

***PHASE II ENVIRONMENTAL
SITE ASSESSMENT REPORT***

***Commercial Property
Future M. Carter Commons Development
3715-3717 N Interstate Avenue
Portland, Oregon 97217***

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Prepared For:

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1. EXECUTIVE SUMMARY

Coles + Betts Environmental Consulting, LLC (C+BEC) was retained by Northwest Housing Alternatives to perform a Phase I Environmental Site Assessment (ESA) per ASTM Standard E1527-13 for the M. Carter Commons Subject Property (the “Subject Property” herein). The Phase I ESA identified historical residential and commercial activities of concern on the Subject Property, including a former gas station and its former underground storage tanks (USTs), hoist, and sump; former heating oil tanks associated with two former residences; and a former landfill on the southern portion of the Subject Property. The former landfill was part of a larger, historical gulch adjacent south of the Subject Property that operated as a municipal landfill in the 1920s and 1930s. The former landfill was filled with undocumented fill, and it has the potential to impact soil vapor (i.e., methane) on the Subject Property.

A Phase II ESA investigation on the Subject Property was completed to address the items of environmental concern identified in the Phase I ESA. The Phase II ESA investigation activities included (1) a geophysical survey to identify USTs and the lateral extent of landfill materials; and (2) soil and soil vapor sampling during Phase II ESA drilling activities and geotechnical drilling activities. The Phase II ESA activities could not be completed inside the Subject Property building at the former hoist, sump and western residence locations, and the narrow accessway between the Subject Property building and the western Subject Property retaining wall prevented a geophysical survey and subsurface investigation of the suspect heating oil tank on the west side of the building. These items of potential environmental concern will be addressed during the forthcoming building demolition and site redevelopment activities. The recommendations listed in the Phase I ESA would apply during construction activities (i.e., decommission any encountered USTs per Oregon Department of Environmental Quality [DEQ] requirements, address any contamination, characterize fill material that is different from previously observed fill material, and if necessary, install a vapor barrier and/or vapor mitigation system for the new building).

Field observations did not encounter evidence of contamination in the accessible areas of environmental concern. Methane was not identified during Phase II ESA and geotechnical investigations’ soil vapor monitoring activities both on and adjacent to the former landfill on the southern portion of the Subject Property. Groundwater was not encountered to the maximum depth investigated (46.5 feet below ground surface [bgs]), and groundwater in the area is at least 80 feet bgs.

The soil samples were analyzed for the following contaminants of concern: total RCRA-8 metals, gasoline-, diesel- and oil-range petroleum hydrocarbons, volatile organic compounds (VOCs), and the “worst case” oil-contaminated soils analyzed for polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PAHs). The analytical laboratory data were compared to DEQ applicable Risk-Based Concentrations (RBCs) to determine if there were any

risks to human health, and to DEQ Clean Fill Criteria to determine whether special soil handling during construction will be required. The laboratory data indicate:

- There are no DEQ RBC exceedances and therefore no risks to construction and excavation workers, nor to future Subject Property occupants.
- There are Clean Fill Criteria exceedances for lead and mercury within the southern fill material area at borings P-11 (7 to 7.5 feet bgs) and SV-2 (0.5 to 4 feet bgs).
- The lead concentration in sample SV-2 (213 milligrams/kilogram [mg/kg]) exceeded the “20 times rule”, or the maximum concentration for the total toxicity characteristic evaluation for lead (100 mg/kg) to determine if the lead levels are considered hazardous waste. This sample was analyzed for the toxicity characteristic leaching procedure (TCLP) for lead, and was compared to the hazardous waste characteristic regulatory level of 5.0 milligrams/liter (mg/L). The TCLP results was 0.05 mg/L, which is below the regulatory level of 5.0 mg/L.

Fill material was encountered across the southern portion of Subject Property to depths of approximately 9 feet bgs at geotechnical boring location B-3, 22 feet bgs at geotechnical boring location B-1, and between 13.5 and 20.5 feet at the former waste oil tank area. The fill material consisted of discolored (olive green) silts and sandy silts with small pieces of brick, mortar, an asphaltic material layer at one location, and burnt wood fragments. Laboratory testing indicate the fill material exceeds DEQ Clean Fill Criteria for lead and mercury. DEQ’s Clean Fill Criteria state fill material with wood material, brick, and mortar is not considered clean fill. Based on the above field observations and laboratory test results, any excavated fill materials from the former landfill area on the Subject Property require disposal at a Subtitle D landfill (e.g., Waste Management’s Hillsboro Landfill). Based on the laboratory data, the fill material is not characterized as hazardous waste.

Prior to redevelopment, C+BEC recommends a Contaminated Media Management Plan (CMMP) be prepared that protects the health and safety of construction and excavation workers and describes how to manage contaminated media. C+BEC also recommends a contingency budget be set aside prior to construction to address contaminated soils and/or fill material, as well as unforeseen features that could be encountered during redevelopment such as construction and demolition materials in fill material that may contain asbestos, decommissioning of USTs and drywells/old privy pits per DEQ requirements, and addressing the former gas station’s hoist and sump if present. It may be prudent to conduct confirmatory sampling after excavation activities to document soil conditions, and to install a vapor mitigation system in the new building to address possible methane exceedances and/or radon and/or contaminated media left in-place. If a drywell or privy pit is encountered during redevelopment activities, a letter from DEQ’s Underground Injection Control (UIC) program approving the UIC decommissioning is necessary. A No Further Action (NFA) letter from DEQ may be necessary if contamination above DEQ RBCs is encountered and/or left in-place, and/or

a letter from DEQ's UST or leaking UST (LUST) program may be necessary if a UST is decommissioned and/or contamination is left in-place.

2. INTRODUCTION

Coles + Betts Environmental Consulting, LLC (C+BEC) was retained by Northwest Housing Alternatives (the Client) to perform a Phase II Environmental Site Assessment (ESA) for the commercial property located at 3715-3717 N Interstate Avenue in Portland, Multnomah County, Oregon (the "Subject Property" herein) (Figures 1 and 2). The Phase II ESA investigation addressed the Recognized Environmental Conditions (RECs) for the Subject Property as listed in the 2023 Phase I ESA Report prepared by C+BEC¹:

REC #1: The gulch on the Subject Property was backfilled with unknown material and possibly municipal garbage at depths up to 30 feet bgs on the Subject Property (Figure 3). The source and type of the fill material is unknown. It is unknown if the fill material contains metals or other hazardous substances at concentrations that exceed DEQ Risk-Based Concentrations (RBCs) for the Construction Worker, Excavation Worker, Urban Residential, Occupational Volatilization to Outdoor Air, or Vapor Intrusion into Buildings exposure pathways, and/or if the fill contains construction & demolition debris, and/or if the fill material contains contamination, metals or other hazardous substances or materials above DEQ Clean Fill Criteria that may make it unsuitable for use as clean fill on or off the Subject Property. In addition, if present, municipal trash fill materials may produce methane which could pose a threat to the safety of building occupants on the Subject Property if it is not addressed.

