

DU-28 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C29**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

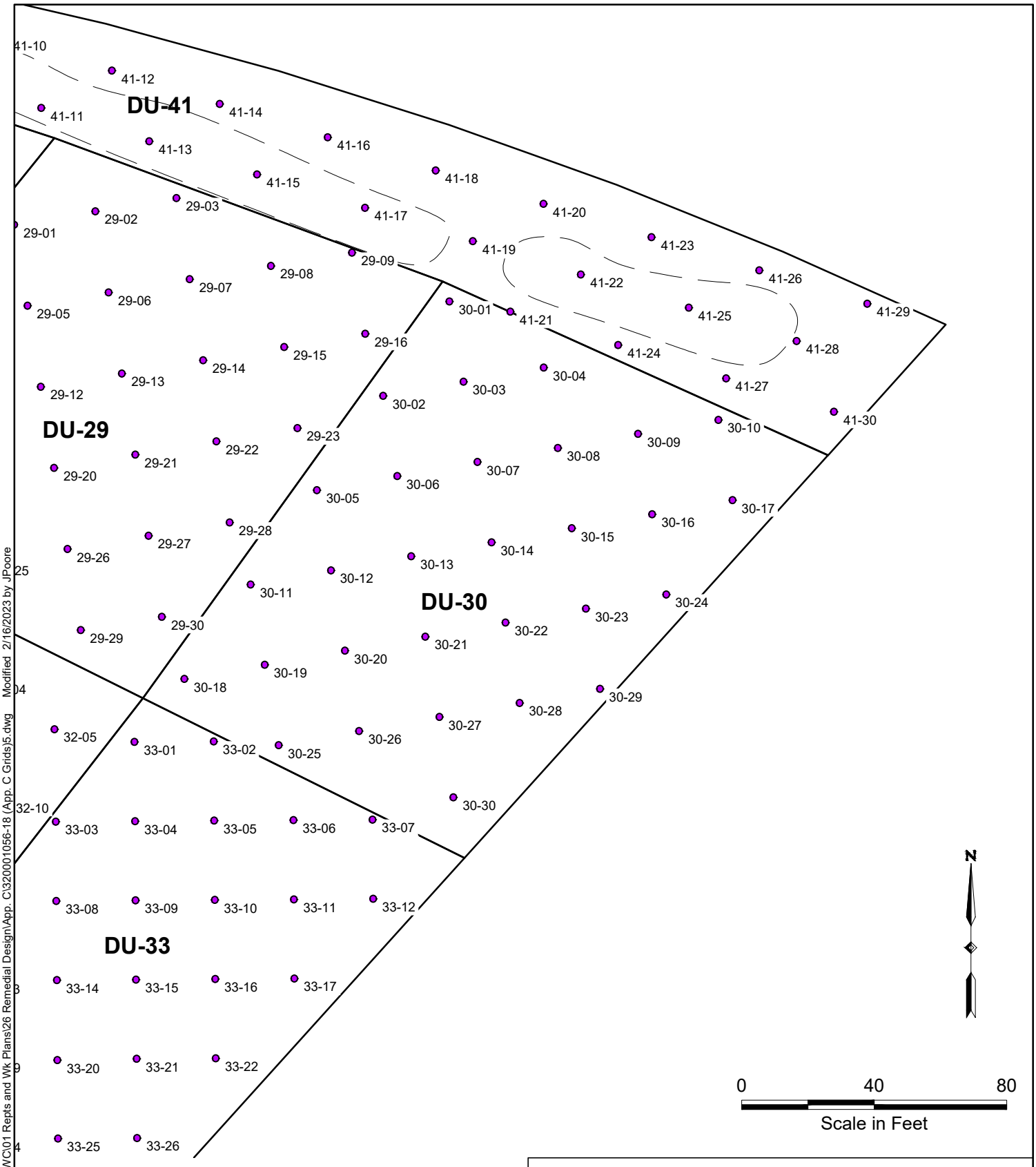
Increment Sample Location

DU-29 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C30**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

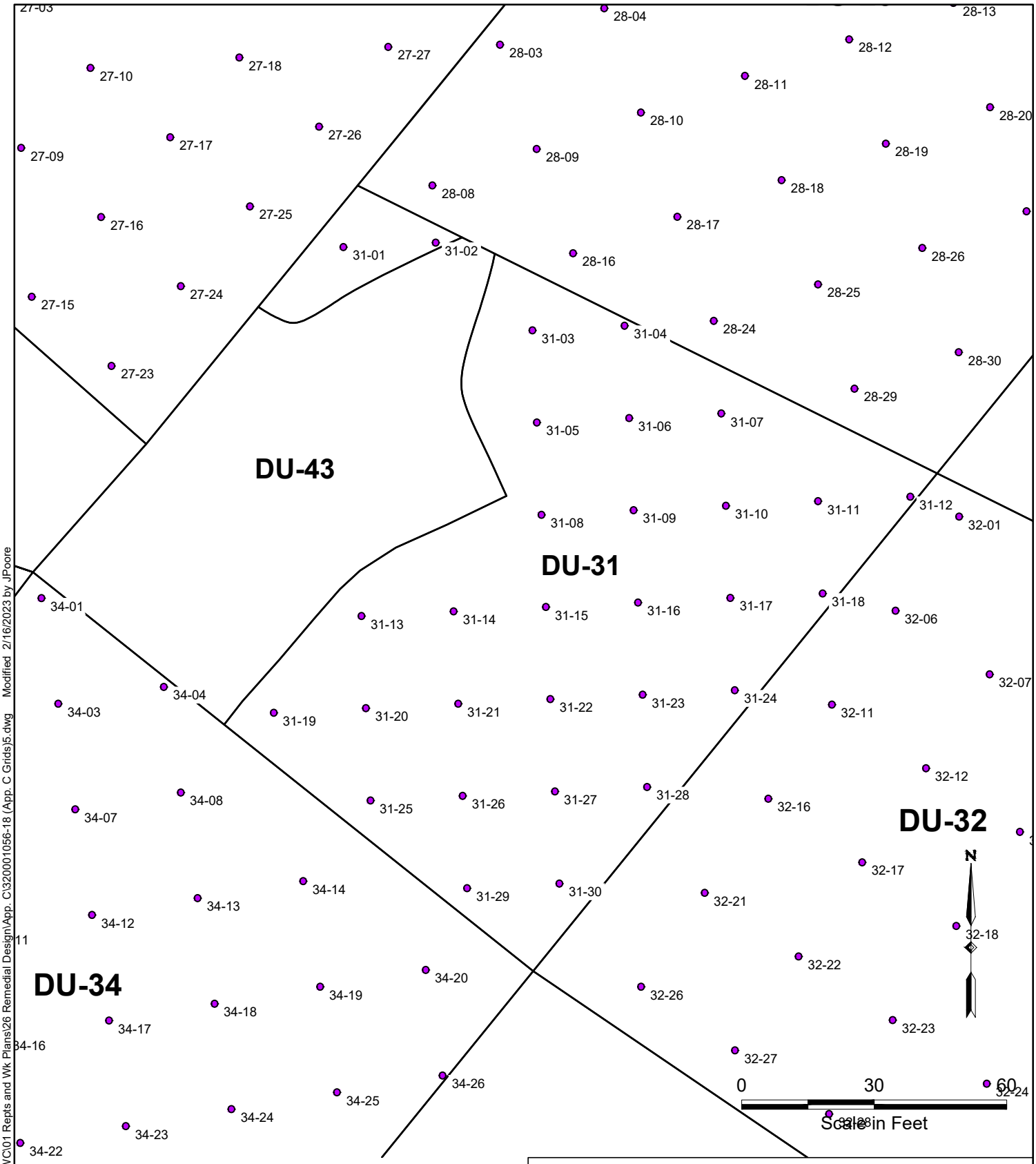
Increment Sample Location

DU-30 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C31**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

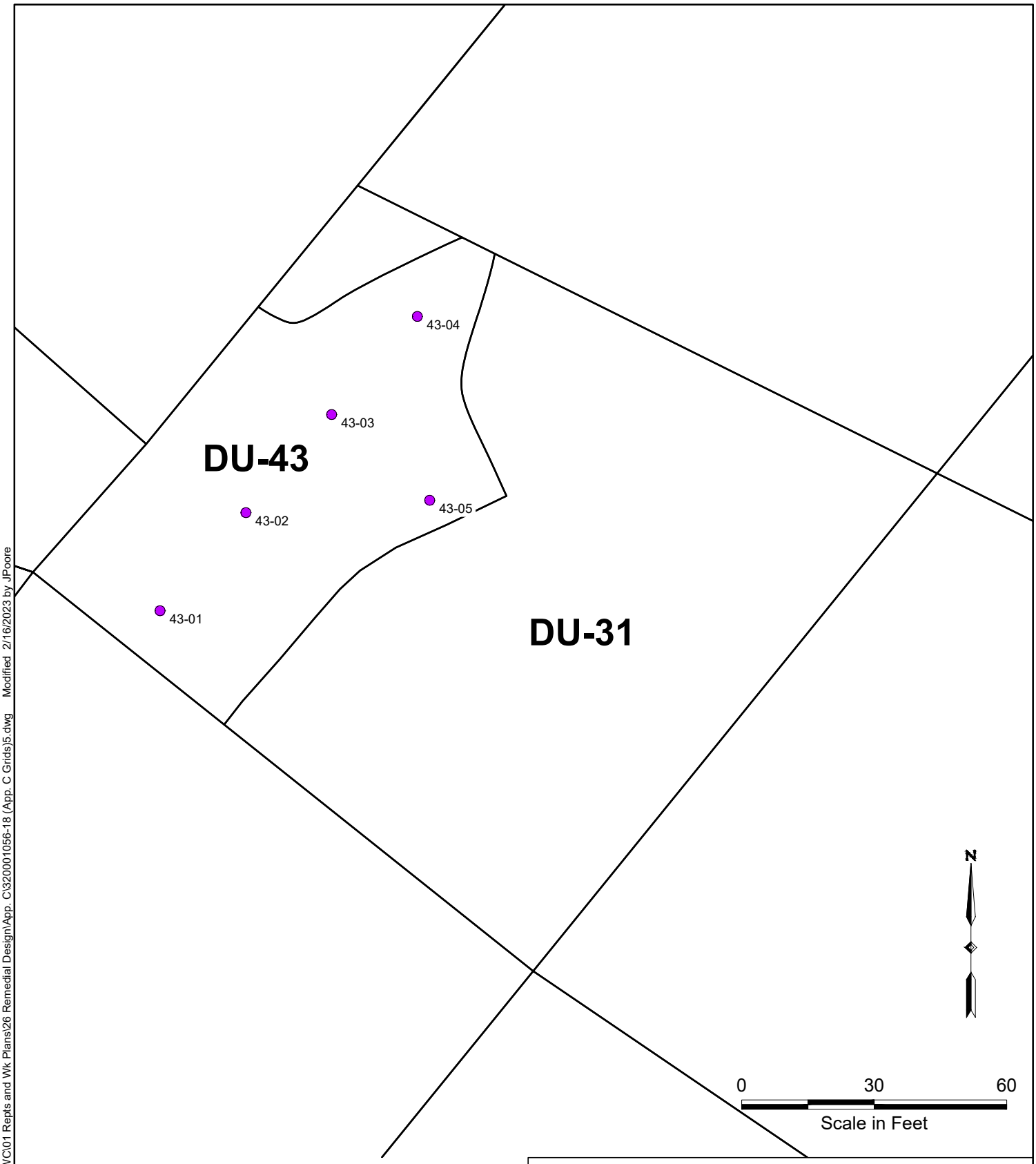
Increment Sample Location

DU-31 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C32**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

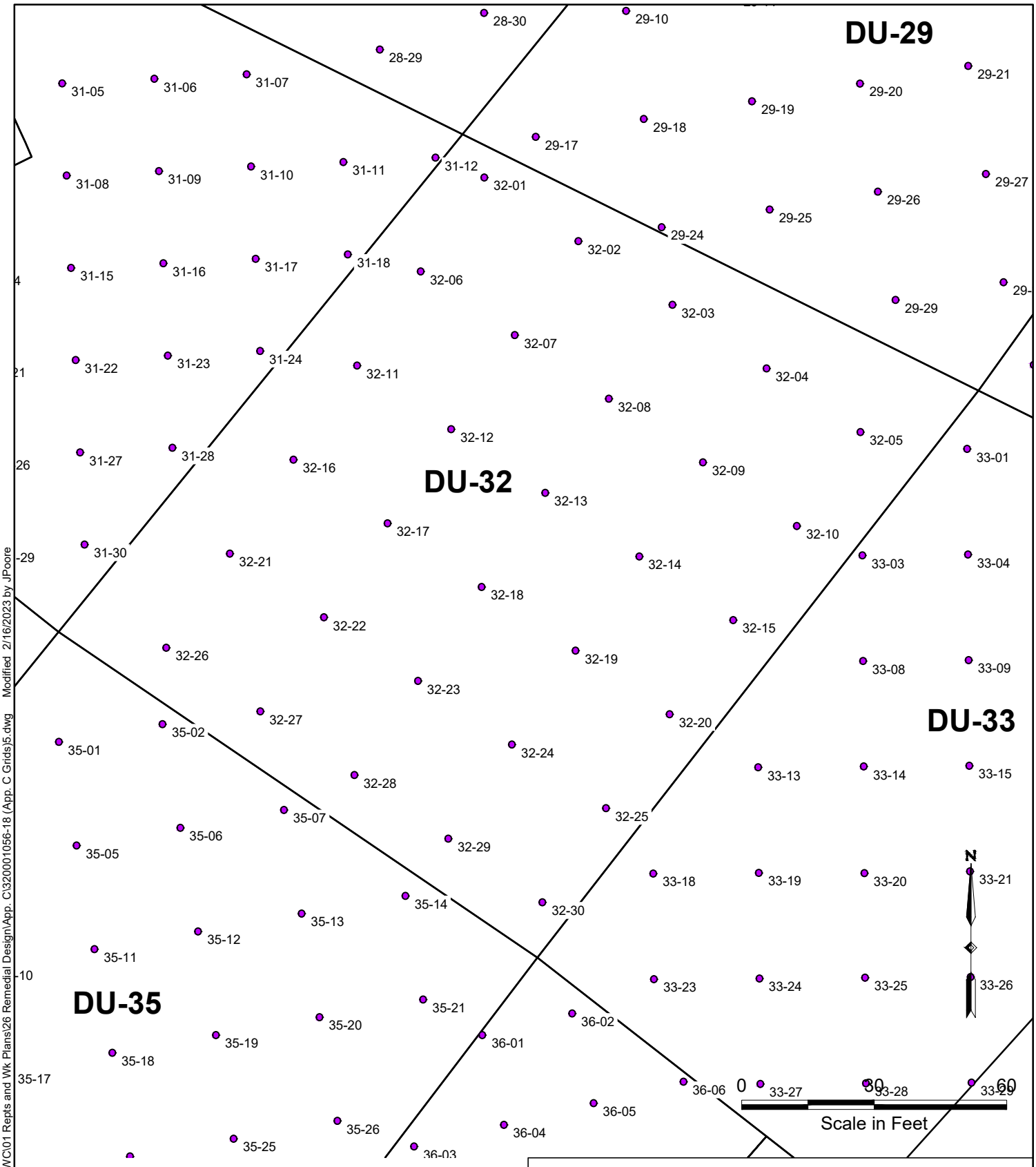
- Increment Sample Location

DU-43 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C33**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

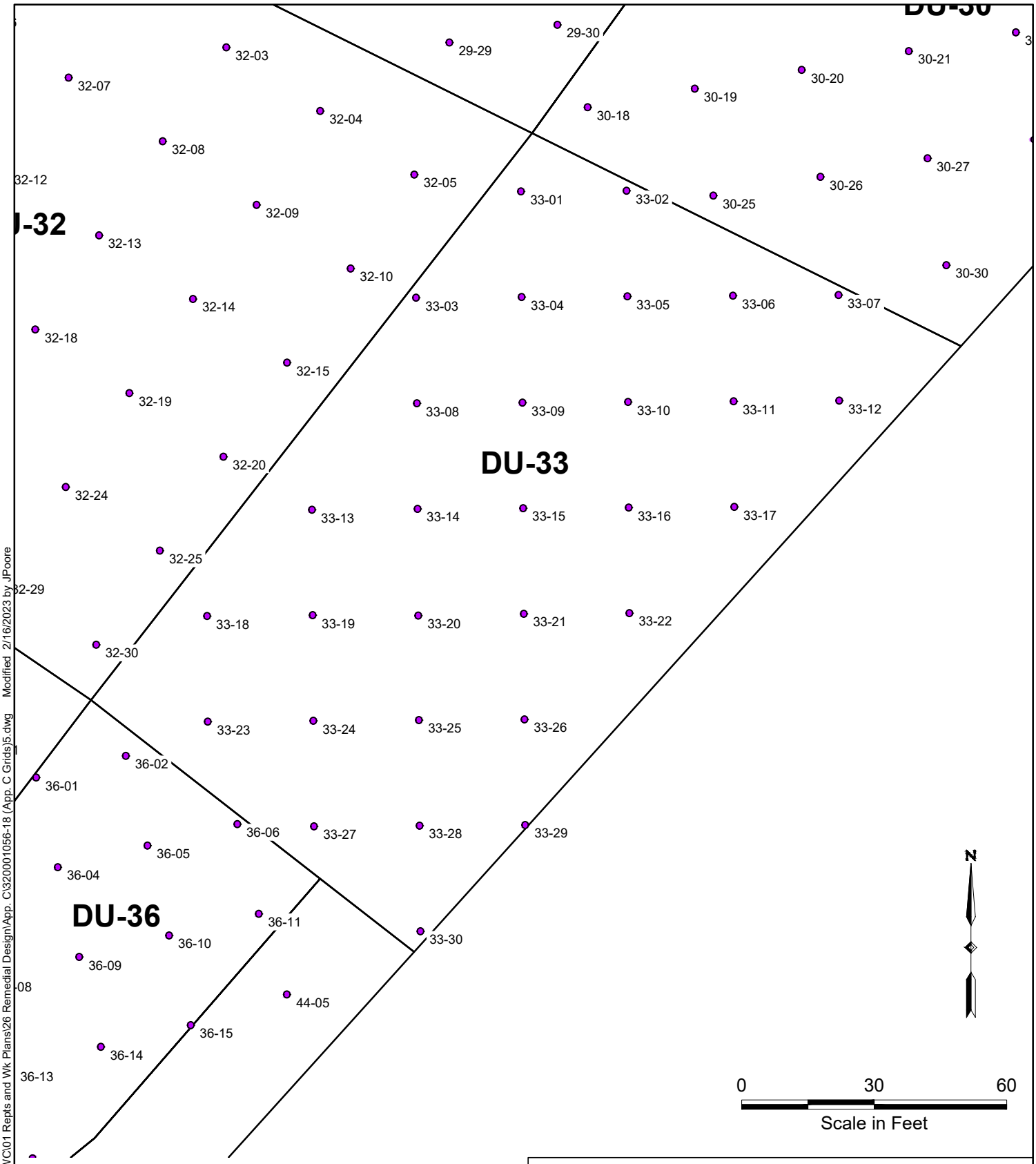
- Increment Sample Location

DU-32 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C34**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



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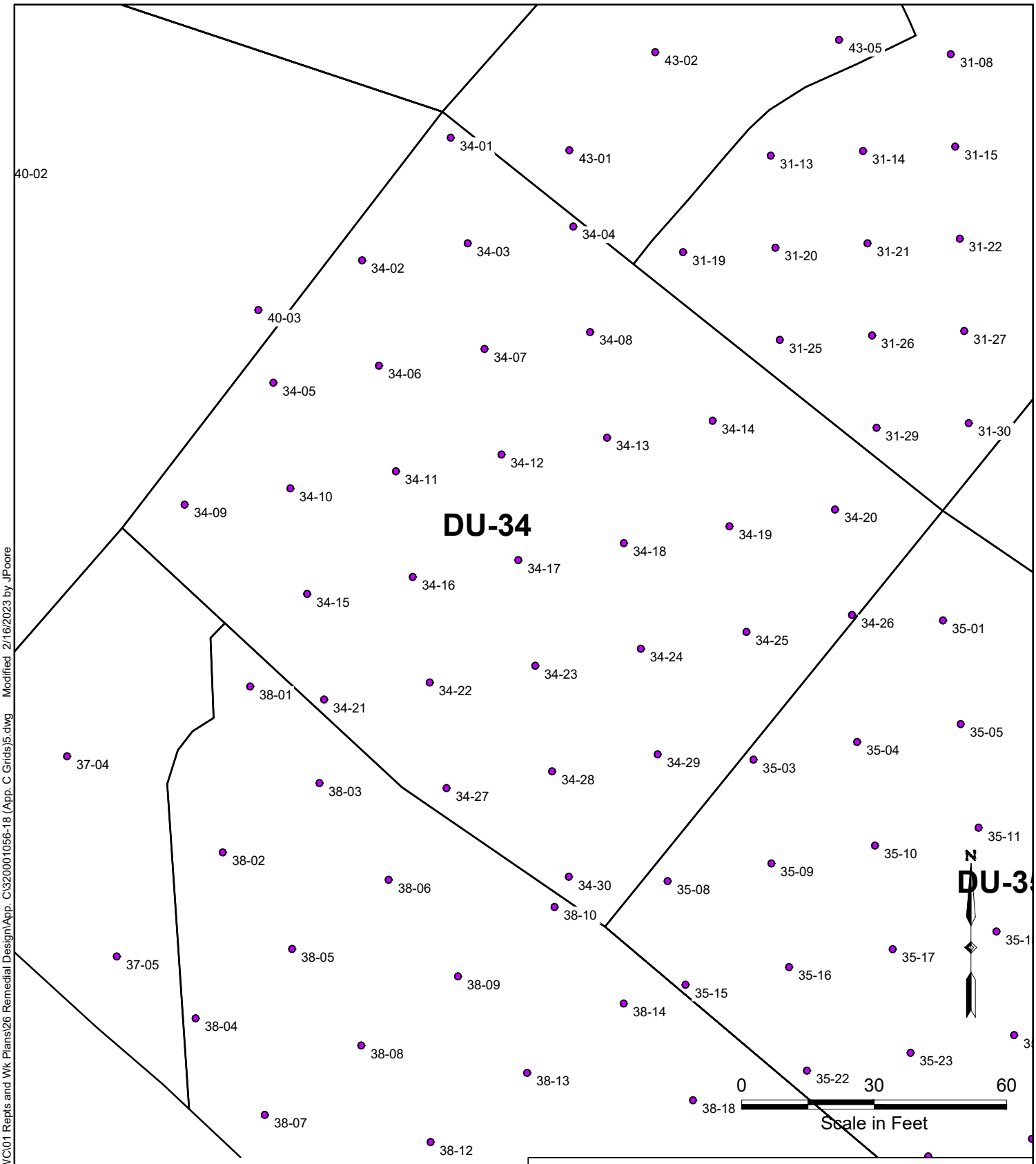
Increment Sample Location

DU-33 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C35**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

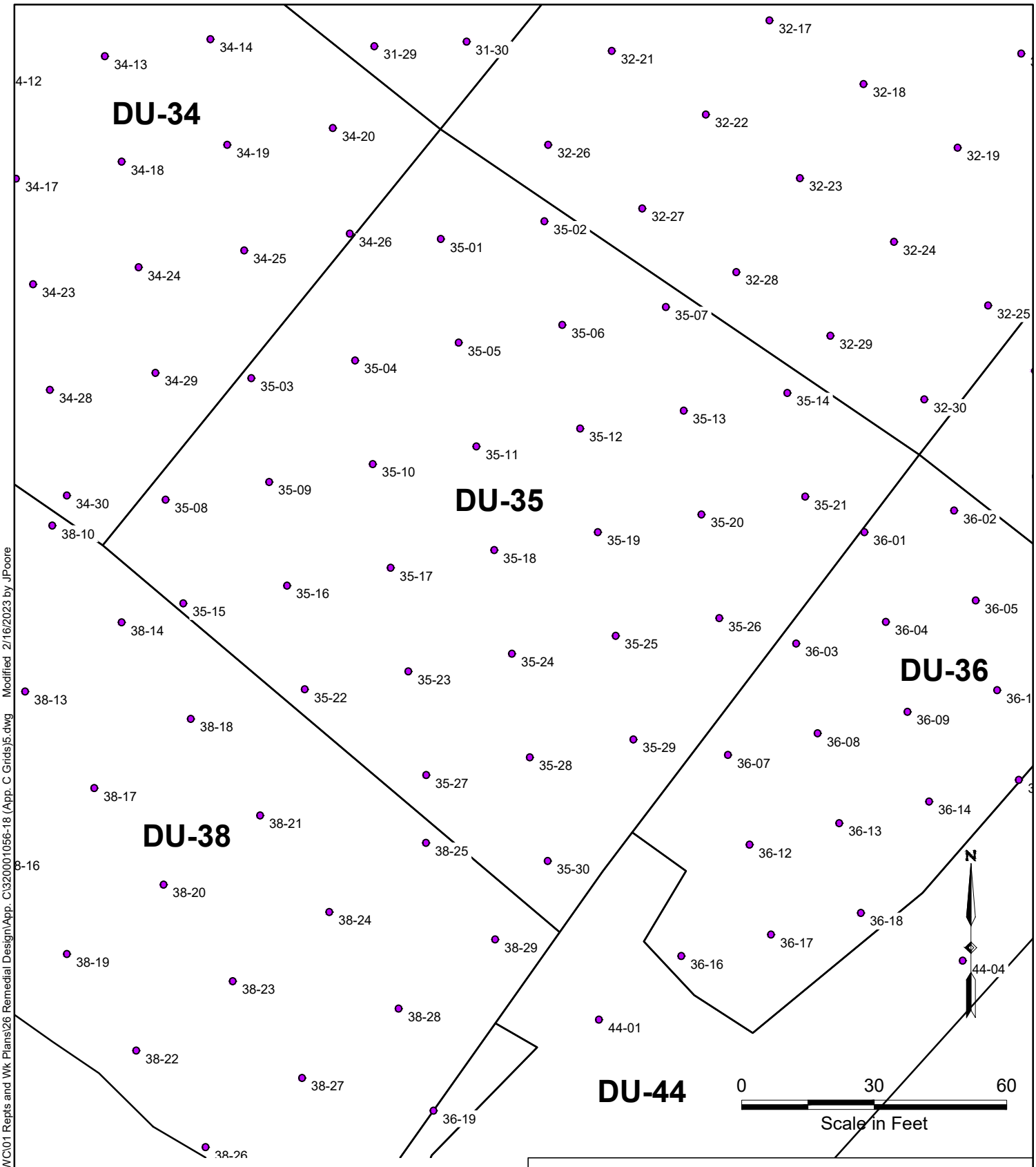
- Increment Sample Location

DU-34 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C36**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

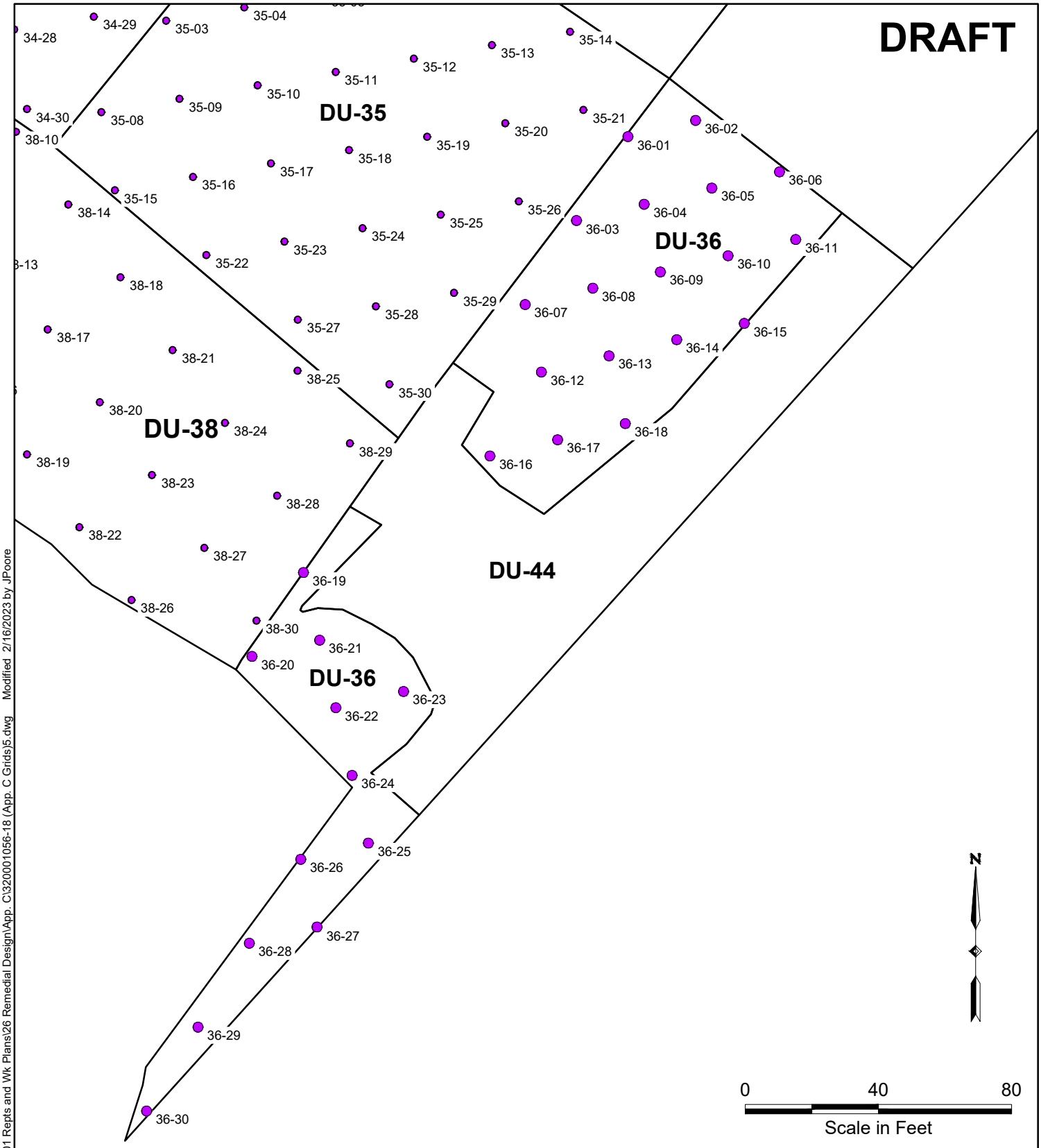
- Increment Sample Location

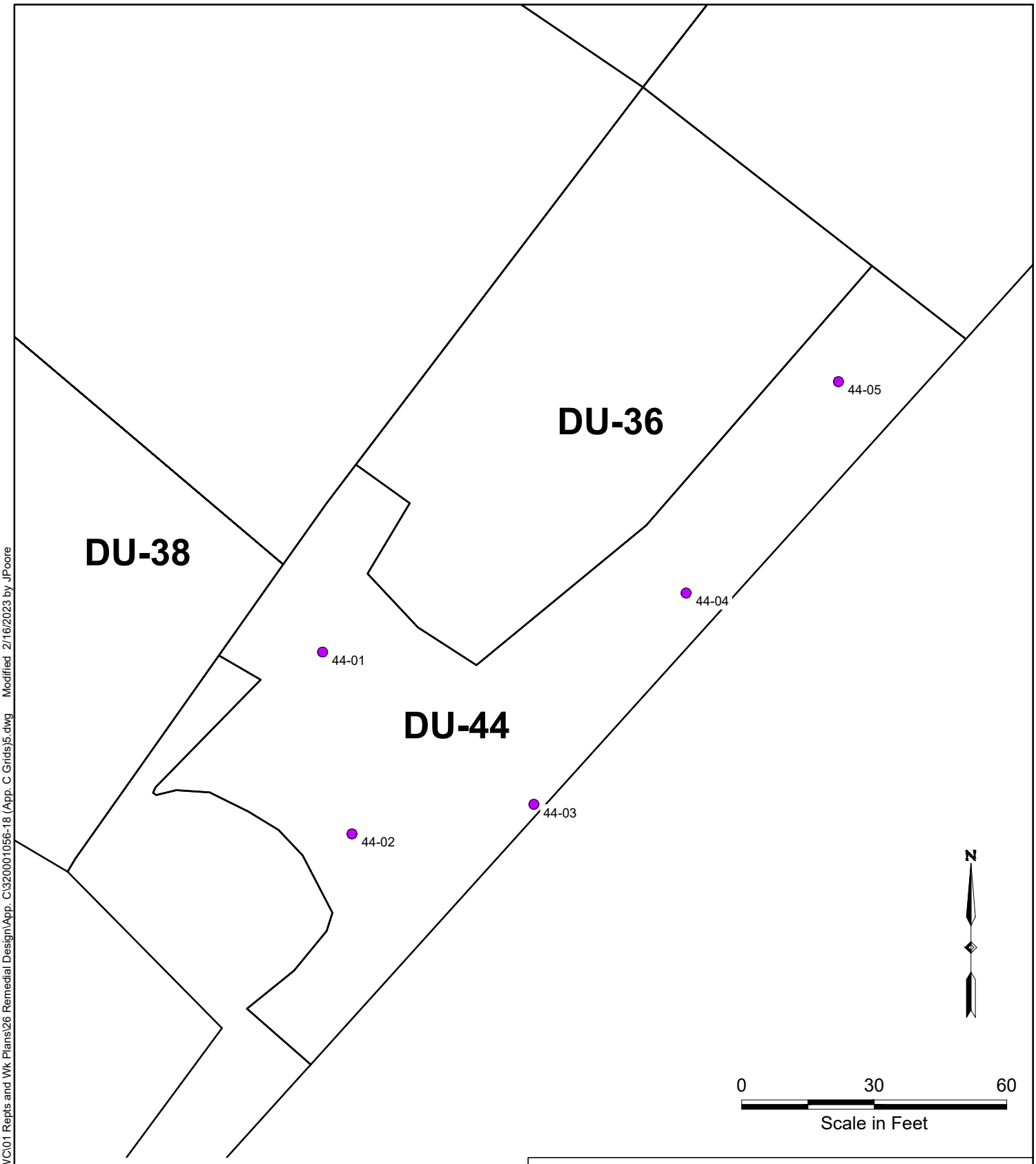
DU-35 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C37**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore


DRAFT
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40
80
Scale in Feet
Legend:
Increment Sample Location
DU-36 Sampling Grid
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon
Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224
Project Number: 32-22007576
Drawn: JP
Approved: HC
February 2023
Appendix
C38
I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

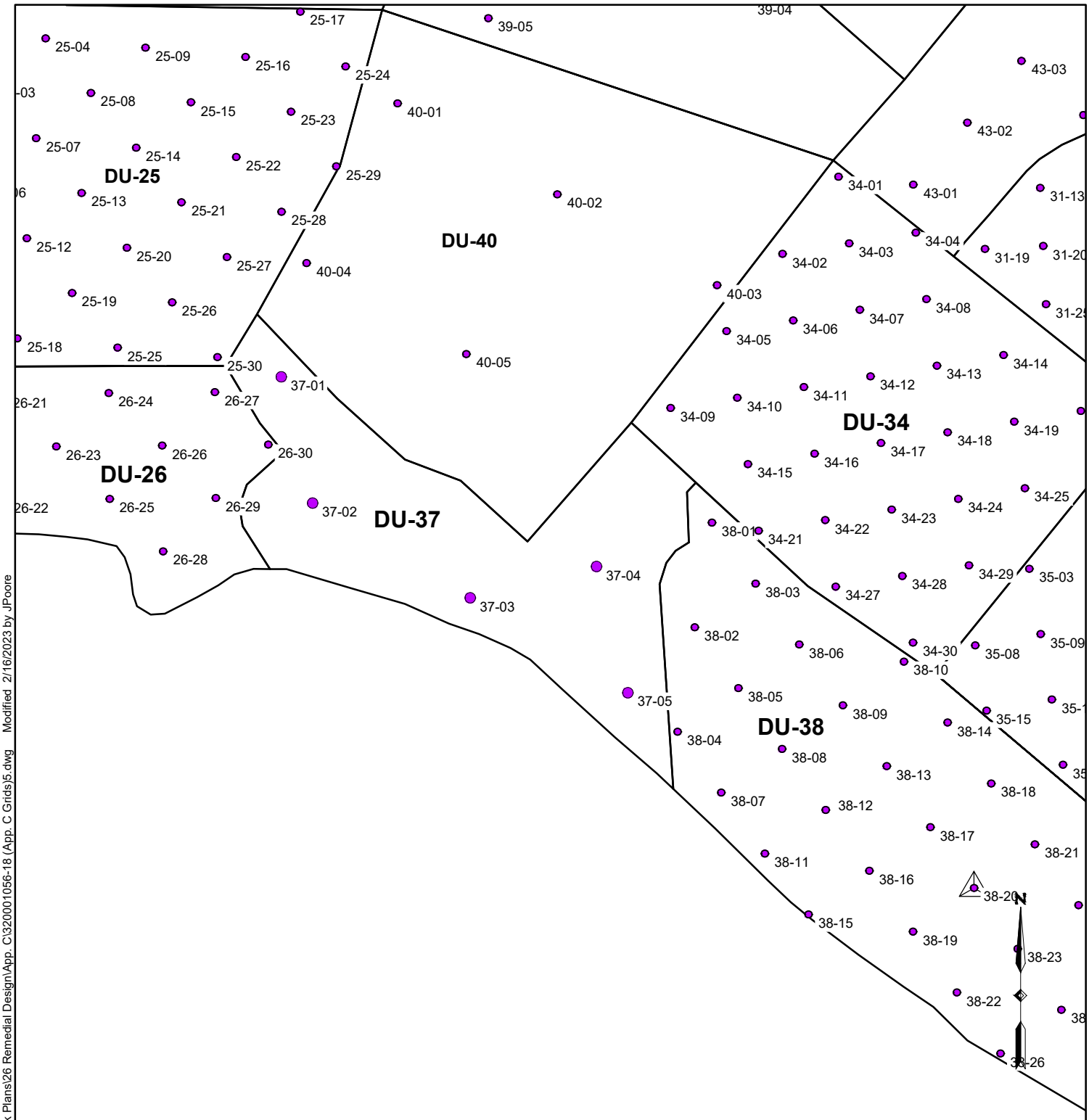
Increment Sample Location

DU-44 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix
	February 2023			**C39**

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

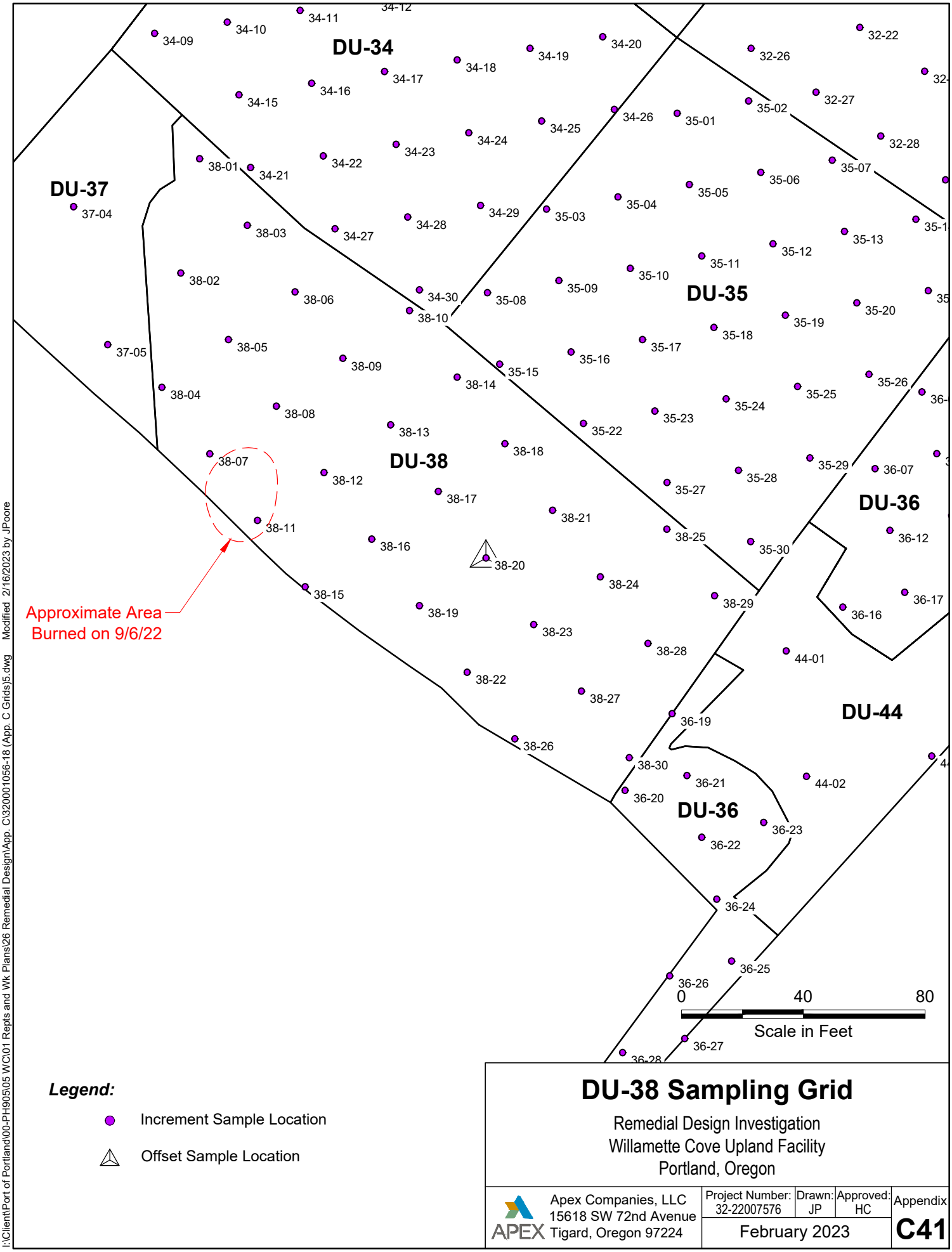
- Increment Sample Location

DU-37 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C40**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore

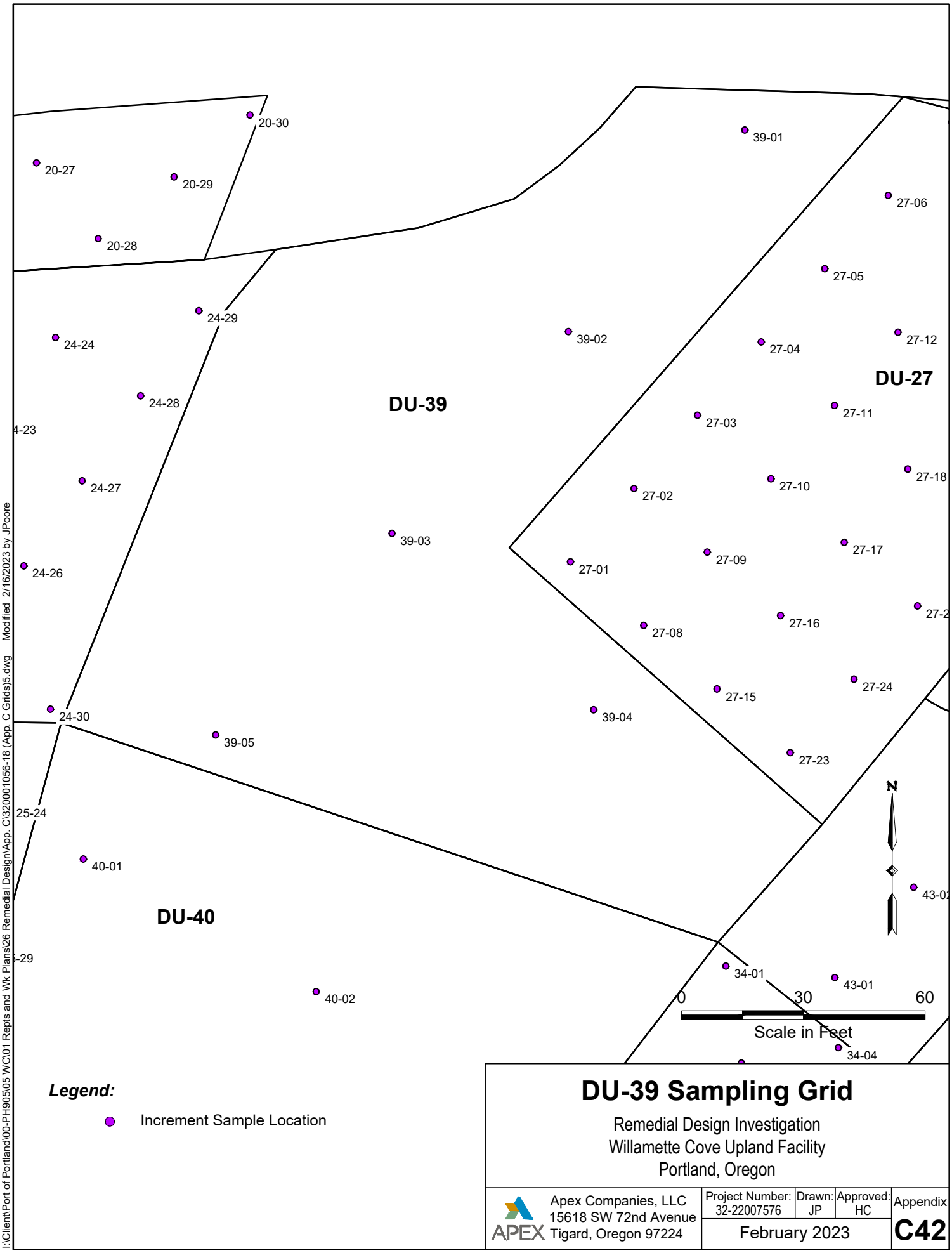


DU-38 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix
	February 2023			C41

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore

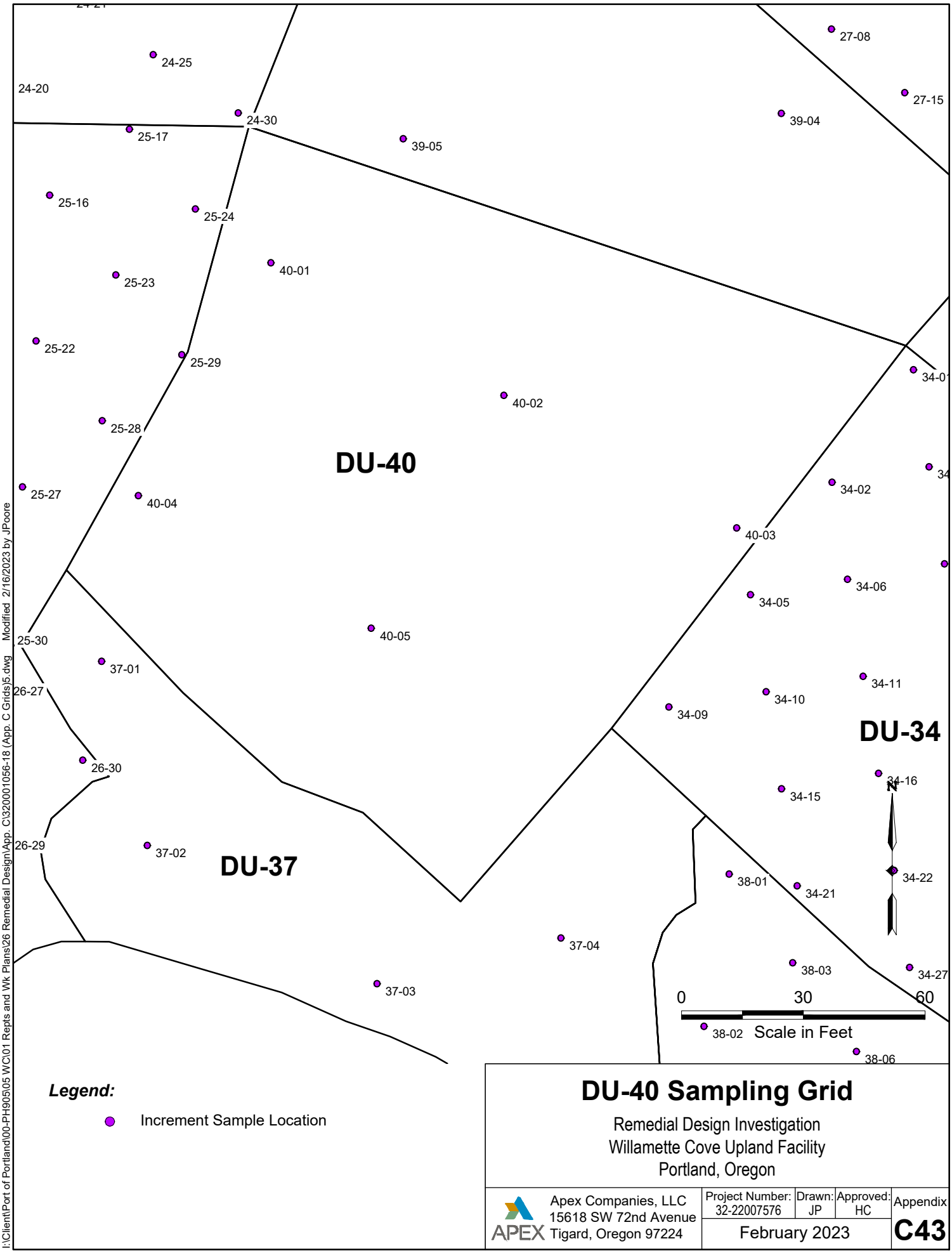


DU-39 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C42**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