REC #2: The former residences on the Subject Property may have had heating oil tanks, and the former gas station on the Subject Property had a UST system with 5 USTs (gasoline, waste oil, and heating oil), and 4 dispensers, and the gas station shop had a sump and below-ground hoist on the Subject Property (Figure 3). No tank decommissioning records were found. It is unknown if the tanks and dispensers have released petroleum and hazardous substances associated with gasoline, waste oil (including volatile organic compounds such as solvents), and heating oil into the subsurface. It is also unknown if the tanks are still present.

Recommendation: A Phase II ESA is recommended to address the identified RECs: (1) the backfilled gulch, and (2) the former residential USTs and former gas station operations on the Subject Property.

¹ *Phase I Environmental Site Assessment Report, Commercial Property, Future M. Carter Commons Development, 3715-3717 N Interstate Avenue, Portland, Oregon 97227, by C+BEC, dated June 8, 2023.*

A subsurface investigation is recommended to determine and characterize the fill material quality on the southern portion of the Subject Property, and to determine whether there is a vapor intrusion risk to the Subject Property from the fill material, including methane. Oversight of the removal of fill material during site redevelopment activities with inspections for demolition and construction material debris, potential asbestos-containing materials, and hazardous substances and petroleum products, and methane monitoring, may be recommended per the Phase II ESA results for fill material.

A geophysical survey is recommended to determine whether there is evidence of the former residences' HOTs, and the gas station's UST systems (5 USTs, piping, and dispenser island) and if possible, determine if there is evidence inside the building of the former below-ground hoist, and former sump and related piping locations. If present, any USTs should be decommissioned per DEQ regulations. The soils in the vicinity of the USTs should be sampled and analyzed per DEQ UST decommissioning requirements and/or for contaminants of concern, with lab results compared to the applicable DEQ RBCs and/or UST Cleanup Criteria. Groundwater should be similarly evaluated, if encountered. If contamination is encountered, it is recommended impacted soils be removed during decommissioning and/or site redevelopment activities to the maximum extent practicable. Confirmatory soil sampling should occur upon completion of soil removal activities to confirm there are no risks to human health and/or the environment with the soils remaining in-place. If contaminated soil cannot be removed and pending the confirmatory soil samples' laboratory results, additional soil and/or groundwater and/or soil vapor and/or indoor air characterization may be required to determine the nature and extent of the release and the risk to human health and the environment. In addition, or alternatively, a vapor barrier and/or vapor mitigation system can be installed in the new building(s) when the Subject Property is redeveloped. The vapor mitigation system could also mitigate methane, any additional contaminants of concern identified during demolition activities, and/or radon as necessary.

In addition to addressing the RECs, C+BEC completed environmental oversight of geotechnical drilling activities near the former UST system and the fill material area on the southern half of the Subject Property. Oversight activities included the observation of soil and fill materials for field evidence of contamination (i.e., odor, sheen, discoloration), to observe the fill materials for content variations and building materials, and to collect samples if field evidence of contamination or fill variations were encountered. Methane monitoring was also completed.

The Subject Property building and/or the narrow accessway between the building and the retaining wall prevented a geophysical survey and subsurface investigation of the former hoist, the suspect heating oil tank on the west side of the building, and the former residence on the western side of the Subject Property (Figure 3). These items of potential environmental concern will be addressed during the forthcoming building demolition and site redevelopment activities. The recommendations listed in the Phase I ESA would apply (i.e., decommission the tanks per

DEQ requirements, address any contamination, and install a vapor barrier and/or vapor mitigation system for the new building as needed).

Phase II ESA and geotechnical oversight activities are intended to provide a general evaluation of overall site conditions and is not an exhaustive investigation to find and define the nature and extent of all potential contamination across the Subject Property. The M. Carter Commons development Phase II ESA activities were designed to investigate the accessible RECs listed above, and to see if there is any associated, extensive contamination on the Subject Property. The Phase II ESA activities include: (a) determining whether underground storage tanks (USTs) and fill materials are present on the Subject Property; (b) documenting whether historical on- and off-site practices have impacted the soil and/or soil vapor on the Subject Property; (c) determining whether contamination is present above the appropriate DEQ RBCs for future excavation and construction workers, and future building occupants; and (d) determining whether soil disturbed during future site redevelopment activities requires disposal at a regulated landfill. The findings of the Phase II ESA investigation of accessible items of environmental concern are discussed herein.

3. INVESTIGATION ACTIVITIES

The Phase II ESA geophysical survey activities were completed on September 26, 2023, and the drilling with soil and soil gas sampling activities were completed on October 9, 2023. The geotechnical oversight activities were completed on October 16th and 17th, 2023. These activities are summarized below.

3.1 Geophysical Survey Activities

The geophysical survey was completed Pacific Geophysics of Portland, Oregon, to identify evidence of USTs associated with the former service station and residences, and to identify the edge of the former landfill (i.e., fill material) on the southern portion of the Subject Property. Pacific Geophysics completed a magnetic survey and a ground penetrating radar (GPR) survey across the Subject Property and the adjacent sidewalks except for the following locations that prevented access: (1) the narrow space between the Subject Property building and western Subject Property retaining wall; (2) the steep, vegetated slope between N Overlook Blvd and the Subject Property building; (3) the southwest corner of the Subject Property due to trailer storage that both prevented access and created magnetic interference; and (4) a small landscaped area with dense vegetation on the eastern perimeter of the Subject Property.

The Subject Property was traversed along survey lines set five feet apart for the GPR survey. The data quality allowed detection of features within the top 4 feet bgs.

Due to magnetic interference from a reinforced concrete pad and dispenser islands from the former UST system in the central portion of the Subject Property, a reinforced approach ramp

on the north entrance to the Subject Property, reinforced curbing, some metallic street signs, a former Subject Property sign post base at the central-eastern perimeter, and utility poles, the magnetic survey may have missed a small tank adjacent to these objects.

Pacific Geophysics did not find evidence of USTs (both the former service station tanks and any residential heating oil tanks), nor drywells. Evidence of soil disturbance was observed at the former service station’s UST nest (near the northeast corner of the Subject Property building). The edge of the former landfill (i.e., the fill material) on the southern portion of the Subject Property was identified, and it varied in depth between 2.2 and 3.3 feet bgs. This may note a layer of fill material brought onto the Subject Property. Please see *Sections 3.2 and 3.3* for additional observations regarding the depth of the fill material on the southern portion of the Subject Property.

C+BEC prepared a Subject Property map that shows items of environmental concern with an overlay of the geophysical survey results (see Figure 4). The geophysical survey report is in Appendix A. Photographs of the Phase II ESA activities are in Appendix B.

3.2 Drilling with Soil and Soil Gas Sampling Activities

3.2.1 Soil Sampling

Anderson Environmental Contracting (AEC) of Kelso, Washington installed 13 borings (P-1 through P-13) for the Phase II ESA investigation on the Subject Property on October 9, 2023. The borings’ locations were spaced at regular intervals throughout the Subject Property based on geophysical survey findings, locations of accessible former USTs, and the location of fill material. The locations of all 13 borings are indicated in Figure 5.

The table below summarizes the borings placed at each item of environmental concern, and the depth bgs each boring was drilled to.

Boring Number(s)	Boring Depth(s) in Feet bgs	Location
P-1, P-2, P-3, P-4	20	Former Gas Station UST Excavation
P-5, P-6, P-7, P-8, P-9, P-10	P-5, P-6, P-7, P-9 = 5 P-8, P-10 = 10	Former Dispenser Islands and Piping
P-6, P-10	P-6 = 5 P-10 = 10	Former Signpost Foundation or Suspect Flattened Tank
P-11, P-12, P-13	P-11 = 15 P-12 = 25 P-13 = 20	Former Waste Oil UST
P-11, P-12, P-13, SV-1-0.5-4.0, SV-2	P-11 = 15 P-12 = 25 P-13 = 20 SV-1 and SV-2 = 4	Former Landfill Fill Material

As stated previously, there was no access to the suspect heating oil tank on the west side of the Subject Property building and the hoist and sump inside the building, and they will all be addressed during Subject Property redevelopment activities.

Fill material and soil samples were collected from each boring at approximate five-foot intervals as recovery allowed, from soils/fill material exhibiting field screening evidence of contamination. Soil samples submitted for gasoline and/or solvent analyses were collected with syringes and placed into preserved vials by U.S. Environmental Protection Agency (EPA) Method 5035A.

Soil sampling equipment was decontaminated between each boring. New nitrile gloves were used for each sampling location and disposed of off-site in the municipal trash.

C+BEC monitored methane levels using a calibrated Landtec GEM-5000 landfill meter at borings P-11, P-12 and P-13 during drilling activities at the boring hole to the maximum depths drilled and of the recovered fill material to the maximum depths drilled. Methane was not detected.

Groundwater was not encountered during drilling activities.

Field evidence of contamination (odor, sheen, discoloration, photoionization detector [PID]) was not encountered during drilling activities except for fill material at boring P-11. The fill material and native soils encountered at each area of concern are summarized in the table below.

Boring Number(s)	Boring Depth(s) in Feet bgs	Location	Description of Soils and/or Fill Materials Encountered
P-1, P-2, P-3, P-4	20	Former Gas Station UST Excavation	UST Excavation Pit Fill Material: Sand and silty sand, loose, dry. Encountered in boring P-2 up to 8 ft bgs and in boring P-3 up to 12.5 ft bgs. Native Soils: Layers of Sand and sandy Silt. Brown, dry to moist. Observed in all borings up to 20 ft bgs.
P-5, P-6, P-7, P-8, P-9, P-10	P-5, P-6, P-7, P-9 = 5 P-8, P-10 = 10	Former Dispenser Islands and Piping	Native Soils: Silty sand and sand with silt up to 10 ft bgs.
P-6, P-10	P-6 = 5 P-10 = 10	Former Signpost Foundation or Suspect Flattened Tank	Native Soils: Silty sand up to 5 and 10 ft bgs.
P-11, P-12, P-13	P-11 = 15 P-12 = 25 P-13 = 20	Former Waste Oil UST and Former Landfill Fill Material	Fill Material: P-11: Ground surface bgs to 13.5 ft bgs: Brown silt with olive green layers. 2-inch layer at 7ft 10 inches bgs: Asphaltic granular material with coarse sand and trace gravels. From 7 ft to 8 ft bgs: Slight petroleum odor,

			<p>no sheen. PID = 0.4 ppm. No sheen.</p> <p>P-12: Brown silt with olive green layers, with some wood debris, gravel, charcoal, brick from ground surface to 20.5 ft bgs.</p> <p>P-13: Brown silt with trace small brick and charcoal pieces from ground surface to 17 ft bgs.</p> <p>Native Soils: Silty sand or sand with Silt. P-11: 13.5 ft to 15 ft bgs P-12: 20.5 ft to 25 ft bgs P-13: 17 ft to 20 ft bgs</p>
<p>P-11, P-12, P-13, SV-1-0.5-4.0, SV-2*</p> <p><i>*Chain of custody notes SV-2 for sample name. The soil sample collected was from 0.5 to 4.0 ft bgs.</i></p>	<p>P-11 = 15 P-12 = 25 P-13 = 20 SV-1 and SV-2 = 4</p>	<p>Former Landfill Fill Material</p>	<p>See above for P-11, P-12 and P-13 descriptions.</p> <p>SV-1: Sand with some silt. At 3 ft bgs: 6-inch layer with bits of mortar and charcoal.</p> <p>SV-2: Sand with some silt and gravel, wood debris. At 2 ft bgs: gray soil and wood. At 4 ft bgs was a piece of charcoal.</p>

In summary, fill materials were encountered at the former UST excavation pit to depths between 8.0 and 12.5 feet bgs (sand and silty sand), and in the former landfill area to depths between 13.5 and 20.5 feet bgs (brown and olive green/gray silt with trace gravel, asphalt, wood, brick, and charcoal). A slight petroleum odor was encountered between 7 feet and 8 feet bgs in boring P-11 adjacent to the 2-inch asphaltic materials layer. No other field evidence of contamination was encountered.

3.2.2 Soil Gas Sampling

Two subsurface vapor points, SV-1 and SV-2, were installed within the former deep gulch/landfill on the southern portion of the Subject Property to evaluate the potential presence of methane in site soil gas (Figure 5). Temporary soil vapor sampling points were installed in soil probes completed to 5 feet bgs by AEC using a direct-push drill rig. The vapor points were constructed using dedicated stainless-steel vapor tips connected to Teflon tubing, and the surface of each probe was sealed with hydrated bentonite.

The temporary vapor points were allowed to equilibrate with surrounding soils for at least 60 minutes prior to collecting methane measurements. Measurements were collected after

equilibration, as well as at the end of the working day several hours later, using a Landtec GEM 2000 Plus gas analyzer. Methane was not detected at either location.

Disposable sampling equipment used for soil vapor sampling was also disposed of off-site in the municipal trash.

3.3 Geotechnical Oversight Activities

Central Geotechnical Services (Central Geotech) of Portland, Oregon, advanced 6 borings (B-1 through B-6) for the geotechnical investigation on the Subject Property on October 16th and 17th, 2023. The borings' locations and depths were determined by Central Geotech, and the borings' locations are indicated in Figure 5. The borings were installed using hollow stem auger and mud rotary drilling techniques.

C+BEC monitored the recovered soils for field evidence of contamination and to collect characterization samples as needed in areas of environmental concern; and observed the fill materials and monitored methane levels on the southern portion of the Subject Property as follows:

- Borings B-1 and B-2 installed with mud rotary drilling to 46.5 feet and 41.5 feet bgs, respectively, in the former landfill area (soil and methane monitoring);
- Boring B-3 installed with mud rotary drilling to 41.5 feet bgs at the former dispenser islands and UST system (soil and methane monitoring); and
- Boring B-5 adjacent to the former USTs nest (soil monitoring) and installed with mud rotary drilling to 26.5 feet bgs.