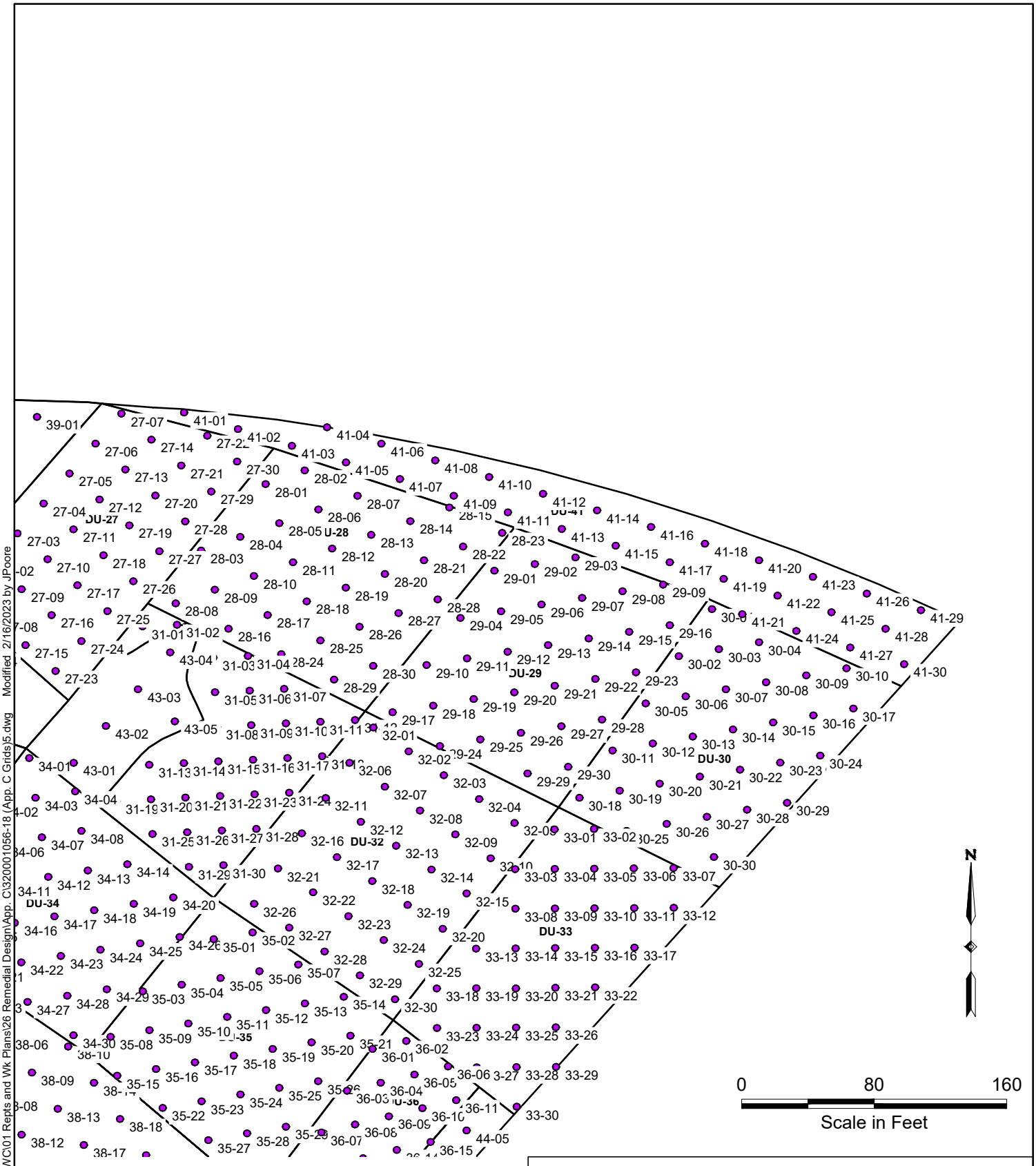
Increment Sample Location

DU-40 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C43**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore



Legend:

- Increment Sample Location

DU-41 Sampling Grid

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-22007576	Drawn: JP	Approved: HC	Appendix **C44**
	February 2023			

I:\Client\Port of Portland\00-PH905\05 WC\01 Repts and Wk Plans\26 Remedial Design\App. C\320001056-18 (App. C Grids)5.dwg Modified 2/16/2023 by JPoore

Appendix F

Analytical Laboratory Sample Analysis Report/Quality Assurance Review

Appendix F Included as Separate File

Appendix G

Risk Screening Figures

DU-41
DU-30
DU-29
DU-28
DU-27
DU-33
DU-32
DU-31
DU-39
DU-43
DU-36
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DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Antimony (0-1 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G1

March 2023

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DU-41
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DU-3
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DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Antimony (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G2

March 2023

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DU-41
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DU-23
DU-22
DU-26
DU-21
DU-17
DU-18
DU-19
Union Pacific Railroad
East Parcel
DU-16
DU-42
DU-14
Willamette Cove
DU-15
City of Portland
Stormwater Ponds
DU-12
DU-13
Central Parcel
DU-1
DU-2
DU-3
DU-4
DU-10
DU-11
DU-5
DU-6
DU-7
DU-8
DU-9
West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Antimony (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G3
March 2023			

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DU-41
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DU-4
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

City of Portland Stormwater Ponds

Willamette Cove

East Parcel

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Arsenic (0-1 ft bgs) Ecological Exceedances

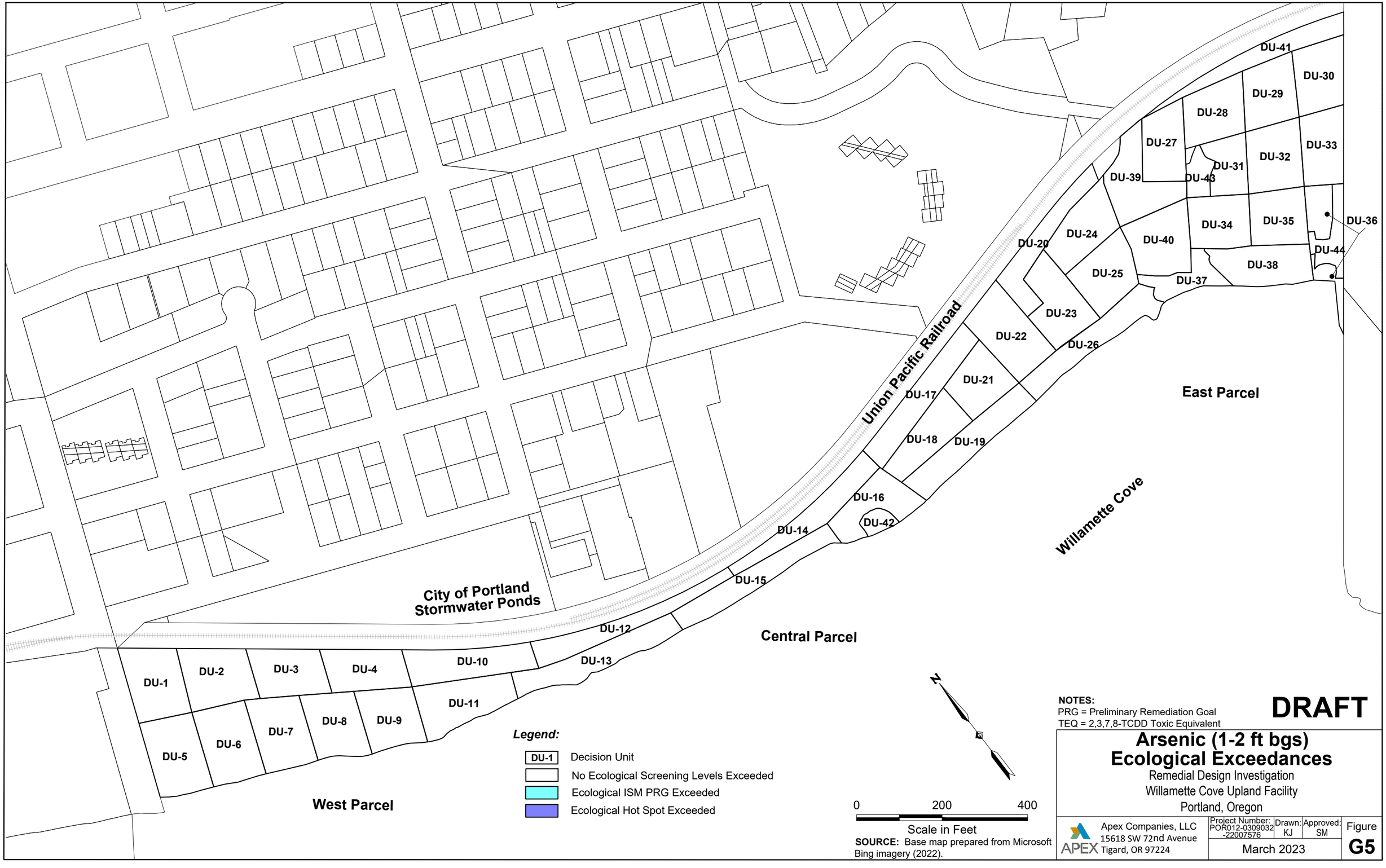
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G4

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

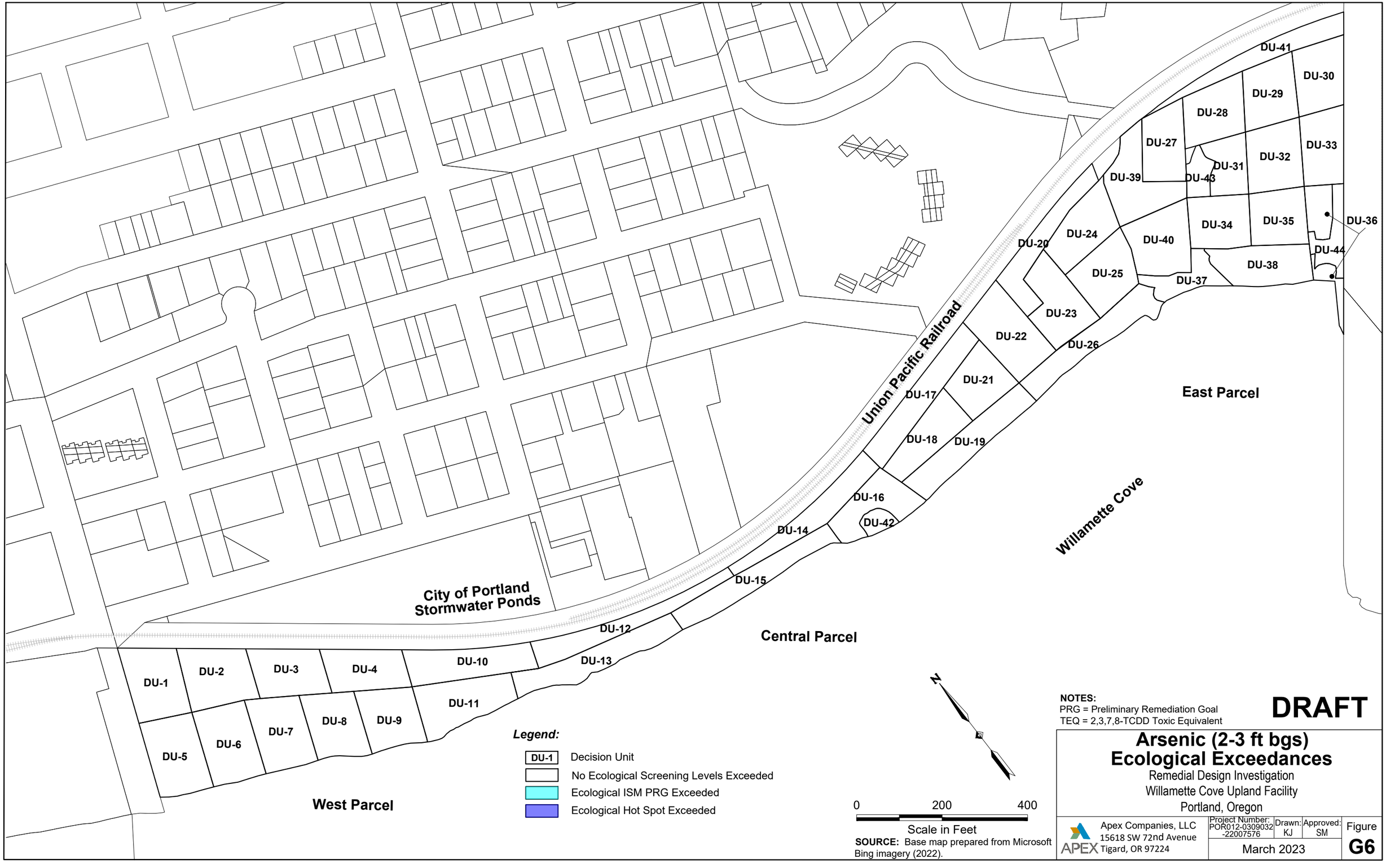
Arsenic (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G5
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Arsenic (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

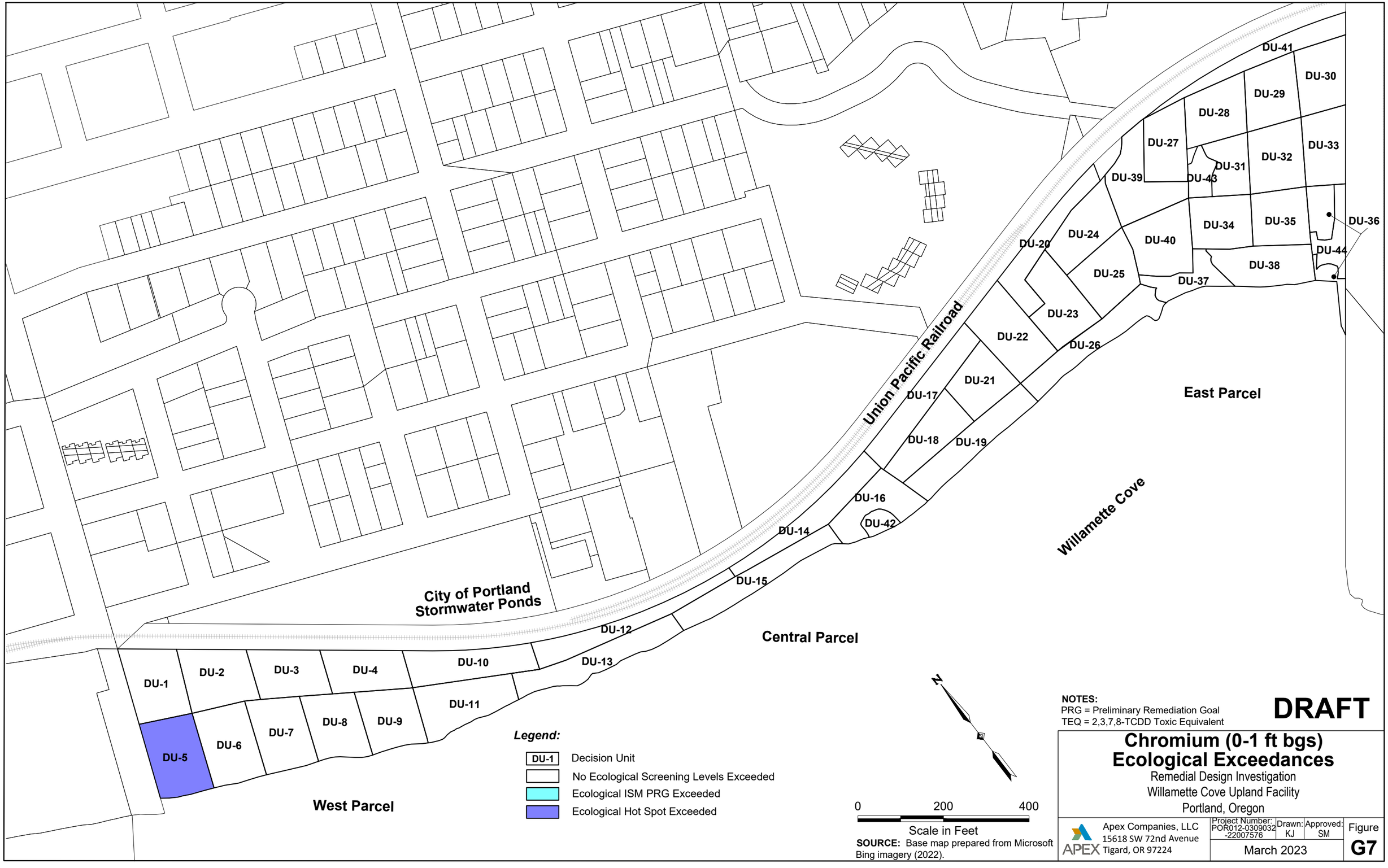
Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:
POR012-0309032 -22007576	KJ	SM

March 2023

Figure **G6**

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NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

DRAFT

Chromium (0-1 ft bgs) Ecological Exceedances

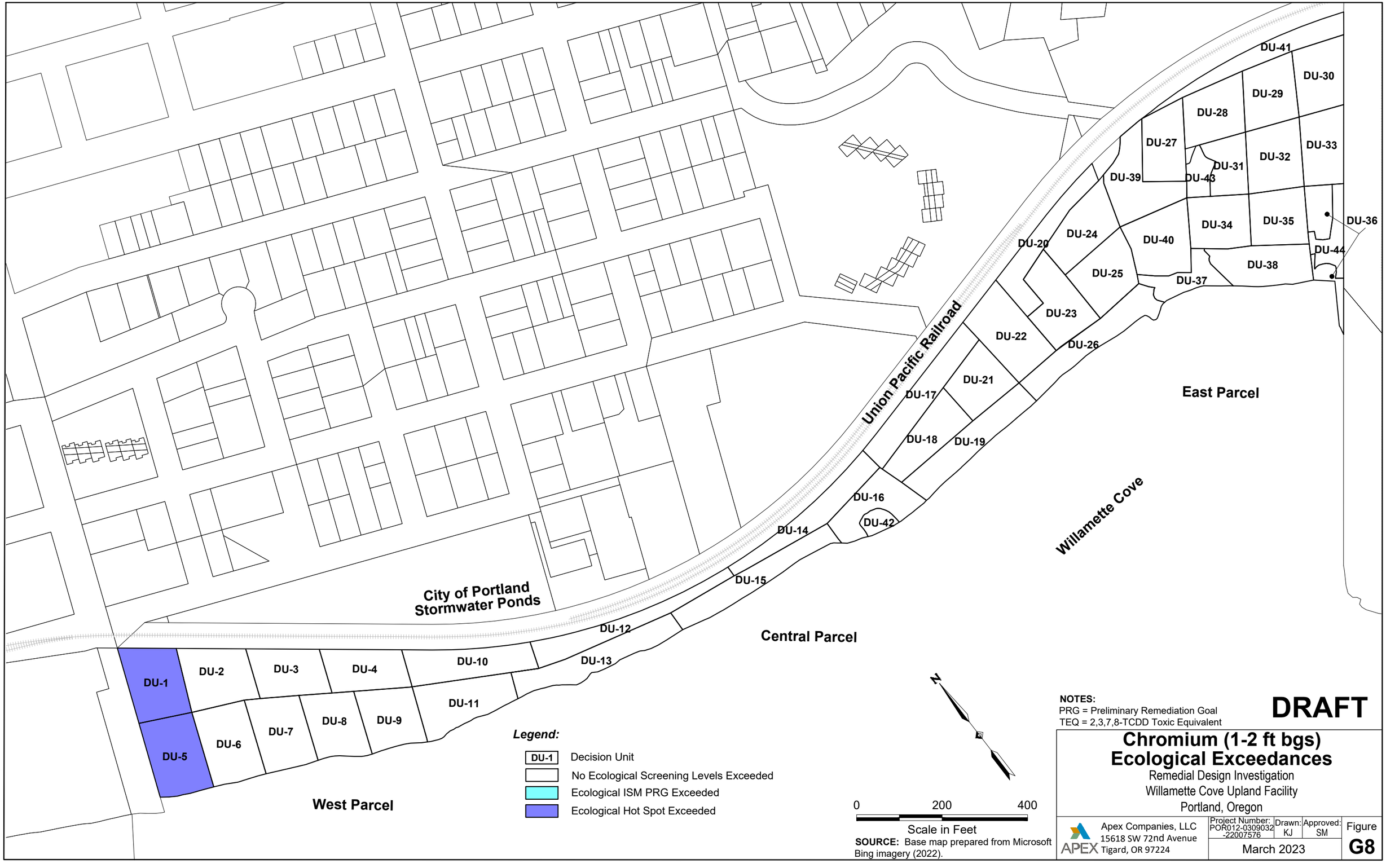
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G7

March 2023

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NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

DRAFT

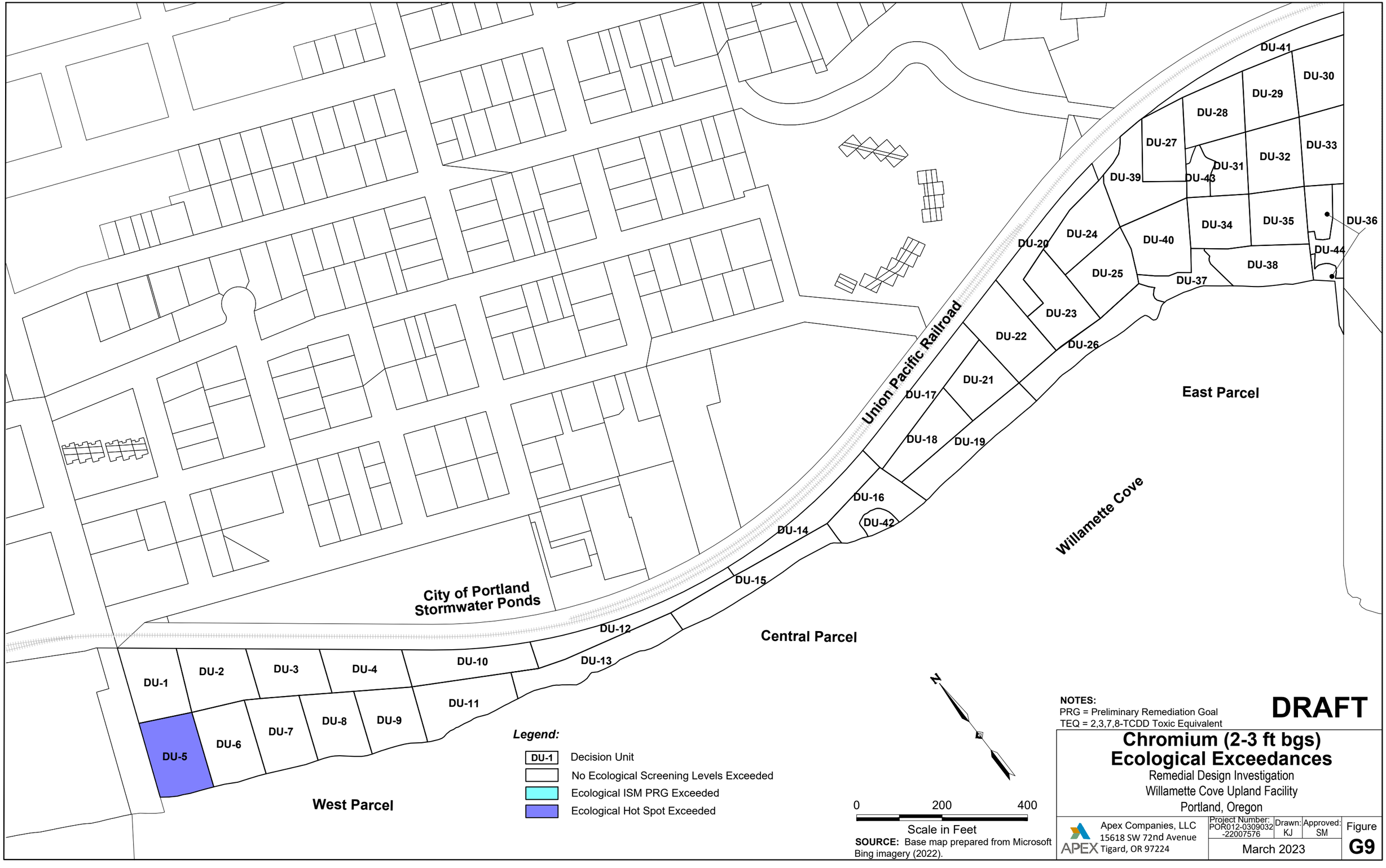
Chromium (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G8
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

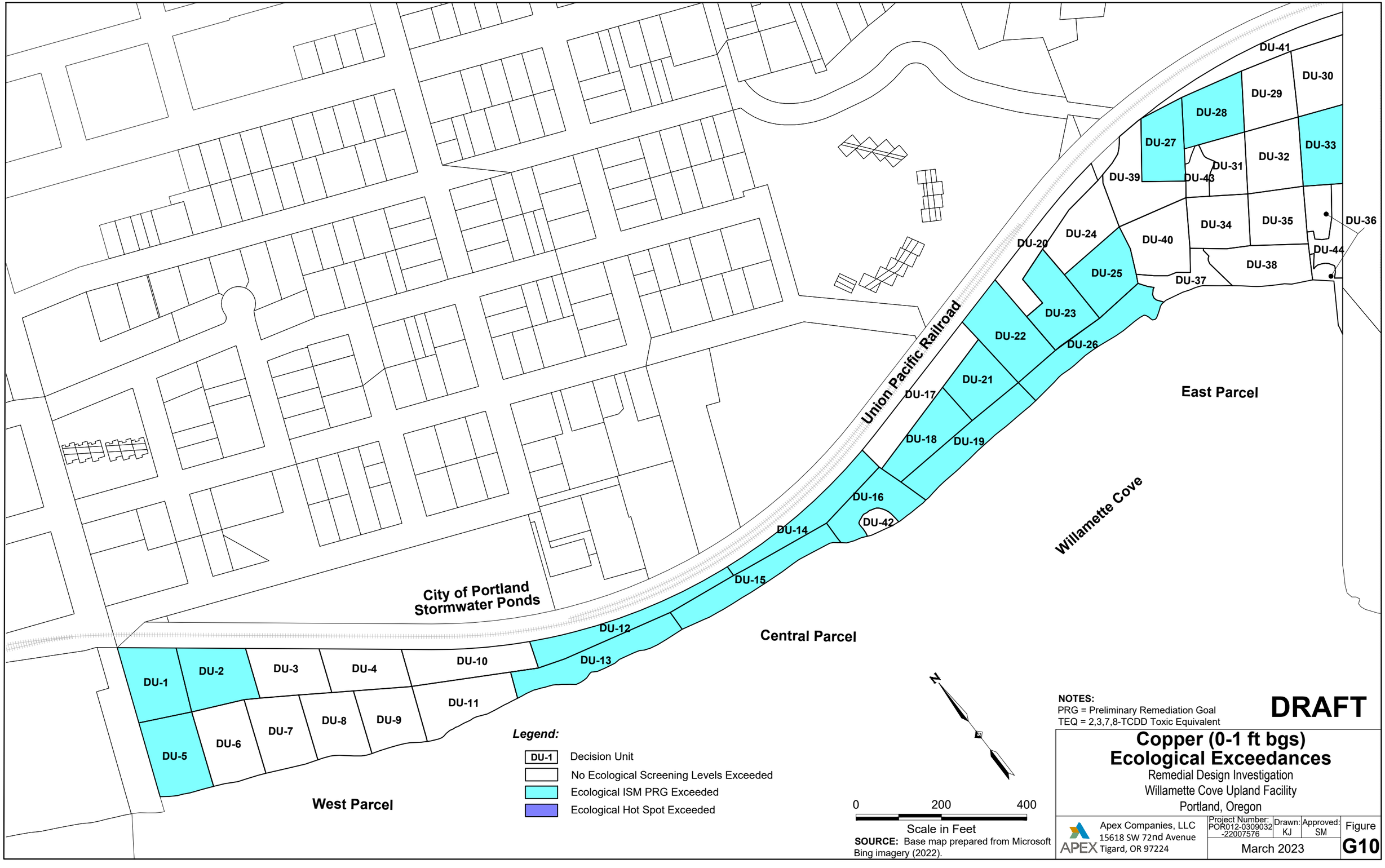
DRAFT

Chromium (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G9**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Copper (0-1 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G10**
	March 2023			

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DU-7
DU-8
DU-9

Union Pacific Railroad

City of Portland Stormwater Ponds

East Parcel

Central Parcel

West Parcel

Willamette Cove

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

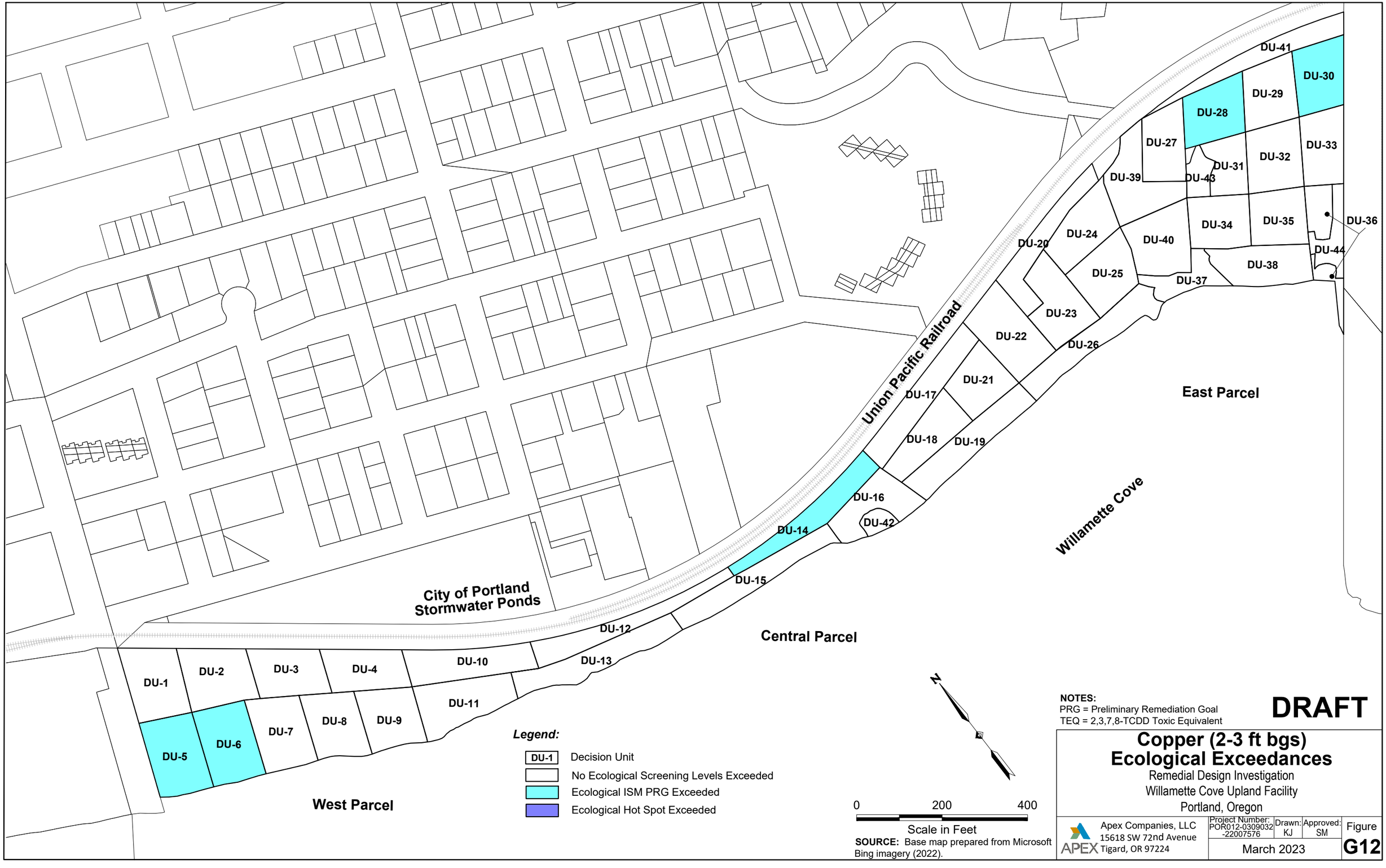
DRAFT

Copper (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G11**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

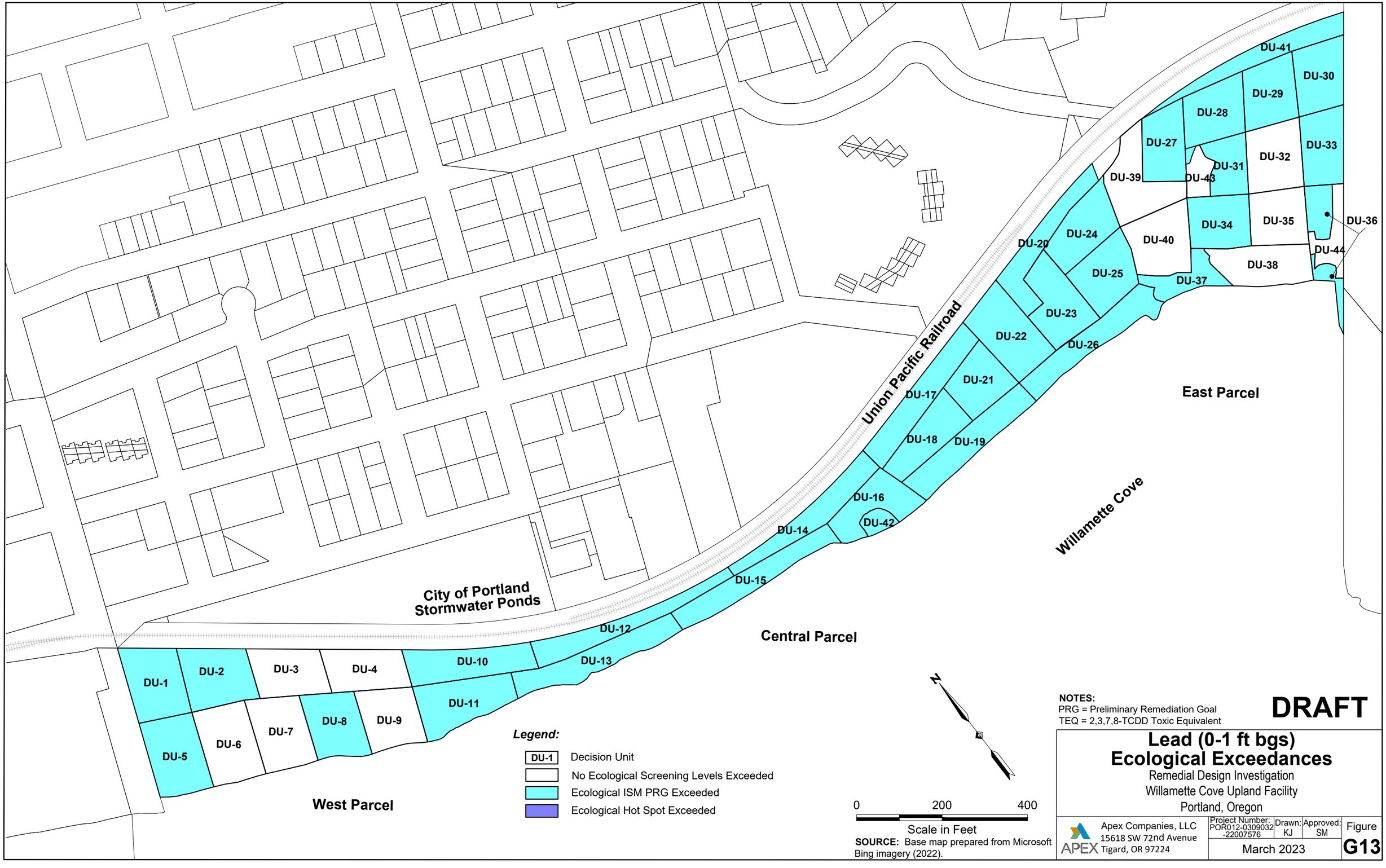
Copper (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G12
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Lead (0-1 ft bgs) Ecological Exceedances

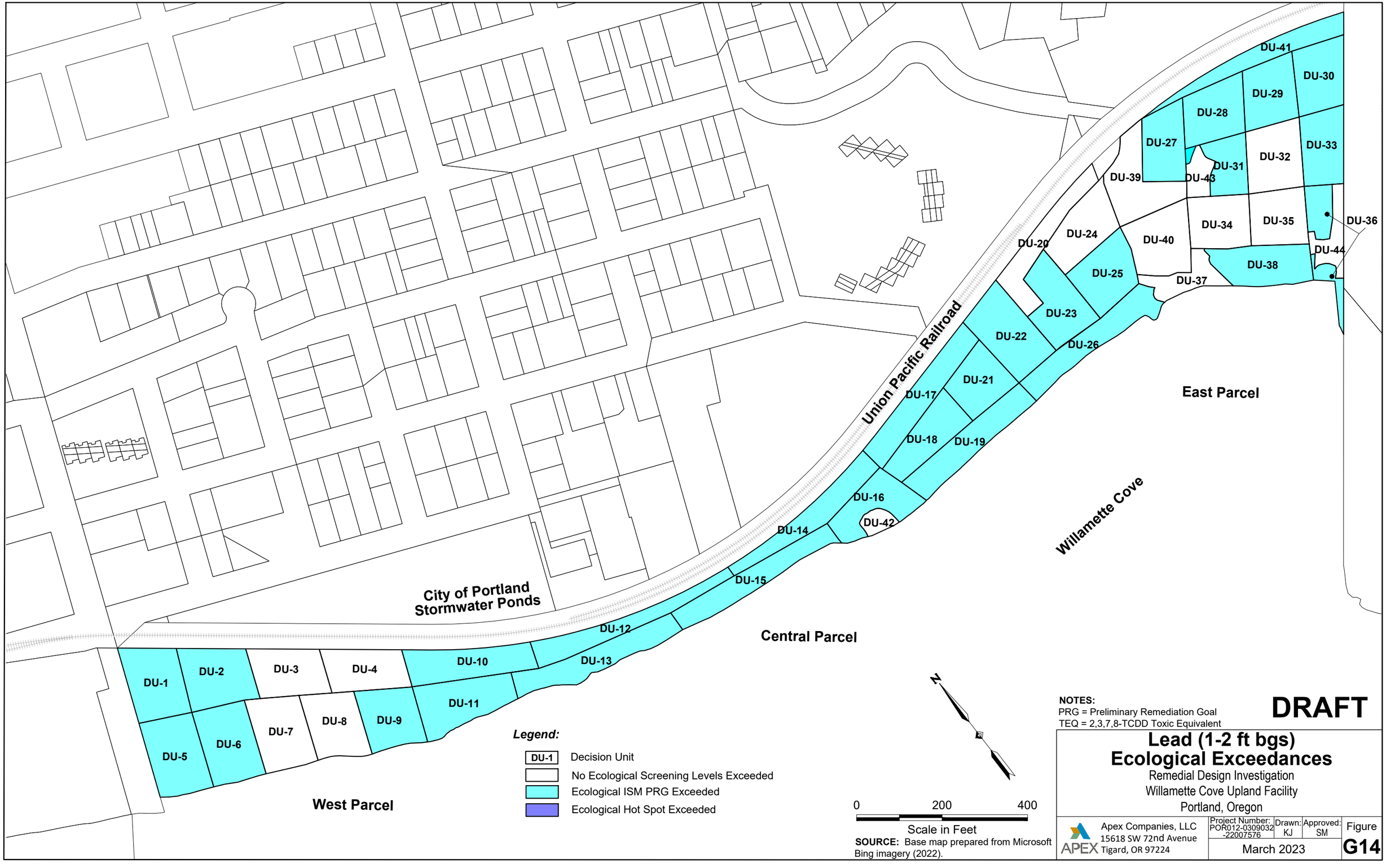
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G13

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Lead (1-2 ft bgs) Ecological Exceedances

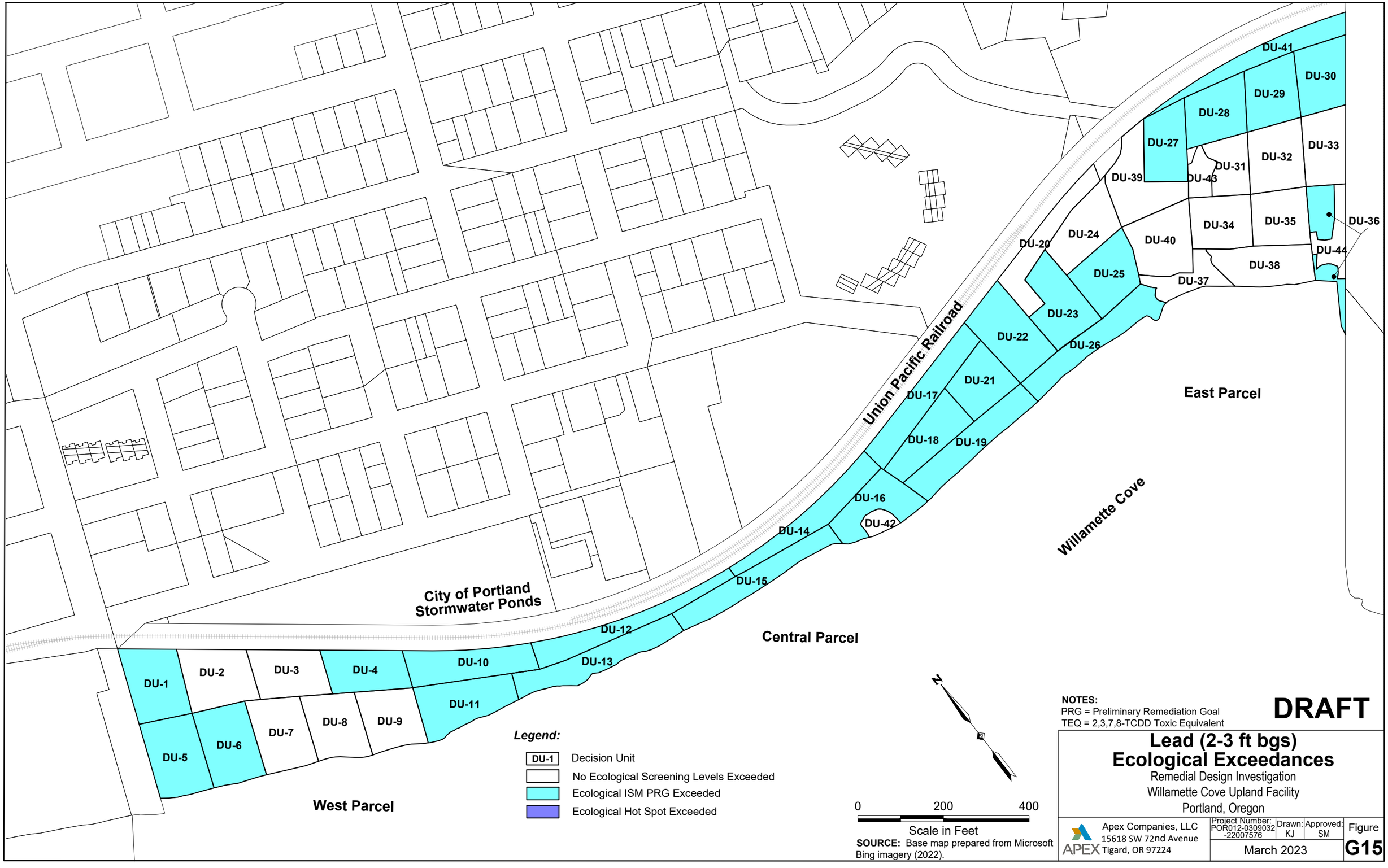
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G14

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Lead (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G15**
	March 2023			

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DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland
Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Mercury (0-1 ft bgs) Ecological Exceedances

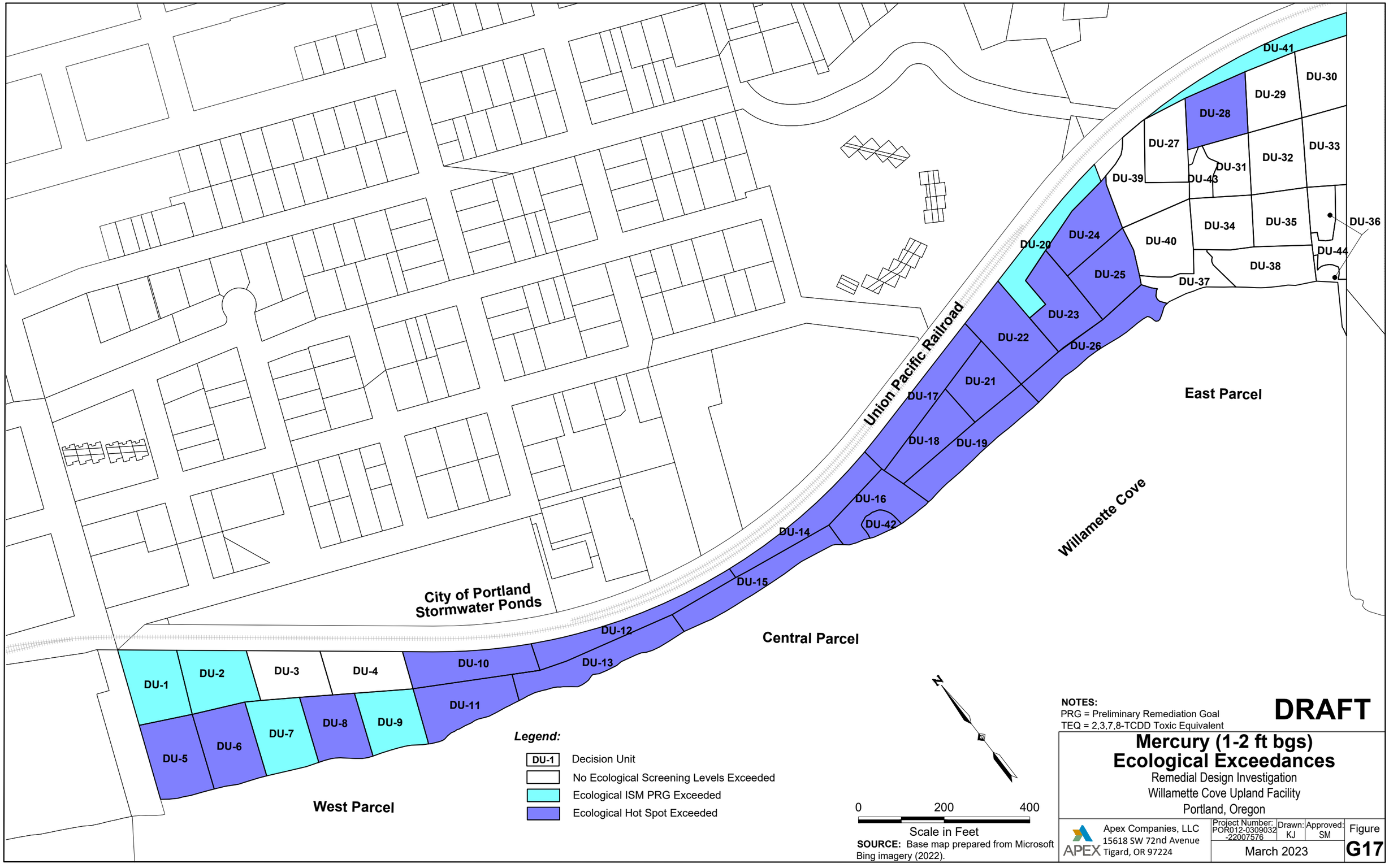
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032-22007576	KJ	SM	G16

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Mercury (1-2 ft bgs) Ecological Exceedances

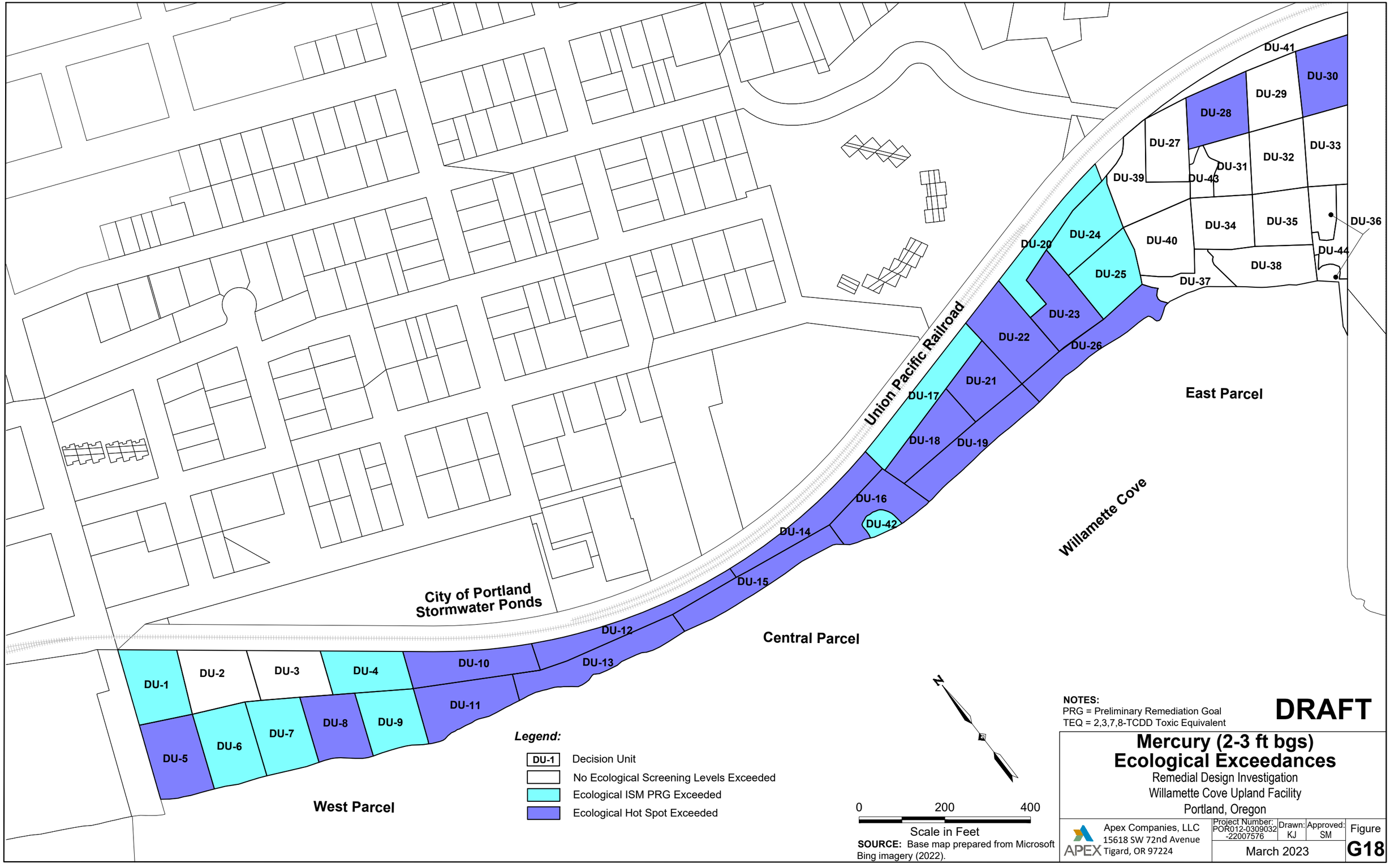
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032-22007576	KJ	SM	G17