Geotechnical borings B-4 and B-6 were not monitored by C+BEC as they were not at or near areas of environmental concern.

Field evidence of contamination (odor, sheen, discoloration, elevated PID readings) were not encountered at any of the monitored borings, nor at boring B-4 (installed to 25 feet bgs with hollow stem auger) and boring B-6 (installed to 46.5 feet bgs with hollow stem drilling) as reported by Central Geotech. Fill material observed in geotechnical borings B-1 and B-2 did not differ from the fill material observations in borings P-11, P-12 and P-13. Soil samples were not able to be collected since mud rotary drilling activities were completed at all locations, which interferes with analytical laboratory testing methods. This is not considered a data gap since fill material samples were collected from different depth intervals and locations within the former landfill area during Phase II ESA activities (i.e., at borings SV-1 and SV-2, and from P-11, P-12, P-13).

C+BEC monitored methane at geotechnical boring locations within and near the former landfill (i.e., borings B-1, B-2 and B-3) using a calibrated Landtec GEM-5000 landfill meter. Methane

readings were collected at the boring hole opening from various depths during drilling, within the recovered soil cores, and at the maximum depth the boring was installed. Methane was not detected at any of the borings, nor in any of the recovered fill material and soils.

Groundwater was not encountered to 46.5 feet bgs, the maximum depth drilled during geotechnical drilling activities.

4. ANALYTICAL LABORATORY ANALYSES

4.1 Soil Analyses

Soils selected for laboratory analyses were based on field screening observations and PID readings, depth, fill content, and proximity to areas of concern, with the goal of the analyses to determine whether there are any risks to future construction and excavation workers or future Subject Property occupants. The soil samples were submitted to Apex Labs of Tigard, Oregon, for analysis as follows:

- Gasoline-range petroleum hydrocarbons by Method NWTPH-Gx;
- Diesel- and oil-range petroleum hydrocarbons by Method NWTPH-Dx; and
 - If diesel- and/or oil-range petroleum hydrocarbons are detected, “worst case” soil samples were be analyzed for:
 - Polychlorinated biphenyls (PCBs) by EPA Method 8082A.
 - Polyaromatic Hydrocarbons (PAHs) by EPA 8270E.
- Volatile Organic Compounds (VOCs) by EPA Method 8260C;
- Total Resource Conservation and Recovery Act (RCRA)-8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Method 6010; and
 - Toxicity Characteristic Leaching Procedure (TCLP) as needed by EPA 6020B.

The table below summarizes the analyses completed for each boring location and the area of concern the boring is located within or adjacent to, and the analyses completed for each composite group.

Sample Location	Analyses						
	Gx	Dx	VOCs	RCRA-8	PCBs	PAHs	TCLP
Former UST Excavation							
P-1	X	X					
P-2	X	X		X			
P-3	X	X					
P-4	X	X					
Former Dispenser Islands Area and Suspect Flattened Tank Area							
P-5	X	X					
P-6	X	X					
P-7	X	X					
P-8	X	X					

Sample Location	Analyses						
	Gx	Dx	VOCs	RCRA-8	PCBs	PAHs	TCLP
P-9	X	X					
P-10	X	X					
Former Waste Oil Tank Area and Former Landfill Area							
P-11	X	X	X	X	X	X	
P-12	X	X		X			
P-13	X	X		X			
SV-1	X	X	X	X			
SV-2	X	X	X	X			X

5. ANALYTICAL LABORATORY RESULTS

The soil analytical testing results are summarized in Table 1, and the TCLP for lead testing results are summarized in Table 2. The detected petroleum and petroleum constituents' results in soil are indicated on Figure 6. The analytical laboratory reports and chain-of-custody documentation are included in Appendix C.

Based on the proposed future use of the Subject Property (mixed-use building), the detected analytical testing results were compared to the following applicable DEQ RBCs:

DEQ Regulatory Criteria	Applicable RBC
DEQ RBCs	
Soil Ingestion, Dermal Contact and Inhalation Exposure Pathway	X
Urban Residential Receptor Scenario	X
Occupational Receptor Scenario	X
Construction Worker Receptor Scenario	X
Excavation Worker Receptor Scenario	
Soil Volatilization to Outdoor Air Exposure Pathway	X
Urban Residential Receptor Scenario	X
Occupational Receptor Scenario	
Soil & Soil Gas Vapor Intrusion into Buildings Exposure Pathway	X
Urban Residential Receptor Scenario	X
Occupational Receptor Scenario	X
DEQ Clean Fill Criteria (includes Background Metals for the Portland Basin)	X
RCRA Hazardous Waste Characteristic Screening Level	

The soil leaching to groundwater was eliminated as an applicable exposure pathway based on the lack of detected groundwater during Phase II ESA and geotechnical drilling activities, and the Phase I ESA report research indicating groundwater is between approximately 80 feet and 100 feet bgs at the Subject Property, and the redeveloped Subject Property will use municipal water.

The laboratory results are discussed herein.

5.1 Metals

RCRA-8 metals were detected above laboratory reporting limits in all soil samples that were analyzed for metals.

5.1.1 Metals Above DEQ RBCs

The metal detected above DEQ RBCs is arsenic as follows:

- Arsenic was detected between 2.65 and 4.95 milligrams per kilogram (mg/kg) in the former UST excavation, former waste oil tank and former landfill areas, and are above the DEQ RBCs for Soil Ingestion, Dermal Contact, and Inhalation for an urban residential (1 mg/kg) and occupational (1.9 mg/kg) risk pathways. However, the detected arsenic levels are below the background, or naturally occurring, arsenic concentration for the Portland Basin region of Oregon (8.8 mg/kg). Detected arsenic below 8.8 mg/kg can therefore be eliminated as locations of environmental concern.

5.1.2 Metals Above DEQ Clean Fill Criteria

The metals lead and mercury were detected above DEQ Clean Fill Criteria. The results are summarized below:

- Lead was detected above the DEQ Clean Fill Criteria of 28 mg/kg at P-11 7-7.5 feet bgs (41.7 mg/kg) and SV-2 0.5-4.0 feet bgs (213 mg/kg).
- Mercury was detected above the DEQ Clean Fill Criteria of 0.23 mg/kg in SV-2 0.5-4.5 feet bgs (0.377 mg/kg).

Barium, cadmium, and chromium were detected above laboratory reporting limits and are below their DEQ Clean Fill Criteria. Selenium was not detected above laboratory reporting limits between 1.15 mg/kg and 1.33 mg/kg, and the laboratory reporting limits were above the DEQ Clean Fill Criteria of 0.71 mg/kg.

5.1.3 Toxicity Characteristic/Soil Disposal Characterization

Soil sample results that exceeded the “20 times rule”, where the total metal’s concentration exceeds twenty times the toxicity characteristic for hazardous waste as defined by 40 CFR 261.24, were submitted for follow up analysis for toxicity characteristic leaching potential (TCLP) by EPA Method 6020B to determine if the material is hazardous. Soil sample SV-2 was selected for TCLP lead analyses because its detected lead concentration (213 mg/kg) was above the maximum concentration for TCLP (100 mg/kg).

The data for the sample indicate the TCLP concentration was detected above laboratory reporting limits at 0.0500 milligram per liter (mg/L), below lead's toxicity characteristic limit of 5.0 mg/L. These data are summarized in Table 2.

5.1.4 *Summary of Metals Results*

The DEQ RBCs for Soil Ingestion, Dermal Contact, and Inhalation for urban residential, occupational, construction worker and excavation worker for arsenic was not exceeded. Based on these metals data for the accessible areas of environmental concern investigated for this report, there is no risk to future construction and excavation workers nor to future Subject Property occupants.

The detected lead and mercury in the soil are above DEQ Clean Fill Criteria at the following locations in the former landfill area on the southern portions of the Subject Property:

- Lead in soils between 7 and 7.5 feet bgs at the former waste oil UST location boring P-11 and in the upper 4 feet of soils at soil gas monitoring boring SV-2,
- Mercury in shallow soils at SV-2.

Selenium laboratory detection limits exceed DEQ Clean Fill Criteria across the Subject Property and may exceed this DEQ criteria.

Furthermore, the TCLP lead data indicate the soil is non-hazardous.

Based on the TCLP lead data for soils evaluated in this report, they do not require disposal as a hazardous waste. Soils in the former landfill area on the southern portion of the Subject Property will require disposal at a regulated landfill.

5.2 VOCs

VOCs were not detected above laboratory reporting limits in all soil samples that were analyzed for VOCs. Based on these results, VOCs are not a concern in the areas evaluated for this report on the Subject Property.

5.3 Total Petroleum Hydrocarbons

Gasoline-range and diesel-range petroleum hydrocarbons were not detected above laboratory reporting limits. Oil-range petroleum hydrocarbons were detected in soils at boring P-8 (1-1.5 feet bgs) in the former dispenser island area, at the former waste oil UST area in borings P-11 (7-7.5 feet bgs) and P-12 (9 to 9.5 feet bgs), and in the former landfill area at boring SV-2 (0.5-4.0 feet bgs). The detected oil-range petroleum hydrocarbons were between 68.4 mg/kg and 973 mg/kg.

5.3.1 *Total Petroleum Hydrocarbons Above DEQ RBCs*

The detected oil-range petroleum hydrocarbons did not exceed DEQ RBCs.

5.3.2 *Total Petroleum Hydrocarbons Above DEQ Clean Fill Criteria*

The detected oil-range petroleum hydrocarbons did not exceed DEQ Fill Criteria.

5.3.3 *Summary of Total Petroleum Hydrocarbons Results*

Based on the above, the detected oil-range petroleum hydrocarbons in the areas of environmental concern addressed in this report indicate soils do not pose a risk to construction and excavation workers nor to future Subject Property occupants. The soils in the vicinity of the former dispenser island area do not require special handling or disposal during construction. Although the petroleum concentrations are below DEQ Clean Fill Criteria in the former landfill area, soils in this area exceed DEQ Clean Fill Criteria for metals and will require disposal at a regulated landfill.

5.4 PCBs

The “worst case” oil-range petroleum hydrocarbon detection (P-11 7-7.5 at 973 mg/kg oil) was analyzed for PCBs. PCBs were not detected above laboratory reporting limits. Based on these data, PCBs in soil are not of environmental concern in soils at the former waste oil tank area, nor in the areas of environmental concern evaluated for this Phase II ESA.

5.5 PAHs

The “worst case” oil-range petroleum hydrocarbon detection was at the former waste oil UST area (P-11 7-7.5 at 973 mg/kg oil) and this sample was analyzed for PAHs. The only PAH detected above laboratory method reporting limits was pyrene at 0.0188 mg/kg. The results compared to DEQ RBCs and Clean Fill Criteria are discussed herein.

5.5.1 *PAHs Above DEQ RBCs*

The detected PAH, pyrene, did not exceed DEQ RBCs.

5.5.2 *PAHs Above DEQ Clean Fill Criteria*

The detected PAH, pyrene, did not exceed DEQ Clean Fill Criteria.

5.5.3 *Summary of PAHs Results*

Based on the above, the detected pyrene at the “worst case” oil detection at 7 to 7.5 feet bgs in boring P-11 at the former waste oil UST does not pose a risk to construction and excavation workers nor to future Subject Property occupants. Although the PAHs are below DEQ Clean

Fill Criteria, the soils in the former waste oil UST area are within the former landfill area, and these soils exceed DEQ Clean Fill Criteria for metals and will require disposal at a regulated landfill.

6. IDW CHARACTERIZATION AND DISPOSAL

Two 55-gallon steel drums of investigation-derived waste (IDW) were generated during Phase II ESA activities. The drum contained soil cuttings and decontamination water will be disposed in January 2024 by WasteXpress of Portland, Oregon.

7. CONCLUSIONS

The field observations, methane monitoring, and laboratory data for soils collected from accessible areas of environmental concern on the Subject Property did not exceed the applicable DEQ RBCs or methane limits for the contaminants of concern. Furthermore, the fill material encountered up to 22.5 feet bgs on the southern portion of the Subject Property is not characterized as hazardous waste. These field observations and measurements, and laboratory analytical data indicate soil vapor field monitoring for methane indicate methane intruding into future structures on the Subject Property are not likely to be of environmental concern. However, it may be prudent to install a dual radon / methane mitigation system to address any concerns regarding methane intrusion into buildings.

8. RECOMMENDATIONS

C+BEC recommends the following:

- Construction and excavation workers working in fill materials on the southern portion of the Subject Property don the appropriate PPE due to the variability of fill materials across the Subject Property.
- A lender, the U.S. Department of Housing and Urban Development (HUD), a future purchaser, or other party may require a DEQ No Further Action (NFA) letter. The Subject Property may be enrolled in DEQ's Voluntary Cleanup Program (VCP) or Independent Cleanup Program (ICP) to obtain a NFA determination for contaminated media left in-place related to a drywell, sump, hoist, or contaminated fill material. Enrollment in the VCP program allows DEQ to provide oversight of contaminated soil removal activities and confirmatory sampling (if completed) *before and during* site redevelopment activities. Enrolling in the VCP may provide additional insurance that DEQ will issue a NFA letter prior to completion of construction activities or submittal of a report documenting these activities. Enrollment in the VCP is more expensive than enrolling in the ICP. With enrollment in the ICP, DEQ would review a report documenting the contaminated soil removal and any confirmatory sampling activities

after the site redevelopment activities are completed. It should be noted that DEQ can meet with interested parties prior to enrolling in the VCP or ICP to discuss and determine which program would work best to meet project goals. If a tank is encountered during Subject Property redevelopment activities, a decommissioning concurrence letter from DEQ's UST Program and/or a NFA letter from DEQ's LUST Program addressing contamination may also be required.