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Mercury (2-3 ft bgs) Ecological Exceedances

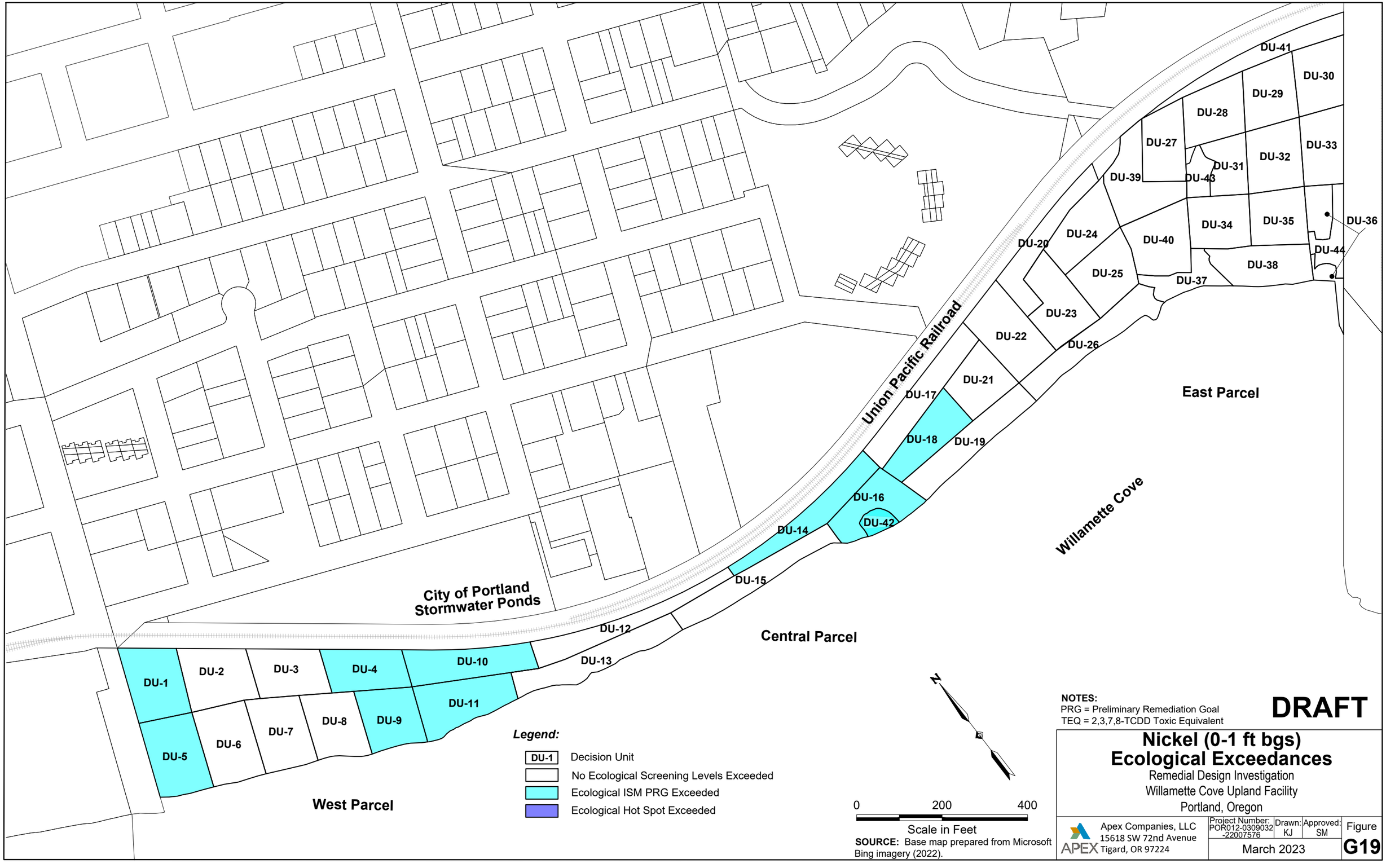
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G18

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Nickel (0-1 ft bgs) Ecological Exceedances

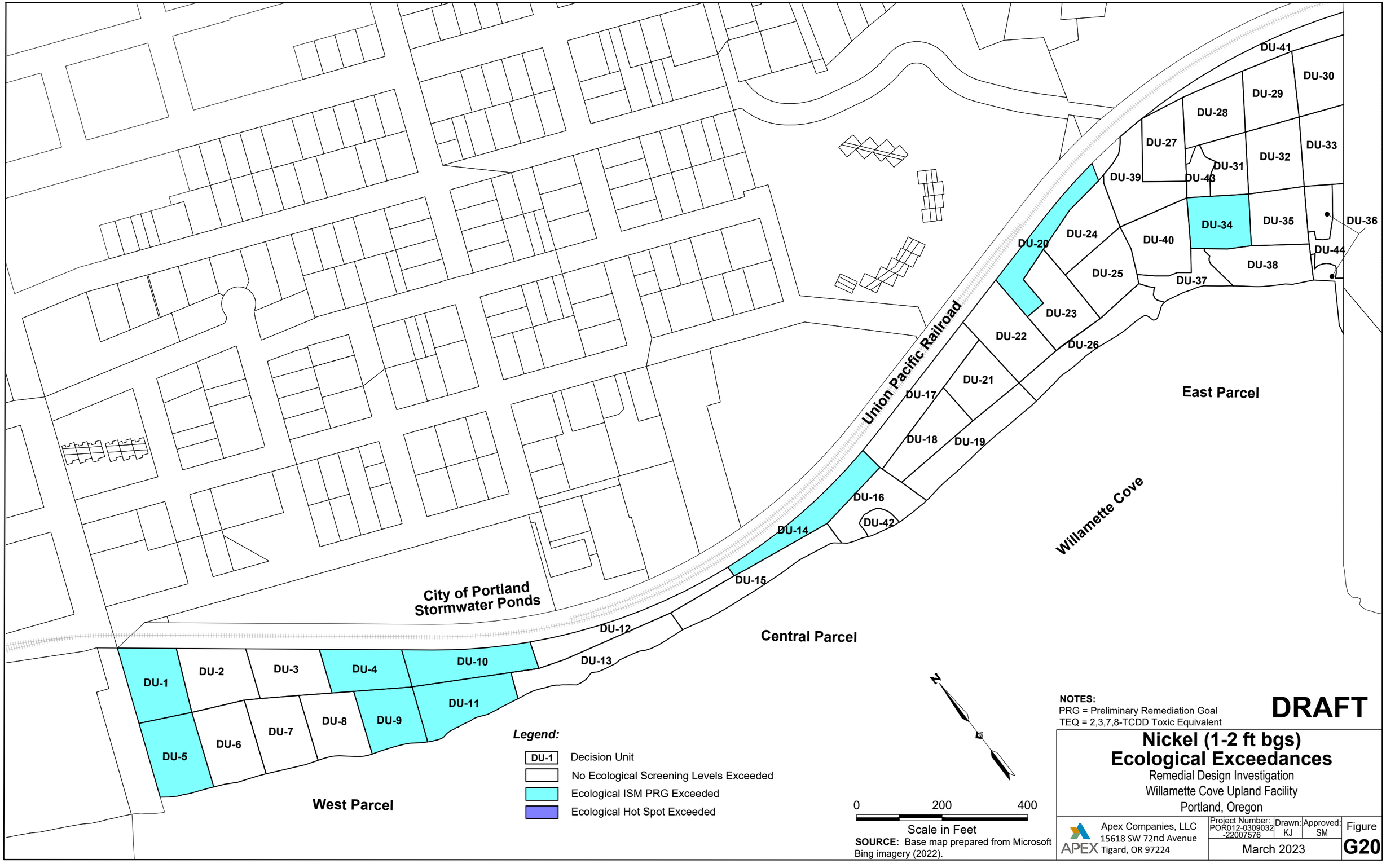
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G19

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Nickel (1-2 ft bgs) Ecological Exceedances

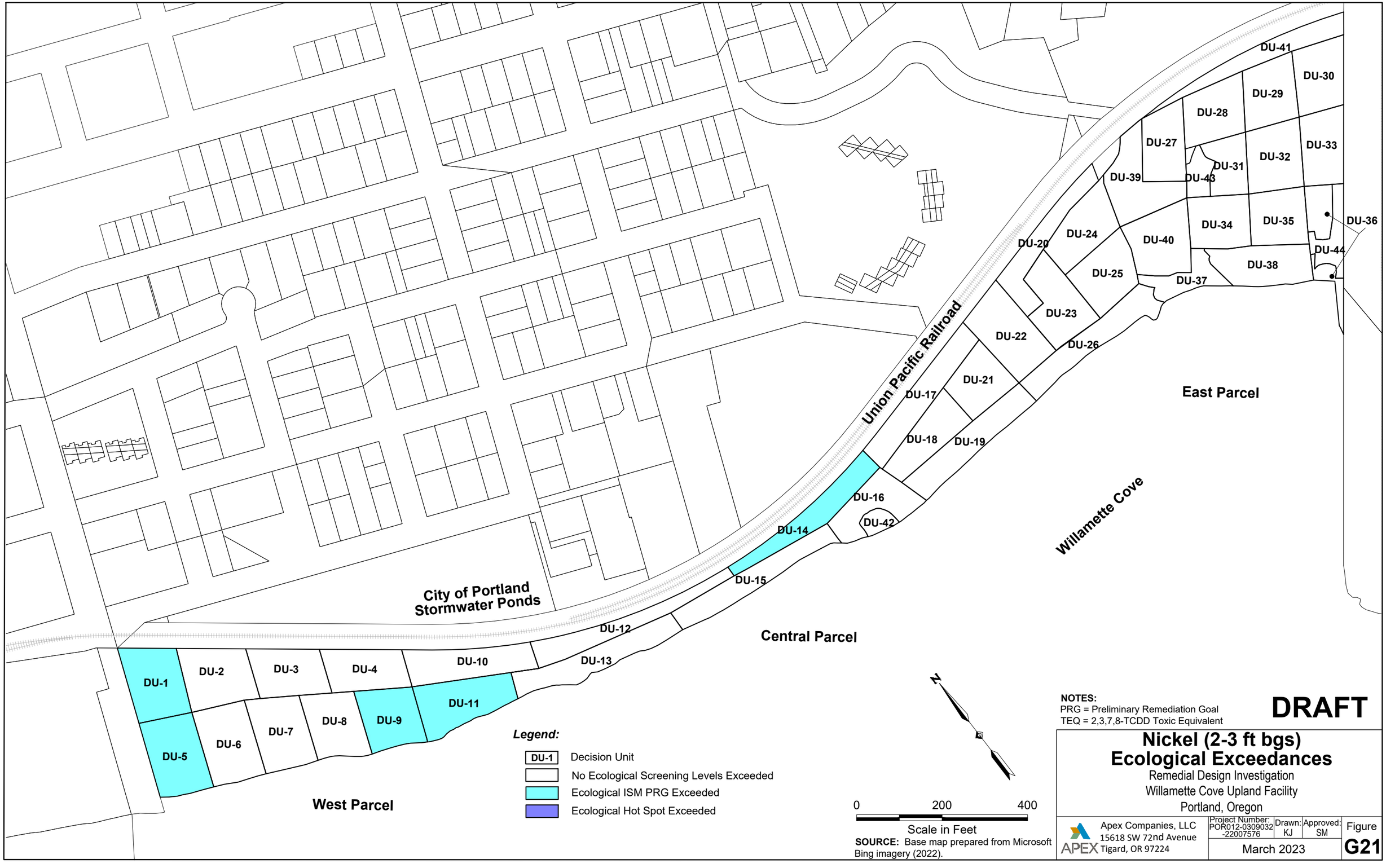
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G20

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

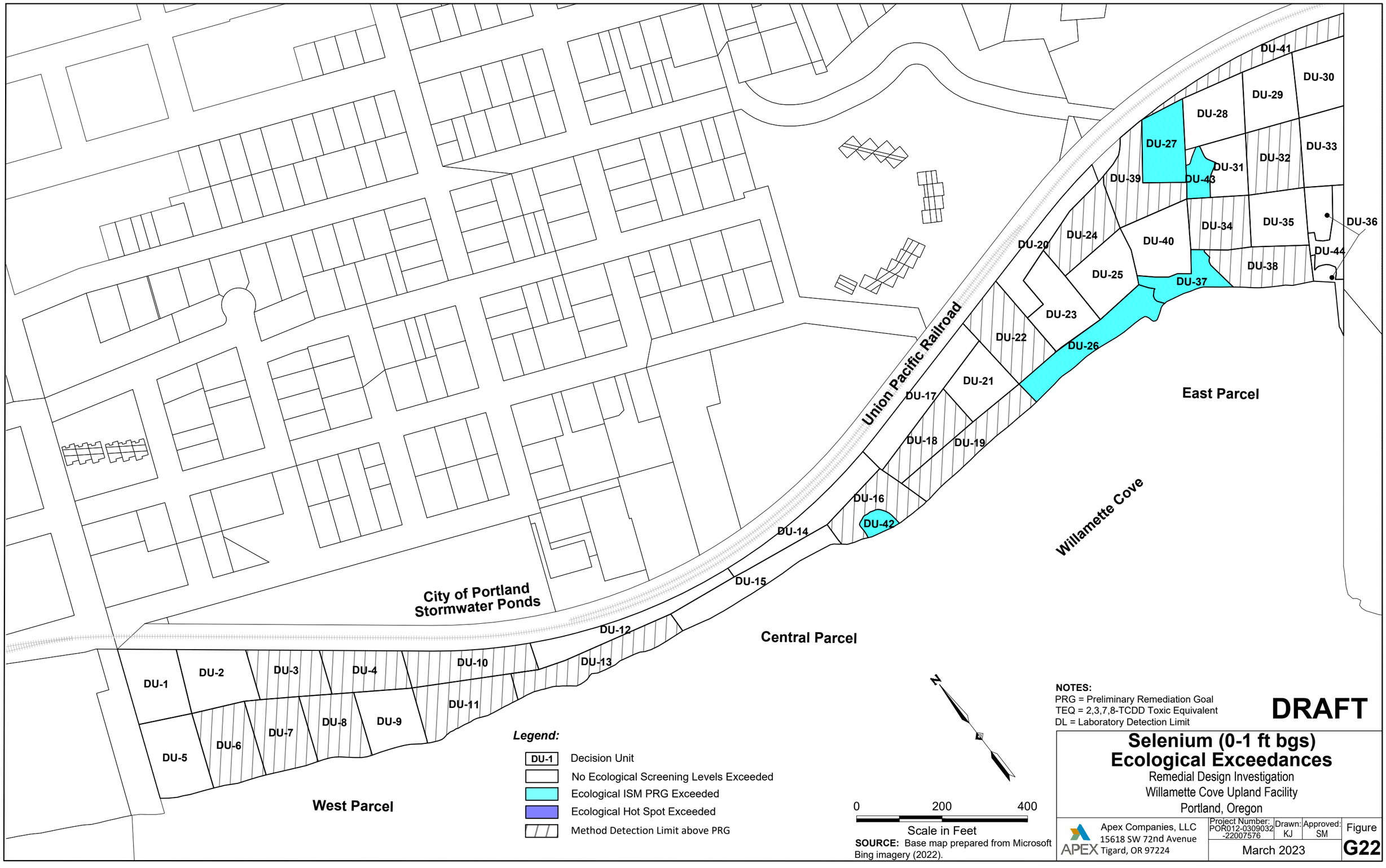
Nickel (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G21
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent
DL = Laboratory Detection Limit

DRAFT

Selenium (0-1 ft bgs) Ecological Exceedances

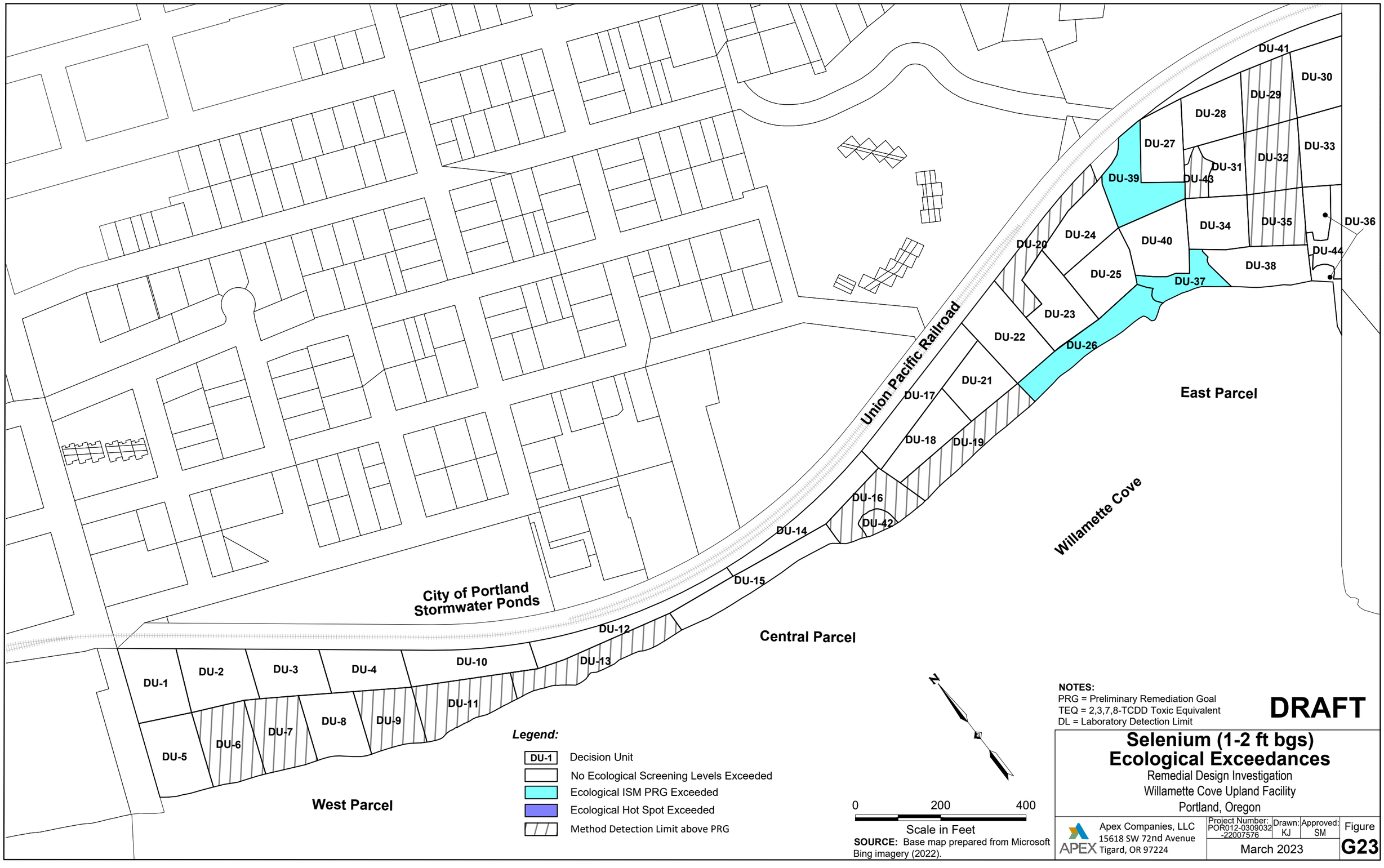
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G22

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent
DL = Laboratory Detection Limit

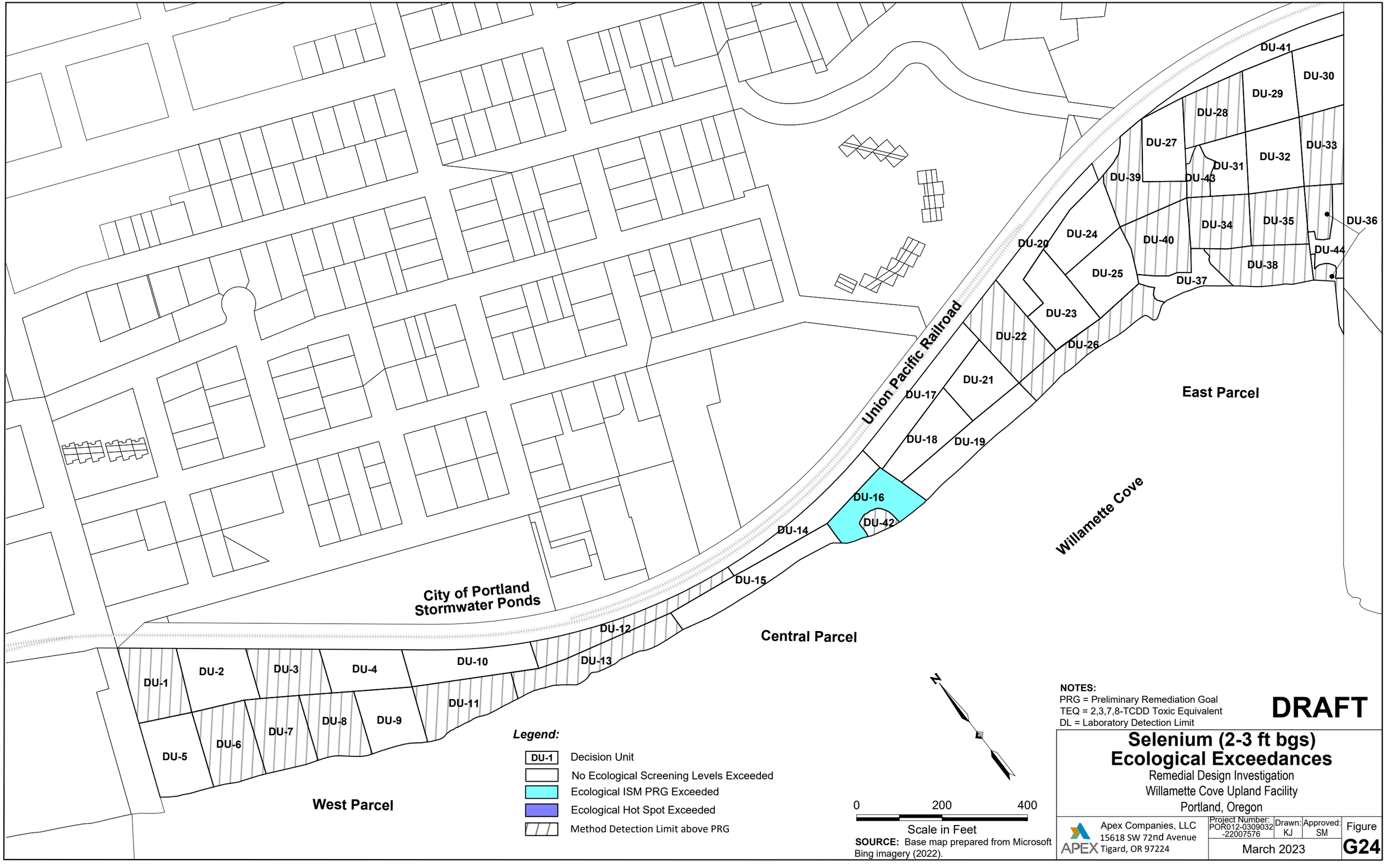
DRAFT

Selenium (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G23**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent
DL = Laboratory Detection Limit

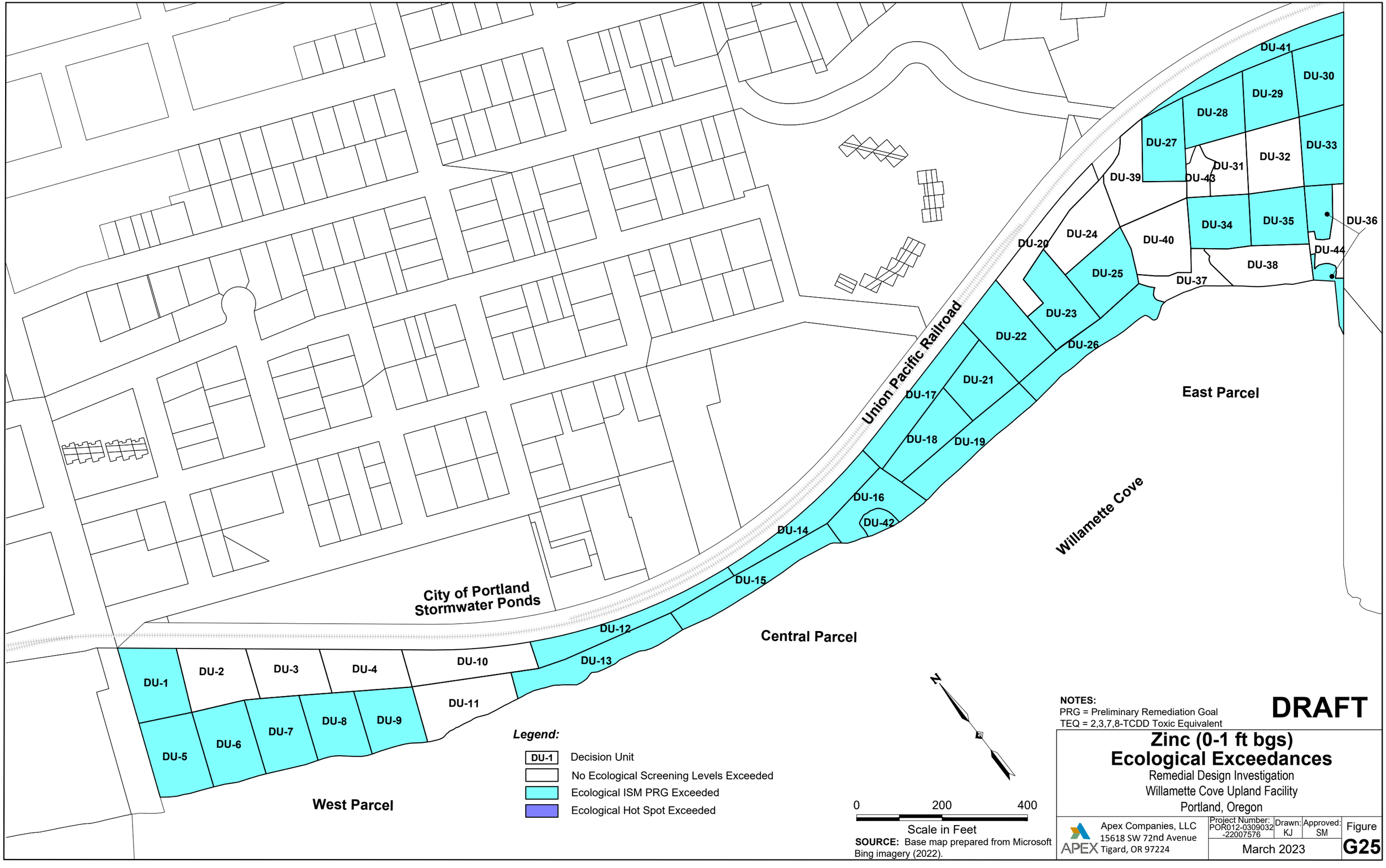
DRAFT

Selenium (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G24**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

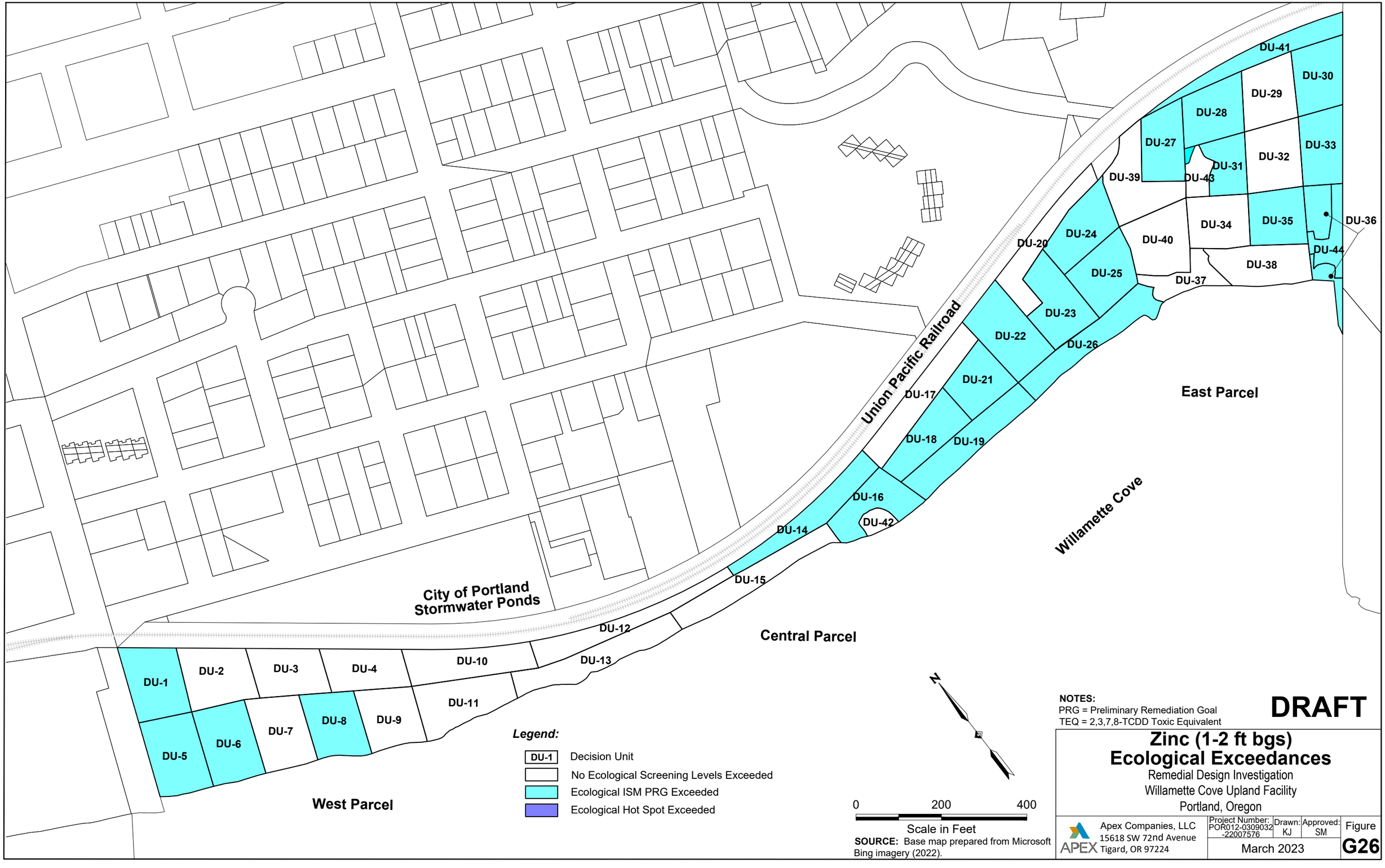
DRAFT

Zinc (0-1 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G25**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

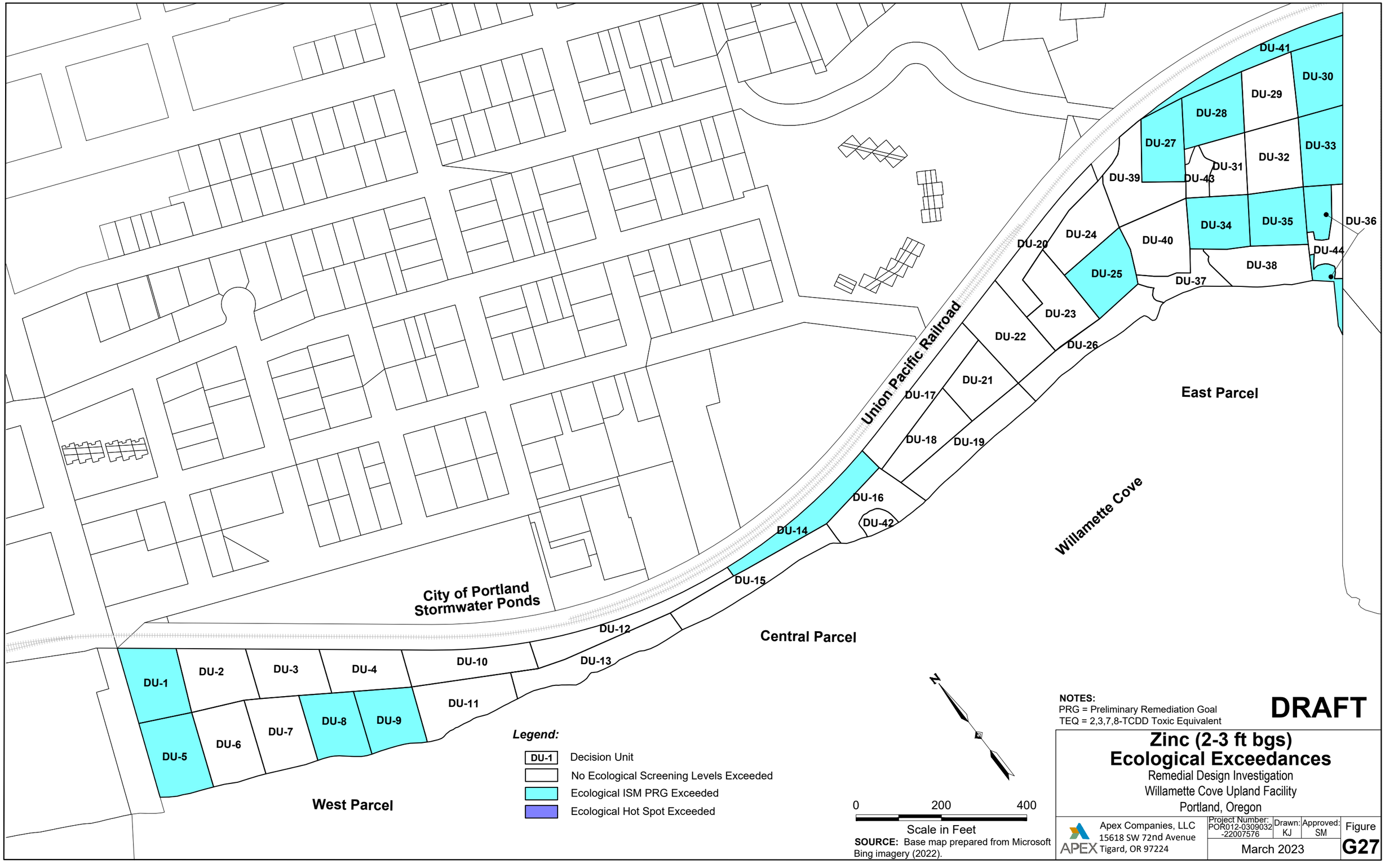
DRAFT

Zinc (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G26**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

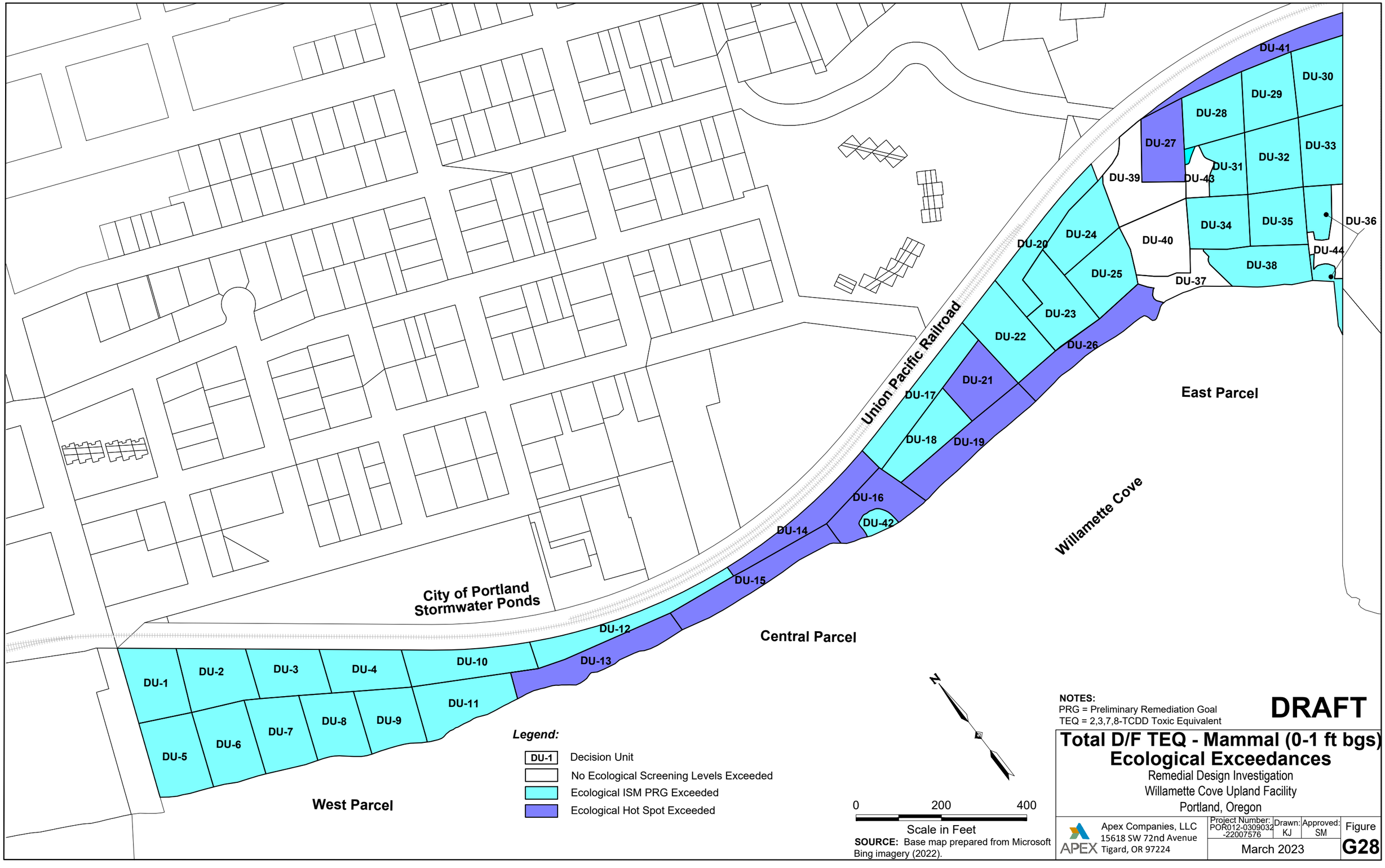
DRAFT

Zinc (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G27**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total D/F TEQ - Mammal (0-1 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032-22007576	KJ	SM	G28

March 2023

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DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total D/F TEQ - Mammal (1-2 ft bgs) Ecological Exceedances

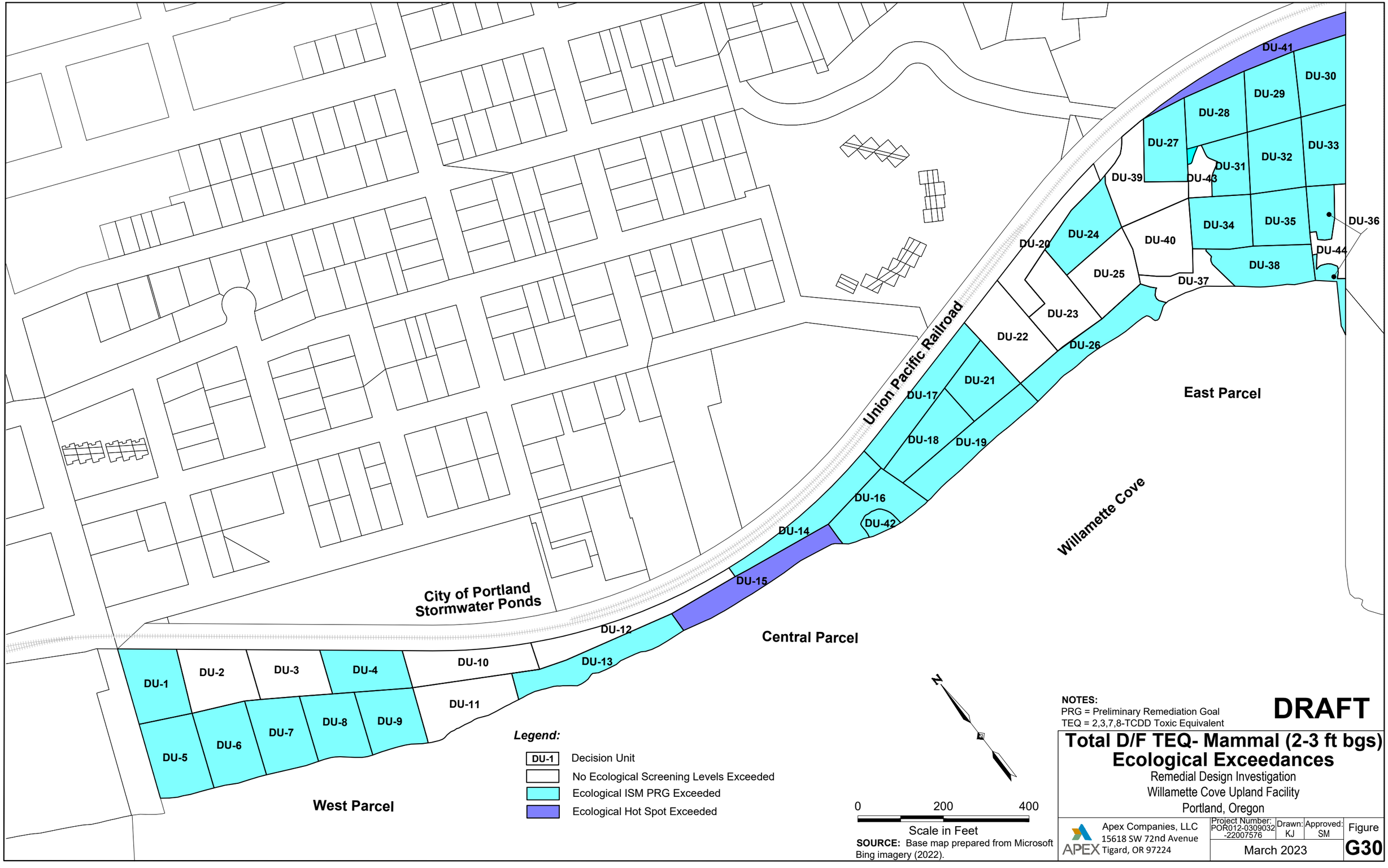
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G29

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total D/F TEQ- Mammal (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G30**
	March 2023			

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DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Dibenzofuran (0-1 ft bgs) Ecological Exceedances

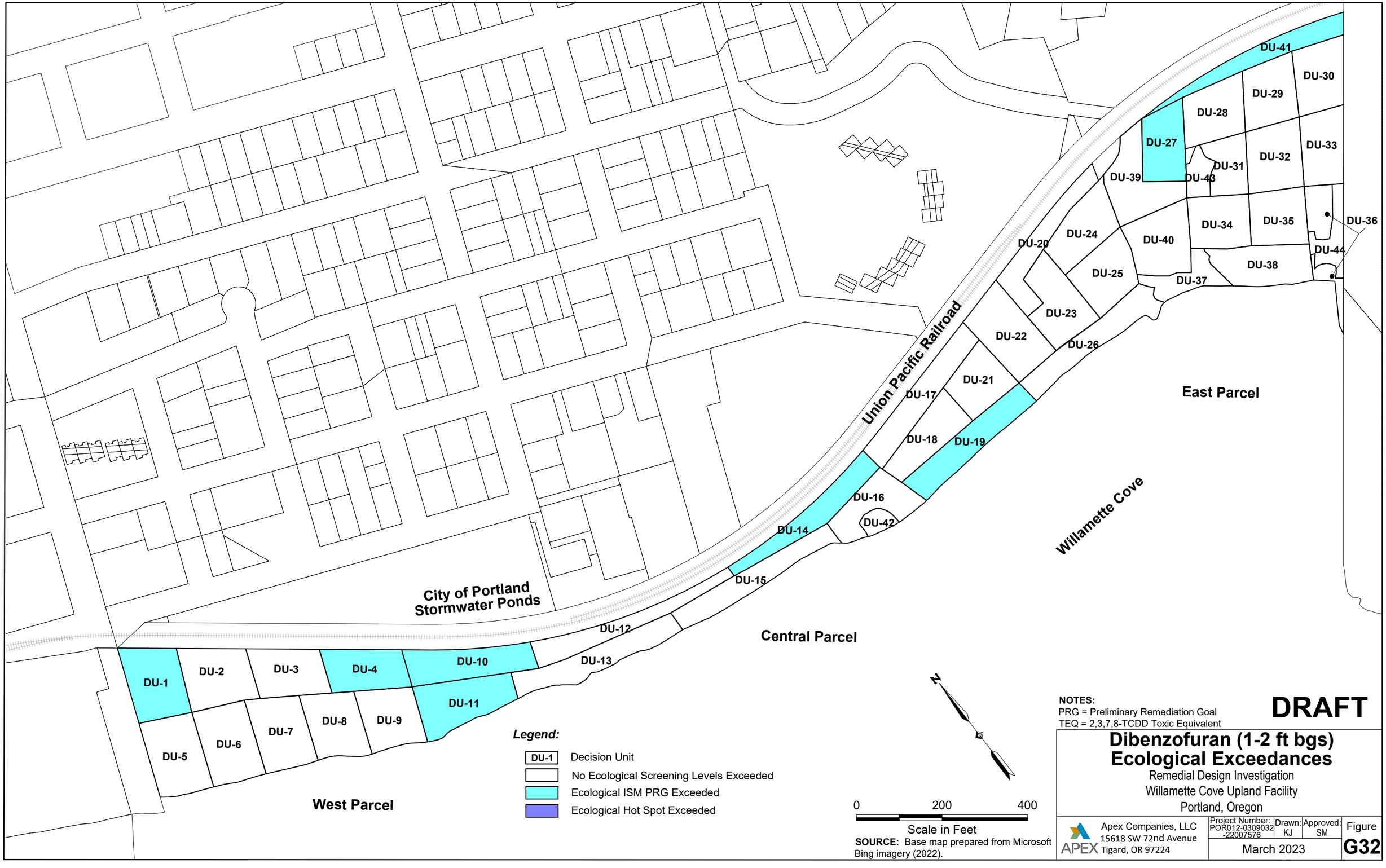
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G31

March 2023

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NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

DRAFT

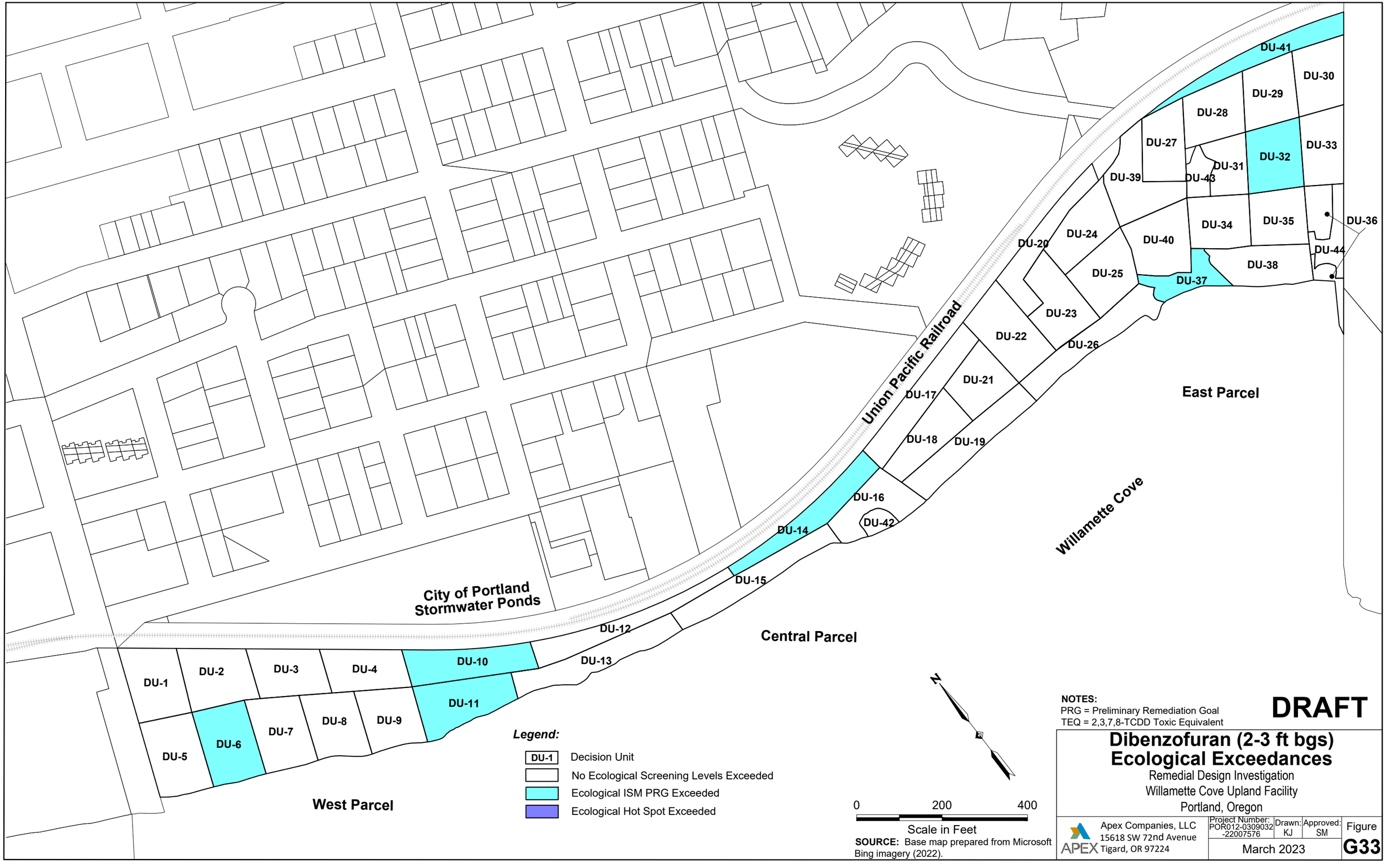
Dibenzofuran (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G32
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

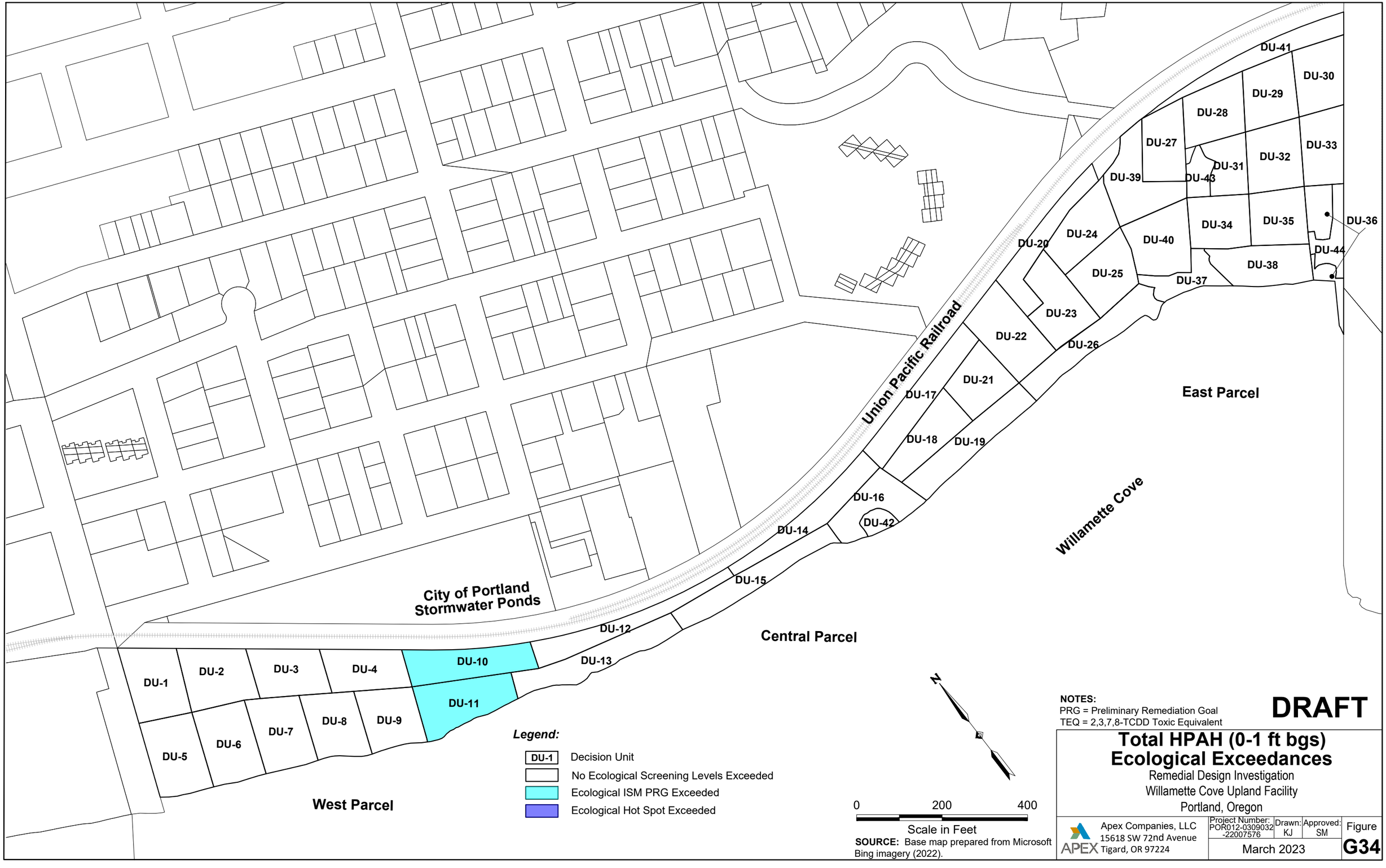
DRAFT

Dibenzofuran (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure G33
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

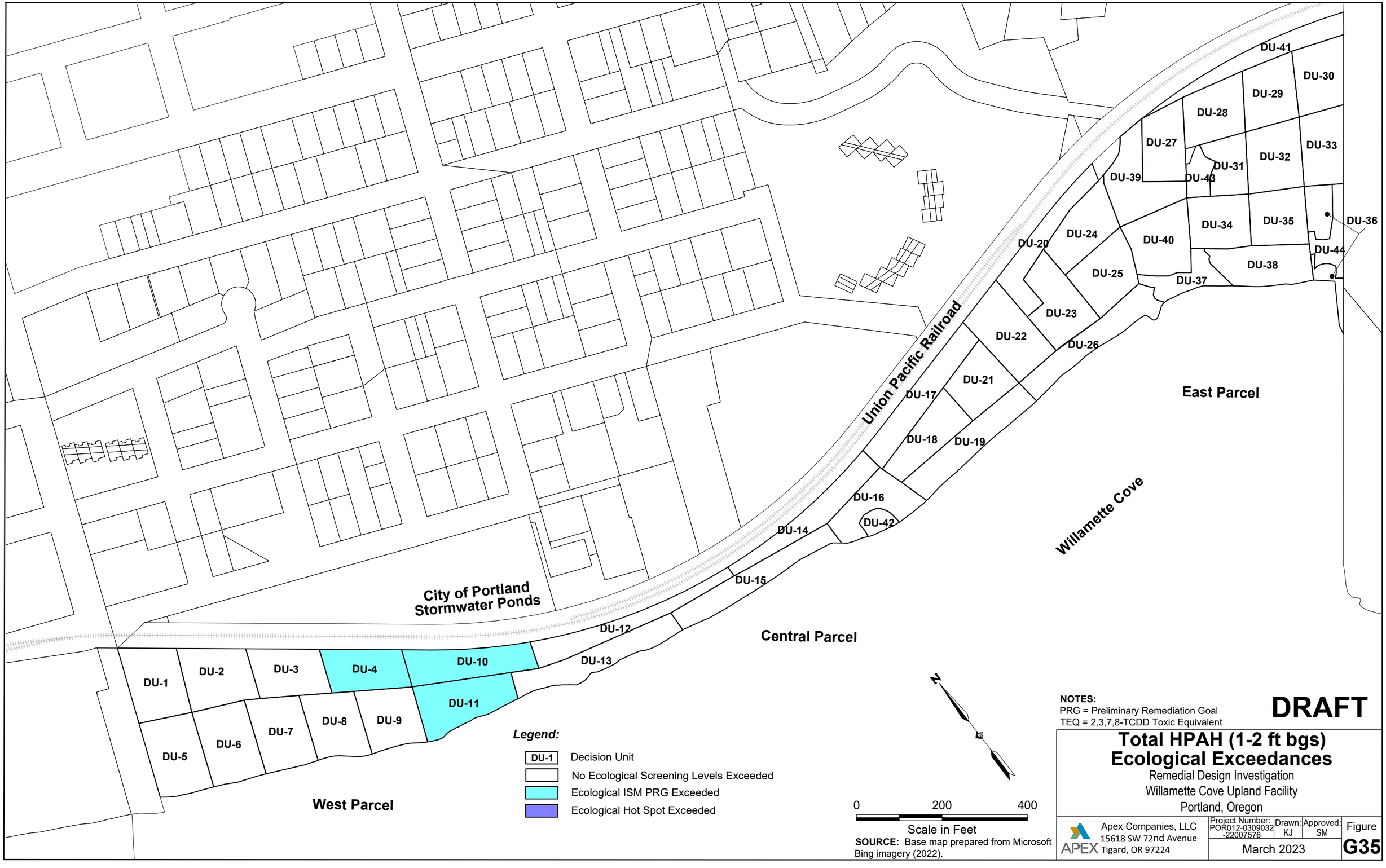
DRAFT

Total HPAH (0-1 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure G34
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

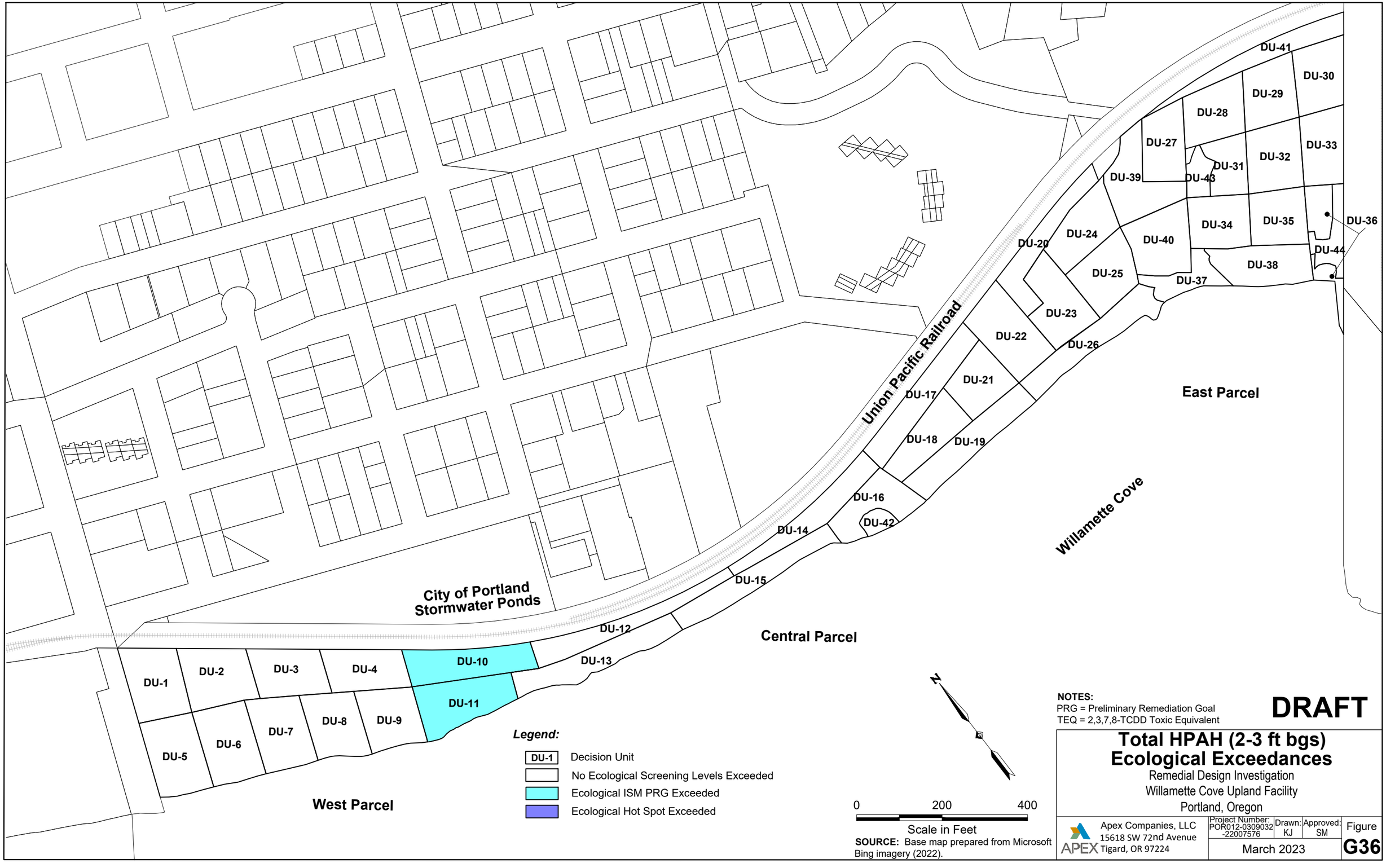
Total HPAH (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G35
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

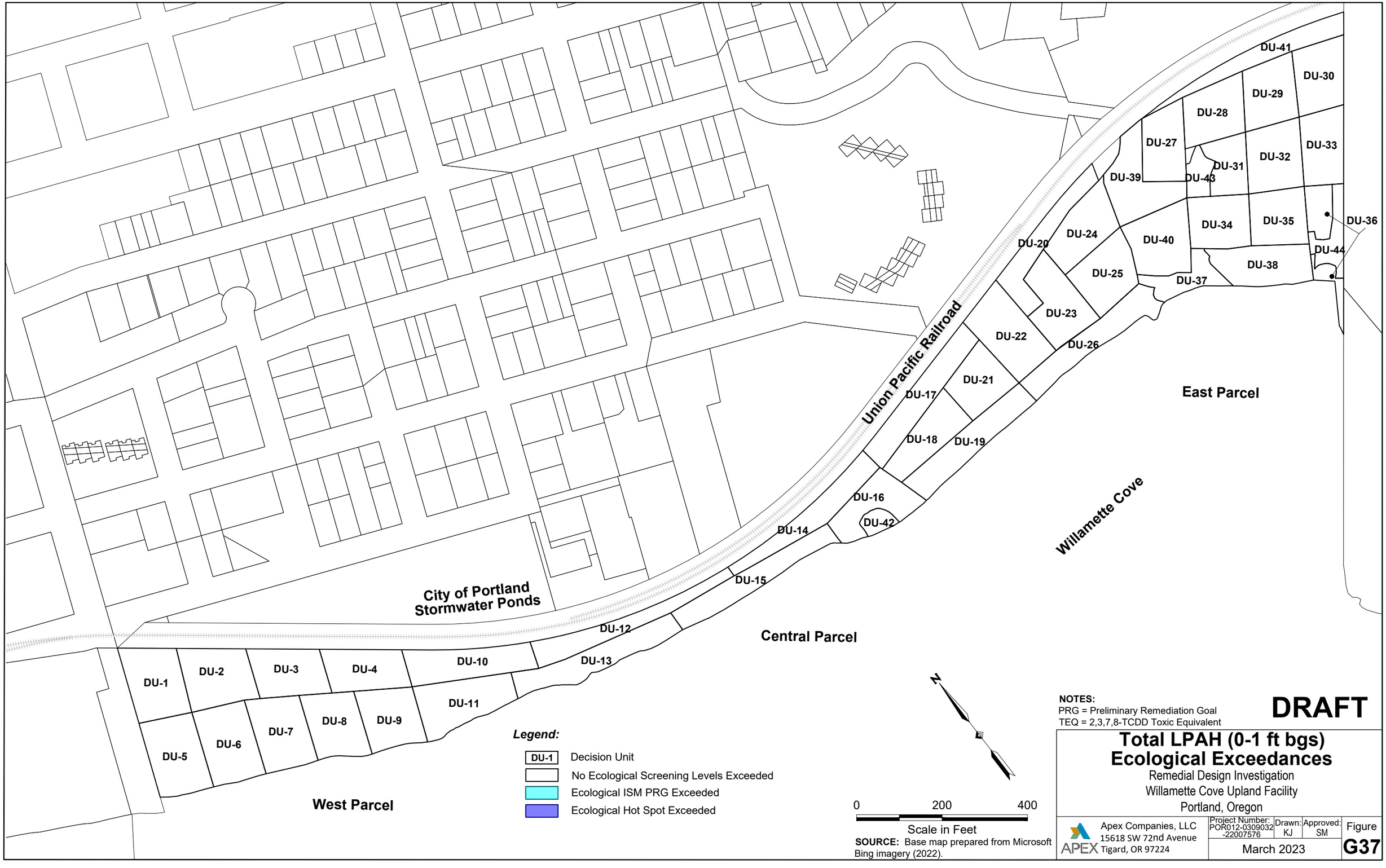
DRAFT

Total HPAH (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G36**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total LPAH (0-1 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure G37
	March 2023			

Z:\GIS_Repository\Pittsburgh\Willamette Cove\02022023\RDI Report - Appendix G.dwg Modified 3/17/2023 by KJones

DU-41
DU-30
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DU-32
DU-31
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DU-3
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DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

City of Portland Stormwater Ponds

East Parcel

Central Parcel

West Parcel

Willamette Cove

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

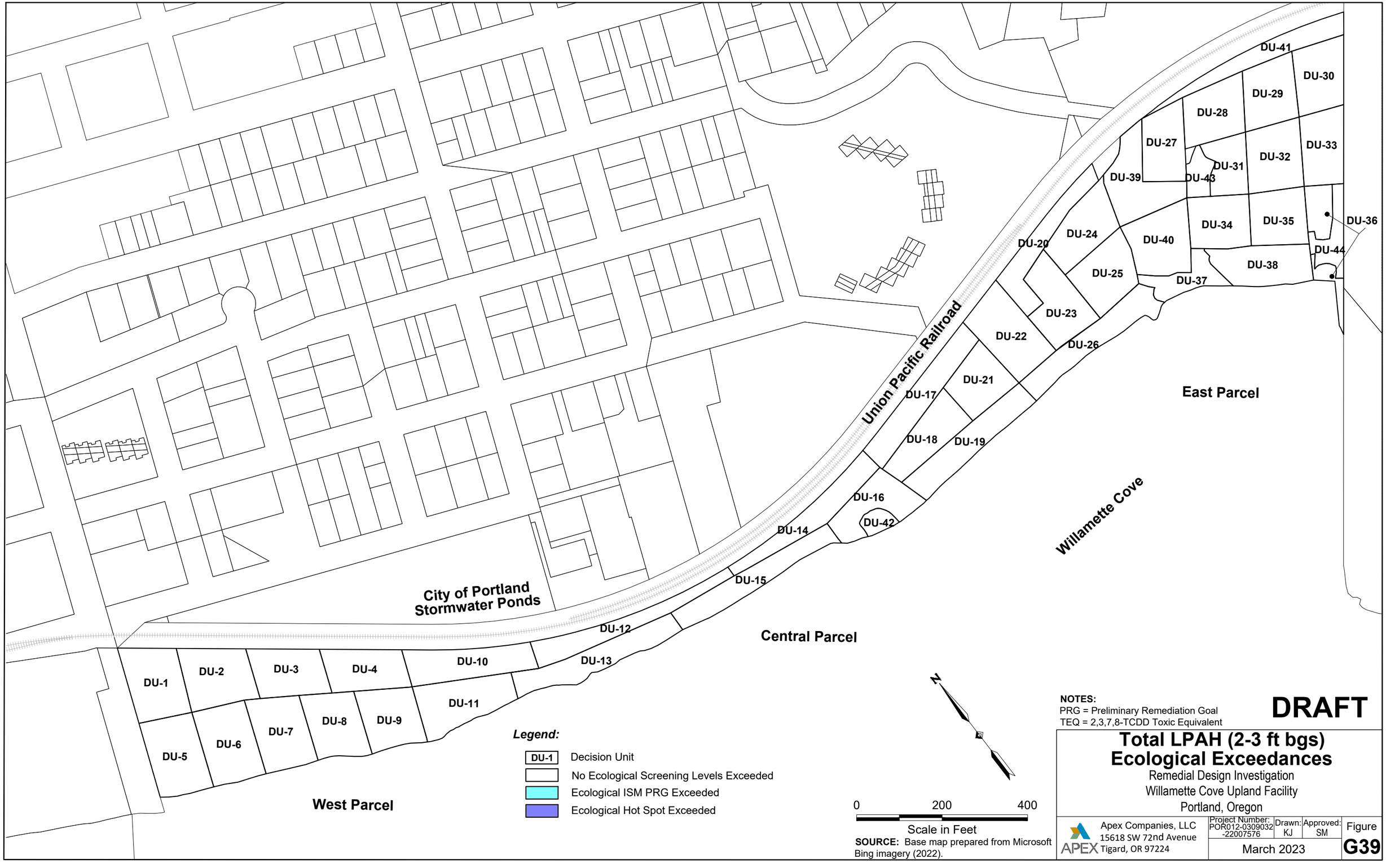
Total LPAH (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G38
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total LPAH (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G39**
	March 2023			

Z:\GIS_Repository\Pittsburgh\Willamette Cove\020222023\RDI Report - Appendix G.dwg Modified 3/17/2023 by KJones

DU-41
DU-30
DU-29
DU-28
DU-27
DU-33
DU-32
DU-31
DU-39
DU-43
DU-36
DU-34
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DU-24
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DU-44
DU-38
DU-25
DU-37
DU-23
DU-22
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DU-16
DU-42
DU-14
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DU-13
DU-10
DU-11
DU-1
DU-2
DU-3
DU-4
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Ecological Screening Levels Exceeded
- Ecological ISM PRG Exceeded
- Ecological Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

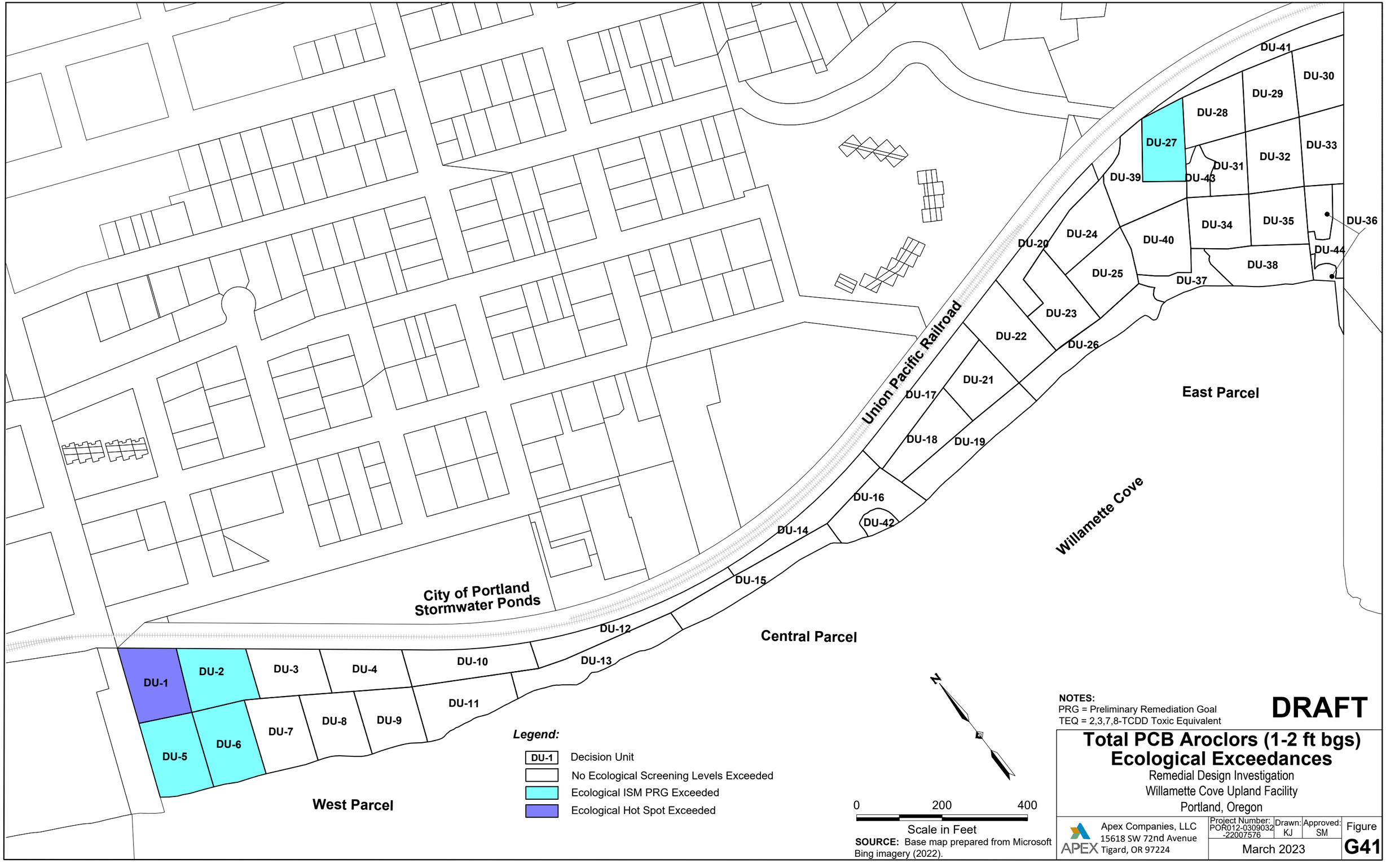
DRAFT

Total PCB Aroclors (0-1 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G40**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

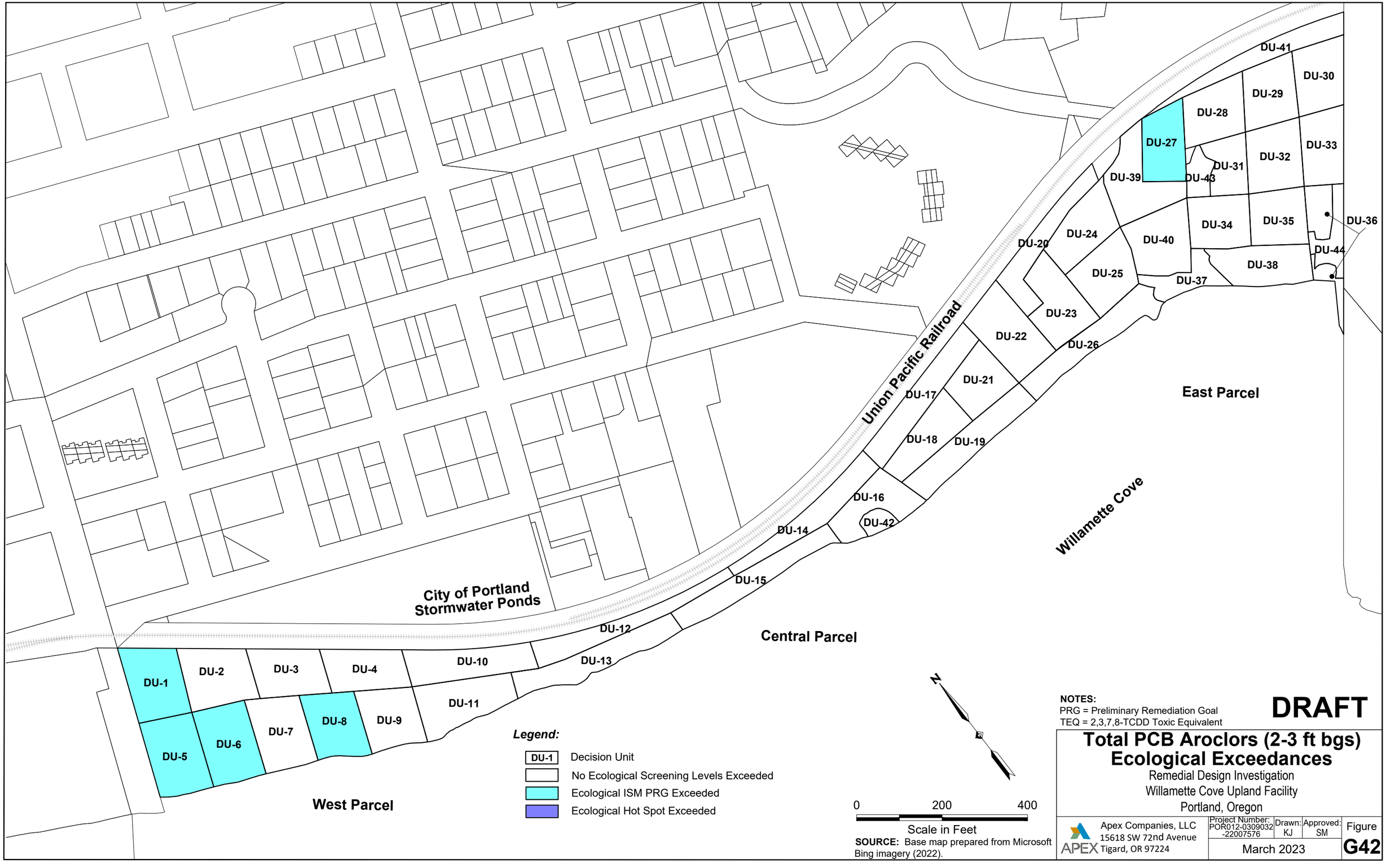
Total PCB Aroclors (1-2 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G41
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

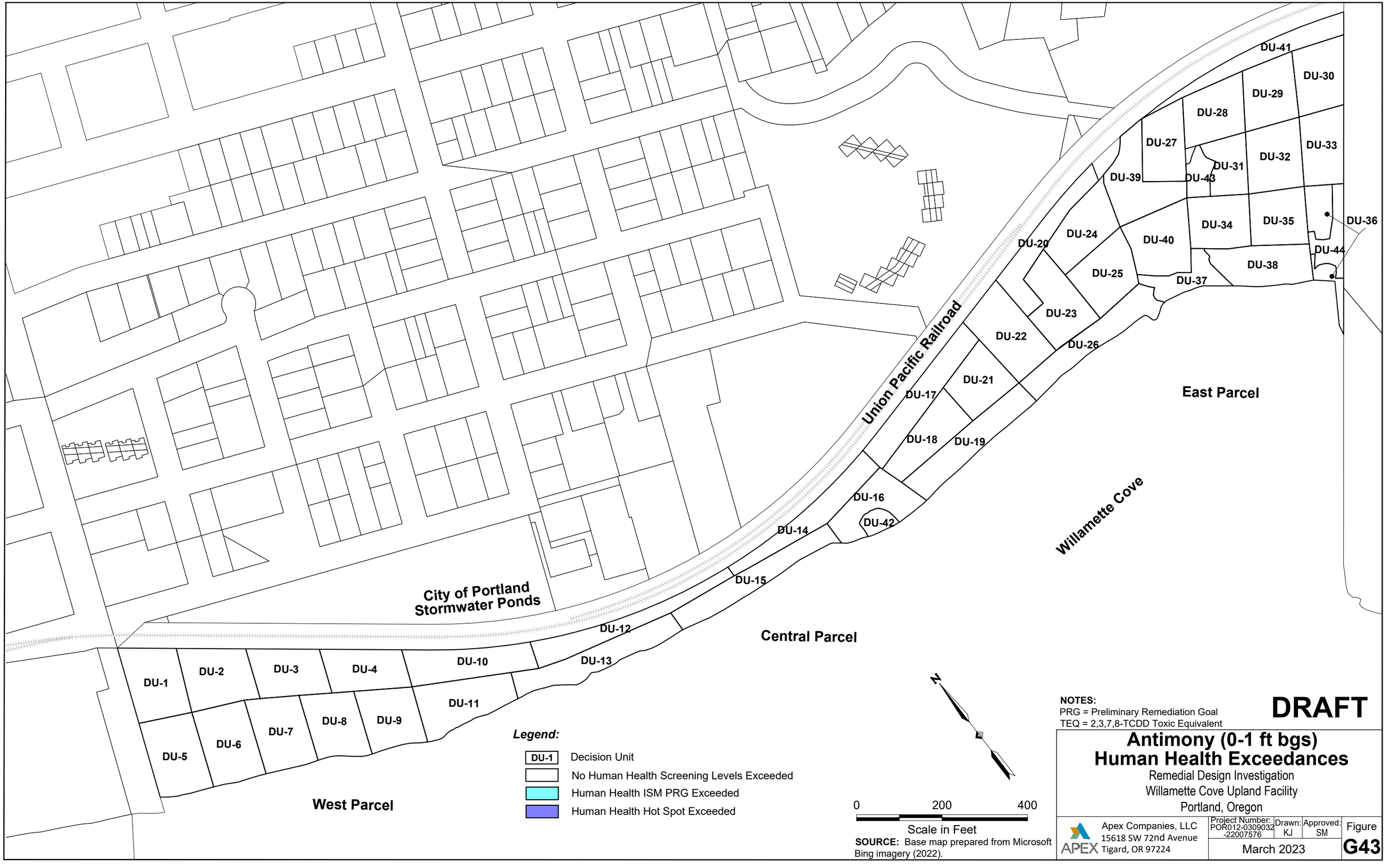
Total PCB Aroclors (2-3 ft bgs) Ecological Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G42
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

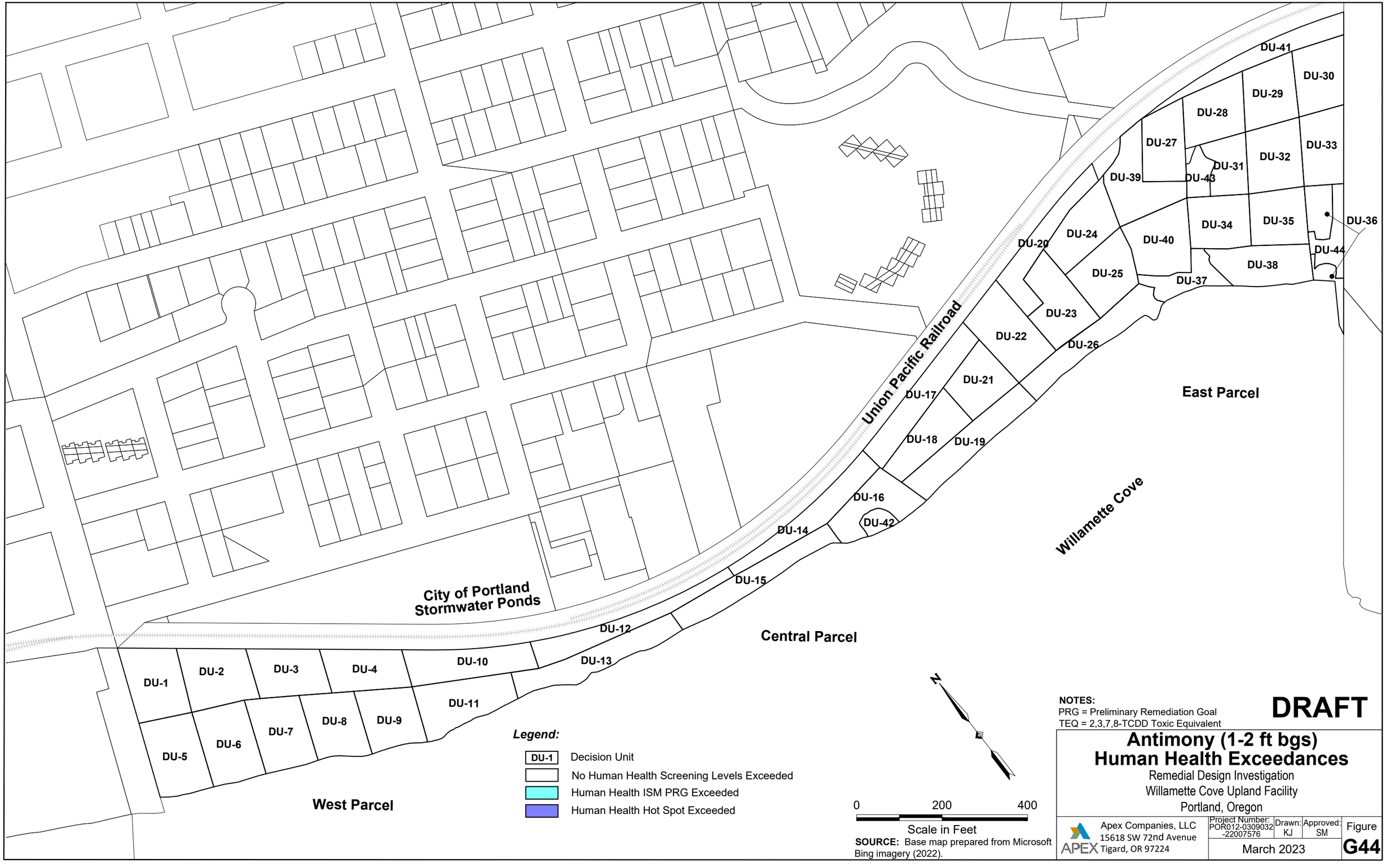
Antimony (0-1 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G43
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

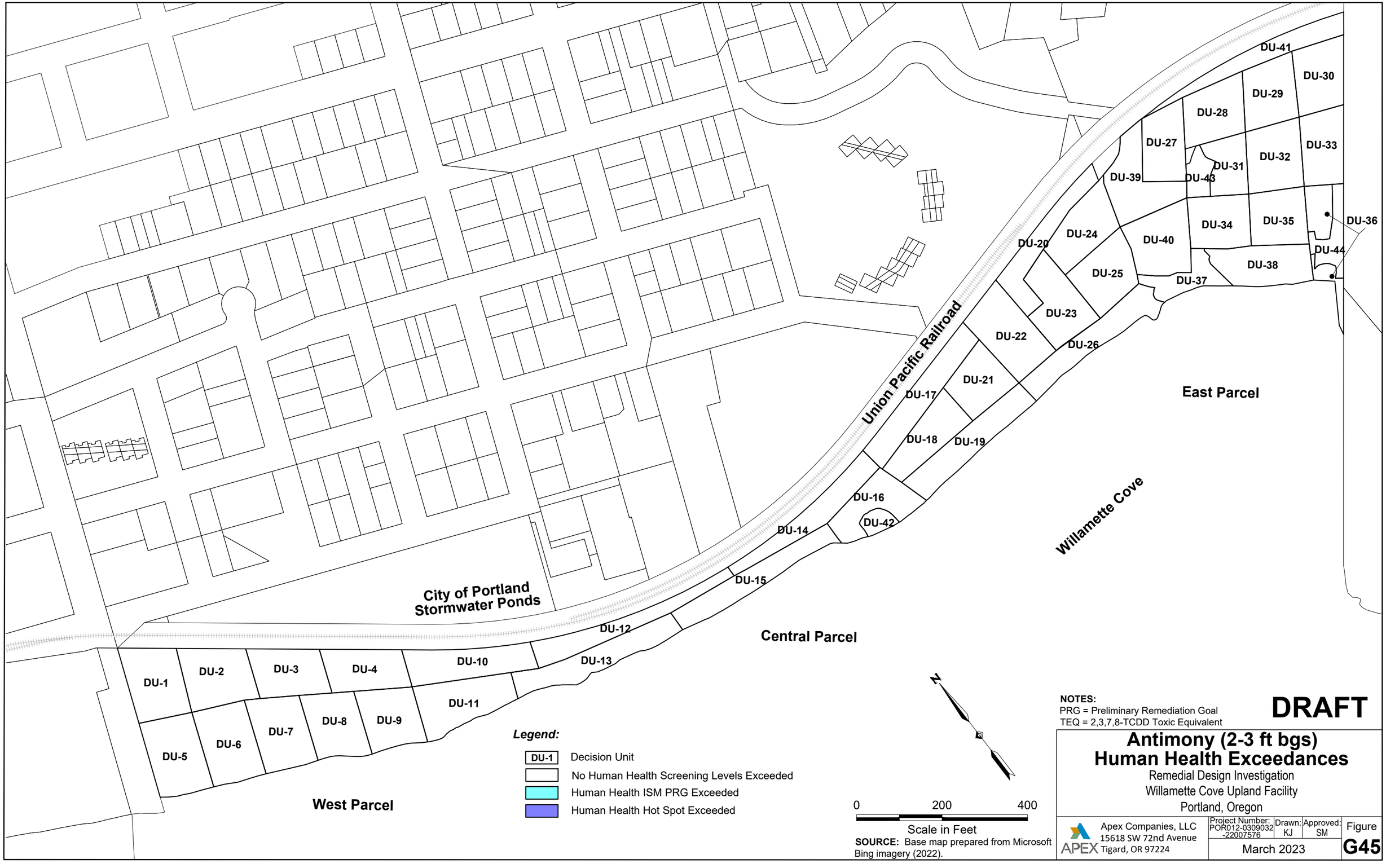
DRAFT

Antimony (1-2 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G44**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

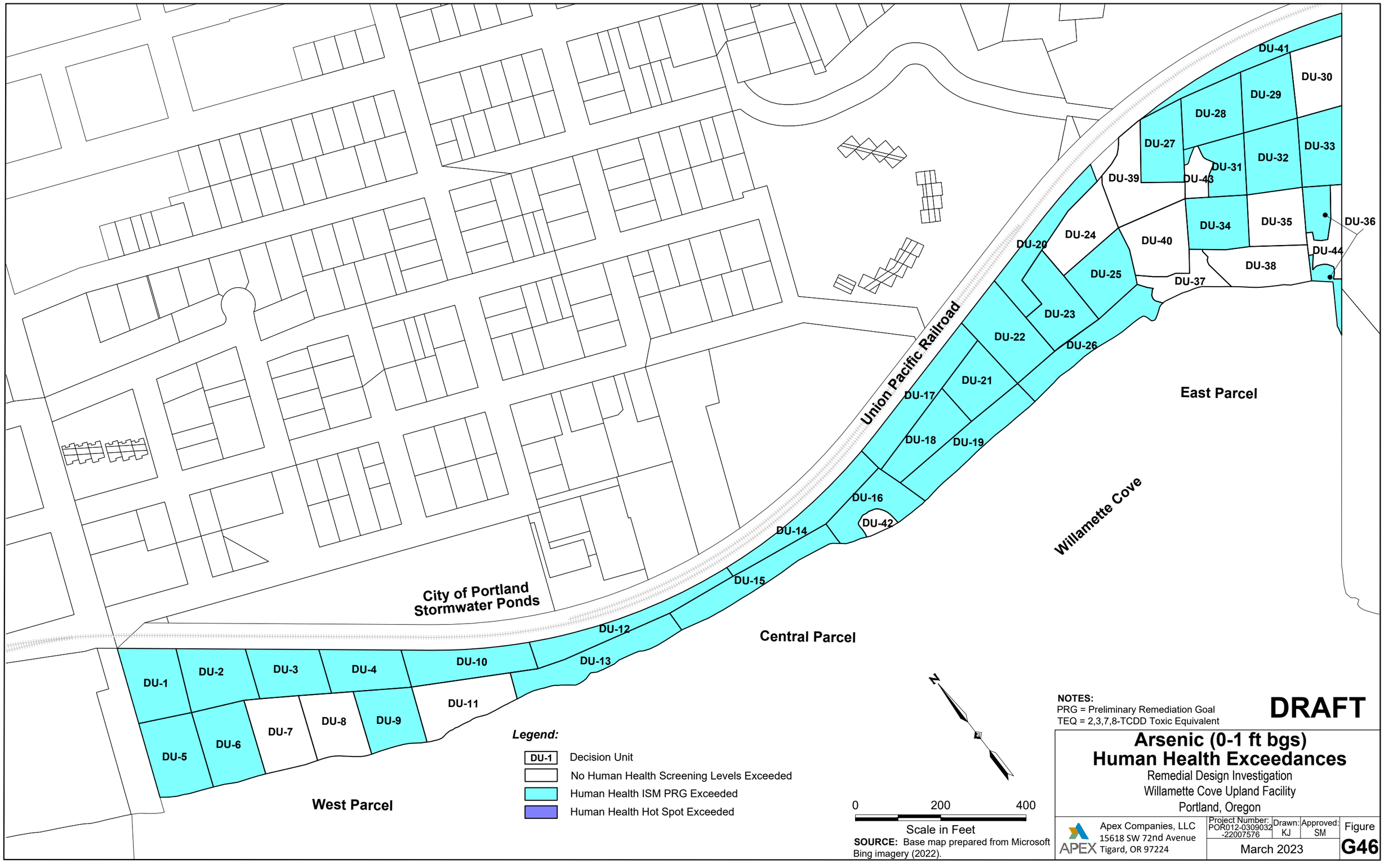
Antimony (2-3 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G45
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Arsenic (0-1 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G46

March 2023

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DU-41
DU-30
DU-29
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DU-20
DU-40
DU-44
DU-25
DU-38
DU-37
DU-23
DU-22
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DU-16
DU-42
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DU-4
DU-11
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Arsenic (1-2 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G47
March 2023			

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DU-41
DU-30
DU-29
DU-28
DU-27
DU-33
DU-32
DU-31
DU-39
DU-43
DU-36
DU-34
DU-35
DU-24
DU-20
DU-40
DU-44
DU-25
DU-38
DU-37
DU-23
DU-22
DU-26
Union Pacific Railroad
East Parcel
DU-21
DU-17
DU-18
DU-19
DU-16
DU-42
DU-14
Willamette Cove
DU-15
City of Portland
Stormwater Ponds
DU-12
DU-13
Central Parcel
DU-1
DU-2
DU-3
DU-4
DU-10
DU-11
DU-5
DU-6
DU-7
DU-8
DU-9
West Parcel

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Arsenic (2-3 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G48
March 2023			

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DU-41
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DU-3
DU-4
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Copper (0-1 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G49

March 2023

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DU-41
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DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland
Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

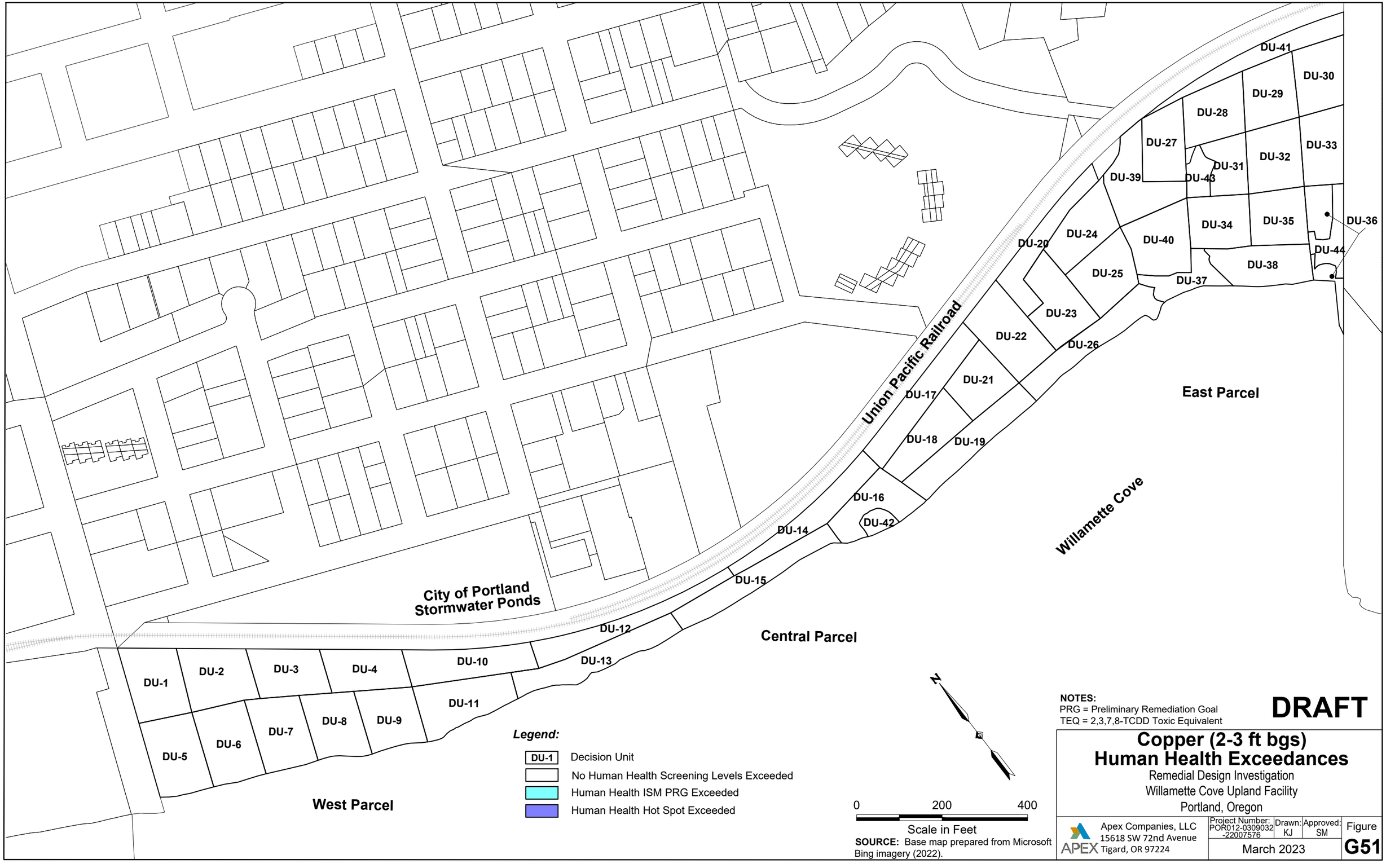
DRAFT

Copper (1-2 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G50**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