- Prepare a Contaminated Media Management Plan (CMMP) for the Subject Property that protects the health and safety for construction and excavation workers, and how to address contaminated media (fill material, soil, groundwater [if encountered], tanks, drywells, hoists, sumps, and surface water pooled on contaminated media) encountered during future site redevelopment and/or utility work. The CMMP should include, but not limited to, the following:
 - PCBs were not detected in soil samples analyzed during the Phase II ESA. However, if oil-range petroleum hydrocarbons are found at different locations and/or if fill or contamination types (e.g., diesel and oil, or free product heavy oil) exhibits different characteristics than encountered during the Phase II ESA activities, C+BEC recommends additional PCB characterization is completed to protect construction and excavation workers, future occupants, and to characterize the soils prior to their disposal.
 - Characterization of soils for hazardous waste characteristics, particularly if different fill material is encountered than during the Phase II ESA (e.g., evidence of construction and demolition material like drywall or asphalt roofing), and determining the proper PPE for construction and excavation workers. If the analytical laboratory data result(s) characterize the soils as hazardous waste, the soil disposal activities must be reported to DEQ and EPA, a hazardous waste identification number must be obtained and handled and disposed of according to RCRA hazardous waste rules. Furthermore, if hazardous building materials are encountered during future excavation activities, they should be characterized and disposed of or recycled per local and State requirements. If suspected asbestos-containing materials like drywall or roofing are encountered during site redevelopment activities, these materials should be submitted to a laboratory for analyses to determine their asbestos content. Any asbestos-containing materials must be abated and disposed of per local and State requirements.
 - Groundwater, if encountered, or standing water in prolonged contact with excavated southern fill materials, that requires removal will have to be containerized, characterized, and transported and disposed of or treated off-site.
-

-
- Set aside a contingency budget prior to initiating redevelopment activities so that if USTs, underground injection controls (UICs) (including old drywells and privy pits), hoists, sumps, and contaminated fill, soil, and standing water in contact with contaminated media are encountered during construction activities, funds will be available to immediately address these items and avoid construction stand-by time. The contingency should include fees for UST and UIC decommissioning activities that meet DEQ regulations, backfilling with the appropriate compacted material, hazardous construction and demolition debris materials assessment, transportation and disposal or abatement of contaminated media to a regulated landfill or treatment/recycling facility, and, if necessary, obtaining a DEQ No Further Action determination or regulatory file closure from DEQ's UST, UIC, LUST, and/or Cleanup Program(s).
 - It may be prudent to conduct confirmatory sampling subsequent to excavation activities to document the soil conditions left in-place and to document any contaminant "hot spots" in the event future work occurs in these areas.
 - It may be prudent to install a vapor mitigation system for a new structure on the Subject Property to prevent future occupants from being exposed to potential contaminants from vapor intrusion into the building originating from contaminated soils left in-place not yet identified (i.e., from inaccessible areas of the Subject Property), and to minimize any potential methane and/or radon migration into the Subject Property building.

Please contact Jill Betts with any questions you may have.

Report Prepared By:



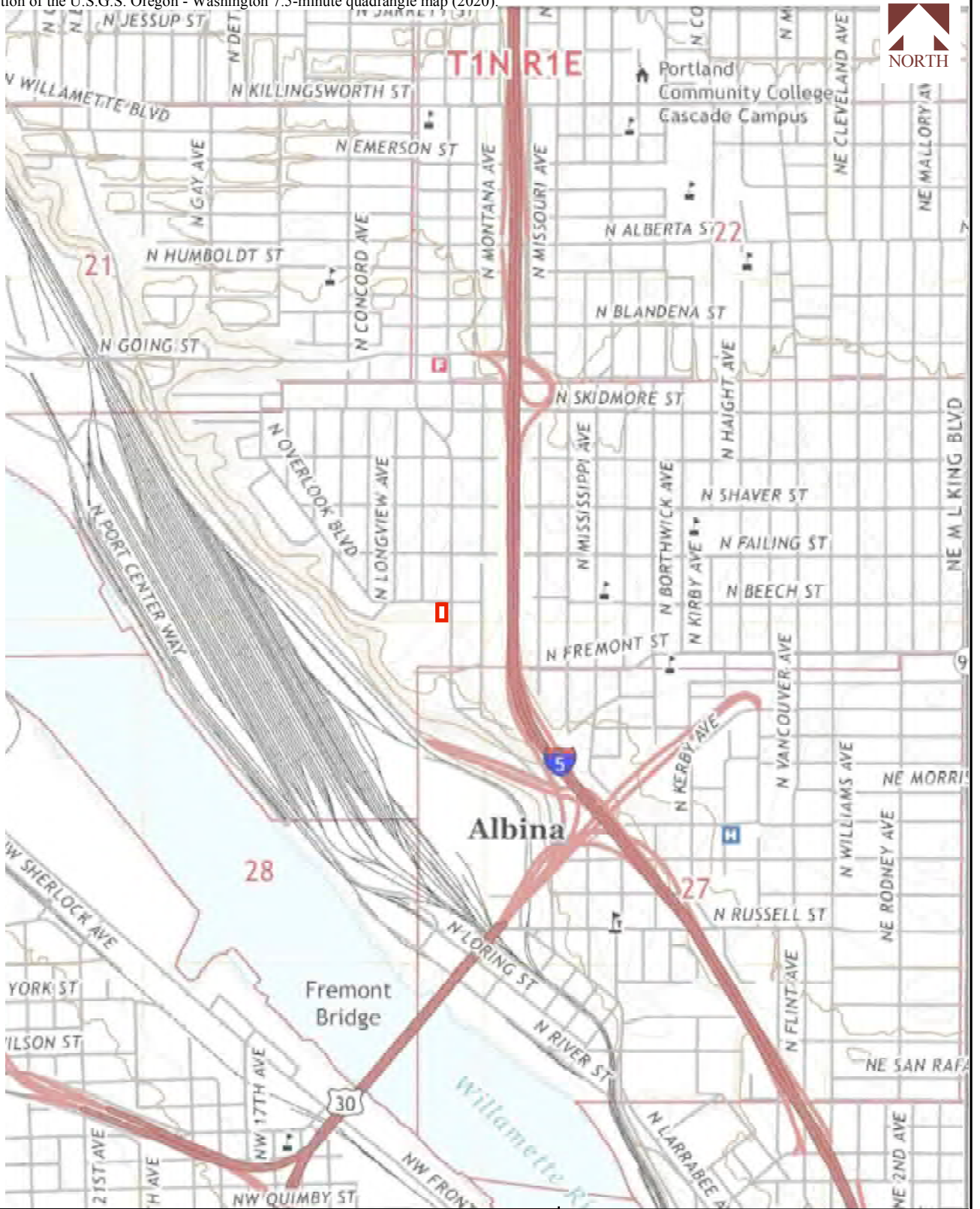
Jill Betts, R.G.
Principal

Report Reviewed by:



Michael S. Reynolds, P.E.
Principal

Note: Portion of the U.S.G.S. Oregon - Washington 7.5-minute quadrangle map (2020).