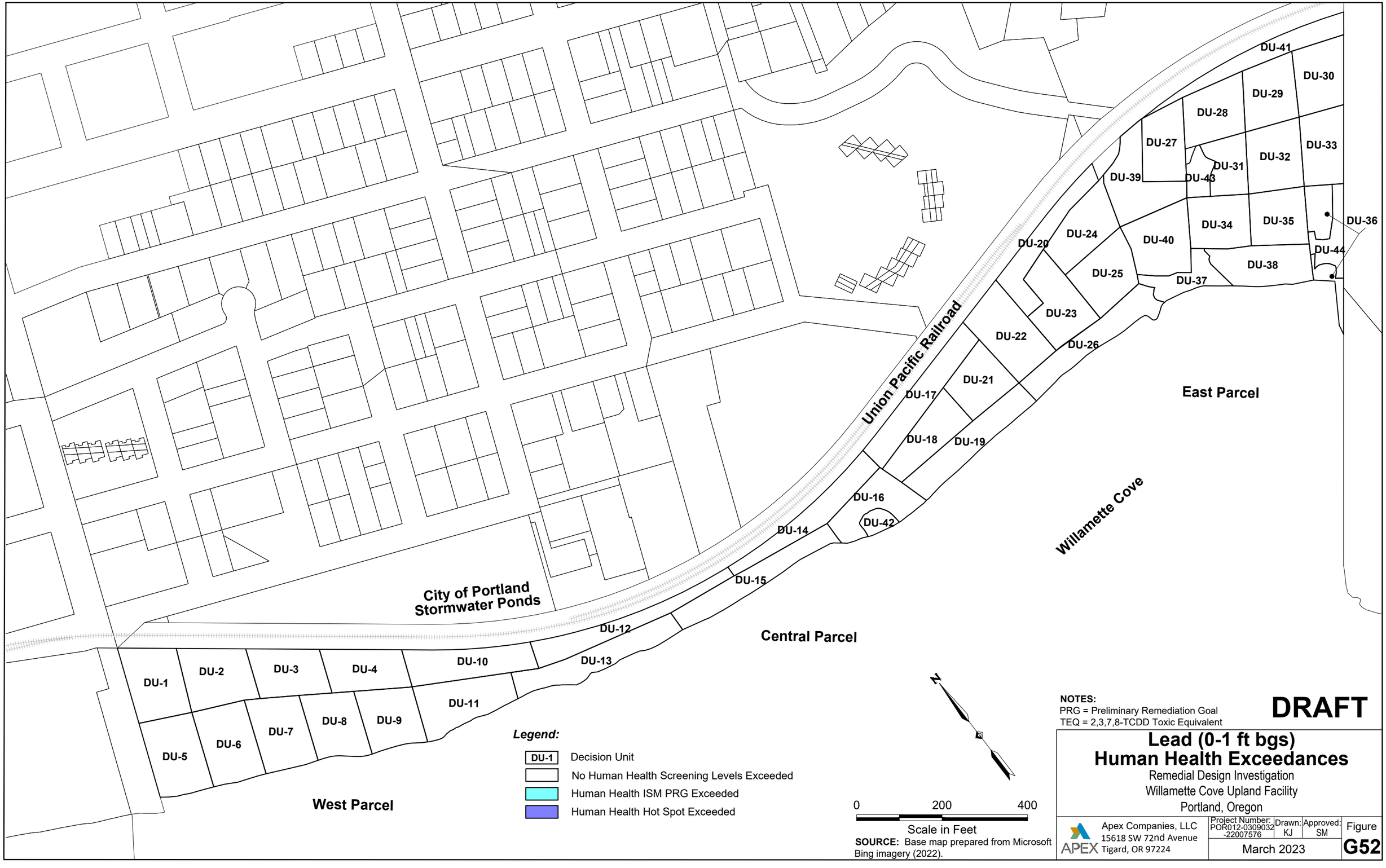
Copper (2-3 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G51
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

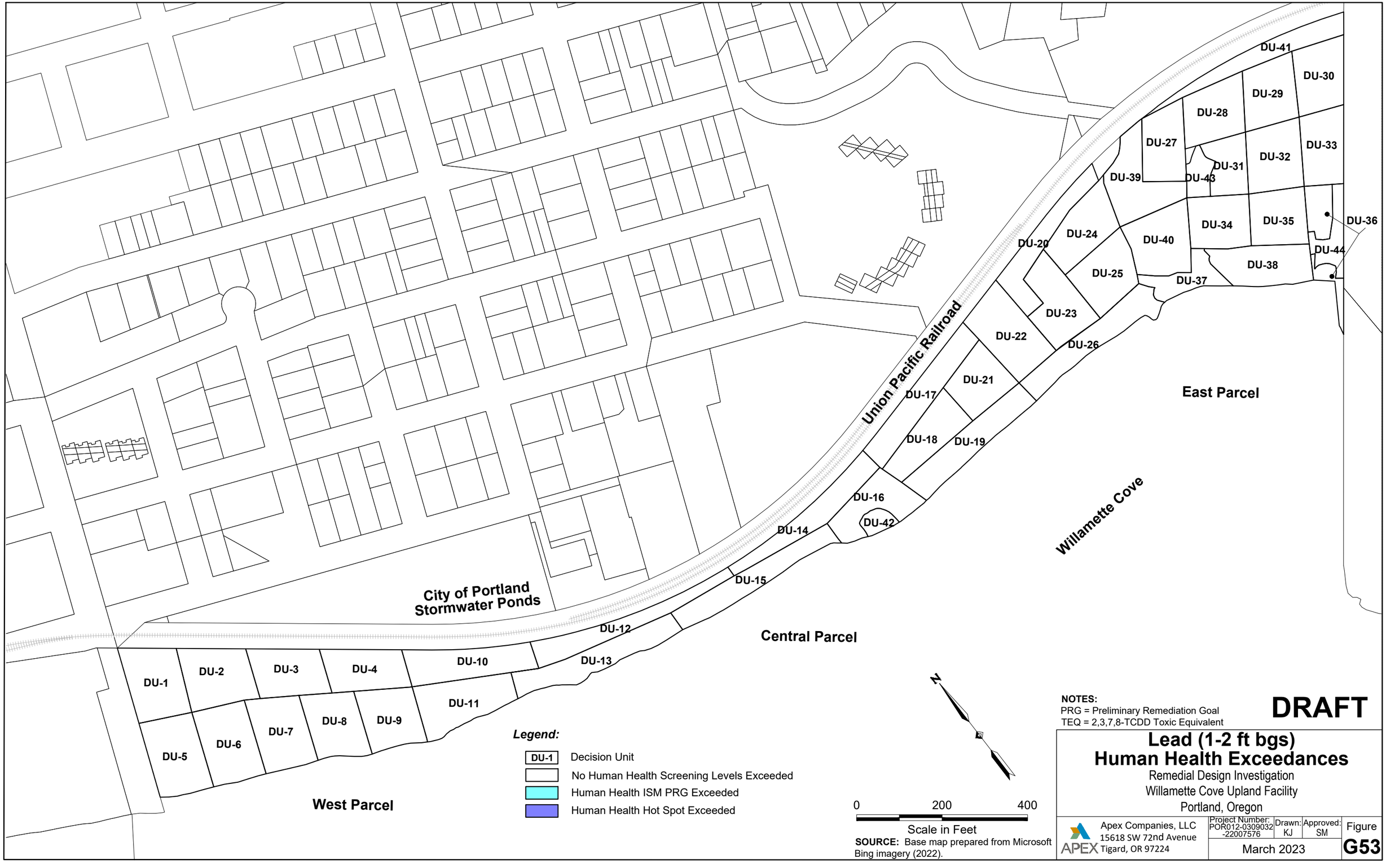
Lead (0-1 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G52
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

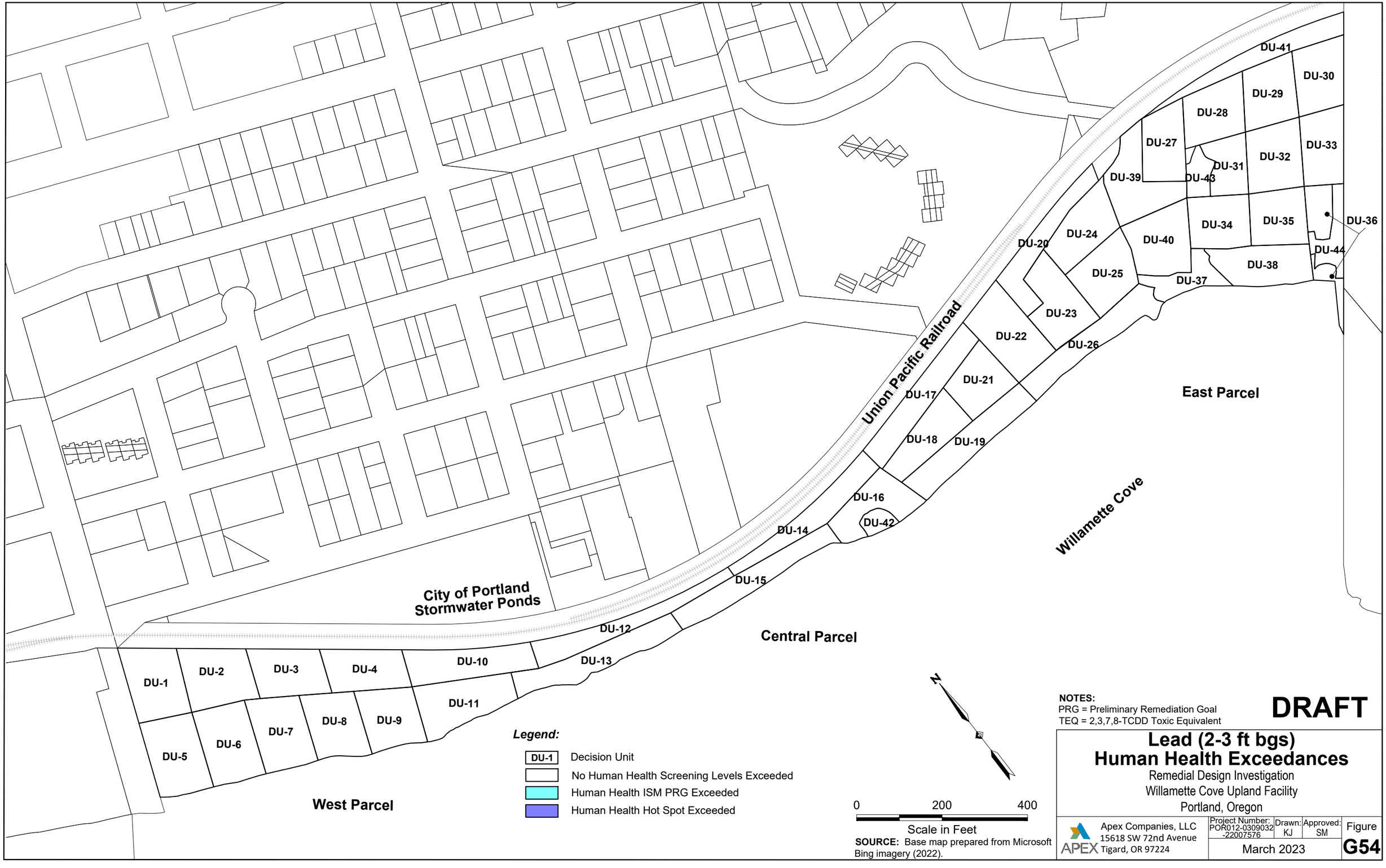
DRAFT

Lead (1-2 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G53**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

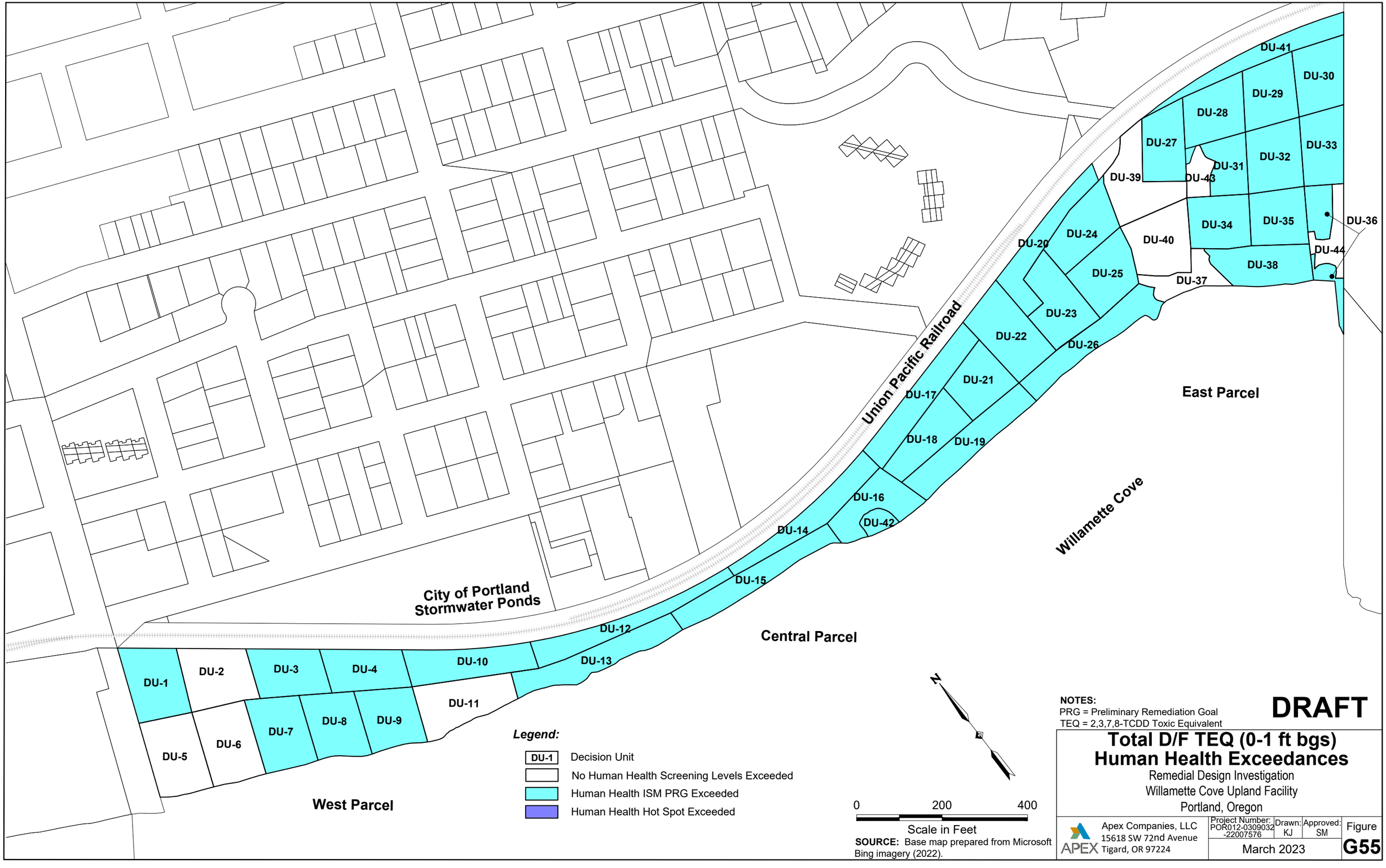
Lead (2-3 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032-22007576	KJ	SM	G54
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

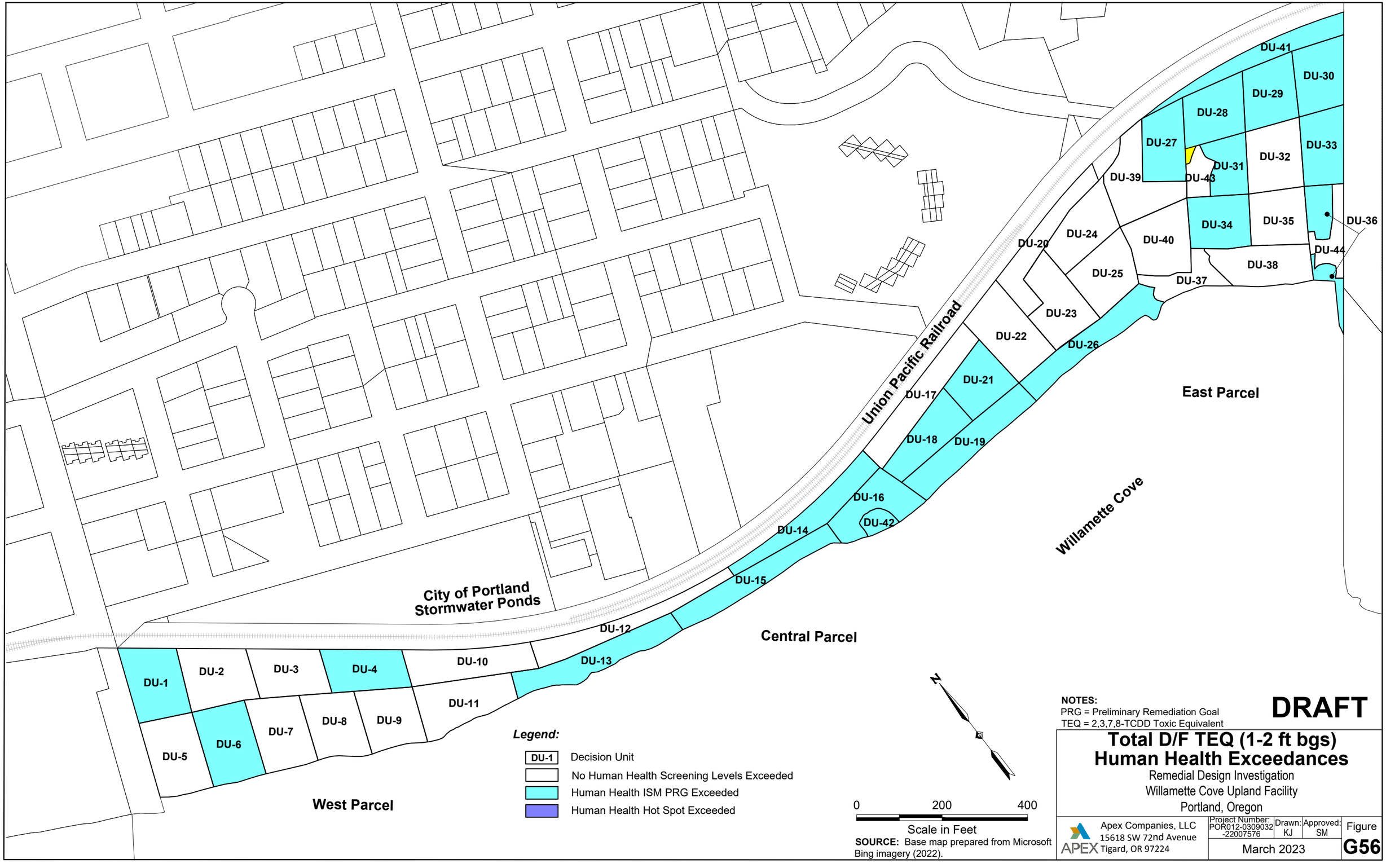
Total D/F TEQ (0-1 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G55
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total D/F TEQ (1-2 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G56**
	March 2023			

Z:\GIS_Repository\Pittsburgh\Willamette Cove\02022023\RDI Report - Appendix G.dwg Modified 3/17/2023 by KJones

DU-41
DU-30
DU-29
DU-28
DU-27
DU-33
DU-32
DU-31
DU-39
DU-43
DU-34
DU-35
DU-36
DU-20
DU-24
DU-40
DU-44
DU-38
DU-25
DU-37
DU-23
DU-22
DU-26
DU-21
DU-17
DU-18
DU-19
DU-16
DU-42
DU-14
DU-15
DU-12
DU-13
DU-10
DU-11
DU-1
DU-2
DU-3
DU-4
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

City of Portland Stormwater Ponds

East Parcel

Central Parcel

West Parcel

Willamette Cove

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

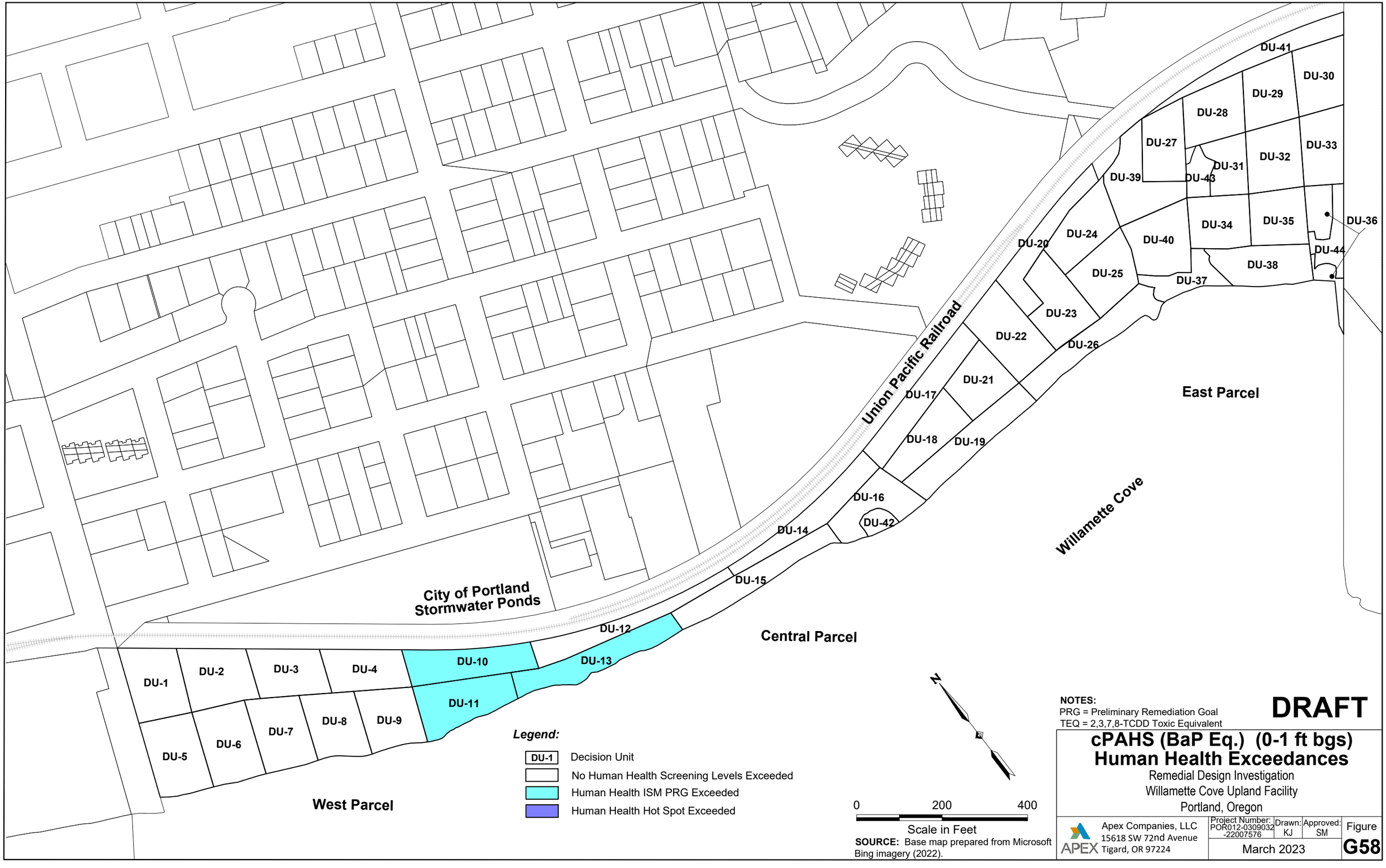
DRAFT

Total D/F TEQ (2-3 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G57**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

cPAHS (BaP Eq.) (0-1 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G58
March 2023			

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DU-41
DU-30
DU-29
DU-28
DU-27
DU-33
DU-32
DU-31
DU-39
DU-43
DU-36
DU-34
DU-35
DU-24
DU-20
DU-40
DU-44
DU-38
DU-25
DU-37
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DU-22
DU-26
DU-21
DU-17
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DU-19
DU-16
DU-42
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DU-15
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DU-13
DU-10
DU-11
DU-1
DU-2
DU-3
DU-4
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

cPAHs (BaP Eq.) (1-2 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G59
March 2023			

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DU-41
DU-30
DU-29
DU-28
DU-27
DU-33
DU-32
DU-31
DU-39
DU-43
DU-36
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DU-35
DU-24
DU-20
DU-40
DU-44
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DU-23
DU-22
DU-26
DU-21
DU-17
DU-18
DU-19
DU-16
DU-42
DU-14
DU-15
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DU-13
DU-1
DU-2
DU-3
DU-4
DU-10
DU-11
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

cPAHs (BaP Eq.) (2-3 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032-22007576	KJ	SM	G60

March 2023

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DU-41
DU-30
DU-29
DU-28
DU-27
DU-33
DU-32
DU-31
DU-39
DU-43
DU-36
DU-34
DU-35
DU-24
DU-20
DU-40
DU-44
DU-38
DU-25
DU-37
DU-23
DU-22
DU-26
DU-21
DU-17
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DU-11
DU-1
DU-2
DU-3
DU-4
DU-5
DU-6
DU-7
DU-8
DU-9

Union Pacific Railroad

East Parcel

Willamette Cove

City of Portland Stormwater Ponds

Central Parcel

West Parcel

Legend:

- DU-1 — Decision Unit
- No Human Health Screening Levels Exceeded
- Human Health ISM PRG Exceeded
- Human Health Hot Spot Exceeded

N

0 200 400

Scale in Feet

SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total PCB Aroclors (0-1 ft bgs) Human Health Exceedances

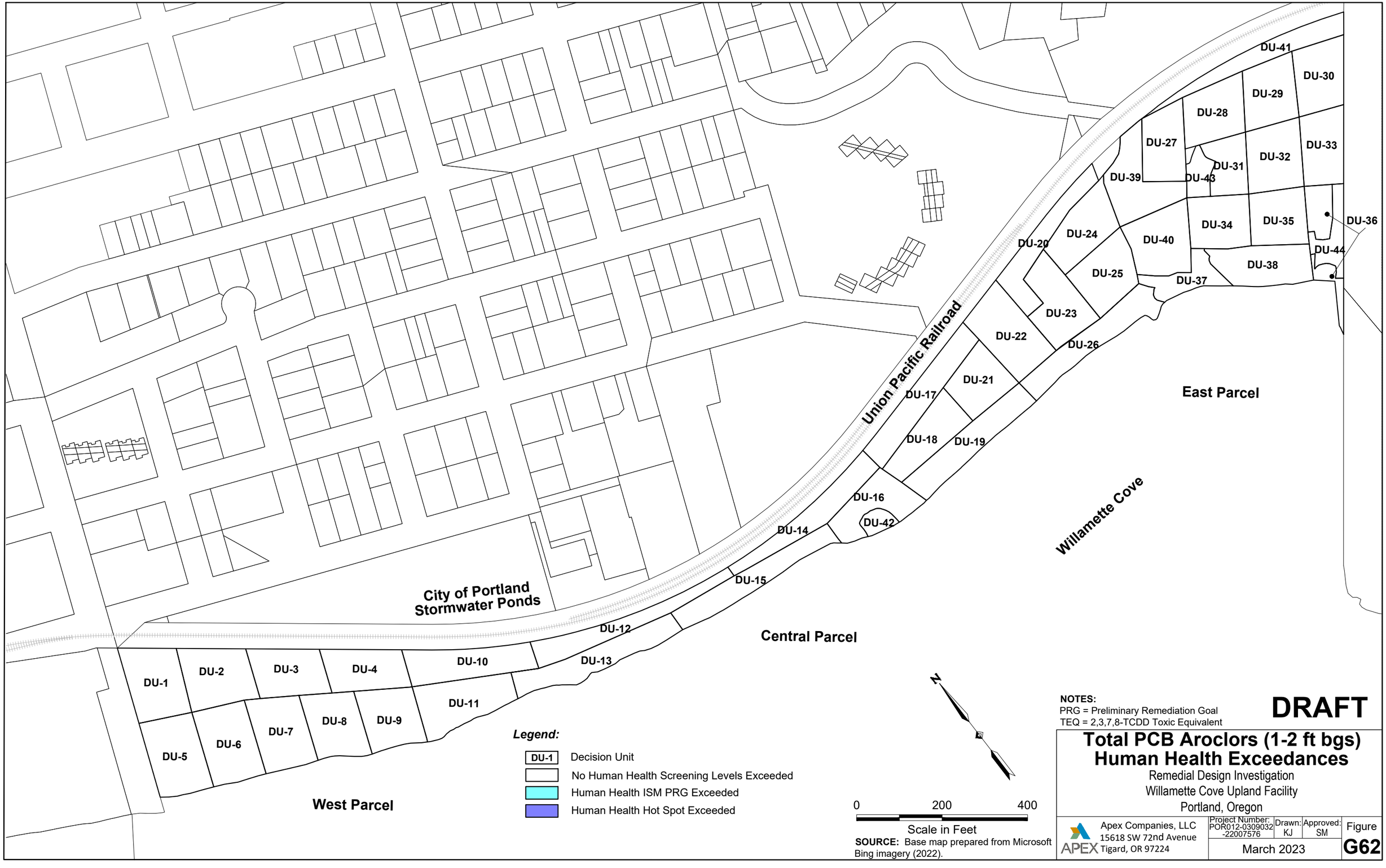
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	G61

March 2023

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

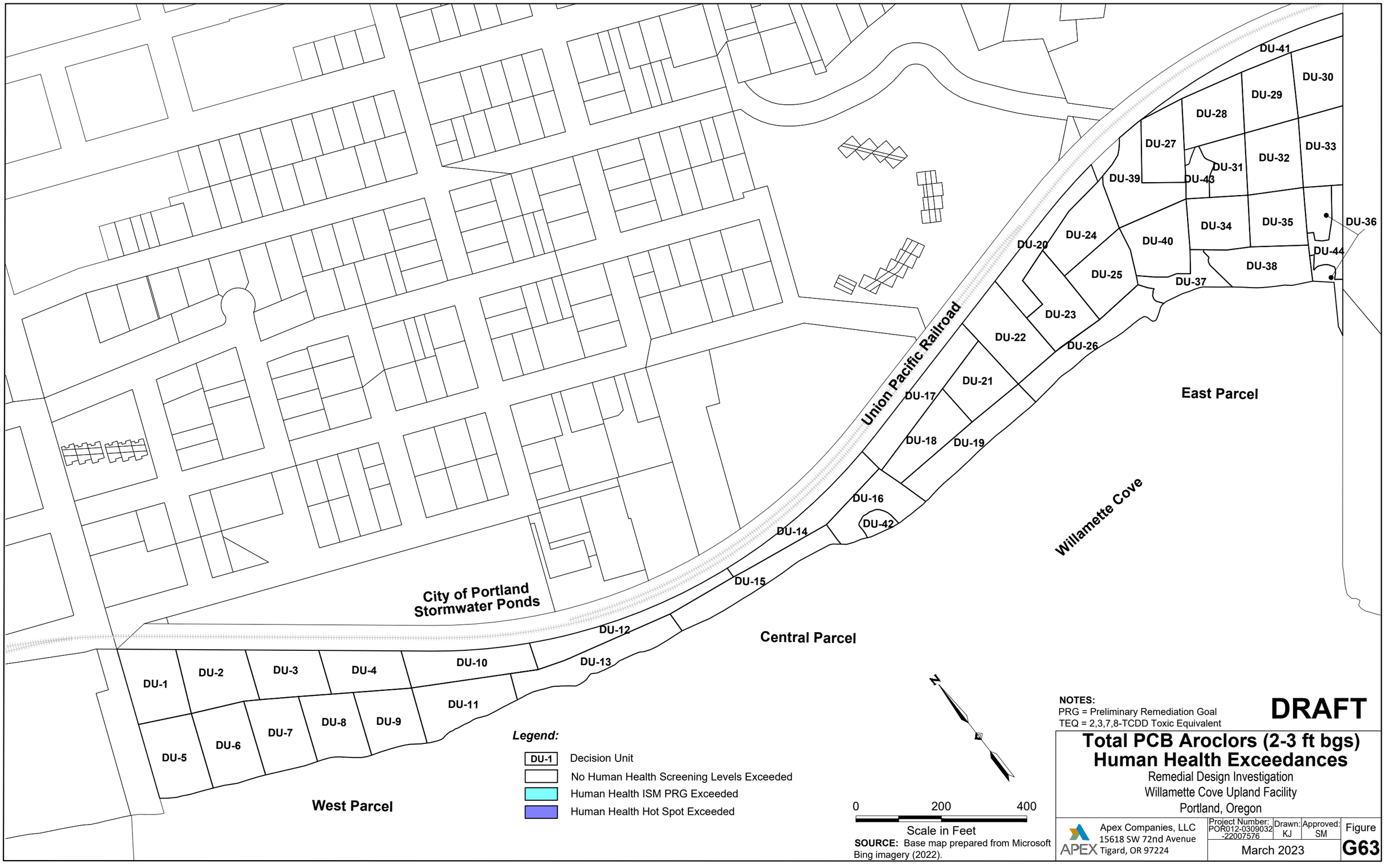
DRAFT

Total PCB Aroclors (1-2 ft bgs) Human Health Exceedances

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G62**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

NOTES:
PRG = Preliminary Remediation Goal
TEQ = 2,3,7,8-TCDD Toxic Equivalent

DRAFT

Total PCB Aroclors (2-3 ft bgs) Human Health Exceedances

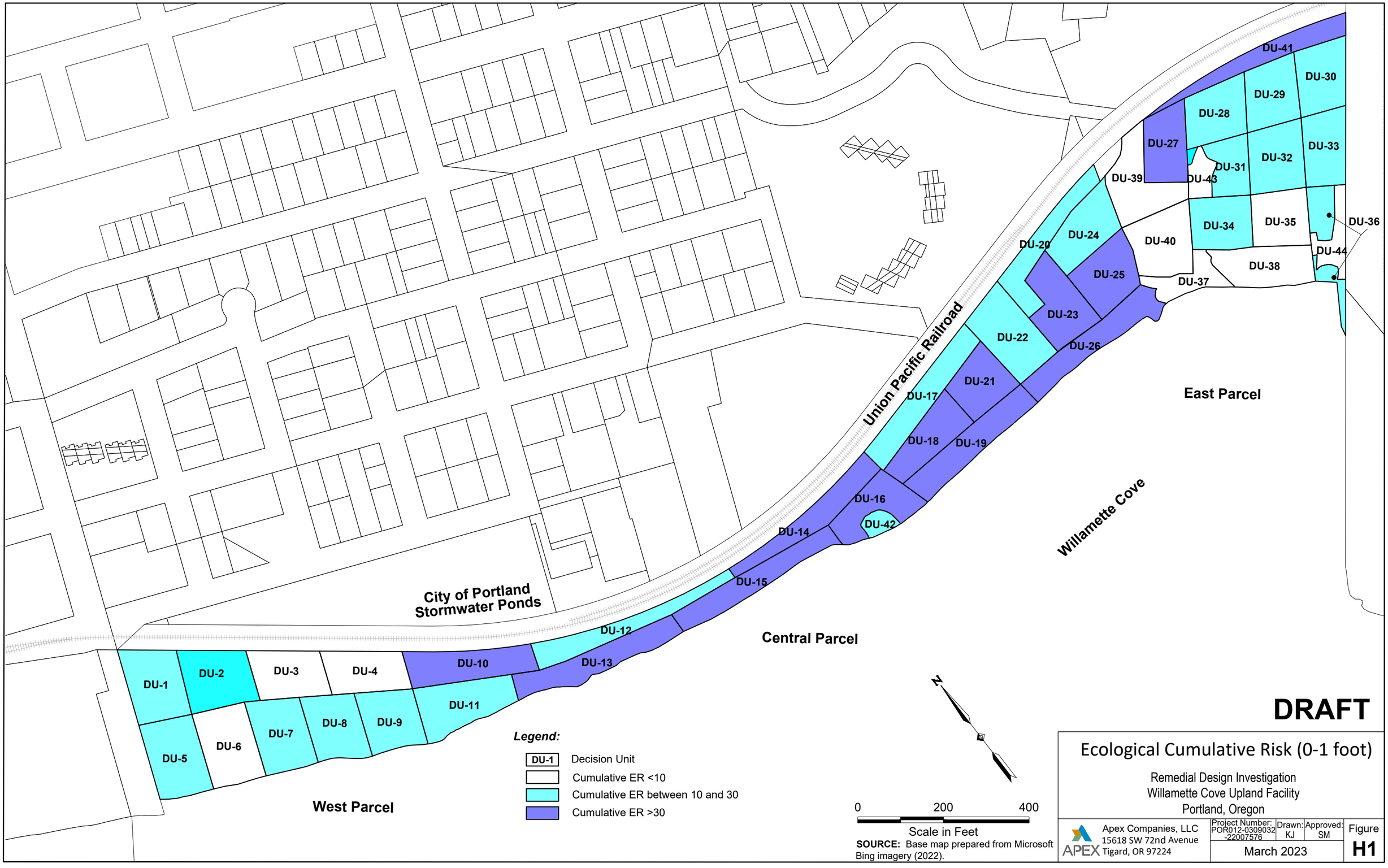
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **G63**
	March 2023			

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Appendix H

Cumulative Exceedance Ratio Figures



SOURCE: Base map prepared from Microsoft Bing imagery (2022).

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DRAFT

Ecological Cumulative Risk (0-1 foot)

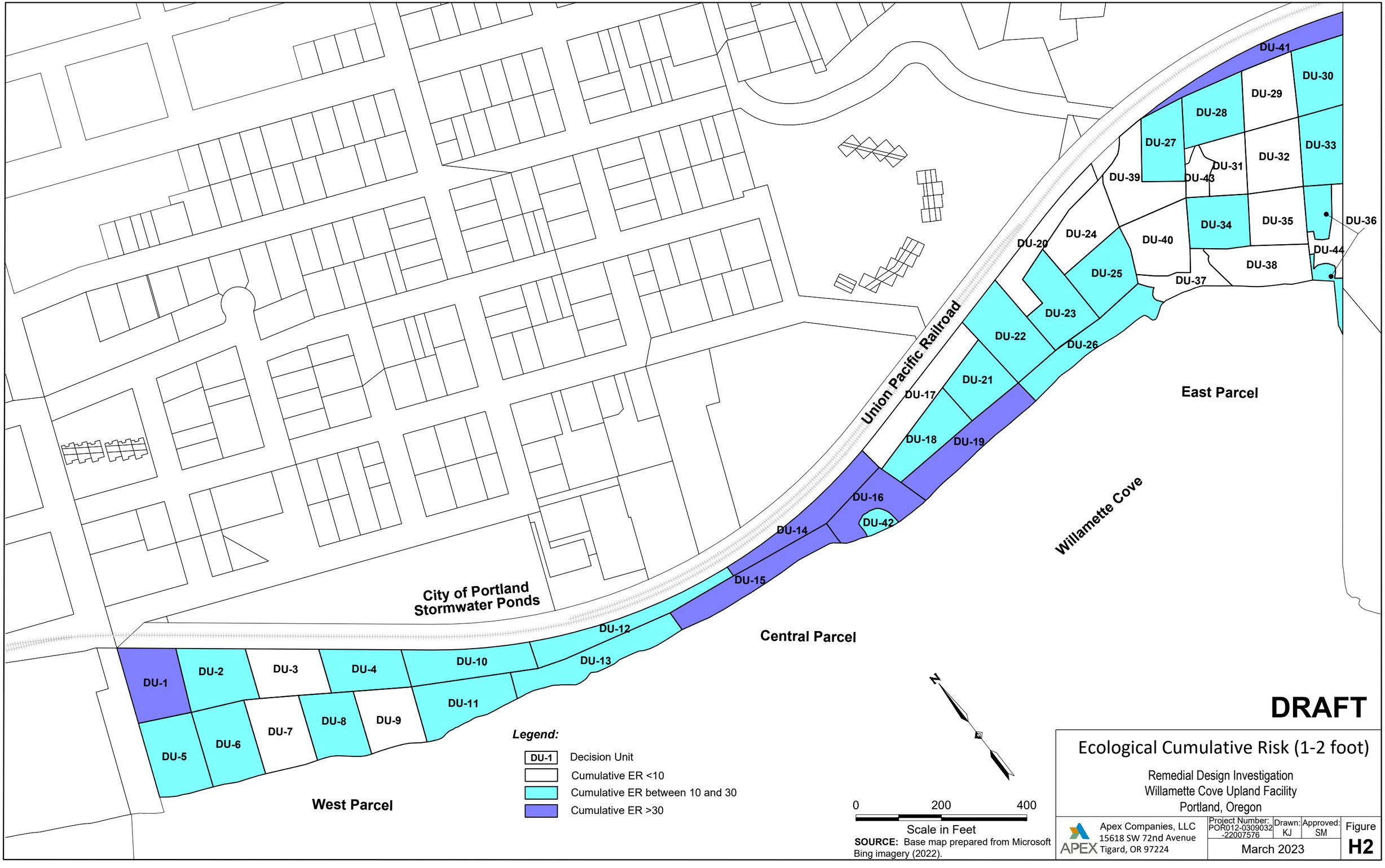
Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:
POR012-0309032-22007576	KJ	SM

March 2023

Figure **H1**



SOURCE: Base map prepared from Microsoft Bing imagery (2022).

DRAFT

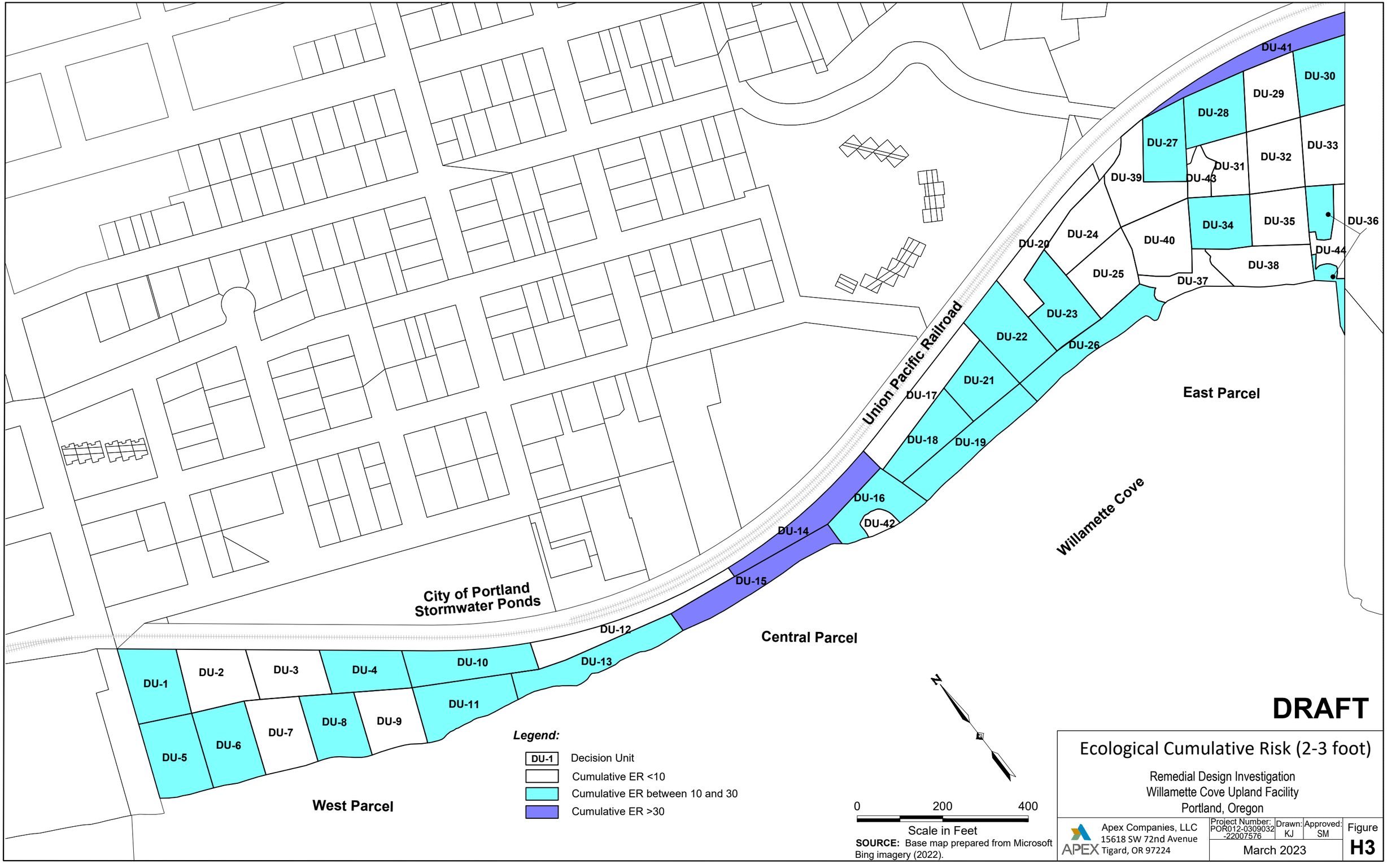
Ecological Cumulative Risk (1-2 foot)

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	H2
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

DRAFT

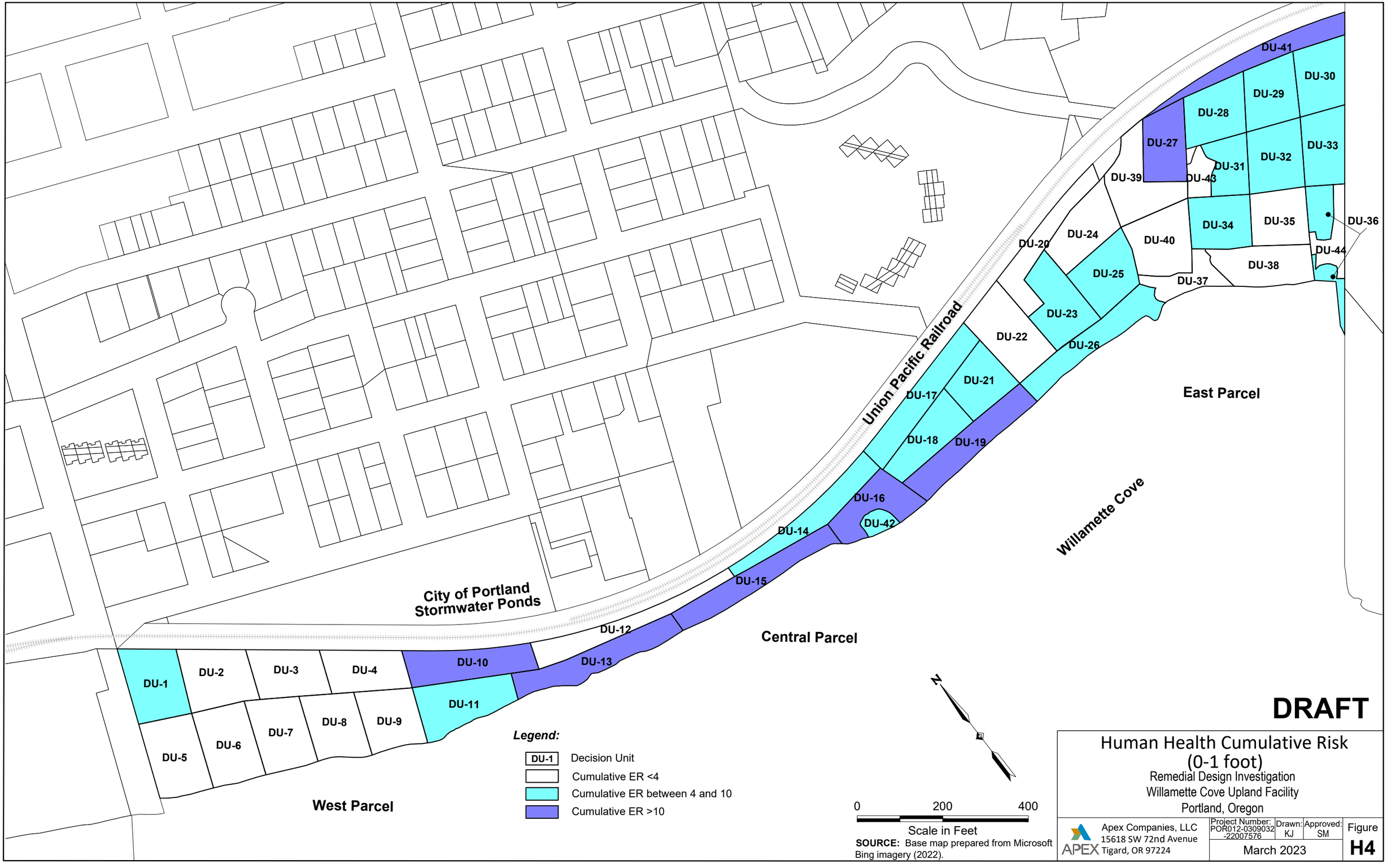
Ecological Cumulative Risk (2-3 foot)

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	H3
March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