Key
 Subject Property Boundary



Approx. Scale: 1" = 1060'

Approved By	Date/Revision
	1/9/2024 Rev. 1

Figure 1. Topographic map showing the location of the Subject Property.

Notes: Aerial photo, dated June 14, 2022 is from Google Earth Pro. All indicated locations are approximate.



Key

Subject Property Boundary

Overlook
Park

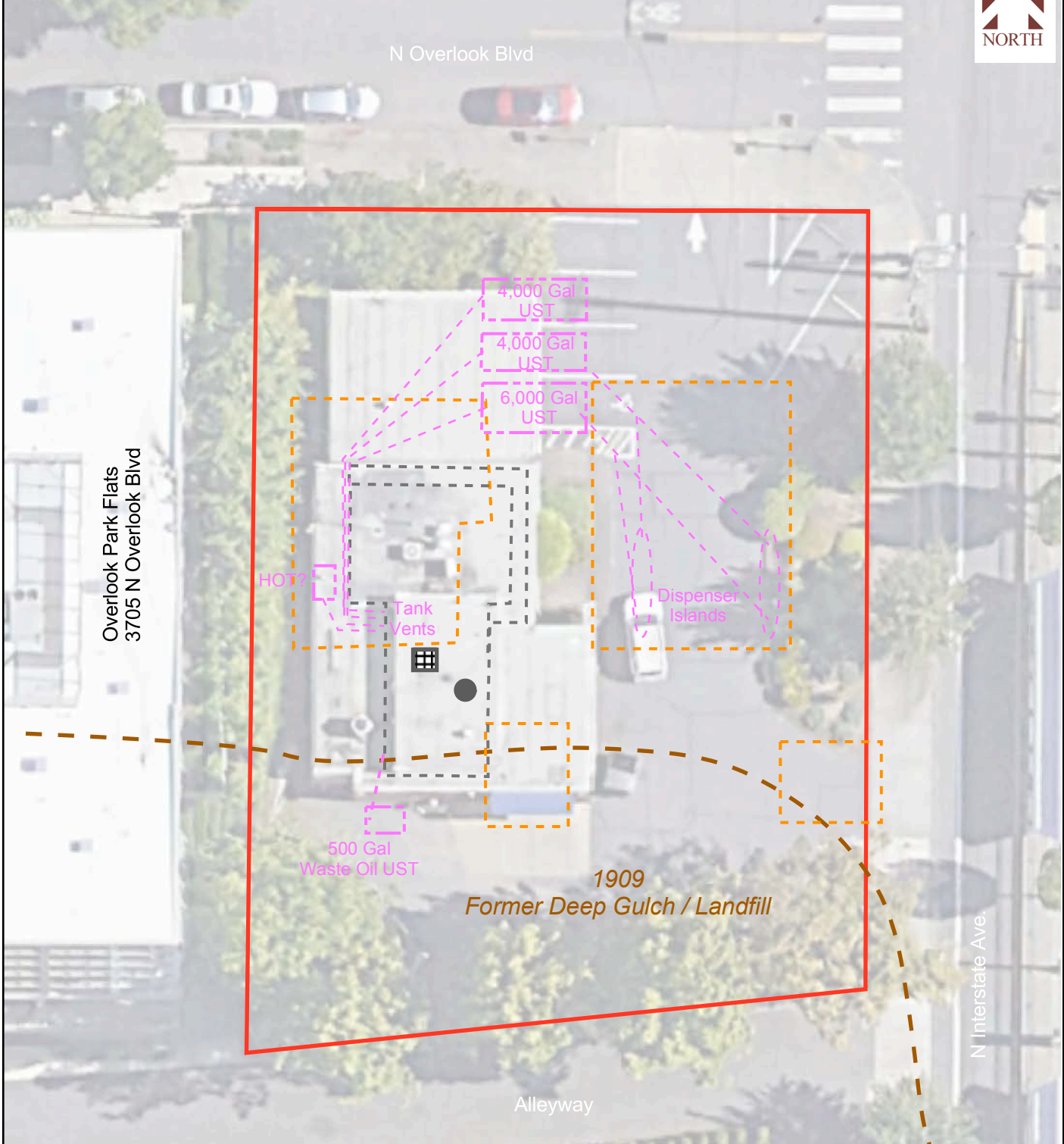


Approx. Scale: 1' = 110"

Approved By	Date/Revision
	1/14/2024
	Rev. 0

Figure 2. Subject Property Map. The locations of features on the Subject Property are shown.

Notes: Aerial photo, dated June 14, 2022 is from Google Earth Pro. All indicated locations are approximate.



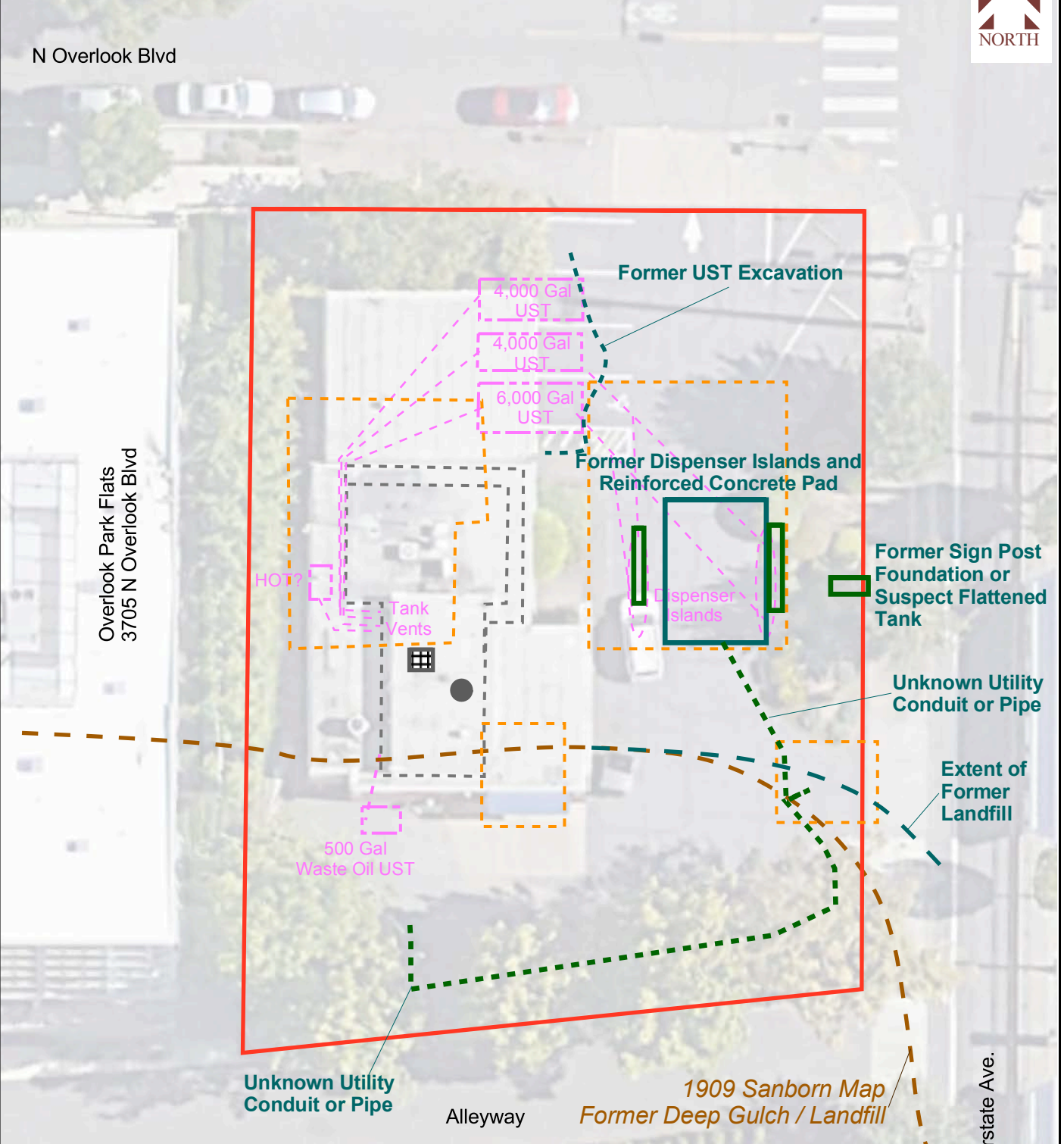
Key	Subject Property Boundary	Former Sump	Former Hoist
	Extent of Former Gulch / Landfill		
	Former Underground Storage Tank (UST) System		
	Former Gas Station Building Footprint (1960-1970s) (Former Hoist and Sump Inside Bldg. Are Noted)		
	Former Residences and Garages (1924-1960)		