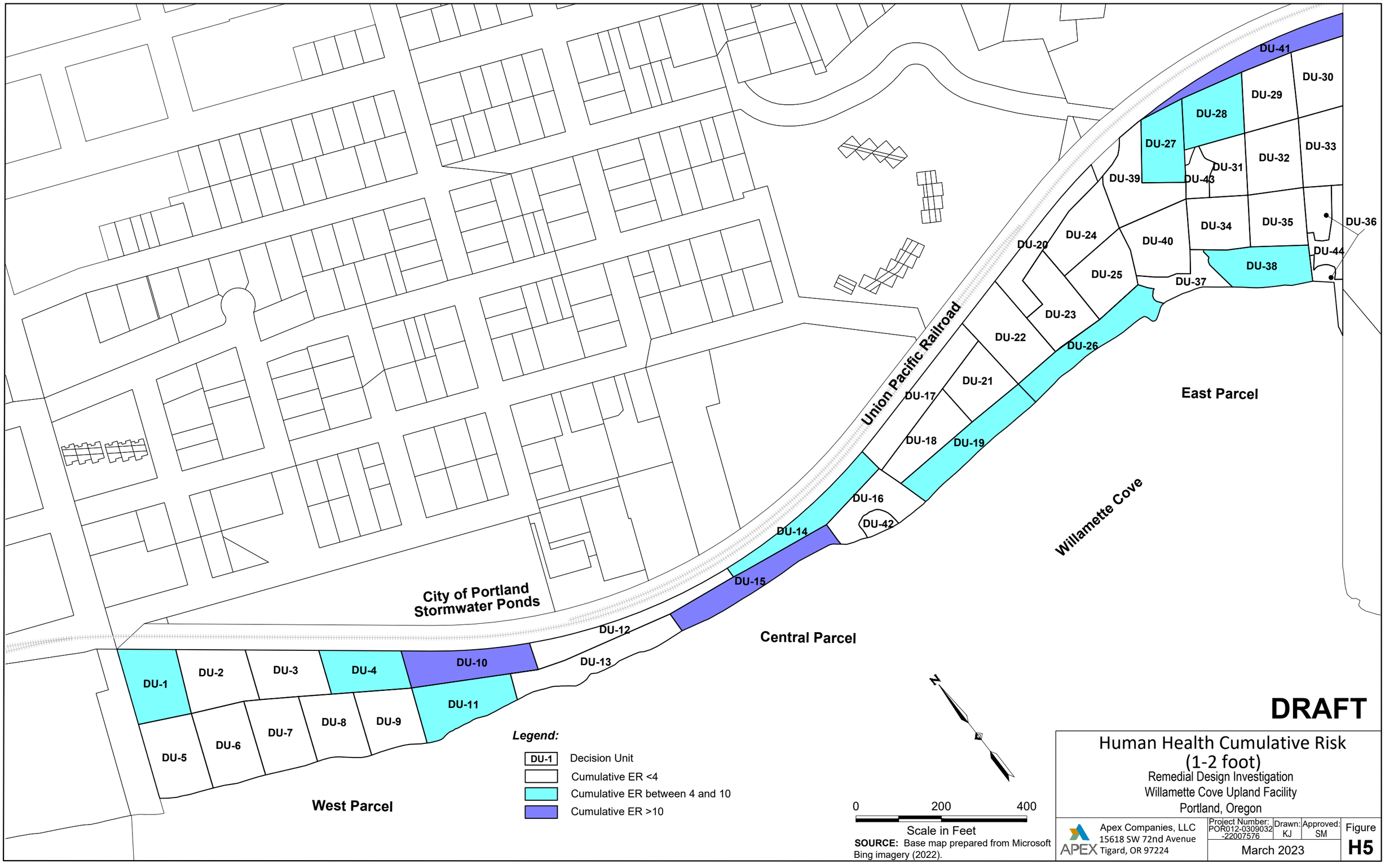
DRAFT

Human Health Cumulative Risk (0-1 foot)

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, OR 97224	Project Number: POR012-0309032 -22007576	Drawn: KJ	Approved: SM	Figure **H4**
	March 2023			

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

DRAFT

Human Health Cumulative Risk (1-2 foot)

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

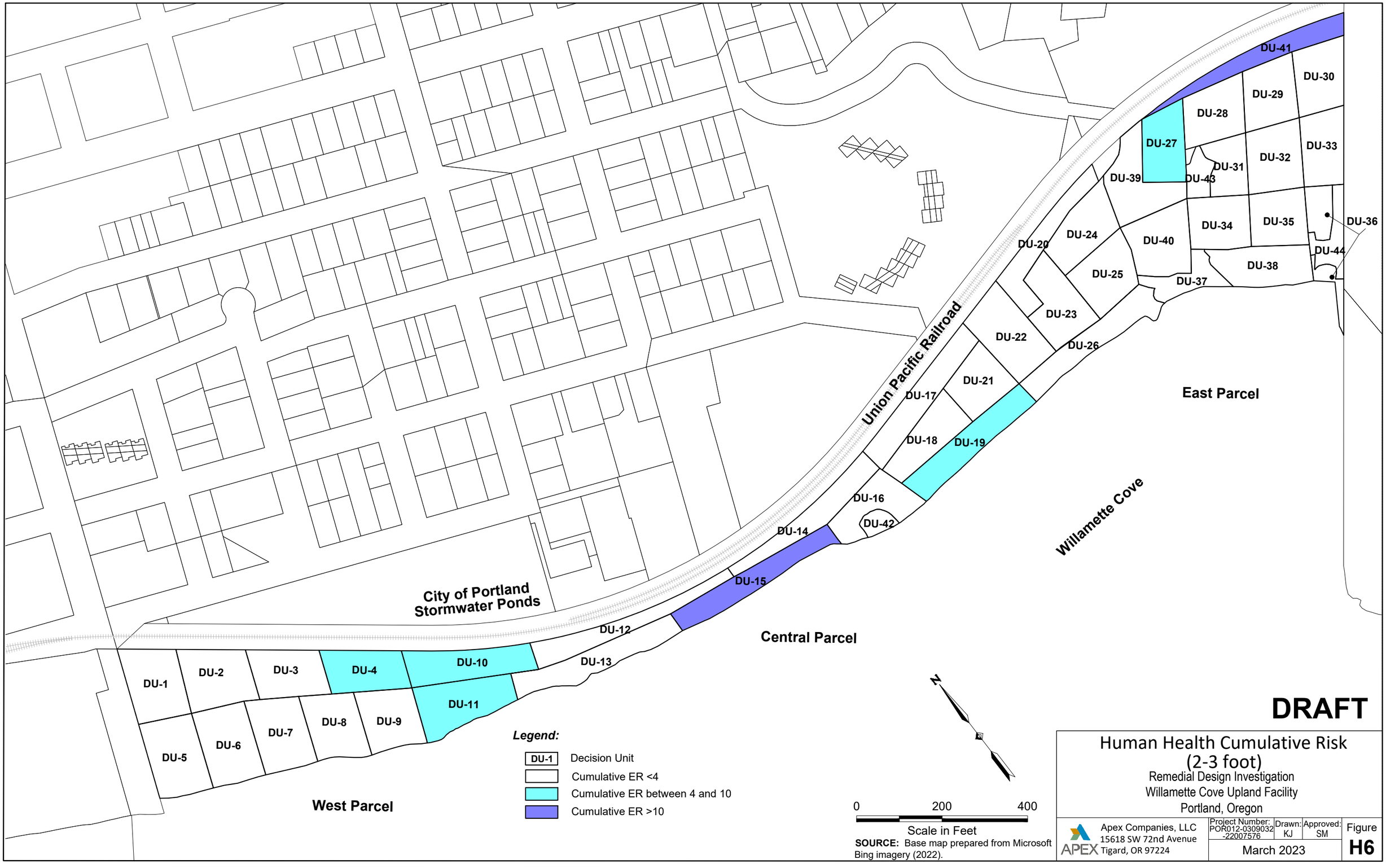
Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:
POR012-0309032 -22007576	KJ	SM

March 2023

Figure **H5**

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SOURCE: Base map prepared from Microsoft Bing imagery (2022).

DRAFT

Human Health Cumulative Risk (2-3 foot)

Remedial Design Investigation
Willamette Cove Upland Facility
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, OR 97224

Project Number:	Drawn:	Approved:	Figure
POR012-0309032 -22007576	KJ	SM	H6
March 2023			

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Appendix I

Field Replicate Data and Relative Standard Deviation Results

Table I-1
Soil Results - Metals Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B Concentrations in mg/kg Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
West	DU-5	ISM	0-1	DU-5 (0-1)A	7/22/2022	0.992 J-	8.89	52.3	344	62.1 J	0.110	31.9 J	0.369 J	191
			0-1 FR	DU-5 (0-1)B	7/22/2022	0.853	8.98	46.2	303	50.8	0.104	31.2	0.341 J	211
			0-1 FR	DU-5 (0-1)C	7/22/2022	0.944	8.43	50.6	308	57.2	0.352	32.6	0.316 J	197
					Mean Concentration	0.930 J	8.77	49.7	318	56.7 J	0.189 J	31.9 J	0.342 J	200
					RSD	6.20%	2.75%	5.17%	5.74%	8.16%	61.2%	1.79%	6.33%	4.20%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good
					Adjusted Result for DU-5 (0-1)	0.930 J	8.77	49.7	318	56.7 J	0.352	31.9 J	0.342 J	200
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-5 (1-2)A	7/25/2022	0.551	7.47	41.4	237	70.5	0.111	27.6	0.335 J	157
			1-2 FR	DU-5 (1-2)B	7/25/2022	0.832	8.09	41.2	223	51.8	0.131	29.5	0.326 J	179
			1-2 FR	DU-5 (1-2)C	7/25/2022	0.572	7.18	42.9	220	53.7	0.369	58.9	0.317 J	167
					Mean Concentration	0.652	7.58	41.8	227	58.7	0.204 J	38.7	0.326 J	168
					RSD	19.6%	5.01%	1.81%	3.27%	14.3%	57.5%	37.1%	2.25%	5.36%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Good	Very Good	Very Good
					Adjusted Result for DU-5 (1-2)	0.652	7.58	41.8	227	58.7	0.369	38.7	0.326 J	168
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-5 (2-3)A	7/26/2022	0.426 J	6.73	38.4	159	55.9	0.153	27.1	0.309 J	147
			2-3 FR	DU-5 (2-3)B	7/26/2022	0.596	6.29	36.8	144	68.1	0.107	26.2	0.300 J	224
			2-3 FR	DU-5 (2-3)C	7/26/2022	0.479 J	6.56	47.1	214	118	0.273	31.3	0.304 J	195
					Mean Concentration	0.500 J	6.53	40.8	172	80.7	0.178	28.2	0.304 J	189
					RSD	14.2%	2.78%	11.10%	17.5%	33.3%	39.4%	7.88%	1.21%	16.8%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-5 (2-3)	0.500 J	6.53	40.8	172	80.7	0.178	28.2	0.304 J	189
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Please see notes at end of table.

Table I-1
Soil Results - Metals Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B Concentrations in mg/kg Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
Central	DU-11	ISM	0-1	DU-11 (0-1)A	8/10/2022	0.545 U	4.60	23.6	38.5	53.1	0.721	29.3	0.545 U	116
			0-1 FR	DU-11 (0-1)B	8/10/2022	0.520 U	3.98	19.9	35.0	56.1	0.687	25.6	0.520 U	104
			0-1 FR	DU-11 (0-1)C	8/10/2022	0.541 U	4.14	22.2	36.7	50.6	0.726	26.5	0.541 U	110
					Mean Concentration	0.545 U	4.24	21.9	37	53.3	0.711	27.1	0.545 U	110
					RSD	Not Detected	6.20%	6.97%	3.89%	4.22%	2.4%	5.81%	Not Detected	4.45%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-11 (0-1)	0.545 U	4.24	21.9	36.7	53.3	0.711	27.1	0.545 U	110
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-11 (1-2)A	8/10/2022	0.535 U	3.93	21.4	33.0	42.8	0.504	27.0	0.535 U	90.1
			1-2 FR	DU-11 (1-2)B	8/10/2022	0.508 U	4.08	21.6	34.2	44.4	0.563	27.3	0.508 U	93.1
			1-2 FR	DU-11 (1-2)C	8/10/2022	0.520 U	4.15	22.0	37.3	49.0	0.633	28.2	0.520 U	99.5
					Mean Concentration	0.535 U	4.05	21.7	35	45.4	0.567	27.5	0.535 U	94
					RSD	Not Detected	2.26%	1.15%	5.20%	5.79%	9.30%	1.85%	Not Detected	4.16%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-11 (1-2)	0.535 U	4.05	21.7	34.8	45.4	0.567	27.5	0.535 U	94.2
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-11 (2-3)A	8/10/2022	0.526 U	4.23	22.0	32.2	41.0	0.382	26.1	0.526 U	95.0
			2-3 FR	DU-11 (2-3)B	8/10/2022	0.522 U	4.19	21.0	35.2	43.3	0.604	26.4	0.522 U	95.0
			2-3 FR	DU-11 (2-3)C	8/10/2022	0.497 U	3.90	20.2	35.1	34.5	0.590	25.8	0.497 U	86.5
					Mean Concentration	0.526 U	4.11	21.1	34	39.6	0.525	26.1	0.526 U	92
					RSD	Not Detected	3.58%	3.50%	4.07%	9.41%	19.3%	0.939%	Not Detected	4.35%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-11 (2-3)	0.526 U	4.11	21.1	34.2	39.6	0.525	26.1	0.526 U	92.2
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

Table I-1
Soil Results - Metals Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

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Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B Concentrations in mg/kg Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
Central	DU-13	ISM	0-1	DU-13 (0-1)A	8/29/2022	0.792 J	6.04	14.2	94.3	241	1.15	21.4	0.563 U	204
			0-1 FR	DU-13 (0-1)B	8/29/2022	0.562 U	5.53	14.2	60.4	180	0.895	19.6	0.562 U	155
			0-1 FR	DU-13 (0-1)C	8/29/2022	0.923 J	5.41	14.1	55.5	199	0.848	19.4	0.541 U	155
					Mean Concentration	0.759 J	5.66	14.2	70.1	207	0.964	20.1	0.563 U	171
					RSD	19.7%	4.83%	0.333%	24.6%	12.3%	13.8%	4.47%	Not Detected	13.5%
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Statistically Adjusted Result for	0.759 J	5.66	14.2	70.1	207	0.964	20.1	0.563 U	171
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-13 (1-2)A	8/30/2022	0.513 U	4.79	13.8	53.0	86.5	0.785	18.6	0.513 U	109
			1-2 FR	DU-13 (1-2)B	8/30/2022	0.520 U	4.61	13.7	43.7	92.3	0.572	18.4	0.520 U	103
			1-2 FR	DU-13 (1-2)C	8/30/2022	0.540 U	4.72	13.8	44.7	154	0.614	18.1	0.540 U	128
					Mean Concentration	0.540 U	4.71	13.8	47.1	111	0.657	18.4	0.54 U	113
					RSD	Not Detected	1.57%	0.34%	8.84%	27.53%	14.0%	1.12%	Not Detected	9.40%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-13 (1-2)	0.540 U	4.71	13.8	47.1	111	0.657	18.4	0.540 U	113
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-13 (2-3)A	8/31/2022	0.562 U	3.75	12.6	43.3	175	0.745	18.4	0.562 U	127
			2-3 FR	DU-13 (2-3)B	8/31/2022	0.522 U	3.89	12.6	40.6	92.4	0.698	17.3	0.522 U	90.6
			2-3 FR	DU-13 (2-3)C	8/31/2022	0.548 U	4.04	12.6	54.2	94.6	0.769	17.7	0.548 U	97.3
					Mean Concentration	0.562 U	3.89	12.6	46.0	121	0.737	17.8	0.562 U	105
					RSD	Not Detected	3.04%	0.00%	12.8%	31.8%	4.00%	2.55%	Not Detected	15.1%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-13 (2-3)	0.562 U	3.89	12.6	46.0	121	0.737	17.8	0.562 U	105
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
	DU-16	ISM	0-1	DU-16 (0-1)A	9/12/2022	4.29	8.31	24.8	93.4 J+	237	2.43	25.6	0.543 U	371
			0-1 FR	DU-16 (0-1)B	9/12/2022	2.31	7.56	26.6	131 J+	265	5.12	28.1	0.494 U	355
			0-1 FR	DU-16 (0-1)C	9/12/2022	3.04	7.89	17.9	127 J+	306	3.87	23.2	0.539 U	283
					Mean Concentration	3.21	7.92	23.1	117 J	269	3.81	25.6	0.543 U	336
					RSD	25.4%	3.88%	16.2%	14.4%	10.5%	28.9%	7.80%	Not Detected	11.4%
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-16 (0-1)	3.21	7.92	23.1	117 J+	269	3.81	25.6	0.543 U	336
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

Table I-1
Soil Results - Metals Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B (Concentrations in mg/kg)								
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
Central	DU-18	ISM	0-1	DU-18 (0-1)A	9/29/2022	0.874 J	6.99	22.1	71.0	198	0.965	22.5	0.531 U	146
			0-1 FR	DU-18 (0-1)B	9/29/2022	1.41	10.9	22.8	111	198	1.72	23.5	0.505 U	173
			0-1 FR	DU-18 (0-1)C	9/29/2022	1.06	8.94	20.8	87.7	280	1.20	23.3	0.499 U	204
					Mean Concentration	1.11 J	8.94	21.9	89.9	225	1.30	23.1	0.531 U	174
					RSD	19.9%	17.8%	3.78%	18.2%	17.2%	24.4%	1.87%	Not Detected	13.6%
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-18 (0-1)	1.11 J	8.94	21.9	89.9	225	1.30	23.1	0.531 U	174
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-18 (1-2)A	9/30/2022	0.491 U	5.38	14.0	58.2	179	0.806	18.3	0.491 U	156
			1-2 FR	DU-18 (1-2)B	9/30/2022	0.495 U	5.98	15.3	79.5	150	1.06	21.8	0.495 U	158
			1-2 FR	DU-18 (1-2)C	9/30/2022	0.490 U	6.22	14.3	77.7	119	0.985	18.3	0.490 U	133
					Mean Concentration	0.495 U	5.86	14.5	71.8	149	0.950	19.5	0.495 U	149
					RSD	Not Detected	6.03%	3.82%	13.4%	16.4%	11.2%	8.48%	Not Detected	7.61%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-18 (1-2)	0.495 U	5.86	14.5	71.8	149	0.950	19.5	0.495 U	149
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-18 (2-3)A	10/3/2022	0.502 U	3.77	11.9	30.8	55.4	0.296	16.6	0.502 U	94.4
			2-3 FR	DU-18 (2-3)B	10/3/2022	0.489 U	5.31	13.0	59.9	92.3	0.681	17.8	0.489 U	105
			2-3 FR	DU-18 (2-3)C	10/3/2022	0.489 U	5.63	13.9	53	75.2	0.679	18.3	0.497 J	118
					Mean Concentration	0.502 U	4.90	12.9	47.9	74.3	0.552	17.6	0.496 J	106
					RSD	Not Detected	0.166	6.32%	0.259	0.203	32.8%	4.06%	1.08%	9.12%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**
					Adjusted Result for DU-18 (2-3)	0.502 U	4.90	12.9	47.9	74.3	0.552	17.6	0.496 J	106
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Please see notes at end of table.

Table I-1
Soil Results - Metals Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B Concentrations in mg/kg Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
Central	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	2.89	6.48	19	82.3	129	0.592	21	0.53 U	167
			0-1 FR	DU-22 (0-1)B	10/13/2022	2.79	5.77	18	86.7	148	0.602	21.4	0.506 U	169
			0-1 FR	DU-22 (0-1)C	10/13/2022	2.03	5.83	19.6	96.6	190	0.43	23.2	0.538 U	178
					Mean Concentration	2.57	6.03	18.9	88.5	156	0.541	21.9	0.538 U	171
					RSD	14.9%	5.33%	3.50%	6.75%	16.37%	14.6%	4.38%	Not Detected	2.79%
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-22 (0-1)	2.57	6.03	18.9	88.5	156	0.541	21.9	0.538 U	171
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-22 (1-2)A	10/14/2022	0.922 J	4.41	17.4	31.7	47.8	0.231	21.1	0.494 U	125 J-
			1-2 FR	DU-22 (1-2)B	10/14/2022	2.63	4.33	16.1	47.4	72.3	0.349	20.8	0.512 U	109
			1-2 FR	DU-22 (1-2)C	10/14/2022	2.04	4.53	18.8	44.8	65.4	0.161	22.6	0.497 U	164
					Mean Concentration	1.864 J	4.42	17.4	41.3	61.8	0.247	21.5	0.512 U	133 J
					RSD	0.380	1.86%	6.32%	0.166	0.167	31.4%	3.66%	Not Detected	0.174
					RSD Evaluation	**Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-22 (1-2)	1.86 J	4.423	17.4	41.3	61.8	0.247	21.5	0.512 U	133 J-
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-22 (2-3)A	10/14/2022	0.731 J	4.45	17.2	29.4	51.9	0.19	20.2	0.499 U	96.5
			2-3 FR	DU-22 (2-3)B	10/14/2022	0.839 J	4.43	18	54	57.5	0.376	21.4	0.509 U	98.6
			2-3 FR	DU-22 (2-3)C	10/14/2022	1.09 J	3.92	16	32.6	43.4	0.355	20.8	0.557 U	123
					Mean Concentration	0.887 J	4.27	17.1	38.7	50.9	0.307	20.8	0.557 U	106
					RSD	0.170	5.75%	4.82%	28.24%	0.114	27.1%	2.36%	Not Detected	0.113
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-22 (2-3)	0.887 J	4.27	17.1	38.7	50.9	0.307	20.8	0.557 U	106
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

Table I-1
Soil Results - Metals Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B Concentrations in mg/kg Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
Central	DU-26	ISM	0-1	DU-26 (0-1)A	11/9/2022	3.22	9.5	18.8	152	330	1.95	20.7	0.605 J	260
			0-1 FR	DU-26 (0-1)B	11/9/2022	4.79	9.01	17.1	129	302	1.28	19.4	0.502 J	244
			0-1 FR	DU-26 (0-1)C	11/9/2022	3.61	6.81	19.1	105	292	1.53	20.4	0.522 J	235
					Mean Concentration	3.87	8.44	18.3	129	308	1.5867	20.2	0.543 J	246
					RSD	0.172	0.139	4.80%	0.149	5.22%	17.4%	2.76%	8.21%	4.20%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-26 (0-1)	3.87	8.44	18.3	129	308	1.59	20.2	0.543 J	246
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-26 (1-2)A	11/10/2022	1.4	5.16	14.7	80.7	151	0.944	18.3	0.511 U	206
			1-2 FR	DU-26 (1-2)B	11/10/2022	0.728 J	4.61	13.2	48.5	121	0.397	17.2	0.558 J	182
			1-2 FR	DU-26 (1-2)C	11/10/2022	1.06	11.6	15.5	79.8	143	1.25	19.9	0.532 U	186
					Mean Concentration	1.06 J	7.12	14.5	69.7	138	0.864	18.5	0.534 J	191
					RSD	0.258	0.445	6.59%	0.215	9.17%	40.9%	6.00%	3.60%	5.49%
					RSD Evaluation	Very Good	Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-26 (1-2)	1.06 J	7.12	14.5	69.7	138	0.864	18.5	0.534 J	191
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-26 (2-3)A	11/11/2022	0.491 U	3.92	14.6	36.1	65.2	0.258	18.1	0.491 U	112
			2-3 FR	DU-26 (2-3)B	11/11/2022	0.521 U	4.33	12.4	41.6	59.8	0.82	18.3	0.521 U	108
			2-3 FR	DU-26 (2-3)C	11/11/2022	0.529 J	4.75	13.3	39.6	76.1	0.537	17.5	0.512 U	138
					Mean Concentration	0.514 J	4.33	13.4	39.1	67.0	0.538	18.0	0.521 U	119
					RSD	3.18%	7.82%	6.72%	5.81%	10.1%	42.6%	1.89%	Not Detected	0.111
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Not Detected	Very Good
					Adjusted Result for DU-26 (2-3)	0.514 J	4.333	13.4	39.1	67.0	0.538	18.0	0.521 U	119
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

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Soil Results - Metals Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B Concentrations in mg/kg Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
East	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	1.31	3.69	13.1	27.7	30.5	0.039 J	16.5	0.486 U	109
			0-1 FR	DU-38 (0-1)B	11/14/2022	0.959 J	3.71	11.9	22.8	25.8	0.0454 J	15	0.534 U	107
			0-1 FR	DU-38 (0-1)C	11/14/2022	0.629 J	3.66	12.4	23.2	27.1	0.0431 J	16.3	0.536 U	110
					Mean Concentration	0.966 J	3.69	12.5	24.6	27.8	0.043 J	15.9	0.536 U	109
					RSD	0.288	0.557%	3.95%	9.04%	7.13%	6.2%	4.17%	Not Detected	1.15%
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-38 (0-1)	0.966 J	3.687	12.5	24.6	27.8	0.043 J	15.9	0.536 U	108.667
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-38 (1-2)A	11/16/2022	0.661 J	3.2	10.7	18.3	19.3	0.0415 U	13.7	0.519 U	84.4
			1-2 FR	DU-38 (1-2)B	11/16/2022	4.88	3.76	10.9	56	76.7	0.0407 U	15.3	0.508 U	102
			1-2 FR	DU-38 (1-2)C	11/16/2022	1.84	3.35	12.3	23	31.4	0.0411 U	16	0.514 U	94.6
					Mean Concentration	2.46 J	3.44	11.3	32.4 J	42.5 J	0.042 U	15.0	0.519 U	93.7
					RSD	0.722	6.89%	6.30%	0.517	58.2%	Not Detected	6.42%	Not Detected	7.70%
					RSD Evaluation	**Poor**	**Very Good**	**Very Good**	**Poor**	**Poor**	**Not Detected**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-38 (1-2)	4.88 J	3.437	11.3	56.0	76.7	0.042 U	15.0	0.519 U	93.7
					Statistically Adjusted Result for Associated DUs (1-2)	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-38 (2-3)A	11/17/2022	0.998	3.58	13.5	30.3	19.9	0.0396 U	17.1	0.495 U	83.3
			2-3 FR	DU-38 (2-3)B	11/17/2022	3.71	3.63	12.7	51.4	51.3	0.039 U	16.5	0.487 U	108
			2-3 FR	DU-38 (2-3)C	11/17/2022	0.921 J	4.06	13.6	26	22.1	0.0421 U	16.8	0.527 U	107
					Mean Concentration	1.88 J	3.76	13.3	35.9	31.1	0.042 U	16.8	0.527 U	99.4
					RSD	0.691	5.74%	3.04%	30.9%	0.460	Not Detected	1.46%	Not Detected	0.115
					RSD Evaluation	**Poor**	**Very Good**	**Very Good**	**Very Good**	**Good**	**Not Detected**	**Very Good**	**Not Detected**	**Very Good**
					Adjusted Result for DU-38 (2-3)	3.71 J	3.757	13.3	35.9	31.1	0.042 U	16.8	0.527 U	99.4
					Statistically Adjusted Result for Associated DUs (2-3)	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed

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Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Metals by EPA Method 6020B (Concentrations in mg/kg)								
						Antimony	Arsenic	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	0.695 J	5.65	16.9	52.5	83.8	0.0558 J	16	0.492 U	104
			0-1 FR	DU-41 (0-1)B	10/24/2022	1.68	12.2	16.8	67.5	78.4	0.0934	15.9	0.531 U	138
			0-1 FR	DU-41 (0-1)C	10/24/2022	2.81	50.1	16.3	78.6	75.4	0.262	16.5	0.491 U	139
					Mean Concentration	1.73 J	22.7 J	16.7	66.2	79.2	0.137 J	16.1	0.531 U	127
					RSD	0.500	86.5%	1.57%	0.162	4.39%	65.4%	1.63%	Not Detected	0.128
					RSD Evaluation	Good	Poor	Very Good	Very Good	Very Good	Poor	Very Good	Not Detected	Very Good
					Adjusted Result for DU-41 (0-1)	1.73 J	50.1	16.7	66.2	79.2	0.262 J	16.1	0.531 U	127
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-41 (1-2)A	10/26/2022	2.39	10.6	20.7	62	129	0.108	18.4	0.509 U	147
			1-2 FR	DU-41 (1-2)B	10/26/2022	1.4	11.1	18.1	52.4	112	0.105	17.7	0.501 U	165
			1-2 FR	DU-41 (1-2)C	10/26/2022	1.88	14.1	18.5	71.1	126	0.0878	18.3	0.514 U	157
					Mean Concentration	1.89	11.9	19.1	62	122	0.100	18.1	0.514 U	156
					RSD	0.214	0.130	5.98%	0.123	6.06%	8.9%	1.70%	Not Detected	4.71%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good
					Adjusted Result for DU-41 (1-2)	1.89	11.9	19.1	61.8	122	0.100	18.1	0.514 U	156
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-41 (2-3)A	10/28/2022	1.49	19.6	21.7	43.6	107	0.0732 J	21.1	0.505 U	161
			2-3 FR	DU-41 (2-3)B	10/28/2022	1.29	10.7	20.1	42	47.5	0.0523 J	21.3	0.505 U	160
			2-3 FR	DU-41 (2-3)C	10/28/2022	1.69	11.6	21.4	45.2	109	0.0528 J	21.7	0.511 U	182
					Mean Concentration	1.49	14.0	21.1	43.6	87.8	0.059 J	21.4	0.511 U	168
					RSD	0.110	0.286	3.30%	3.00%	0.325	16.4%	1.17%	Not Detected	6.05%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good
					Adjusted Result for DU-41 (2-3)	1.49	14.0	21.1	43.6	87.8	0.059 J	21.4	0.511 U	168
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed

Notes:

ISM = Incremental Sampling Methodology.

bgs = Below ground surface.

EPA = United States Environmental Protection Agency.

FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.

mg/kg = Milligrams per kilogram (parts per million).

Mean Concentration = Arithmetic mean calculation for the field replicates. Mean concentrations are calculated using the detection limit (DL) if the target analyte is not detected.

If all the three field replicates are not detected for the target analyte, then the maximum DL is used for the final result.

RSD = Relative Standard Deviation. RSDs are calculated using the DL if the target analyte is not detected.

RSD Evaluation = RSD ≤35% is "Very Good" precision, RSD >35% but ≤50% is "Good" precision, RSD >50% but ≤100% is "Poor" precision, RSD >100% is "Very Poor" precision.

U = Analyte was not detected.

J = Result is estimated.

Table I-2
Soil Results - Dioxins/Furans Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																										
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
West	DU-5	ISM	0-1	DU-5 (0-1)A	07/22/2022	0.561	1.75 J	1.55 U	9.28	3.95	209	1910	4.10	7.53	5.27	13.8	4.99	3.01	3.02	60.6	4.63	127	4.02	12.2	58.8	402	38.5 JN	54.5 JN	84.1	164	11.8 J
			0-1 FR	DU-5 (0-1)B	07/22/2022	0.746	2.02 J	1.17 U	8.24	4.35	258	2360	6.93	14.9	8.86	24.3	8.24	4.53	3.49	76.9	6.57	153	7.49	10.4	73.8	517	58.00 JN	80.3 JN	107	202	16.1 J
			0-1 FR	DU-5 (0-1)C	07/22/2022	0.565	2.07 J	2.74	12.5	6.70	256	2310	5.96	11.1	7.26	19.9	9.07	4.2	3.29	214	4.99	189	4.00	9.27	81.1	500	44.6 JN	72.2 JN	171	435	17.1 J
					Mean Concentration	0.624	1.95 J	1.82	10.0	5.00	241	2193	5.66	11.2	7.13	19.3	7.43	3.91	3.27	117 J	5.40	156	5.17	10.6	71.2	473	47.0 JN	69.0 JN	121	267	15.0 J
					RSD	13.8%	7.22%	36.7%	18.1%	24.3%	9.40%	9.18%	20.7%	26.9%	20.6%	22.3%	23.7%	16.7%	5.90%	58.7%	15.6%	16.3%	31.7%	11.4%	13.0%	10.7%	17.3%	15.6%	30.5%	44.9%	15.4%
					RSD Evaluation	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-5 (0-1)	0.624	1.95 J	1.82	10.0	5.00	241	2193	5.66	11.2	7.13	19.3	7.43	3.91	3.27	214	5.40	156	5.17	10.6	71.2	473	47.0 JN	69.0 JN	121	267	15.0 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-5 (1-2)A	07/25/2022	0.508	0.652 U	1.94 J	7.31	1.99 J	207	2060	5.26	10.2	7.54	17.6	6.59	4.78	2.16 J	76	5.78	154	3.89	2.89	48.4	377	72.7 JN	85.4 JN	101	202	11.7 J
			1-2 FR	DU-5 (1-2)B	07/25/2022	0.422 J	0.726 U	2.23 U	7.99	3.89	264	2630	7.10	10.8	9.02	16.6	6.21	4.50	4.38	67.1	6.59	187	3.33	5.41	55.2	515	82.9 JN	93.1 JN	99.7	214	13.2 J
			1-2 FR	DU-5 (1-2)C	07/25/2022	0.427 U	1.26 J	1.97 J	8.63	3.01	255	2460	5.28	8.81	7.08	16.5	11.0	5.14	2.84	255	6.43	240	2.82	7.02	55.4	465	50.3 JN	73.7 JN	197	525	15.3 J
					Mean Concentration	0.452 J	0.879 J	2.05 J	7.98	2.96 J	242	2383	5.88	9.94	7.88	16.9	7.93	4.81	3.13 J	133 J	6.27	194	3.35	5.11	53.0	452	68.6 JN	84.1 JN	133	314	13.4 J
					RSD	8.71%	30.8%	6.36%	6.76%	26.2%	10.3%	10.0%	14.7%	8.39%	10.5%	2.94%	27.4%	5.45%	29.7%	65.2%	5.59%	18.3%	13.1%	33.3%	6.14%	12.6%	19.8%	9.49%	34.4%	47.7%	10.9%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good
					Adjusted Result for DU-5 (1-2)	0.452 J	0.879 J	2.05 J	7.98	2.96 J	242	2383	5.88	9.94	7.88	16.9	7.93	4.81	3.13 J	255	6.27	194	3.35	5.11	53.0	452	68.6 JN	84.1 JN	133	314	13.4 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-5 (2-3)A	07/26/2022	1.28	1.57 J	1.38 J	7.87	3.99	260	2560	5.58	9.36	9.89	16.2	6.36	4.88	2.83	89.7	7.69	192	5.54	7.35	57.8	464	74.4 JN	104 JN	112	241	15.4 J
			2-3 FR	DU-5 (2-3)B	07/26/2022	0.511	1.59 U	1.91 J	6.43	3.28	246	2360	4.85	8.14	8.47	14.1	5.85	4.63	2.95	57.5	5.83	151	4.18	7.54	58.3	581	89.7 JN	92.4 JN	90.1	179	12.3 J
			2-3 FR	DU-5 (2-3)C	07/26/2022	0.535	1.49 J	1.83 J	11.5	3.9	295	3160	5.77	11.4	7.9	25.2	21.2	7.95	6.06	610	9.63	408	4.02	4.76	67.1	519	49.6 JN	89.0	392	1130	23.3 J
					Mean Concentration	0.775	1.55 J	1.71 J	8.60	3.72	267	2693	5.40	9.63	8.75	18.5	11.1 J	5.82	3.95	252 J	7.72	250	4.58	6.55	61.1	521	71.2 JN	95.1 JN	198 J	517 J	17.0 J
					RSD	46.0%	2.79%	13.7%	24.8%	8.48%	7.72%	12.6%	7.34%	14.0%	9.56%	26.0%	63.9%	25.9%	37.9%	100%	20.1%	45.0%	14.9%	19.4%	6.99%	9.17%	23.2%	6.75%	69.4%	84.1%	27.1%
					RSD Evaluation	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Good	Very Poor	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Poor	Very Good
					Adjusted Result for DU-5 (2-3)	0.775	1.55 J	1.71 J	8.60	3.72	267	2693	5.40	9.63	8.75	18.5	21.2	5.82	3.95	610	7.72	250	4.58	6.55	61.1	521	71.2 JN	95.1 JN	392	1130	17.0 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	Additional Data Review Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed
Central	DU-11	ISM	0-1	DU-11 (0-1)A	8/10/2022	0.154 U	2.95	0.824 U	15.7	7.83	164	1310	2.06	3.69	3.15	8.08	4.43	2.64	1.19 U	48.0	2.73	79.3	2.03	16.2	117	340	18.3 JN	30.5	61.6	118	10.8 J
			0-1 FR	DU-11 (0-1)B	8/10/2022	0.233 U	0.237 U	0.335 U	11.9	4.66	174	1290	1.60	2.43 J	2.50	5.47	2.36 J	1.62 J	1.12 U	41.1	2.69	65.4	2.64	3.50	97.7	347	16.4 JN	27.8	51.2	103	6.48 J
			0-1 FR	DU-11 (0-1)C	8/10/2022	0.210 U	2.70	0.800 U	19.0	8.96	301	2150	2.03	3.04	2.42 J	5.64	2.32 J	0.839 U	1.08 U	48.1	1.16 U	85.8	1.90	6.89	150	534	16.5 JN	31.4	59.9	121	11.7 J
					Mean Concentration	0.233 U	1.96 J	0.824 U	15.5	7.15	213	1583	1.90	3.05 J	2.69 J	6.40	3.04 J	1.70 J	1.19 U	45.7	2.19	76.8	2.19	8.86 J	122	407	17.1 JN	29.9	57.6	114	9.67 J
					RSD	Not Detected	62.4%	Not Detected	18.7%	25.5%	29.3%	25.3%	11.1%	16.8%	12.2%	18.6%	32.4%	43.4%	Not Detected	7.16%	33.3%	11.1%	14.7%	60.6%	17.8%	22.1%	5.12%	5.12%	7.91%	6.91%	23.7%
					RSD Evaluation	Not Detected	Poor	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-11 (0-1)	0.233 U	2.95	0.824 U	15.5	7.15	213	1583	1.90	3.05 J	2.69 J	6.40	3.04 J	1.70 J	1.19 U	45.7	2.19	76.8	2.19	16.2	122	407	17.1 JN	29.9	57.6	114	9.67 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-11 (1-2)A	8/10/2022	0.147 U	0.509 U	0.571 U	7.54	0.487 U	140	1600	1.96	3.02	2.45 J	6.30	0.672 U	0.979 U	1.28 U	36.1	1.53 U	79.1	1.68	2.38	55.7	399	12.0 JN	22.2	40.6	101	5.21 J
			1-2 FR	DU-11 (1-2)B	8/10/2022	0.189 U	0.508 U	0.651 U	5.30	1.64 J	111	987	1.62	2.63	2.01 J	5.89	2.12 J	1.37 J	0.412 U	33.0	2.07 J	74.0	1.20	0.508 U	38.4	219	9.99	21.6	36.7	91.6	4.66 J
			1-2 FR	DU-11 (1-2)C	8/10/2022	0.172 U	0.856 U	1.11 U	5.78	0.882 U	106	941	1.25	2.47 J	2.32 J	5.05	0.511 U	0.715 U	1.01 U	29.1	1.34 U	53.3	1.34	0.856 U	41.4	207	8.29	21.5	35.3	71.7	4.36 J
					Mean Concentration	0.189 U	0.856 U	1.11 U	6.21	1.00 J	119	1176	1.61	2.71 J	2.26 J	5.75	1.10 J	1.02 J	1.28 U	32.7	1.65 J	68.8	1.41	1.25 J	45.2	275	10.1 JN	21.8	37.5	88.1	4.74 J
					RSD	Not Detected	Not Detected	Not Detected	15.5%	47.7%	12.6%	25.5%	18.0%	8.53%	8.17%	9.05%	65.7%	26.3%	Not Detected	8.75%	18.78%	16.2%	14.3%	65.1%	16.7%	31.9%	15.0%	1.42%	5.97%	13.9%	7.39%
					RSD Evaluation	Not Detected	Not Detected	Not Detected	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-11 (1-2)	0.189 U	0.856 U	1.11 U	6.21	1.00 J	119	1176	1.61	2.71 J	2.26 J	5.75	2.12 J	1.02 J	1.28 U	32.7	1.65 J	68.8	1.41	2.38	45.2	275	10.1 JN	21.8	37.5	88.1	4.74 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-11 (2-3)A	8/10/2022	0.249 U	0.727 U	0.978 U	4.94	0.796 U	99.3	894	1.48	2.93	1.76 J	5.90	2.18 J	0.616 U	0.806 U	29.1	1.33 U	59.7	1.56	0.727 U	39.9	204	9.83	18.8	34.1	78	4.29 J
			2-3 FR	DU-11 (2-3)B	8/10/2022	0.238 U	0.602 U	0.919 U	5.67	0.717 U	162	1830	2.17	3.80	2.39 J	7.60	2.89	0.768 U	0.910 U	43.2	1.79 U	108	1.19	0.602 U	55.7	453	12.4	23.6	47.4	124	5.89 J
			2-3 FR	DU-11 (2-3)C	8/10/2022	0.187 U	0.679 U	0.872 U	5.07	0.746 U	107	898	1.63	2.86	1.98 J	6.12	0.814 U	1.15 U	1.44 U	32.5	1.48 U	60.1	1.27	0.679 U	43.1	211	11.0	21.0	35.9	79.5	4.34 J
					Mean Concentration	0.249 U	0.727 U	0.978 U	5.23	0.796 U	123	1207	1.76	3.20	2.04 J	6.54	1.96 J	1.15 U	1.44 U	34.9	1.79 U	75.9	1.34	0.727 U	46.2	289	11.1	21.1	39.1	93.8	4.84 J
					RSD	Not Detected	Not Detected	Not Detected	6.08%	Not Detected	22.7%	36.5%	16.8%	13.4%	12.8%	11.5%	43.9%	Not Detected	Not Detected	17.2%	Not Detected	29.9%	11.9%	Not Detected	14.8%	40.0%	9.48%	9.28%	15.1%	22.7%	15.4%
					RSD Evaluation	Not Detected	Not Detected	Not Detected	Very Good	Not Detected	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Good	Not Detected	Not Detected	Very Good	Not Detected	Very Good	Very Good	Not Detected	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-11 (2-3)	0.249 U	0.727 U	0.978 U	5.23	0.796 U	123	1207	1.76	3.20	2.04 J	6.54	1.96 J	1.15 U	1.44 U	34.9	1.79 U	75.9	1.34	0.727 U	46.2	289	11.1	21.1	39.1	93.8	4.84 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Please see notes at end of the table.

Table I-2
Soil Results - Dioxins/Furans Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																									
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
Central	DU-13	ISM	0-1	DU-13 (0-1)A	8/29/2022	3.88	117	42.2	795	434	1500	1840	2.40	4.35	12.2	10.9	12.0	15.1	5.22	501	6.93	342	68.6	702	4920	2850	151 JN	181 JN	239	839	277 J
			0-1 FR	DU-13 (0-1)B	8/29/2022	2.77	66.7	23.7	470	265	1020	1940	1.73	2.83	11.1	7.31	7.57	10.5	2.13 J	3.20	5.19	284	42.8	411	3060	1920	165 JN	159 JN	184	568	163 J
			0-1 FR	DU-13 (0-1)C	8/29/2022	3.15	79.3	31.700	566	310	1120	1620	1.99	3.63	11.3	8.77	9.64	12.7	4.37	360	5.59	287	52.5	503	3550	2120	125 JN	163 JN	211	623	196 J
					Mean Concentration	3.27	87.7	32.5	610	336	1213	1800	2.04	3.60	11.5	8.99	9.74	12.8	3.91 J	288.1 J	5.90	304	54.6	539	3843	2297	147 JN	168 JN	211	677	212 J
					RSD	14.1%	24.4%	23.3%	22.3%	21.2%	17.0%	7.43%	13.5%	17.2%	4.1%	16.4%	18.6%	14.7%	33.36%	72.7%	12.6%	8.76%	19.5%	22.5%	20.5%	17.4%	11.3%	5.71%	10.6%	17.3%	22.7%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-13 (0-1)	3.27	87.7	32.5	610	336	1213	1800	2.04	3.60	11.5	8.99	9.74	12.8	3.91 J	501	5.90	304	54.6	539	3843	2297	147 JN	168 JN	211	677	212 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-13 (1-2)A	8/30/2022	0.698	14.3	2.58	102	54.1	243	551	0.750	1.39 J	3.29	2.72	2.45 J	2.98	0.490 U	72.4	2.09 J	95.1	11.3	89.5	648	475	30.6 JN	44.9 JN	51.9	147	36.2 J
			1-2 FR	DU-13 (1-2)B	8/30/2022	0.381 U	4.38	0.778 U	20.6	11.5	98.9	463	0.185 U	1.61 U	5.27	1.76 J	2.22 J	2.89	0.442 U	27.9	0.833 U	71.6	5.46	29.3	184	183	61.7 JN	77.2 JN	48.0	71.0	11.6 J
			1-2 FR	DU-13 (1-2)C	8/30/2022	0.499	10.6	1.93 J	62.6	34.5	170	436	0.828	2.28 U	6.44	2.39 J	2.89	3.87	0.628 U	49.3	1.31 J	69.7	10.4	69.4	413	326	88.2 JN	97.0 JN	57.4	104	26.4 J
					Mean Concentration	0.526	9.76	1.76 J	61.7 J	33.4 J	171	483	0.588	1.76 J	5.00	2.29 J	2.52 J	3.25	0.628 U	49.9	1.41 J	78.8	9.05	62.7	415	328	60.2 JN	73.0 JN	52.4	107	24.7 J
					RSD	24.87%	41.9%	42.27%	53.8%	52.2%	34.5%	10.2%	48.8%	21.5%	26.0%	17.4%	11.0%	13.6%	Not Detected	36.4%	36.7%	14.7%	28.4%	39.9%	45.6%	36.3%	39.1%	29.40%	7.35%	29.0%	40.9%
					RSD Evaluation	Very Good	Good	Good	Poor	Poor	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Not Detected	Good	Good	Very Good	Very Good	Good	Good	Good	Good	Very Good	Very Good	Very Good	Good
					Adjusted Result for DU-13 (1-2)	0.526	9.76	1.76 J	102	54.1	171	483	0.588	1.76 J	5.00	2.29 J	2.52 J	3.25 J	0.628 U	49.9	1.41 J	78.8	9.05	62.7	415	328	60.2 JN	73.0 JN	52.4	107	24.7 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-13 (2-3)A	8/31/2022	0.208 U	10.9	4.23	78.9	39.3	171	467	0.106 U	1.42 U	2.09 J	0.47 U	0.437 U	2.50	0.659 U	54.1	0.616 U	74.9	6.38	67.3	519	328	20.8 JN	27.9	33.5	108	26.6 J
			2-3 FR	DU-13 (2-3)B	8/31/2022	0.363 U	4.36	0.856 U	26.5	13.4	114	509	0.163 U	1.3 U	3.45	2.02 J	2.31 J	2.70	0.319 U	34.7	0.823 U	85.6	4.10	26.7	191	204	50.8 JN	55.3 JN	40.8	91.3	12.0 J
			2-3 FR	DU-13 (2-3)C	8/31/2022	0.571	8.19	1.73 J	47.3	24.8	186	708	0.630	0.802 J	2.26 J	1.51 J	2.00 J	2.83	0.309 U	52.9	1.58 J	120	8.28	58.6	449	330	26.2 JN	36.9 JN	43.2	130	20.2 J
					Mean Concentration	0.381	7.82	2.27 J	50.9	25.8	157	561	0.300 J	1.17 J	2.60 J	1.33 J	1.58 J	2.68	0.659 U	47.2	1.01 J	93.5	6.25	50.9	386	287	32.6 JN	40.0 JN	39.2	110	19.6 J
					RSD	39.1%	34.32%	62.9%	42.32%	41.0%	19.8%	18.7%	78.3%	22.8%	23.3%	48.4%	51.8%	5.1%	Not Detected	18.8%	41.2%	20.6%	27.3%	34.3%	36.5%	20.5%	40.05%	28.48%	10.5%	14.4%	30.5%
					RSD Evaluation	Good	Very Good	Poor	Good	Good	Very Good	Very Good	Poor	Very Good	Very Good	Good	Poor	Very Good	Not Detected	Very Good	Good	Very Good	Very Good	Very Good	Good	Very Good	Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-13 (2-3)	0.381	7.82	4.23 J	50.9	25.8	157	561	0.630	1.17 J	2.60 J	1.33 J	2.31 J	2.68	0.659 U	47.2	1.01 J	93.5	6.25	50.9	386	287	32.6 JN	40.0 JN	39.2	110	19.6 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
Central	DU-16	ISM	0-1	DU-16 (0-1)A	9/12/2022	3.21	64.3	25.4	358	192	1420	7200 J	1.32	2.6	9.07	9.34	10.4	14.5	2.99	383	17.0	575	40.5	367	2360	2500	52 JN	135 JN	297	946	152 J
			0-1 FR	DU-16 (0-1)B	9/12/2022	3.62	101	29.8	635	302	1440	4810 J	1.09	2.09 J	9	8.27	9.25	12.9	2.92	440	10.0	391	48.4	574	3720	2680	50.4 JN	125	239	855	228 J
			0-1 FR	DU-16 (0-1)C	9/12/2022	3.94	102	34.1	743	286	1590	15000 J	1.6	2.8	10.4	9.12	9.56	13.8	3.24	453	12.6	462	52.9	574	3730	2930	58.2 JN	141	263	943	244 J
					Mean Concentration	3.59	89.1	29.8	579	260	1483	9003 J	1.34	2.50 J	9.49	8.91	9.74	13.7	3.05	425	13.2	476	47.3	505	3270	2703	53.5 JN	134 JN	266	915	208 J
					RSD	8.3%	19.7%	11.9%	28.0%	18.7%	5.1%	48.3%	15.6%	12.0%	6.79%	5.18%	4.99%	4.77%	4.50%	7.15%	21.9%	15.9%	10.8%	19.3%	19.7%	6.5%	6.28%	4.94%	8.93%	4.61%	19.3%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-16 (0-1)	3.59	89.1	29.8	579	260	1483	9003 J	1.34	2.50 J	9.49	8.91	9.74	13.7	3.05	425	13.2	476	47.3	505	3270	2703	53.5 JN	134 JN	266	915	208 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
Central	DU-18	ISM	0-1	DU-18 (0-1)A	9/29/2022	1.05	21.5	8.89	152	84.6	576	2700	1.02	1.42 J	12.6	4.48	6.01	9.50	2.25 J	126	5.65	242	15.1	119	864	994	300 JN	273 JN	152	312	61.2 J
			0-1 FR	DU-18 (0-1)B	9/29/2022	0.708	13.8	6.11	96.5	54.4	642	4490 J	2.39	2.25 J	68.3	7.99	19.3	29.2	4.56	165	10.0	505	12.9	88.80	586	1120	1010 JN	1300 JN	473	521	66.8 J
			0-1 FR	DU-18 (0-1)C	9/29/2022	0.735	13.6	6.09	86.2	47.2	479	3030	0.39 U	1.59 J	20.2	7.63	12.2	11.8	3.72	116	6.91	323	11.70	84.2	518	840	1040	608	198	333	45.0 J
					Mean Concentration	0.831	16.3	7.03	112	62.1	566	3407 J	1.27 J	1.75 J	33.7 J	6.70	12.5	16.8 J	3.51 J	136	7.52	356.7	13.23	97.33	656	985	783 JN	727 JN	274 J	389	57.7 J
					RSD	18.7%	22.6%	18.7%	25.9%	26.1%	11.8%	22.8%	65.9%	20.4%	73.2%	23.5%	43.4%	52.2%	27.2%	15.6%	24.3%	30.8%	10.6%	15.9%	22.8%	11.6%	43.7%	58.8%	51.7%	24.2%	16.0%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Poor	Very Good	Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Poor	Poor	Very Good	Very Good
					Adjusted Result for DU-18 (0-1)	0.831	16.3	7.03	112	62.1	566	3407 J	2.39	1.75 J	68.3	6.70	12.5	29.2	3.51 J	136	7.52	356.7	13.23	97.3	656	985	783 JN	1300 JN	473	389	57.7 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed
			1-2	DU-18 (1-2)A	9/30/2022	0.399 J	6.49	3.34	41	22.7	250	1,530	0.854	0.918 J	9.37	3.18	4.37	5.33	1.31 J	59.6	2.38 J	178	7.07	39.0	254	445	164 JN	176 JN	99.5	175	21.6 J
			1-2 FR	DU-18 (1-2)B	9/30/2022	0.453	3.03	1.69 J	18	8.82	170	1,270	2.04	1.20 J	21.6	2.19 J	5.17	8.27	1.54 J	44.8	3.12	179	2.99	19.7	116	290	329 JN	370 JN	130	158	17.4 J
			1-2 FR	DU-18 (1-2)C	9/30/2022	0.250 U	3.03	0.337 U	15.8	10	177	1,280	0.264 U	1.59 U	5.61	1.80 J	2.61	3.68	0.509 U	41.5	2.39 J	167	1.54	18.2	112	310	102	98.6	56.7	139	10.9 J
					Mean Concentration	0.367 J	4.18	1.79 J	24.9	13.8	199	1,360	1.05 J	1.24 J	12.2 J	2.39 J	4.05	5.76	1.12 J	48.6	2.63 J	175	3.87 J	25.6	161	348	198 JN	215 JN	95.4	157	16.6 J
					RSD	23.4%	39.0%	68.6%	45.7%	45.4%	18.2%	8.8%	70.2%	22.3%	56.0%	24.3%	26.4%	33.0%	39.5%	16.2%	13.2%	3.1%	60.5%	36.9%	41.1%	19.8%	48.3%	53.1%	31.51%	9.3%	26.3%
					RSD Evaluation	Very Good	Good	Poor	Good	Good	Very Good	Very Good	Poor	Very Good	Poor	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Poor	Good	Good	Very Good	Good	Poor	Very Good	Very Good	Very Good
					Adjusted Result for DU-18 (1-2)	0.367 J	4.18	3.34 J	25	13.8	199	1,360	2.04	1.24 J	21.6	2.39 J	4.05	5.76	1.12 J	48.6	2.63 J	175	7.07	25.6	161	348	198 JN	370 JN	95.4	157	16.6 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-18 (2-3)A	10/3/2022	0.277 U	4.47	1.74 J	22.9	13.5	106	628	0.231 U	1.37 U	2.95	1.29 J	1.98 J	1.87 J	0.281 U	26.9	1.01 J	65.9	0.773	25.7	163	191	68.3 JN	57.5 JN	38.1	67.7	11.4 J
			2-3 FR	DU-18 (2-3)B	10/3/2022	0.320	4.17	1.67 J	24.4	13.4	162	1,000	0.19 U	0.521 U	4.86	1.24 J	2.40 J	2.96	0.241 U	37.2	1.95 J	140	2.90	26.3	159	286	127 JN	103 JN	55.3	118	12.9 J
			2-3 FR	DU-18 (2-3)C	10/3/2022	0.169 U	2.79	1.67 J	15.8	9.57	116	740	0.385	0.765 U	4.14	1.49 J	2.59	2.38 J	0.272 U	27.5	1.24 J	96.1	1.39	18.8	111	208	172 JN	110.0 JN	47.0	84.6	9.2 J
					Mean Concentration	0.255	3.81	1.69 J	21.0	12.2	128	789	0.269	1.37 U	3.98	1.34 J	2.32 J	2.40 J	0.281 U	30.5	1.40 J	101	1.69 J	23.6	144	228	122 JN	90.2 JN	46.8	90.1	11.2 J
					RSD	24.9%	19.20%	1.9%	17.83%	15.0%	19.1%	19.7%	30.9%	Not Detected	19.8%	8.06%	11.0%	18.5%	Not Detected	15.5%	28.6%	30.2%	52.9%	14.4%	16.4%	18.1%	34.7%	25.8%	15.0%	23.2%	13.602%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-18 (2-3)	0.255	3.81	1.69 J	21.0	12.2	128	789	0.269	1.37 U	3.98	1.34 J	2.32 J	2.40 J	0.281 U	30.5	1.40 J	101	2.90	23.6	144	228	122 JN	90.2 JN	46.8	90.1	11.2 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Table I-2
Soil Results - Dioxins/Furans Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																								
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
Central	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	0.846	9.71	5.58	63.1	31.5	438	2,810	1.26	1.88 J	12.5	4.09	3.68	8.59	2.24	79.1	3.27	209	6.11	59.0	390	776	164 J	201	141	223	32.5 J
			0-1 FR	DU-22 (0-1)B	10/13/2022	0.464 J	4.68	3.91	42.0	17.3	543	3,940	1.00	1.72 J	12.3	4.57	5.28	8.08	2.24 J	77.3	3.66	213	4.83	28.8	213	915	177	203	153	232	24.8 J
			0-1 FR	DU-22 (0-1)C	10/13/2022	0.525	9.02	4.890	44.6	22.8	482	3,150	1.76	2.54	14.2	5.09	5.96	10.5	2.23 J	79.5	3.44	174	7.22	42.7	285	929	188	235	156	202	30.3 J
					Mean Concentration	0.612 J	7.80	4.79	50	23.9	488	3,300	1.34	2.05 J	13.0	4.58	4.97	9.06	2.24 J	78.6	3.46	199	6.05	43.5	296	873	176 J	213	150	219	29.2 J
					RSD	27.4%	28.5%	14.3%	18.8%	24.5%	8.8%	14.3%	23.6%	17.3%	6.56%	8.91%	19.22%	11.50%	0.21%	1.22%	4.62%	8.8%	16.1%	28.4%	24.6%	7.91%	5.56%	7.31%	4.32%	5.74%	11.1%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-22 (0-1)	0.612 J	7.80	4.79	49.9	23.9	488	3,300	1.34	2.05 J	13.0	4.58	4.97	9.06	2.24 J	78.6	3.46	199	6.05	43.5	296	873	176 J	213	150	219	29.2 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-22 (1-2)A	10/14/2022	0.234 U	1.41	0.342 U	6.02	3.06	57.7	382	0.451 U	1.05 U	3.06	0.187 U	0.165 U	1.84	0.191 U	23.2	0.74 U	45.2	0.817	4.79	39.5	102	60.3	53.4	37.3	69.6	4.6
			1-2 FR	DU-22 (1-2)B	10/14/2022	0.196 U	2.25	2.21	27.4	5.92	300	2,130	0.492	2.29 U	4.73	2.72	2.36	3.24	0.212 U	36.2	1.92	97.0	0.960	8.80	105	507	43.0	70.3	78.3	115	12.3
			1-2 FR	DU-22 (1-2)C	10/14/2022	0.201 U	1.55	1.54	11.0	3.68	186	1,270	0.461	1.97 U	3.29	1.94	1.65	2.79	0.196 U	22.1	0.810 U	54.4	0.432	5.57	54.6	313	46.8	54.0	48.8	64.5	7.5
					Mean Concentration	0.234 U	1.74	1.36 J	14.8 J	4.22	181 J	1,261 J	0.468	2.29 U	3.69	1.62 J	1.39 J	2.62	0.212 U	27.2	1.16	65.5	0.736	6.39	66.4	307 J	50.0	59.2	54.8	83.0	8.1
					RSD	Not Detected	21.2%	56.65%	61.7%	29.1%	54.6%	56.6%	3.7%	Not Detected	20.0%	65.6%	65.7%	22.2%	Not Detected	23.6%	46.7%	34.4%	30.3%	27.2%	42.2%	53.8%	14.8%	13.2%	31.5%	27.3%	39.4%
					RSD Evaluation	Not Detected	Very Good	Poor	Poor	Very Good	Poor	Poor	Very Good	Not Detected	Very Good	Poor	Poor	Very Good	Not Detected	Very Good	Good	Very Good	Very Good	Very Good	Good	Poor	Very Good	Very Good	Very Good	Very Good	Good
					Adjusted Result for DU-22 (1-2)	0.234	1.74	2.21	27.4	4.22	300	2,130	0.468	2.29 U	3.69	2.72	2.36	2.62	0.212 U	27.2	1.16	65.5	0.736	6.39	66.4	507	50.0	59.2	54.8	83.0	8.1
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-22 (2-3)A	10/14/2022	0.217 U	1.31 U	0.367 U	9.52	3.99	77.4	475	0.494 U	0.339 U	2.83	0.571 U	0.496 U	1.75	0.705 U	14.4	1.51 U	37.5	0.217 U	1.95	55.8	132	38.5	47.3	25.5	37.0	4.4
			2-3 FR	DU-22 (2-3)B	10/14/2022	0.247 U	1.07 U	0.527 U	8.95	3.56	228	1,900	0.42 U	0.389 U	6.26	1.53	2.46	4.04	0.886 U	31.7	2.42	164	0.247 U	1.48	48.1	403	73.1	98.1	70.1	124	7.9
			2-3 FR	DU-22 (2-3)C	10/14/2022	0.266 U	1.19 U	0.411 U	7.44	3.75	102	727	0.445 U	0.273 U	3.47	0.489 U	1.72	2.22	0.582 U	15.3	1.02 U	44.9	0.266 U	1.19 U	44.5	177	61.8	68.6	36.1	49.1	4.8
					Mean Concentration	0.266 U	1.31 U	0.527 U	8.64	3.77	136	1,034 J	0.494 U	0.389 U	4.19	0.863 J	1.56 J	2.67	0.886 U	20.5	1.65	82.1 J	0.266 U	1.54	49.5	237	57.8	71.3	43.9	70.0 J	5.7
					RSD	Not Detected	Not Detected	Not Detected	10.16%	4.7%	48.6%	60.1%	Not Detected	Not Detected	35.6%	54.7%	52.0%	37.0%	Not Detected	38.9%	35.2%	70.6%	Not Detected	20.3%	9.5%	50.0%	24.9%	29.2%	43.3%	54.9%	28.0%
					RSD Evaluation	Not Detected	Not Detected	Not Detected	Very Good	Very Good	Good	Poor	Not Detected	Not Detected	Good	Poor	Poor	Good	Not Detected	Good	Good	Poor	Not Detected	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Good	Poor	Very Good
					Adjusted Result for DU-22 (2-3)	0.266	1.31 U	0.527 U	8.64	3.77	136	1,900	0.494 U	0.389 U	4.19	1.53	2.46	2.67	0.886 U	20.5	1.65	164	0.266 U	1.54	49.5	237	57.8	71.3	43.9	124	5.7
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed
Central	DU-26	ISM	0-1	DU-26 (0-1)A	11/9/2022	1.68	18.2	19.9	147	57.2	2,040 J	14,300 J	5.95	10.9	43.8	23.4	23.2	37.0	10.5	251	15.5	470	39.3	118	742	3,530	558	698	590	653	93.3 J
			0-1 FR	DU-26 (0-1)B	11/9/2022	1.79	16.7	17.8	89.9	44.0	1,200	7,390 J	6.73	12.7	43.4	33.0	31.6	45.4	13.1	232	19.9	321	42.9	149	596	2,170	593	710	512	511	76.9 J
			0-1 FR	DU-26 (0-1)C	11/9/2022	1.87	16.8	17.6	102	45.8	1,460	9,510 J	6.26	10.9	43.9	28.6	28.8	41.4	12.3	243	18.5	363	38.2	141	585	2,520	649	736	536	579	80.6 J
					Mean Concentration	1.78	17.2	18.4	113	49.0	1,567 J	10,400 J	6.31	11.5	43.7	28.3	27.9	41.3	12.0	242	18.0	385	40.1	136	641	2,740	600	715	546	581	84 J
					RSD	4.38%	3.97%	5.6%	21.7%	11.9%	22.4%	27.8%	5.08%	7.38%	0.494%	13.8%	12.5%	8.31%	9.09%	3.22%	10.2%	16.3%	5.00%	9.66%	11.2%	21.0%	6.25%	2.22%	5.97%	9.98%	8.4%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-26 (0-1)	1.78	17.2	18.4	113	49.0	1,567 J	10,400 J	6.31	11.5	43.7	28.3	27.9	41.3	12.0	242	18.0	385	40.1	136	641	2,740	600	715	546	581	84
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-26 (1-2)A	11/10/2022	0.875	9.88	11.9	53.2	25.8	830	5,470 J	3.25	5.24	20.7	11.2	13.1	18.6	4.71	128	10.4	359	15.6	71.5	323	1,410	253	334	266	373	42.7 J
			1-2 FR	DU-26 (1-2)B	11/10/2022	0.742	5.38	6.98	30.7	13.5	451	2,970	2.83	5.22	15.3	16.0	13.0	17.2	6.14	108	10.3	162	16.3	56.6	202	806	160	224	208	245	28.1
			1-2 FR	DU-26 (1-2)C	11/10/2022	0.764	5.06	6.12	30.2	15.3	446	3,160	1.89	3.31	12.5	8.86	8.85	13.0	3.48	85.1	6.42	207	12.0	45.0	196	824	172	205	160	228	24.8
					Mean Concentration	0.794	6.77	8.33	38.0	18.2	576	3,867 J	2.66	4.59	16.2	12.0	11.7	16.3	4.78	107	9.04	243	14.6	57.7	240	1,013	195	254	211	282	31.9 J
					RSD	7.33%	32.5%	30.6%	28.2%	29.8%	31.2%	29.4%	21.4%	19.7%	21.1%	24.7%	17.0%	14.6%	22.8%	16.4%	20.5%	34.7%	12.9%	18.8%	24.3%	27.7%	21.2%	22.4%	20.5%	23.0%	24.4%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-26 (1-2)	0.794	6.77	8.33	38.0	18.2	576	3,867 J	2.66	4.59	16.2	12.0	11.7	16.3	4.78	107	9.04 J	243	14.6	57.7	240	1,013	195	254	211	282	31.9
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-26 (2-3)A	11/11/2022	0.387	3.20	3.66	18.8	8.94	281	2,130	0.85	1.55 J	6.23	4.13	3.74	6.53	1.47 J	46.6	3.41	112	6.76	24.8	116	497	54.1	85.4	84.3	127	14.3 J
			2-3 FR	DU-26 (2-3)B	11/11/2022	0.402 J	2.87	4.42	30.9	10.1	646	4,850 J	1.00	3.86	10.6	14.6	5.93	8.12	6.24	89.8	7.63	116	3.12	19.6	132	1,050	74.9	122	204	2,160	23.6 J
			2-3 FR	DU-26 (2-3)C	11/11/2022	0.433 J	2.84	2.87	14.3	6.21	174	1,140	1.18	1.49 J	7.41	3.81	4.03	5.78	1.50 J	31.0	2.46	62.7	4.11	18.8	85.4	305	97.0	116	77.1	80.2	11.9 J
					Mean Concentration	0.407 J	2.97	3.65	21.3	8.42	367 J	2,707 J	1.01	2.30 J	8.08	7.51 J	4.57	6.81	3.07 J	55.8	4.50	96.9	4.66	21.1	111	617 J	75.3	108	122	789 J	16.6
					RSD	4.70%	5.49%	17.3%	32.9%	19.4%	55.1%	58.0%	13.4%	48.0%	22.8%	66.7%	21.3%	14.3%	73.0%	44.6%	49.9%	25.0%	33.0%	12.6%	17.4%	51.2%	23.25%	14.9%	47.8%	123%	30.3%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Poor	Very Good	Good	Very Good	Poor	Very Good	Very Good	Poor	Good	Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Good	Very Poor	Very Good
					Adjusted Result for DU-26 (2-3)	0.407 J	2.97	3.65	21.3	8.42	646	4,850 J	1.01	2.30 J	8.08	14.6	4.57	6.81	6.24 J	55.8	4.50	96.9	4.66	21.1	111	1,050	75.3	108	122	2,160	16.6
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed

Please see notes at end of the table.

Table I-2
Soil Results - Dioxins/Furans Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	Dioxins/Furans by EPA Method 1613B Concentrations in pg/g																											
						2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total D/F TEQ (Mammal)
East	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	0.243 U	5.05	5.91	46.9	16.1	836	5,470 J	2.74	3.31	6.19	7.78	5.56	7.17	4.07	81.6	4.52	115	3.50	22.1	193	1,350	45.5	74.3	174	241	27.6 J
			0-1 FR	DU-38 (0-1)B	11/14/2022	0.451 J	4.31	6.37	46.4	15.2	876	5,530 J	3.64	4.29	6.72	7.77	5.27	7.21	4.71	88.5	4.92	113	6.48	26.9	204	1,420	44.5	76.1	179	245	27.9 J
			0-1 FR	DU-38 (0-1)C	11/14/2022	0.664	5.52	7.250	45.5	17.1	881	5,830 J	3.31	3.56	5.63	7.57	5.86	7.98	4.44	87.1	5.53	149	9.91	38.2	223	1,430	46.3	72.9	176	250	29.4 J
					Mean Concentration	0.453 J	4.96	6.51	46.3	16.1	864	5,610 J	3.23	3.72	6.18	7.71	5.56	7.45	4.41	85.7	4.99	126	6.63	29.1	207	1,400	45.4	74.4	176	245	28 J
					RSD	38.0%	10.0%	8.5%	1.3%	4.8%	2.3%	2.8%	11.5%	11.2%	7.20%	1.26%	4.33%	5.00%	5.95%	3.47%	8.32%	13.1%	39.5%	23.2%	6.00%	2.5%	1.62%	1.76%	1.17%	1.50%	2.7%
					RSD Evaluation	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-38 (0-1)	0.453 J	4.96	6.51	46.3	16.1	864	5,610 J	3.23	3.72	6.18	7.71	5.56	7.45	4.41	85.7	4.99	126	6.63	29.1	207	1,400	45.4	74.4	176	245	28	
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	
			1-2	DU-38 (1-2)A	11/16/2022	0.259 U	2.87	3.78	24.7	7.88	488	3,210	2.41	2.02 J	3.56	4.45	3.28	3.97	2.78	51.1	3.45	71.1	1.84	16.5	116	797	44.0	49.3	99.5	140	15.9 J
			1-2 FR	DU-38 (1-2)B	11/16/2022	0.300 U	1.65 J	2.47 J	13.3	4.59	252	1,700	7.39	2.63	3.38	2.91	1.99 J	2.66	1.35 J	26.9	1.87 J	41.5	2.38	10.3	66.9	411	59.9	37.6	53.2	72.6	9.9 J
			1-2 FR	DU-38 (1-2)C	11/16/2022	0.421	3.52	4.66	27.7	8.85	557	3,650	3.08	2.48 J	4.85	6.29	3.85	4.82	3.21	58.8	3.31	88.4	6.31	16.6	128	906	39.9	55.3	118	162	19.0 J
					Mean Concentration	0.327	2.68 J	3.64 J	21.9	7.11	432	2,853	4.29 J	2.38 J	3.93	4.55	3.04 J	3.82	2.45 J	45.6	2.88 J	67.0	3.51 J	14.5	104	705	47.9	47.4	90.2	125	14.9 J
					RSD	21.05%	28.9%	24.7%	28.3%	25.7%	30.2%	29.3%	51.4%	10.9%	16.7%	30.4%	25.6%	23.3%	32.5%	29.8%	24.8%	28.9%	56.8%	20.4%	25.5%	30.1%	18.0%	15.5%	30.20%	30.5%	25.39%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-38 (1-2)	0.327	2.68	3.64 J	21.9	7.11	432	2,853	7.39	2.38 J	3.93	4.55	3.04 J	3.82	2.45 J	45.6	2.88 J	67.0	6.31	14.5	104	705	47.9	47.4	90.2	125	14.9	
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	
			2-3	DU-38 (2-3)A	11/17/2022	0.224 U	1.48 J	2.20 J	12.8	4.76	270	1,870	2.42	1.69 J	2.49	2.67	2.04 J	2.36 J	1.23 J	27.9	1.91 J	49.6	1.17	3.43	60.5	444	23.1	27.4	56.1	81.4	9.0 J
			2-3 FR	DU-38 (2-3)B	11/17/2022	0.306 U	1.77 J	1.76 J	9.70	3.09	218	1,450	4.30	1.89 J	2.60	2.38 J	1.19 J	2.24 J	0.656 U	22.3	1.34 J	34.1	2.27	7.54	54.7	359	33.2	23.6	41.5	60.9	8.1 J
			2-3 FR	DU-38 (2-3)C	11/17/2022	0.286 J	1.97 J	2.76	14.9	6.76	312	1,970	2.10	1.36 J	2.18 J	2.78	1.75 J	2.62	1.44 J	28.8	1.46 J	51.9	3.31	15.6	90.5	535	25.3	27.0	52.7	80.2	10.5 J
					Mean Concentration	0.272 J	1.74 J	2.24 J	12.5	4.87	267	1,763	2.94	1.65 J	2.42 J	2.61 J	1.66 J	2.41 J	1.11 J	26.3	1.57 J	45.2	2.25	8.86 J	68.6	446	27.2	26.0	50.1	74.2	9.2 J
					RSD	12.8%	11.6%	18.3%	17.1%	30.8%	14.4%	12.8%	33.0%	13.3%	7.34%	6.46%	21.3%	6.59%	29.9%	10.9%	15.6%	17.5%	38.8%	57.1%	22.9%	16.1%	15.9%	6.56%	12.5%	12.7%	10.6%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Poor	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-38 (2-3)	0.272 J	1.74 J	2.24 J	12.5	4.87	267	1,763	2.94	1.65 J	2.42 J	2.61 J	1.66 J	2.41	1.11 U	26.3	1.57 J	45.2	2.25	15.6	68.6	446	27.2	26.0	50.1	74.2	9.2	
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	
Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	2.75	44.9	81.2	421	175	8,440 J	51,100 J	4.13	16.8	43.8	59.1	40.9	59.6	23.8	642	39.1	858	23.1	169	2,080	15,200	190	732	1,250	1,830	254.6 J
			0-1 FR	DU-41 (0-1)B	10/24/2022	2.36	33.4	56.8	315	123	6,450 J	40,400 J	4.47	14.2	40.3	46.9	28.5	51.4	20.6	546	35.3	849	22.7	138	1,510	11,800	208	643	1,080	1,530	195.6 J
			0-1 FR	DU-41 (0-1)C	10/24/2022	2.47	35.6	63.1	342	140	7,200	43,900	3.79	14.9	35.3	50.2	33.4	54.6	21.3	573	35.3	828	22.8	146	1,690	13,200	195	618	1,190	1,640	211.4
					Mean Concentration	2.53	38.0	67.0	359	146	7,363 J	45,133 J	4.130	15.30	39.8	52.1	34.3	55.2	21.9	587	36.6	845	22.9	151	1,760	13,400	198	664	1,173	1,667	221 J
					RSD	6.5%	13.1%	15.4%	12.5%	14.8%	11.1%	9.87%	6.7%	7.2%	8.76%	9.90%	14.88%	6.11%	6.27%	6.89%	4.90%	1.49%	0.743%	8.70%	13.5%	10.4%	3.84%	7.36%	6.00%	7.44%	11.3%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-41 (0-1)	2.53	38.0	67.0	359	146	7,363	45,133 J	4.13	15.3	39.8	52.1	34.3	55.2	21.9	587	36.6	845	22.9	151	1,760	13,400	198	664	1,173	1,667	221	
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	
			1-2	DU-41 (1-2)A	10/26/2022	2.09	39.2	71.2	390	161	7,780 J	43,600 J	3.44	14.6	50.4	53.7	40.1	58.2	20.4	627	39.1	946	21.1	162	1,790	13,100	417	942	1,390	1,730	234.5 J
			1-2 FR	DU-41 (1-2)B	10/26/2022	1.73	33.2	59	316	125	6,570 J	37,900 J	3.55	13.4	44.7	43.6	32.7	49.9	19.0	569	33.6	849	20.0	127	1,570	11,600	374	860	1,210	1,580	197.0 J
			1-2 FR	DU-41 (1-2)C	10/26/2022	2.66	42.5	72.1	413	166	7,870 J	43,500 J	3.94	15.9	49	53.5	36.7	59.2	24.2	630	34.4	770	23.90	164	1,900	13,100	334	833	1,350	1,670	241.8 J
					Mean Concentration	2.16	38.3	67.4	373	151	7,407 J	41,667 J	3.64	14.6	48.0	50.3	36.5	55.8	21.2	609	35.7	855	21.7	151	1,753	12,600	375	878	1,317	1,660	224.4 J
					RSD	17.7%	10.1%	8.86%	11.1%	12.1%	8.00%	6.39%	5.89%	6.98%	5.05%	9.38%	8.29%	7.47%	10.4%	4.61%	6.80%	8.4%	7.6%	11.3%	7.82%	5.61%	9.04%	5.28%	5.86%	3.71%	8.8%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-41 (1-2)	2.16	38.3	67.4	373	151	7,407	41,667 J	3.64	14.6	48.0	50.3	36.5	55.8	21.2	609	35.7	855	21.7	151	1,753	12,600	375	878	1,317	1,660	224.4	
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	
			2-3	DU-41 (2-3)A	10/28/2022	1.33	26.2	49.4	276	98.4	4,960 J	29,300 J	2.52	10.4	32.9	31.5	26.5	39.6	14.8	416	24.5	660	12.0	100	1,130	8,280	252	600	857	1,180	154.6 J
			2-3 FR	DU-41 (2-3)B	10/28/2022	1.11	16.8	32.1	187	68.4	3,390 J	21,600 J	1.80	7.44	22.2	26.7	19.0	26.9	12.1	305	19.5	598	9.68	66.2	764	5,720	158	390	625	928	106.0 J
			2-3 FR	DU-41 (2-3)C	10/28/2022	1.23	22.6	42.0	235	85.0	4,350 J	27,100 J	2.57	9.55	26.9	32.1	21.7	34.3	14.3	375	23.3	563	11.4	88.5	979	7,330	205	484	785	1,050	134.7 J
					Mean Concentration	1.22	21.9	41.2	233	83.9	4,233 J	26,000 J	2.30	9.13	27.3	30.1	22.4	33.6	13.7	365	22.4	607	11.0	84.9	958	7,110	205	491	756	1,053	131.7 J
					RSD	7.35%	17.7%	17.2%	15.6%	14.6%	15.3%	12.5%	15.3%	13.6%	16.0%	8.03%	13.8%	15.5%	8.54%	12.5%	9.50%	6.61%	8.92%	16.5%	15.7%	14.9%	18.7%	17.5%	12.8%	9.77%	15.1%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-41 (2-3)	1.22	21.9	41.2	233	83.9	4,233 J	26,000 J	2.30	9.13	27.3	30.1	22.4	33.6	13.7	365	22.4	607	11.0	84.9	958	7,110	205	491	756	1,053	131.7 J	
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
EPA = United States Environmental Protection Agency.
FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.
pg/g = Picograms per gram (parts per trillion).
Total D/F TEQ = Total 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent
Mean Concentration = Arithmetic mean calculation for the field replicates. Mean concentrations are calculated using the detection limit (DL) if the target analyte is not detected. If all the three field replicates are not detected for the target analyte, then the maximum DL is used for the final result.
RSD = Relative Standard Deviation. RSDs are calculated using the DL if the target analyte is not detected.
RSD Evaluation = RSD ≤35% is "Very Good" precision, RSD >35% but ≤50% is "Good" precision, RSD >50% but ≤100% is "Poor" precision, RSD >100% is "Very Poor" precision.
U = Analyte was not detected.
J = Result is estimated.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A (Concentrations in µg/kg)									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
West	DU-5	ISM	0-1	DU-5 (0-1)A	7/22/2022	4.99 U	4.99 U	4.99 U	5.67 J	4.99 U	38.9 J	28.0 J	4.99 U	4.99 U	87.5 J
			0-1 FR	DU-5 (0-1)B	7/22/2022	4.71 U	4.71 U	4.71 U	4.71 U	4.71 U	23.9 J	32.5 J	4.71 U	4.71 U	72.9 J
			0-1 FR	DU-5 (0-1)C	7/22/2022	5.04 U	10.1 U	5.04 U	5.04 U	5.04 U	116 J	41.0 J	5.04 U	5.04 U	177 J
					Mean Concentration	5.04 U	10.1 U	5.04 U	5.14 J	5.04 U	59.6 J	33.8 J	5.04 U	5.04 U	112 J
					RSD	Not Detected	Not Detected	Not Detected	7.75%	Not Detected	67.7%	15.9%	Not Detected	Not Detected	40.9%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Not Detected**	**Poor**	**Very Good**	**Not Detected**	**Not Detected**	**Good**
					Adjusted Result for DU-5 (0-1)	5.04 U	10.1 U	5.04 U	5.14 J	5.04 U	116 J	33.8 J	5.04 U	5.04 U	112 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-5 (1-2)A	7/25/2022	4.84 U	9.68 U	15.7 U	4.84 U	4.84 U	60.4 J	58.1 J	4.84 U	4.84 U	143 J
			1-2 FR	DU-5 (1-2)B	7/25/2022	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	56.9 J	49.9 J	4.88 U	4.88 U	124 J
			1-2 FR	DU-5 (1-2)C	7/25/2022	4.81 U	9.62 U	4.81 U	4.81 U	4.81 U	42.2 J	32.6 J	4.81 U	4.81 U	94.0 J
					Mean Concentration	4.88 U	9.68 U	15.7 U	4.88 U	4.88 U	53.2 J	46.9 J	4.88 U	4.88 U	120 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	14.8%	22.7%	Not Detected	Not Detected	16.7%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-5 (1-2)	4.88 U	9.68 U	15.7 U	4.88 U	4.88 U	53.2 J	46.9 J	4.88 U	4.88 U	120 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-5 (2-3)A	7/26/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	51.3 J	27.0 J	4.91 U	4.9 U	95.5 J
			2-3 FR	DU-5 (2-3)B	7/26/2022	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	49.8 J	27.6 J	4.81 U	4.81 U	94.2 J
			2-3 FR	DU-5 (2-3)C	7/26/2022	4.92 U	4.92 U	4.92 U	4.92 U	4.92 U	4.92 U	367	4.92 U	4.92 U	387
					Mean Concentration	4.92 U	4.92 U	4.92 U	4.92 U	4.92 U	35.3 J	141 J	4.92 U	4.92 U	192 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	60.9%	114%	Not Detected	Not Detected	71.6%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Poor**	**Very Poor**	**Not Detected**	**Not Detected**	**Poor**
					Adjusted Result for DU-5 (2-3)	4.92 U	4.92 U	4.92 U	4.92 U	4.92 U	51.3 J	367	4.92 U	4.92 U	387
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD	Additional Data Review Needed	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD

Please see notes at end of table.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A (Concentrations in µg/kg)									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
Central	DU-11	ISM	0-1	DU-11 (0-1)A	8/10/2022	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	8.89 J	10.9 J	4.90 U	4.90 U	36.9 J
			0-1 FR	DU-11 (0-1)B	8/10/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	6.91 J	9.72 J	5.03 U	5.03 U	34.2 J
			0-1 FR	DU-11 (0-1)C	8/10/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	6.55 J	9.95 J	4.98 U	4.98 U	33.9 J
					Mean Concentration	5.03 U	5.0 U	5.03 U	5.03 U	5.03 U	7.45 J	10.2 J	5.03 U	5.03 U	35.0 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	13.8%	5.01%	Not Detected	Not Detected	3.86%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-11 (0-1)	5.03 U	5.0 U	5.03 U	5.03 U	5.03 U	7.45 J	10.2 J	5.03 U	5.03 U	35.0 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-11 (1-2)A	8/10/2022	5.10 U	5.10 U	5.10 U	5.10 U	5.10 U	8.13 J	11.2 J	5.10 U	5.10 U	37.2 J
			1-2 FR	DU-11 (1-2)B	8/10/2022	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	7.58 J	11.8 J	5.02 U	5.02 U	37.0 J
			1-2 FR	DU-11 (1-2)C	8/10/2022	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	6.06 J	10.5 J	4.94 U	4.94 U	33.9 J
					Mean Concentration	5.10 U	5.10 U	5.10 U	5.10 U	5.10 U	7.26 J	11.2 J	5.10 U	5.10 U	36.0 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	12.1%	4.76%	Not Detected	Not Detected	4.22%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-11 (1-2)	5.10 U	5.10 U	5.10 U	5.10 U	5.10 U	7.26 J	11.2 J	5.10 U	5.10 U	36.0 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-11 (2-3)A	8/10/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	8.30 J	13.4 J	4.91 U	4.91 U	38.9 J
			2-3 FR	DU-11 (2-3)B	8/10/2022	4.90 U	4.90 U	4.90 U	4.90 U	4.90 U	9.36 J	11.4 J	4.90 U	4.90 U	37.9 J
			2-3 FR	DU-11 (2-3)C	8/10/2022	4.77 U	4.77 U	4.77 U	4.77 U	4.77 U	6.71 J	10.9 J	4.77 U	4.77 U	34.3 J
					Mean Concentration	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	8.12 J	11.9 J	4.91 U	4.91 U	37.0 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	13.4%	9.08%	Not Detected	Not Detected	5.32%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-11 (2-3)	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	8.12 J	11.9 J	4.91 U	4.91 U	37.0 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A (Concentrations in µg/kg)									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
Central	DU-13	ISM	0-1	DU-13 (0-1)A	8/29/2022	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	23.5 J	9.40 J	5.02 U	5.02 U	50.5 J
			0-1 FR	DU-13 (0-1)B	8/29/2022	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	39.5 J	13.2 J	4.97 U	4.97 U	70.1 J
			0-1 FR	DU-13 (0-1)C	8/29/2022	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	28.2 J	12.2 J	4.99 U	4.99 U	57.9 J
					Mean Concentration	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	30.4 J	11.6 J	5.02 U	5.02 U	59.5 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	22.1%	13.9%	Not Detected	Not Detected	13.6%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-13 (0-1)	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	30.4 J	11.6 J	5.02 U	5.02 U	59.5 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-13 (1-2)A	8/30/2022	4.90 U	4.90 U	4.90 U	4.90 U	4.90 U	5.91 J	4.90 U	4.90 U	4.90 U	25.5 J
			1-2 FR	DU-13 (1-2)B	8/30/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	7.25 J	4.98 U	4.98 U	4.98 U	27.2 J
			1-2 FR	DU-13 (1-2)C	8/30/2022	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	6.98 J	4.86 U	4.86 U	4.86 U	26.4 J
					Mean Concentration	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	6.71 J	4.98 U	4.98 U	4.98 U	26.4 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	8.62%	Not Detected	Not Detected	Not Detected	2.57%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-13 (1-2)	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	6.71 J	4.98 U	4.98 U	4.98 U	26.4 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-13 (2-3)A	8/31/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	10.8 J	4.93 U	4.93 U	4.93 U	30.5 J
			2-3 FR	DU-13 (2-3)B	8/31/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	13.0 J	5.01 U	5.01 U	5.01 U	33.0 J
			2-3 FR	DU-13 (2-3)C	8/31/2022	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	12.1 J	4.89 U	4.89 U	4.89 U	31.7 J
					Mean Concentration	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	12.0 J	5.01 U	5.01 U	5.01 U	31.7 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	7.55%	Not Detected	Not Detected	Not Detected	3.25%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-13 (2-3)	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	12.0 J	5.01 U	5.01 U	5.01 U	31.7 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
Central	DU-16	ISM	0-1	DU-16 (0-1)A	9/12/2022	4.75 U	4.75 U	4.75 U	4.75 U	4.75 U	7.47 J	7.39 J	4.75 U	4.75 U	31.5 J
			0-1 FR	DU-16 (0-1)B	9/12/2022	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	6.65 J	5.69 J	4.79 U	4.79 U	29.1 J
			0-1 FR	DU-16 (0-1)C	9/12/2022	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	8.66 J	8.33 J	5.02 U	5.02 U	34.6 J
					Mean Concentration	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	7.59 J	7.14 J	5.02 U	5.02 U	31.7 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	10.9%	15.3%	Not Detected	Not Detected	7.04%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-16 (0-1)	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	7.59 J	7.14 J	5.02 U	5.02 U	31.7 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
Central	DU-18	ISM	0-1	DU-18 (0-1)A	9/29/2022	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	8.94 J	4.94 U	4.94 U	4.94 U	28.7 J
			0-1 FR	DU-18 (0-1)B	9/29/2022	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	38.9 JN	4.87 U	4.87 U	4.87 U	58.4 J
			0-1 FR	DU-18 (0-1)C	9/29/2022	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	20.8 J	10.1 U	5.06 U	5.06 U	43.6 J
					Mean Concentration	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	22.9 J	10.1 U	5.06 U	5.06 U	43.5
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	53.8%	Not Detected	Not Detected	Not Detected	27.8%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Poor**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-18 (0-1)	5.06 U	5.06 U	5.06 U	5.06 U	5.06 U	38.9 J	10.1 U	5.06 U	5.06 U	43.5
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-18 (1-2)A	9/30/2022	4.62 U	4.62 U	4.62 U	4.62 U	4.62 U	12.2 J	5.19 J	4.62 U	4.62 U	33.6 J
			1-2 FR	DU-18 (1-2)B	9/30/2022	4.68 U	4.68 U	4.68 U	4.68 U	4.68 U	7.79 J	4.68 U	4.68 U	4.68 U	26.5 J
			1-2 FR	DU-18 (1-2)C	9/30/2022	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	4.96 UJ	44.64 UJ
					Mean Concentration	4.75 U	4.75 U	4.75 U	4.75 U	4.75 U	8.32 U	4.94 J	4.75 U	4.75 U	34.9 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	35.82%	4.22%	Not Detected	Not Detected	21.38%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-18 (1-2)	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	8.32 J	4.94 J	4.96 U	4.96 U	34.9 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-18 (2-3)A	10/3/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	5.92 J	4.93 U	4.93 U	4.93 U	25.6 J
			2-3 FR	DU-18 (2-3)B	10/3/2022	4.89 U	4.89 U	4.89 U	4.89 U	4.89 U	10.1 J	4.89 U	4.89 U	4.89 U	29.7 J
			2-3 FR	DU-18 (2-3)C	10/3/2022	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	12.1 J	4.87 U	4.87 U	4.87 U	31.6 J
					Mean Concentration	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	9.37 J	4.93 U	4.93 U	4.93 U	29.0 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	27.47%	Not Detected	Not Detected	Not Detected	8.55%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-18 (2-3)	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	9.37 J	4.93 U	4.93 U	4.93 U	29.0 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A (Concentrations in µg/kg)									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
Central	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U	4.85 U
			0-1 FR	DU-22 (0-1)B	10/13/2022	4.97 U	4.97 U	4.97 U	4.97 U	4.97 U	15.3 J	9.91 J	5.0 U	4.97 U	42.6 J
			0-1 FR	DU-22 (0-1)C	10/13/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	9.15 J	17.1 J	5.01 U	5.01 U	43.8 J
					Mean Concentration	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	9.77 J	10.6 J	5.01 U	5.01 U	30.4 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	43.9%	47.3%	Not Detected	Not Detected	59.5%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Good**	**Good**	**Not Detected**	**Not Detected**	**Poor**
					Adjusted Result for DU-22 (0-1)	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	9.77 J	10.6 U	5.01 U	5.01 U	43.8 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD
			1-2	DU-22 (1-2)A	10/14/2022	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U
			1-2 FR	DU-22 (1-2)B	10/14/2022	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	4.98 U	5.92 J	4.98 U	4.98 U	25.8 J
			1-2 FR	DU-22 (1-2)C	10/14/2022	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U	4.91 U
					Mean Concentration	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	5.27 J	4.99 U	4.99 U	11.9 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	8.69%	Not Detected	Not Detected	82.7%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Not Detected**	**Not Detected**	**Poor**
					Adjusted Result for DU-22 (1-2)	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	5.27 J	4.99 U	4.99 U	25.8 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD
			2-3	DU-22 (2-3)A	10/14/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U
			2-3 FR	DU-22 (2-3)B	10/14/2022	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	4.8 U	4.79 U	4.8 U	4.79 U	4.79 U
			2-3 FR	DU-22 (2-3)C	10/14/2022	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
					Mean Concentration	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**
					Adjusted Result for DU-22 (2-3)	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	5.03 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated

Please see notes at end of table.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A (Concentrations in µg/kg)									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
Central	DU-26	ISM	0-1	DU-26 (0-1)A	11/9/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	122 J	4.93 U	45.9 J	185 J
			0-1 FR	DU-26 (0-1)B	11/9/2022	4.71 U	4.71 U	4.71 U	4.71 U	4.71 U	20.8 J	46.7 J	4.71 U	4.71 U	84.0 J
			0-1 FR	DU-26 (0-1)C	11/9/2022	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	23.6 J	48.1 J	4.96 U	4.96 U	89.1 J
					Mean Concentration	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	16.4 J	72.3 J	4.96 U	18.5 J	119 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	50.0%	48.7%	Not Detected	105%	38.9%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Good**	**Good**	**Not Detected**	**Very Poor**	**Good**
					Adjusted Result for DU-26 (0-1)	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	16.4 J	72.3 J	4.96 U	45.9 J	119
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Needed
			1-2	DU-26 (1-2)A	11/10/2022	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	51.00	4.88 U	4.88 U	70.5
			1-2 FR	DU-26 (1-2)B	11/10/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	17.5 J	27.5 J	5.1 U	5.05 U	62.7 J
			1-2 FR	DU-26 (1-2)C	11/10/2022	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	40.2	4.99 U	4.99 U	60.2
					Mean Concentration	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	9.12 J	39.57 J	5.05 U	5.05 U	64.5 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	64.9%	24.27%	Not Detected	Not Detected	6.8%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Poor**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-26 (1-2)	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	17.5 J	39.57 J	5.05 U	5.05 U	64.5
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-26 (2-3)A	11/11/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	14.9	5.05 U	5.05 U	35.1
			2-3 FR	DU-26 (2-3)B	11/11/2022	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	4.93 U	169	4.93 U	4.93 U	189
			2-3 FR	DU-26 (2-3)C	11/11/2022	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	5.01 U	21.5	5.01 U	5.01 U	41.5
					Mean Concentration	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	68.5 J	5.05 U	5.05 U	88.5 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	1.04	Not Detected	Not Detected	80.27%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Poor**	**Not Detected**	**Not Detected**	**Poor**
					Adjusted Result for DU-26 (2-3)	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	5.05 J	169	5.05 U	5.05 U	189
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Calculated	No Adjustment Calculated	Adjust Upward Using RSD

Please see notes at end of table.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
East	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	10.3 J	9.57 J	5.03 U	5.03 U	37.5 J
			0-1 FR	DU-38 (0-1)B	11/14/2022	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	10.7 J	13.0 J	5.00 U	5.00 U	41.2 J
			0-1 FR	DU-38 (0-1)C	11/14/2022	4.99 U	4.99 U	4.99 U	4.99 U	4.99 U	10.5 J	13.1 J	4.99 U	4.99 U	41.1 J
					Mean Concentration	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	10.5 J	11.9 J	5.03 U	5.03 U	39.9 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	1.56%	13.8%	Not Detected	Not Detected	4.3%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-38 (0-1)	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	10.5 J	11.9 U	5.03 U	5.03 U	39.9
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-38 (1-2)A	11/16/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	14.0 J	12.8 J	5.03 U	5.03 U	44.4 J
			1-2 FR	DU-38 (1-2)B	11/16/2022	5.02 U	5.02 U	5.02 U	5.02 U	5.02 U	13.7 J	5.74 J	5.02 U	5.02 U	37.0 J
			1-2 FR	DU-38 (1-2)C	11/16/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	9.88 J	7.51 J	5.05 U	5.05 U	35.1 J
					Mean Concentration	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	12.5 J	8.68 J	5.05 U	5.05 U	38.8 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	15.0%	34.5%	Not Detected	Not Detected	10.4%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-38 (1-2)	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	12.5 J	8.68 J	5.05 U	5.05 U	38.8 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-38 (2-3)A	11/17/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	9.82 J	5.05 U	5.05 U	5.05 U	30.0 J
			2-3 FR	DU-38 (2-3)B	11/17/2022	4.96 U	4.96 U	4.96 U	4.96 U	4.96 U	7.88 J	4.96 U	4.96 U	4.96 U	27.7 J
			2-3 FR	DU-38 (2-3)C	11/17/2022	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	6.14 J	5.07 U	5.07 U	5.07 U	26.4 J
					Mean Concentration	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	7.95 J	5.07 U	5.07 U	5.07 U	28.1 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	18.91%	Not Detected	Not Detected	Not Detected	5.31%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-38 (2-3)	5.07 U	5.07 U	5.07 U	5.07 U	5.07 U	7.95 J	5.07 U	5.07 U	5.07 U	28.1 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed

Please see notes at end of table.

Table I-3
Soil Results - PCB Aroclors Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PCBs by EPA Method 8082A Concentrations in µg/kg Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors
Soil Berms	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	14.5 J	12.5 J	5.03 U	5.03 U	44.6 J
			0-1 FR	DU-41 (0-1)B	10/24/2022	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	40.1 J	12.1 J	4.83 U	4.83 U	69.1 J
			0-1 FR	DU-41 (0-1)C	10/24/2022	4.88 U	4.88 U	4.88 U	4.88 U	4.88 U	21.6 J	17.9 J	4.88 U	4.88 U	56.6 J
					Mean Concentration	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	25.4 J	14.2 J	5.03 U	5.03 U	56.8 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	42.5%	18.7%	Not Detected	Not Detected	17.6%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-41 (0-1)	5.03 U	5.03 U	5.03 U	5.03 U	5.03 U	25.4 J	14.2 U	5.03 U	5.03 U	56.8
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			1-2	DU-41 (1-2)A	10/26/2022	4.83 U	4.83 U	4.83 U	4.83 U	4.83 U	58.4 J	17.3 J	4.83 U	4.83 U	92.6 J
			1-2 FR	DU-41 (1-2)B	10/26/2022	4.79 U	4.79 U	4.79 U	4.79 U	4.79 U	12.8 J	10.8 J	4.79 U	4.79 U	40.4 J
			1-2 FR	DU-41 (1-2)C	10/26/2022	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	46.6 J	12.6 J	4.94 U	4.94 U	76.5 J
					Mean Concentration	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	39.3 J	13.6 J	4.94 U	4.94 U	69.8 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	49.2%	20.2%	Not Detected	Not Detected	31.3%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Good**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-41 (1-2)	4.94 U	4.94 U	4.94 U	4.94 U	4.94 U	39.3 J	13.6 J	4.94 U	4.94 U	69.8
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed
			2-3	DU-41 (2-3)A	10/28/2022	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	9.84 J	7.82 J	5.05 U	5.05 U	35.3 J
			2-3 FR	DU-41 (2-3)B	10/28/2022	4.92 U	4.92 U	4.92 U	4.92 U	4.92 U	5.41 J	6.56 J	4.92 U	4.92 U	29.2 J
			2-3 FR	DU-41 (2-3)C	10/28/2022	4.90 U	4.90 U	4.90 U	4.90 U	4.90 U	6.60 J	20.0 J	4.90 U	4.90 U	43.8 J
					Mean Concentration	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	7.28 J	11.46 J	5.05 U	5.05 U	36.1 J
					RSD	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	25.7%	0.529	Not Detected	Not Detected	16.5%
					RSD Evaluation	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Not Detected**	**Very Good**	**Poor**	**Not Detected**	**Not Detected**	**Very Good**
					Adjusted Result for DU-41 (2-3)	5.05 U	5.05 U	5.05 U	5.05 U	5.05 U	7.28 J	20.0 J	5.05 U	5.05 U	36.1
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed

Notes:

ISM = Incremental Sampling Methodology.

bgs = Below ground surface.

EPA = United States Environmental Protection Agency.

FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.

µg/kg = Micrograms per kilogram (parts per billion).

Mean Concentration = Arithmetic mean calculation for the field replicates. Mean concentrations are calculated using the detection limit (DL) if the target analyte is not detected. If all the three field replicates are not detected for the target analyte, then the maximum DL is used for the final result.

RSD = Relative Standard Deviation. RSDs are calculated using the DL if the target analyte is not detected.

RSD Evaluation = RSD ≤35% is "Very Good" precision, RSD >35% but ≤50% is "Good" precision, RSD >50% but ≤100% is "Poor" precision, RSD >100% is "Very Poor" precision.

U = Analyte was not detected.

J = Result is estimated.

Table I-4
Soil Results - PAHs and Dibenzofuran Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
West	DU-5	ISM	0-1	DU-5 (0-1)A	7/22/2022	7.41 J	9.82 J	14.5	109	168	239	66.3	119	160	50.7 U	175	6.08 J	131	5.90 J	8.66 J	10.000 J	82.2	207	5.07 U	1,400	139 J	242 J
			0-1 FR	DU-5 (0-1)B	7/22/2022	8.72 J	10.1	23.3	91.3	140	192	66.5 J	87.7	122	18.9	162	6.66 J	108	7.41 J	12	13.2	80.8	169	5.69 J	1,180 J	186 J	179 J
			0-1 FR	DU-5 (0-1)C	7/22/2022	10.9	13.1	31.1	106	172	233	77.3 J	107	156	21.8	213	9.26 J	128	6.95 J	10.6	12.6	113	226	7.34 J	1,240 J	173 J	192 J
					Mean Concentration	9.01 J	11.0 J	23.0	102	160	221	70.0 J	105	146	30.5	183	7.33 J	122	6.75 J	10.4 J	11.9 J	92.0	201	6.03 J	1,273 J	166 J	204 J
					RSD	16.0%	13.5%	29.5%	7.58%	8.90%	9.44%	7.34%	12.3%	11.7%	47.1%	11.8%	18.9%	8.35%	9.36%	13.1%	11.6%	16.2%	11.8%	15.9%	7.29%	11.9%	13.29%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-5 (0-1)	9.01 J	11.0 J	23.0	102	160	221	70.0 J	105	146	30.5	183	7.33 J	122	6.75 J	10.4 J	11.9 J	92.0	201	6.03 J	1,273 J	166 J	204 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-5 (1-2)A	7/25/2022	8.16 J	13.2	29.8	91.2	126	174	55.7 J	81.7	132	16.9	204	7.23 J	93.6	7.06 J	10.0 J	11.1	107	208	5.04 J	1,160 J	155 J	199 J
			1-2 FR	DU-5 (1-2)B	7/25/2022	6.07 J	11.5	22.7	67	102	140	38.6 J	73.5	106	14.5	142	6.3 J	82.9	7.04 J	11.6	15.0	81.2	154	5.43 J	921 J	154 J	146 J
			1-2 FR	DU-5 (1-2)C	7/25/2022	9.53 J	24.6	28.9	114	193	265	74.6 J	133	182	24.7	244	7.57 J	158	8.21 J	13.1	20.1	113	289	6.09 J	1,120 J	147 J	177 J
					Mean Concentration	7.92 J	16.4	27.1	90.7	140	193	56.3 J	96.1	140	18.7	197	7.03 J	112	7.44 J	11.6 J	15.4	100	217	5.52 J	1,067 J	152 J	174 J
					RSD	18.0%	35.4%	11.6%	21.2%	27.4%	27.3%	26.1%	27.4%	22.5%	23.3%	21.3%	7.63%	29.7%	7.35%	10.9%	23.9%	13.7%	25.6%	7.85%	9.8%	2.3%	12.5%
					RSD Evaluation	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-5 (1-2)	7.92 J	16.4	27.1	90.7	140	193	56.3 J	96.1	140	18.7	197	7.03 J	112	7.44 J	11.6 J	15.4	100	217	5.52 J	1,067 J	152 J	174 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-5 (2-3)A	7/26/2022	6.04 J	15.8	29.7	95.0	134	172	54.3 J	96.9	150	20.1	191	6.84 J	110	5.74 J	9.36 J	12.6	92.2	218	5.00 U	1,440 J	201 J	241 J
			2-3 FR	DU-5 (2-3)B	7/26/2022	5.28 J	15.7	21.3	76.7	125	170	50.5 J	88.5	140	17.0	151	5.07 J	101	7.89 J	11.2	13.6	74.8	197	5.04 U	1,680 J	217 J	272 J
			2-3 FR	DU-5 (2-3)C	7/26/2022	18.0	21.8	86.9	226	292	378	130 J	163	310	34.2	518	17.7	199	10.2	12.5	16.3	374	629	9.88 J	2,880 J	547	408 J
					Mean Concentration	9.77 J	17.8	46.0 J	133 J	184	240	78.3 J	116	200	23.8	287 J	9.87 J	137	7.94 J	11.0 J	14.2	180 J	348 J	6.64 J	2,000 J	322 J	307 J
					RSD	59.6%	16.1%	63.4%	50.2%	41.8%	40.7%	46.8%	28.7%	38.9%	31.5%	57.3%	56.6%	32.4%	22.9%	11.7%	11.0%	76.0%	57.1%	34.5%	31.5%	49.6%	23.6%
					RSD Evaluation	Poor	Very Good	Poor	Poor	Good	Good	Good	Very Good	Good	Very Good	Poor	Poor	Very Good	Very Good	Very Good	Very Good	Poor	Poor	Very Good	Very Good	Good	Very Good
					Adjusted Result for DU-5 (2-3)	18.0	17.8	86.9	226	184	240	78.3 J	116	200	23.8	518	17.7	137	7.94 J	11.0 J	14.2	374	629	6.64 J	2,000 J	322 J	307 J
					Statistically Adjusted Result for Associated DUs (2-3)	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
Central	DU-11	ISM	0-1	DU-11 (0-1)A	8/10/2022	70.6	820	455	2,030	3,990	3,750	1,300 J	2,800	3,130	522	4,190	198	2,920	218	506	799	2,370	6,630	46.9	31,300 J	5,220	5,400 J
			0-1 FR	DU-11 (0-1)B	8/10/2022	104	1180	751	2,130	3,970	3,820	1,270 J	2,520	3,070	495	4,530	511	2,680	431	804	1,670	4,340	6,470	81.9	31,000 J	9,360	5,340 J
			0-1 FR	DU-11 (0-1)C	8/10/2022	51.2	390	246	1,050	2,030	2,170	538 J	1,340	1,550	217	2,030	95.4	1,420	141	329	539	1,190	3,200	25.7	15,500 J	2,840	2,720 J
					Mean Concentration	75.3	797	484	1,737	3,330	3,247	1,036 J	2,220	2,583	411	3,583	268 J	2,340	263	546	1,003	2,633	5,433	51.5	25,933 J	5,807	4,487 J
					RSD	29.0%	40.5%	42.8%	28.1%	27.6%	23.5%	34.0%	28.5%	28.3%	33.5%	30.9%	65.9%	28.1%	46.6%	35.9%	48.2%	49.3%	29.1%	45.0%	28.5%	46.4%	27.8%
					RSD Evaluation	Very Good	Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Good	Good	Good	Good	Very Good	Good	Very Good	Good	Very Good
					Adjusted Result for DU-11 (0-1)	75.3	797	484	1,737	3,330	3,247	1,036 J	2,220	2,583	411	3,583	511	2,340	263	546	1,003	2,633	5,433	51.5	25,933 J	5,807	4,487 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-11 (1-2)A	8/10/2022	44.5	358	230	1,130	1,960	1,790	547 J	1,320	1,660	261	1,920	122	1,340	167	400	600	1230	3,130	48.6	15,100 J	2,980	2,650 J
			1-2 FR	DU-11 (1-2)B	8/10/2022	16.4	228	141	564	1,050	994	277 J	756	904	138	943	70.1	779	107	230	345	682	1,570	15.5	7,980 J	1,710	1,430 J
			1-2 FR	DU-11 (1-2)C	8/10/2022	18.6	270	172	845	1,510	1,400	417 J	1,060	1,230	212	1,310	59.0	1,080	113	273	447	779	2,260	17.5	11,300 J	2,020	2,060 J
					Mean Concentration	26.5	285	181	846	1,507	1,395	414 J	1,045	1,265	204	1,391	83.7	1,066	129	301	464	897	2,320	27.2 J	11,460 J	2,237	2,047 J
					RSD	48.1%	19.0%	20.4%	27.3%	24.7%	23.3%	26.7%	22.0%	24.5%	24.8%	29.0%	32.8%	21.5%	20.9%	24.0%	22.6%	26.6%	27.5%	55.7%	25.4%	24.2%	24.3%
					RSD Evaluation	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Very Good	Very Good
					Adjusted Result for DU-11 (1-2)	26.5	285	181	846	1,507	1,395	414 J	1,045	1,265	204	1,391	83.7	1,066	129	301	464	897	2,320	48.6	11,460 J	2,237	2,047 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-11 (2-3)A	8/10/2022	25.1	292	214	1,040	1,950	1,760	495 J	1,690	1,650	293	1,860	88.9	1,570	137	318	496	1,190	3,000	24.1	15,300 J	2,620	2,690 J
			2-3 FR	DU-11 (2-3)B	8/10/2022	42.8	445	345	1,770	3,270	2,810	827 J	2,450	2,630	443	3,120	157	2,380	159	365	609	1,870	5,110	32.1	24,800 J	3,830	4,420 J
			2-3 FR	DU-11 (2-3)C	8/10/2022	64.7	733	666	2,130	3,780	3,460	900 J	2,820	2,880	506	4,400	456	2,780	310	582	870	3,980	6,540	61.3	30,200 J	7,350	5,130 J
					Mean Concentration	44.2	490	408	1,647	3,000	2,677	741 J	2,320	2,387	414	3,127	234 J	2,243	202	422	658	2,347 J	4,883	39.2	23,433 J	4,600	4,080 J
					RSD	36.6%	37.3%	46.5%	27.5%	25.7%	26.2%	23.8%	20.3%	22.2%	21.6%	33.2%	68.1%	22.4%	38.1%	27.3%	23.8%	50.6%	29.8%	40.8%	26.3%	43.6%	25.1%
					RSD Evaluation	Good	Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Good	Very Good	Very Good	Poor	Very Good	Good	Very Good	Good	Very Good
					Adjusted Result for DU-11 (2-3)	44.2	490	408	1,647	3,000	2,677	741 J	2,320	2,387	414	3,127	456	2,243	202	422	658	3,980	4,883	39.2	23,433 J	4,600	4,080 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Please see notes at end of table.

Table I-4
Soil Results - PAHs and Dibenzofuran Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
Central	DU-13	ISM	0-1	DU-13 (0-1)A	8/29/2022	8.01 J	46.9	44.9	196	284	328	94.5 J	250	309	36.8	316	11.5	233	26.6	58.9	94.7	177	433	8.41 J	2,480 J	442 J	398 J
			0-1 FR	DU-13 (0-1)B	8/29/2022	6.05 J	68.3	55.4	788	785	1070	368 J	617	985	127	1,310	9.38 J	670	24.4	55.3	85.4	196	1,210	8.20 J	7,930 J	476 J	1,170 J
			0-1 FR	DU-13 (0-1)C	8/29/2022	7.84 J	37.2	32.1	206	314	340	95.6 J	291	321	41.8	313	10.9	262	24.9	55.2	82.4	160	444	7.23 J	2,630 J	386 J	438 J
					Mean Concentration	7.30 J	50.8	44.1	397 J	461	579 J	186 J	386	538 J	68.5 J	646 J	10.6 J	388 J	25.3	56.5	87.5	178	696 J	7.95 J	4,347 J	435 J	669 J
					RSD	12.1%	25.6%	21.6%	69.8%	49.8%	59.9%	69.2%	42.5%	58.7%	60.4%	72.6%	8.42%	51.4%	3.72%	3.05%	5.98%	8.28%	52.3%	6.47%	58.31%	8.5%	53.07%
					RSD Evaluation	Very Good	Very Good	Very Good	Poor	Good	Poor	Poor	Good	Poor	Poor	Poor	Very Good	Poor	Very Good	Very Good	Very Good	Very Good	Poor	Very Good	Poor	Very Good	Poor
					Adjusted Result for DU-13 (0-1)	7.30 J	50.8	44.1	788	461	1,070	368 J	386	985	127	1,310	10.6 J	670	25.3	56.5	87.5	178	1,210	7.95 J	7,930 J	435 J	1,170 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD
			1-2	DU-13 (1-2)A	8/30/2022	5.06 U	16.7	15.1	91.9	141	160	44.5 J	152	134	18.8	155	5.54 J	134	9.79 J	17.9	25.5	91.1	199	5.06 U	1,230 J	174 J	199 J
			1-2 FR	DU-13 (1-2)B	8/30/2022	5.06 U	12.1	11.6	85.5	110	130	44.9 J	102	119	15.4	129	5.06 U	96.8	7.91 J	17.2	26.8	60.0	164	5.06 U	997 J	133	157 J
			1-2 FR	DU-13 (1-2)C	8/30/2022	20.4	30.4	68.1	280	316	382	115 J	232	348	42.7	555	31.3	240	21.5	34.3	65.6	426	553	15.5	3,060 J	676	450 J
					Mean Concentration	10.2 J	19.7	31.6 J	152 J	189	224 J	68.1 J	162	200 J	25.6	280 J	14.0 J	157	13.1 J	23.1	39.3	192 J	305 J	8.54 J	1,762 J	328 J	269 J
					RSD	71.1%	39.4%	81.8%	59.2%	48.0%	50.2%	48.6%	33.1%	52.2%	47.4%	69.7%	87.8%	38.7%	46.0%	34.2%	47.3%	86.1%	57.5%	57.6%	52.3%	75.3%	48.2%
					RSD Evaluation	Poor	Good	Poor	Poor	Good	Poor	Good	Very Good	Poor	Good	Poor	Poor	Poor	Good	Very Good	Good	Poor	Poor	Poor	Poor	Poor	Good
					Adjusted Result for DU-13 (1-2)	20.4	19.7	68.1	280	189	382	68.1 J	162	348	25.6	555	31.3	157	13.1 J	23.1	39.3	426	553	15.5	3,060 J	676	269 J
					Statistically Adjusted Result for Associated DUs (1-2)	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed
			2-3	DU-13 (2-3)A	8/31/2022	6.59 J	22.0	28.0	134	189	197	68.3 J	178	184	23.9	238	7.56 J	164	11.9	23.6	37.8	122	292	5.20 J	1,670 J	248 J	263 J
			2-3 FR	DU-13 (2-3)B	8/31/2022	5.06 U	11.2	11.9	75.9	98.7	108	38.5 J	89.9	104	13.7	116	5.06 U	84.9	7.66 J	16.0	24.7	59.0	149	5.06 U	879 J	128	140 J
			2-3 FR	DU-13 (2-3)C	8/31/2022	5.05 U	8.98 J	10.5	67.3	87.7	109	31.5 J	83.8	95.3	12.4	106	5.05 U	78.7	6.28 J	11.7	18.4	53.1	126	5.05 U	798 J	108 J	126 J
					Mean Concentration	5.57 J	14.1 J	16.8	92.4	125	138	46.1 J	117	128	16.7	153	5.89 J	109	8.61 J	17.1	27.0	78.0	189	5.10 J	1,116 J	161 J	176 J
					RSD	13.0%	40.4%	47.3%	32.1%	36.3%	30.2%	34.6%	36.7%	31.2%	30.9%	39.1%	20.0%	35.6%	27.8%	28.8%	30.0%	40.0%	38.9%	1.3%	35.3%	38.3%	34.9%
					RSD Evaluation	Very Good	Good	Good	Very Good	Good	Very Good	Very Good	Good	Very Good	Very Good	Good	Very Good	Good	Very Good	Very Good	Very Good	Good	Good	Very Good	Good	Good	Very Good
					Adjusted Result for DU-13 (2-3)	5.57 J	14.1 J	16.8	92.4	125	138	46.1 J	117	128	16.7	153	5.89 J	109	8.61 J	17.1	27.0	78.0	189	5.10 J	1,116 J	161 J	176 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
Central	DU-16	ISM	0-1	DU-16 (0-1)A	9/12/2022	15.2 U	24.4 U	58.4	284	337	456	157 J	229	393	58.7	522	21.3	247	279	317	204	347	540	77.6	3,220 J	968	496 J
			0-1 FR	DU-16 (0-1)B	9/12/2022	10.2 U	21	33.8	195	286	387	130 J	227	290	51.4	350	9.77 J	243	44	51.6	49.1	183	373	20.4	2,530 J	353	421 J
			0-1 FR	DU-16 (0-1)C	9/12/2022	14.0 U	20 U	42.1	227	300	409	138 J	237	317	54.5	423	16.9	246	68.5	81.9	67.5	242	440	23.0	2,790 J	467	444 J
					Mean Concentration	15.2 U	21.8	44.8	235	308	417	142 J	231	333	54.9	432	16.0 J	245	131 J	150 J	107 J	257	451	40.3 J	2,847 J	596	454 J
					RSD	Not Detected	8.64%	22.8%	15.6%	6.99%	6.90%	7.99%	1.9%	13.1%	5.45%	16.3%	29.7%	0.693%	80.8%	79.0%	64.7%	26.4%	15.2%	65.4%	10.0%	44.8%	6.92%
					RSD Evaluation	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Poor	Poor	Poor	Very Good	Very Good	Poor	Very Good	Good	Very Good
					Adjusted Result for DU-16 (0-1)	15.2 U	21.8	44.8	235	308	417	142 J	231	333	54.9	432	16.0 J	245	279	317	204	257	451	77.6	2,847 J	596	454 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
Central	DU-18	ISM	0-1	DU-18 (0-1)A	9/29/2022	5.08 U	22.6	25.5	78.4	129	205	57.6 J	174	136	19.2	128	5.08 U	158	7.71 J	12.3	25.4	65.5	151	5.64 J	1,240 J	156	193 J
			0-1 FR	DU-18 (0-1)B	9/29/2022	5.08 U	21.0	27.8	95.4	137	211	62.9 J	159	157	20	170	6.01 J	149	7.86 J	12.5	24.4	93.3	193	6.94 J	1,350 J	188 J	203 J
			0-1 FR	DU-18 (0-1)C	9/29/2022	5.97 J	29.0	39.5	125	184	250	85.4 J	209	199	29.4	255	8.19 J	193	7.17 J	11	24.5	145	279	6.67 J	1,810 J	263 J	271 J
					Mean Concentration	5.38 J	24.2	30.9	100	150	222	68.6 J	181	164	22.8	184	6.43 J	167	7.58 J	11.9	24.8	101	208	6.42 J	1,467 J	202 J	222 J
					RSD	7.80%	14.3%	19.8%	19.3%	16.2%	8.99%	17.6%	11.6%	16.0%	20.4%	28.7%	20.3%	11.4%	3.91%	5.57%	1.82%	32.5%	25.7%	8.73%	16.8%	22.2%	15.6%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-18 (0-1)	5.38 J	24.2	30.9	100	150	222	68.6 J	181	164	22.8	184	6.43 J	167	7.58 J	11.9	24.8	101	208	6.42 J	1,467 J	202 J	222 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-18 (1-2)A	9/30/2022	4.80 U	14.4	16.6	65.0	93.3	143	48.0 J	104	105	13.6	102	5.48 J	96.9	9.71	11.9	19.2	67.9	123	4.80 U	894 J	138 J	138 J
			1-2 FR	DU-18 (1-2)B	9/30/2022	4.96 U	8.03 J	11.1	58.9	74.5	115	31.5 J	73.6	85.9	10.3	95.0	4.96 U	70.9	4.96 U	6.60 J	13.2	38.5	107	4.96 U	723 J	82.4 J	110 J
			1-2 FR	DU-18 (1-2)C	9/30/2022	5.03 U	8.42 J	8.58 J	46.0	57.5	86.6	29.7 J	70.6	69.1	9.24 J	77.9	5.03 U	64.9	5.03 U	5.56 J	12.0	34.7	86.4	5.03 U	598 J	74.3 J	86.9 J
					Mean Concentration	5.03 U	10.3 J	12.1 J	57	75	115	36.4 J	82.7	86.7	11.0 J	91.6	5.16 J	77.6	6.57	8.02 J	14.8	47.0	105	5.03 U	738 J	98.2 J	112 J
					RSD	Not Detected	28.3%	27.7%	14.0%	19.5%	20.0%	22.6%	18.2%	16.9%	16.8%	11.0%	4.5%	17.91%	33.9%	34.6%	21.3%	31.5%	14.2%	Not Detected	16.4%	28.8%	18.7%
					RSD Evaluation	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Very Good	Very Good
					Adjusted Result for DU-18 (1-2)	5.03 U	10.3 J	12.1 J	57	75	115	36.4 J	82.7	86.7	11.0 J	91.6	5.16 J	77.6	6.57	8.0 J	14.8	47.0	105	5.03 U	738 J	98.2 J	112 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed
			2-3	DU-18 (2-3)A	10/3/2022	5.04 U	5.04 U	5.04 U	22.4	27.4	42.4 J	12.9 J	23.5	31.4	5.04 U	40.9	5.04 U	26.4	5.04 U	5.04 U	5.04 U	17.5	47.5	5.04 U	277 J	32.6	39.2 J
			2-3 FR	DU-18 (2-3)B	10/3/2022	5.06 U	8.08 J	12.7	45.9	59.3	79.5 J	30.2 J	63.5	65.6	7.99 J	83.7	5.06 U	60.4	5.06 U	5.06 U	11.5	44.2	91.4	5.06 U	587 J	84.1 J	86.2 J
			2-3 FR	DU-18 (2-3)C	10/3/2022	4.95 U	6.27 J	8.20 J	41.6	53.0	78.3 J	23.5 J	55.0	59.8	7.29 J	65.2	4.95 U	53.6	4.95 U	4.95 U	8.66 J	29.7	74.6	4.95 U	512 J	60.3 J	77.9 J
					Mean Concentration	5.06 U	6.46 J	8.65 J	36.6	46.6	66.7 J	22.2 J	47.3	52.3	6.77 J	63.3	5.06 U	46.8	5.06 U	5.06 U	8.40 J	30.5	71.2	5.06 U	459 J	59.0 J	67.8 J
					RSD	Not Detected	19.3%	36.4%	27.9%	29.6%	25.8%	32.1%	36.4%	28.6%	18.6%	27.7%	Not Detected	31.4%	Not Detected	Not Detected	31.5%	35.8%	25.4%	Not Detected	28.8%	35.7%	30.2%
					RSD Evaluation	Not Detected	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Not Detected	Not Detected	Very Good	Good	Very Good	Not Detected	Very Good	Good	Very Good
					Adjusted Result for DU-18 (2-3)	5.06 U	6.46 J	8.65 J	36.6	46.6	66.7 J	22.2 J	47.3	52.3	6.77 J	63.3	5.06 U	46.8	5.06 U	5.06 U	8.40 J	30.5	71.2	5.06 U	459 J	59.0 J	67.8 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Please see notes at end of table.

Table I-4
Soil Results - PAHs and Dibenzofuran Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
Central	DU-22	ISM	0-1	DU-22 (0-1)A	10/13/2022	4.99 U	7.2 J	11.1	36.6	50.4	88.3	27.7 J	54.7	81.9	8.05 J	80.2	4.99 U	51.1	8.62 J	16.9	50.3	58.5	86.2	5.49 J	565	149	76.4 J
			0-1 FR	DU-22 (0-1)B	10/13/2022	4.90 U	4.90 U	8.30 J	25.9	30.8	64.4	17.9 J	34.7	68.2	6.22 J	40.8	4.90 U	31.9	10.3	15.5	14.5	48.7	52.9	4.90 U	374	94.4	49.5 J
			0-1 FR	DU-22 (0-1)C	10/13/2022	168	14.8 U	195	194	78.6	161	50.4 J	57.3	237	10.5	1,130	240	60.8	28.7	33.6	17.2	1,290	672	112	2,650	1,950	131 J
					Mean Concentration	59.3 J	8.96 J	71.5 J	85.5 J	53.3	105	32.0 J	48.9	129 J	8.26 J	417 J	83.3 J	47.9	15.9 J	22.0	27.3 J	466 J	270 J	40.8 J	1196 J	731 J	85.6 J
					RSD	130%	47.2%	122%	89.9%	36.8%	39.3%	42.5%	20.6%	59.3%	21.2%	121%	133.0%	25.05%	57.3%	37.4%	59.6%	125.1%	105%	123%	86.2%	118%	39.6%
					RSD Evaluation	Very Poor	Good	Very Poor	Poor	Good	Good	Good	Very Good	Poor	Very Good	Very Poor	Very Poor	Very Good	Poor	Good	Poor	Very Poor	Very Poor	Very Poor	Poor	Very Poor	Good
					Adjusted Result for DU-22 (0-1)	168	8.96 J	195	194	53.3	105	32.0 J	48.9	237	8.26 J	1,130	240	47.9	28.7	22.0	50.3	1,290	672	112	2,650	1,950	85.6 J
					Statistically Adjusted Result for Associated DUs (0-1)	Additional Data Review Needed	No Adjustment Needed	Additional Data Review Needed	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Additional Data Review Needed	Additional Data Review Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD	Additional Data Review Needed	Additional Data Review Needed	Additional Data Review Needed	Adjust Upward Using RSD	Additional Data Review Needed	No Adjustment Needed
			1-2	DU-22 (1-2)A	10/14/2022	5.05 U	5.05 U	5.05 U	16.0 J	13.0	24.5 J	10.3 J	14.8	27.1	5.05 U	21.3	5.05 U	15.6	5.05 U	5.88 J	10.9	19.4	22.2	5.05 U	167	46.3	21.3 J
			1-2 FR	DU-22 (1-2)B	10/14/2022	4.90 U	4.90 U	4.90 U	19.2 J	18.4	38.4 J	18.6 J	19.0	36.4	4.90 U	26.1	4.90 U	20.2	4.90 U	5.13 J	7.85 J	17.5	36.00	4.90 U	235	40.3	28.9 J
			1-2 FR	DU-22 (1-2)C	10/14/2022	4.73 U	4.73 U	4.73 U	16.2 J	15.8	32.2 J	11.6 J	20.4	27.7	4.73 U	32.2	4.73 U	19.4	4.73 U	4.73 U	6.15 J	20.9	31.4	4.73 U	209	38.9	25.1 J
					Mean Concentration	5.05 U	5.05 U	5.05 U	17.1 J	15.7	31.7 J	13.5 J	18.1	30.4	5.05 U	26.5	5.05 U	18.4	5.05 U	5.25 J	8.30 J	19.3	29.9	5.05 U	204	41.8	25.1 J
					RSD	Not Detected	Not Detected	Not Detected	8.54%	14.0%	17.9%	27.0%	13.2%	14.0%	Not Detected	16.8%	Not Detected	10.9%	Not Detected	9.09%	23.7%	7.22%	19.2%	Not Detected	13.8%	7.7%	12.4%
					RSD Evaluation	Not Detected	Not Detected	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Not Detected	Very Good	Not Detected	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Very Good	Very Good
					Adjusted Result for DU-22 (1-2)	5.05 U	5.05 U	5.05 U	17.1 J	15.7	31.7 J	13.5 J	18.1	30.4	5.05 U	26.5	5.05 U	18.4	5.05 U	5.25 J	8.30 J	19.3	29.9	5.05 U	204	41.8	25.1 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-22 (2-3)A	10/14/2022	4.99 U	4.99 U	4.99 U	11.3 J	11.7	22.8 J	8.48 J	13.2	27.0	4.99 U	21.3	4.99 U	13.3	4.99 U	8.23 J	21.6	25.4	23.2	4.99 U	155	65.2	19.0 J
			2-3 FR	DU-22 (2-3)B	10/14/2022	4.96 U	4.96 U	4.96 U	17.9 J	17.3	31.6 J	12.6 J	28.0	34.5	4.96 U	25.8	4.96 U	25.0	4.96 U	8.61 J	12.0	26.4	30.2	4.96 U	225	56.9	27.4 J
			2-3 FR	DU-22 (2-3)C	10/14/2022	5.05 U	5.05 U	5.05 U	11.2 J	18.6	44.8 J	18 J	19.8	28.4 J	5.05 U	19.2	5.05 U	22.6	5.05 U	5.05 U	8.01 J	11.9	22.2	5.05 U	207	32.5	29.2 J
					Mean Concentration	5.05 U	5.05 U	5.05 U	13.5 J	15.9	33.1 J	13.0 J	20.3	30.0 J	5.1 U	22.1	5.05 U	20.3	5.05 U	7.30 J	13.9 J	21.2	25.2	5.05 U	196	51.5	25.2 J
					RSD	Not Detected	Not Detected	Not Detected	23.3%	18.9%	27.3%	29.9%	29.8%	10.9%	Not Detected	12.5%	Not Detected	24.9%	Not Detected	21.9%	41.1%	31.1%	14.1%	Not Detected	15.2%	26.9%	17.6%
					RSD Evaluation	Not Detected	Not Detected	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Not Detected	Very Good	Not Detected	Very Good	Good	Very Good	Very Good	Not Detected	Very Good	Very Good	Very Good
					Adjusted Result for DU-22 (2-3)	5.05 U	5.05 U	5.05 U	13.5 J	15.9	33.1 J	13.0 J	20.3	30.0 J	5.1 U	22.1	5.05 U	20.3	5.05 U	7.30 J	13.9 J	21.2	25.2	5.05 U	196	51.5	25.2 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
Central	DU-26	ISM	0-1	DU-26 (0-1)A	11/9/2022	10.0	83.9	76.4	291	494	702	205 J	483	524	79.2	798	23.8	482	26.0	30.5	77.4	477	831	24.6	4,890 J	779	723 J
			0-1 FR	DU-26 (0-1)B	11/9/2022	5.53 J	43.3	41.4	163	260	355	122 J	260	290	43.3	377	11.2	256	17.8	22.8	45.3	237	422	13.5	2,550 J	407 J	382 J
			0-1 FR	DU-26 (0-1)C	11/9/2022	5.99 J	44.9	44.9	175	267	381	121 J	268	301	44.1	403	12.3	259	14.8	20.9	46.3	249	438	13.8	2,660 J	424 J	394 J
					Mean Concentration	7.17 J	57.4	54.2	210	340	479	149 J	337	372	55.5	526	15.8	332	19.5	24.7	56.3	321	564	17.3	3,367 J	537 J	500 J
					RSD	28.0%	32.7%	29.0%	27.5%	31.9%	32.9%	26.4%	30.6%	29.0%	30.1%	36.6%	36.1%	31.8%	24.2%	16.8%	26.5%	34.4%	33.6%	29.8%	32.0%	32.0%	31.6%
					RSD Evaluation	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
					Adjusted Result for DU-26 (0-1)	7.17 J	57.4	54.2	210	340	479	149 J	337	372	55.5	526	15.8	332	19.5	24.7	56.3	321	564	17.3	3,367 J	537 J	500 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-26 (1-2)A	11/10/2022	4.93 U	7.66 J	6.79 J	34.9	51.9	76.1	24.5 J	54.7	58.8	7.86 J	67.3	4.93 U	53.0	4.93 U	5.57 J	10.7	39.2	76.2	4.93 U	505	74.9	76.5 J
			1-2 FR	DU-26 (1-2)B	11/10/2022	4.95 U	7.06 J	6.72 J	44.1	54.2	94.2	27.9 J	57.6	73.5	8.08 J	89.6	4.95 U	55.8	4.95 U	5.51 J	10.3	36.2	103	4.95 U	608	70.7	82.0 J
			1-2 FR	DU-26 (1-2)C	11/10/2022	4.89 J	31.0	18.2	127	197	246	73.8 J	181	180	28.2	194	4.65 U	179	5.77 J	8.86 J	16.7	75.7	257	4.65 U	1,660	158	281 J
					Mean Concentration	4.92 J	15.2 J	10.6 J	68.7 J	101 J	139 J	42.1 J	97.8 J	104 J	14.7 J	117	4.95 U	96 J	5.22 J	6.65 J	12.6	50.4	145 J	4.95 U	924 J	101	147 J
					RSD	0.5%	73.1%	51.0%	60.3%	67.2%	54.9%	53.4%	60.2%	51.9%	64.8%	47.2%	Not Detected	61.2%	7.50%	23.5%	23.3%	35.6%	54.8%	Not Detected	56.5%	39.7%	64.94%
					RSD Evaluation	Very Good	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Good	Not Detected	Poor	Very Good	Very Good	Very Good	Good	Poor	Not Detected	Poor	Good	Poor
					Adjusted Result for DU-26 (1-2)	4.92 J	31.0	18.2	127	197	246	73.8 J	181	180	28.2	117	4.95 U	179	5.22 J	6.65 J	12.6	50.4	257	4.95 U	1,660	101	281 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	Adjust Upward Using RSD	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Needed	Adjust Upward Using RSD
			2-3	DU-26 (2-3)A	11/11/2022	4.93 U	8.01 J	7.60 J	36.1	44.2	68.1	20.5 J	51.2	53.4	6.47 J	72.9	4.93 U	49.1	4.93 U	4.93 U	9.45 J	36.8	85.4	4.93 U	487	69.3	66.3 J
			2-3 FR	DU-26 (2-3)B	11/11/2022	4.98 U	13.0	14.3	81.2	99.5	136	50.2 J	102	106	16.5	144	4.98 U	100	4.98 U	5.3 J	12.4	74.3	158	4.98 U	993	124	148 J
			2-3 FR	DU-26 (2-3)C	11/11/2022	4.99 U	11.5	9.11 J	50.6	70.6	94.4	29.2 J	83.6	76.5	10.4	100	4.99 U	72.6	4.99 U	5.46 J	11.9	50.5	108	4.99 U	696	94	103 J
					Mean Concentration	4.99 U	10.8 J	10.3 J	56.0	71.4	100	33.3 J	78.9	78.6	11.1 J	106	4.99 U	73.9	4.99 U	5.22 J	11.3 J	53.9	117	4.99 U	725	96	106 J
					RSD	Not Detected	19.3%	27.8%	33.6%	31.6%	28.1%	37.4%	26.6%	27.4%	37.1%	27.7%	Not Detected	28.1%	Not Detected	4.2%	11.5%	28.8%	25.9%	Not Detected	28.6%	23.4%	31.6%
					RSD Evaluation	Not Detected	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Good	Very Good	Not Detected	Very Good	Not Detected	Very Good	Very Good	Very Good	Very Good	Not Detected	Very Good	Very Good	Very Good
					Adjusted Result for DU-26 (2-3)	4.99 U	10.8 J	10.3 J	56.0	71.4	100	33.3 J	78.9	78.6	11.1 J	106	4.99 U	73.9	4.99 U	5.22 J	11.3 J	53.9	117	4.99 U	725	95.6	106 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Please see notes at end of table.

Table I-4
Soil Results - PAHs and Dibenzofuran Field Replicate Statistics and Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Parcel	Decision Unit	Sample Type	Sample Depth (feet bgs)	Sample ID	Sample Date	PAHs and Dibenzofuran by EPA Method 8270E-SIM Concentrations in µg/kg Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Dibenzofuran	Total HPAH	Total LPAH	cPAHs (BaP Eq.)
East	DU-38	ISM	0-1	DU-38 (0-1)A	11/14/2022	4.88 U	5.90 J	7.00 J	36.5	33.1	59.4	17.8 J	30.3	49.8	4.94 J	66.9	4.88 U	29.1	4.88 U	4.88 U	8.39 J	35.2	64.3	4.88 U	392	63.8	50.8 J
			0-1 FR	DU-38 (0-1)B	11/14/2022	4.82 U	8.51 J	10.3	59.4	55.7	82.9 J	31.6 J	42.6	74.2	7.97 J	99.6	4.82 U	44.8	4.82 U	5.93 J	9.09 J	45.6	95.7	4.82 U	594	84.3	82.8 J
			0-1 FR	DU-38 (0-1)C	11/14/2022	5.04 U	10.2	8.90 J	46.6	50.0	73.9	26.4 J	40.7	60.1	7.19 J	89.7	5.04 U	42.5	5.04 U	6.31 J	13.2	48.3	78.8	5.56 J	516	92.0	73.8 J
					Mean Concentration	5.04 U	8.20 J	8.73 J	47.5	46.3	72.1 J	25.3 J	37.9	61.4	6.70 J	85.4	5.04 U	38.8	5.04 U	5.71 J	10.2 J	43.0	79.6	5.09 J	501	80.0	69.1 J
					RSD	Not Detected	21.6%	15.5%	19.7%	20.7%	13.4%	22.5%	14.3%	16.3%	19.2%	16.0%	Not Detected	17.8%	Not Detected	10.6%	20.7%	13.1%	16.1%	6.60%	16.6%	14.9%	19.5%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**
					Adjusted Result for DU-38 (0-1)	5.04 U	8.20 J	8.73 J	47.5	46.3	72.1 J	25.3 J	37.9	61.4	6.70 J	85.4	5.04 U	38.8	5.04 U	5.71 J	10.2 J	43.0	79.6	5.09 J	501	80.0	69.1 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-38 (1-2)A	11/16/2022	5 U	5.27 J	8.19 J	38.5	35.5	56.6 J	19.2 J	30.8	55.6	5.05 J	77.4	5.00 U	29.6	5.00 U	7.08 J	14.8	37.2	73.2	5.00 U	421	77.5	53.3 J
			1-2 FR	DU-38 (1-2)B	11/16/2022	5.08 U	5.50 J	8.84 J	42.2	34.6	54.3	17.2 J	27.7	54.1	5.08 U	74.6	5.08 U	25.5	5.08 U	8.92 J	15.2	41.8	73.4	5.08 U	406	85.3	49.6 J
			1-2 FR	DU-38 (1-2)C	11/16/2022	5.04 U	5.91 J	8.40 J	46.8	42.8	62.6	23.4 J	35.7	60.6	6.06 J	72.3	5.04 U	34.3	5.04 U	6.90 J	14.3	38.4	70.5	5.04 U	455	79.0	63.5 J
					Mean Concentration	5.08 U	5.56 J	8.48 J	42.5	37.6	57.8 J	19.9 J	31.4	56.8	5.40 J	75	5.08 U	29.8	5.08 U	7.63 J	14.8	39.1	72.4	5.08 U	427	80.6	55.5 J
					RSD	Not Detected	4.76%	3.20%	7.99%	9.76%	6.05%	13.0%	10.5%	4.90%	8.69%	2.79%	Not Detected	12.1%	Not Detected	12.0%	2.49%	4.98%	1.83%	Not Detected	4.80%	4.19%	10.6%
					RSD Evaluation	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**	**Very Good**	**Very Good**
					Adjusted Result for DU-38 (1-2)	5.08 U	5.56 J	8.48 J	42.5	37.6	57.8 J	19.9 J	31.4	56.8	5.40 J	75	5.08 U	29.8	5.08 U	7.63 J	14.8	39.1	72.4	5.08 U	427	80.6	55.5 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-38 (2-3)A	11/17/2022	4.98 U	4.98 U	5.50 J	36.2	27.8	44.1 J	15.2 J	20.5	41.4	4.98 U	63.5	4.98 U	21.9	4.98 U	4.98 U	6.47 J	25.6	59.8	4.98 U	333	47.5	40.7 J
			2-3 FR	DU-38 (2-3)B	11/17/2022	5.06 U	5.06 U	6.23 J	37.6	30.6	47.1 J	15.8 J	21.9	44.4	5.06 U	59.2	5.06 U	24.0	5.06 U	5.06 U	7.13 J	24.2	56.8	5.06 U	340	47.7	44.2 J
			2-3 FR	DU-38 (2-3)C	11/17/2022	5.35 J	5.07 U	15.6	50.9	28.3	51.0	19.7 J	18.4	68.2	5.07 U	146	5.07 U	20.8	5.07 U	5.07 U	7.88 J	37.4	113	5.07 U	519	73.8	43.4 J
					Mean Concentration	5.13 J	5.07 U	9.11 J	41.6	28.9	47.4 J	16.9 J	20.3	51.3	5.07 U	89.6	5.07 U	22.2	5.07 U	5.07 U	7.16 J	29.1	76.5	5.07 U	397	56.3	42.8 J
					RSD	3.1%	Not Detected	50.5%	15.94%	4.22%	5.96%	11.8%	7.10%	23.4%	Not Detected	44.6%	Not Detected	5.97%	Not Detected	Not Detected	8.04%	20.4%	33.7%	Not Detected	21.7%	21.9%	3.50%
					RSD Evaluation	**Very Good**	**Not Detected**	**Poor**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Good**	**Not Detected**	**Very Good**	**Not Detected**	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Not Detected**	**Very Good**	**Very Good**	**Very Good**
					Adjusted Result for DU-38 (2-3)	5.13 J	5.07 U	9.11 J	41.6	28.9	47.4 J	16.9 J	20.3	51.3	5.07 U	89.6	5.07 U	22.2	5.07 U	5.07 U	7.16 J	29.1	76.5	5.07 U	397	56.3	42.8 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Calculated	Adjust Upward Using RSD	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Calculated	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
Soil Berns	DU-41	ISM	0-1	DU-41 (0-1)A	10/24/2022	8.09 J	34.2	51.6	142	196 J	269	106 J	214 J	221	24.1	331	6.07 J	209 J	17.6	23.0	22.1	107	364	11.6	2,080	252	283 J
			0-1 FR	DU-41 (0-1)B	10/24/2022	5.06 J	41.7	50.4	128	233	326	96.9 J	252	225	30.8	267	6.20 J	252	21.5	26.9	35.4	122	301	13.1	2,110	288	336 J
			0-1 FR	DU-41 (0-1)C	10/24/2022	8.96 J	31.6	60.5	112	172	271	77.1 J	186	197	25.4	261	7.76 J	183	10.3	15.7	23.9	164	268	18.4	1,750	312	255 J
					Mean Concentration	7.37 J	35.8	54.2	127	200 J	289	93.3 J	217 J	214	26.8	286	6.68 J	215 J	16.47	21.9	27.1	131	311	14.4	1,980	284	291 J
					RSD	22.7%	11.9%	8.32%	9.63%	12.5%	9.15%	12.9%	12.4%	5.77%	10.8%	11.1%	11.5%	13.3%	28.2%	21.2%	21.7%	18.4%	12.8%	20.3%	8.24%	8.68%	11.5%
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**
					Adjusted Result for DU-41 (0-1)	7.37 J	35.8	54.2	127	200 J	289	93.3 J	217 J	214	26.8	286	6.68 J	215 J	16.47	21.9	27.1	131	311	14.4	1,980	284	291 J
					Statistically Adjusted Result for Associated DUs (0-1)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			1-2	DU-41 (1-2)A	10/26/2022	30.0	25.1 U	56.8	139	172	247	97.1 J	188	226	25.1	315	23.4	173	80.3	92.6	70.1	274	354	42.7	1,940	559	254 J
			1-2 FR	DU-41 (1-2)B	10/26/2022	14.2 U	28.3 U	56.6	123	189	287	92.3 J	190	235	26.4	277	13.7	183	101	115	83.8	254	319	37.1	1,920	544	276 J
			1-2 FR	DU-41 (1-2)C	10/26/2022	10.1 U	22.2 U	27.0	86.1	134	212	65.4 J	144	161	18.9	194	6.46 J	135	55.9	62.8	56.4	138	215	21.6	1,370	307	197 J
					Mean Concentration	18.1	28.3 U	46.8	116	165	249	84.9 J	174	207	23.5	262	14.5 J	164	79.1	90.1	70.1	222	296	33.8	1,743	470	242 J
					RSD	47.4%	Not Detected	29.9%	19.1%	13.9%	12.3%	16.4%	12.2%	15.9%	13.9%	19.3%	47.8%	12.6%	23.31%	23.7%	16.0%	27.0%	19.9%	26.4%	15.1%	24.6%	13.7%
					RSD Evaluation	**Good**	**Not Detected**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**
					Adjusted Result for DU-41 (1-2)	18.1	28.3 U	46.8	116	165	249	84.9 J	174	207	23.5	262	14.5 J	164	79.1	90.1	70.1	222	296	33.8	1,743	470	242 J
					Statistically Adjusted Result for Associated DUs (1-2)	No Adjustment Needed	No Adjustment Calculated	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed
			2-3	DU-41 (2-3)A	10/28/2022	6.08 J	12.0	20.6	69.0	90.1	135	49.2 J	103	117	12.9	147	5.21 J	97.6	23.1	28.9	30.7	98.3	159	10.8	980	202	134 J
			2-3 FR	DU-41 (2-3)B	10/28/2022	4.94 U	12.7	23.1	72.4	101	148	52.0 J	102	123	15.1	137	4.94 U	104	18.8	24.3	22.9	75.2	147	8.18 J	1,000	163	149 J
			2-3 FR	DU-41 (2-3)C	10/28/2022	7.48 J	13.1	23.4	71.2	101	148	53.1 J	106	124	14.4	168	6.68 J	104	28.8	31.6	30.0	119	187	12.9	1,080	231	148 J
					Mean Concentration	6.17 J	12.6	22.4	70.9	97.4	144	51.4 J	104	121	14.1	151	5.61 J	102	23.6	28.3	27.9	97.5	164	10.6 J	1,020	199	144 J
					RSD	16.8%	3.61%	5.61%	1.99%	5.28%	4.27%	3.19%	1.64%	2.55%	6.49%	8.57%	13.6%	2.96%	17.38%	10.7%	12.6%	18.3%	10.2%	18.2%	4.24%	14.0%	4.77%
					RSD Evaluation	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**	**Very Good**
					Adjusted Result for DU-41 (2-3)	6.17 J	12.6	22.4	70.9	97.4	144	51.4 J	104	121	14.1	151	5.61 J	102	23.6	28.3	27.9	97.5	164	10.6 J	1,020	199	144 J
					Statistically Adjusted Result for Associated DUs (2-3)	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed	No Adjustment Needed

Notes:
ISM = Incremental Sampling Methodology.
bgs = Below ground surface.
EPA = United States Environmental Protection Agency.
FR = Field replicate. Field replicates are collected at different locations within the same ISM cell as the primary sample.
µg/kg = Micrograms per kilogram (parts per billion).
Mean Concentration = Arithmetic mean calculation for the field replicates. Mean concentrations are calculated using the detection limit (DL) if the target analyte is not detected. If all the three field replicates are not detected for the target analyte, then the maximum DL is used for the final result.
RSD = Relative Standard Deviation. RSDs are calculated using the DL if the target analyte is not detected.
RSD Evaluation = RSD ≤35% is "Very Good" precision, RSD >35% but ≤50% is "Good" precision, RSD >50% but ≤100% is "Poor" precision, RSD >100% is "Very Poor" precision.
U = Analyte was not detected.
J = Result is estimated.

Table I-5
Leave Surface Replicate Evaluation
Willamette Cove Upland Facility
Portland, Oregon

Decision Unit	Represetative Decision Unit	Excavation Depth (ft bgs)	Leave Surface (feet bgs)	Analytes with Low RSD Evaluation	RSD	RSD Evaluation	Ecological Screening Levels		Human Health Screening Levels		Original Result	Statistically Adjusted Result	Change in Excavation Depth	Adjusted Ecavation Depth
							PRG	Hot Spot	PRG	Hot Spot				
DU-7	DU-5	1	1-2	Merucry	0.58	Poor	0.073	0.15	--	--	**0.130**	**0.205**	Yes	2
DU-17	DU-18	2	2-3	None	--	--	--	--	--	--	--	--	--	--
DU-20	DU-22	1	1-2	Total PCBs	0.59	Poor	98	980	740	40,000	4.96	7.91	No	--
DU-24	DU-26	2	2-3	Total HPAH	0.56	Poor	5,600	56,000	--	--	88.3	138	No	--
				Total cPAHs	0.65	Poor	--	--	550	55,000	14.5	23.9	No	--
DU-25	DU-26	2	2-3	Total HPAH	0.56	Poor	5,600	56,000	--	--	613	959	No	--
				Total cPAHs	0.65	Poor	--	--	550	55,000	87.3	144	No	--
DU-37	DU-26	0	0-1	None	--	--	--	--	--	--	--	--	--	--
DU-35	DU-38	1	1-2	Total HPAH	0.56	Poor	5,600	56,000	--	--	704	1,101	No	--
				cPAHs	0.65	Poor	--	--	550	55,000	119	196	No	--
DU-38	DU-38	1	1-2	Total HPAH	0.56	Poor	5,600	56,000	--	--	427	669	No	--
				cPAHs	0.65	Poor	--	--	550	55,000	55.5	91.5	No	--

Notes:

ft bgs = feet below ground surface

RSD = relative standard deviation

PRG = preliminary remediation goal

Bolded values exceed the Preliminary Remediation Goal (PRG).

Shaded values exceed the hot spot level.

PCBs = polychlorinated biphenyls.

PRG = preliminary Remediation Goal: cleanup level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

Hot spot level adopted from the *Revised Feasibility Study and Source Control Evaluation, Willamette Cove Upland Facility* (Apex, 2019).

HPAH = high-molecular-weight polycyclic aromatic hydrocarbon

cPAHs = carcinogenic polycyclic aromatic hydrocarbon

Low RSD Evaluation inclues a poor or very poor ratings

Statistically adjusted result is calcaulated by adjusting the original result upwards by the RSD