Approx. Scale: 1" = 110'	Approved By	Date/Revision
		1/14/2024
Rev 0		

Figure 3. Items of Environmental Concern on the Subject Property. The locations of these features on the Subject Property are shown.

Notes: Aerial photo, dated June 14, 2022 is from Google Earth Pro. All indicated locations are approximate.



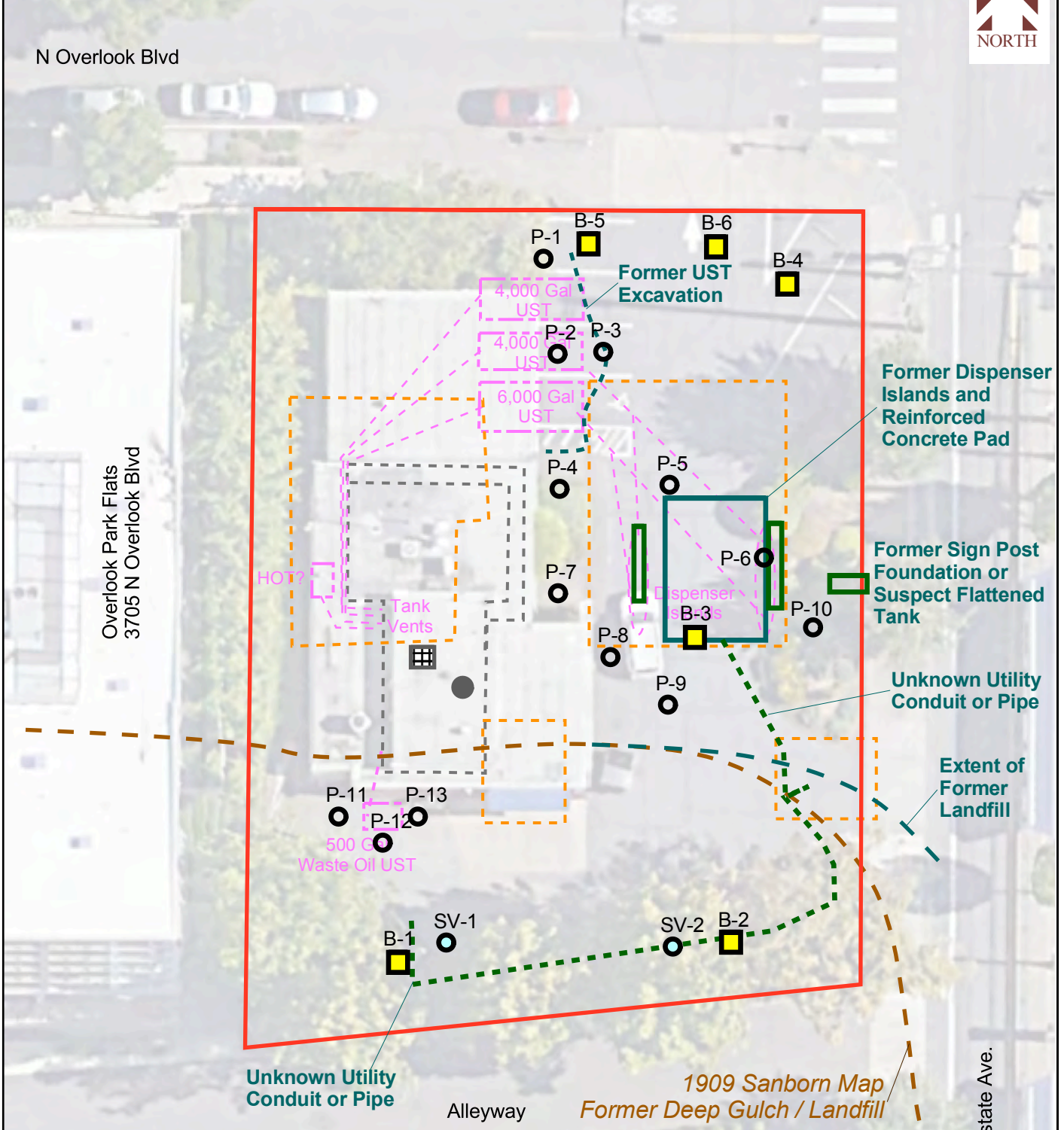
Key	
	Site Boundary
	Former Sump
	Former Hoist
	Extent of Former Gulch / Landfill
	Former Underground Storage Tank (UST)
	Former Gas Station Building Footprint (1960-1970s)
	Former Residences and Garages (1924-1960)
	Geophysical Survey Findings and Notes (in Green)

COLES+BETTS
environmental consulting

Approx. Scale: 1" = 25'	Approved By	Date/Revision
		1/14/24
Rev 0		

Figure 4. Geophysical Survey Findings With Items of Environmental Concern on the Subject Property.

Notes: Aerial photo, dated June 14, 2022 is from Google Earth Pro. All indicated locations are approximate.



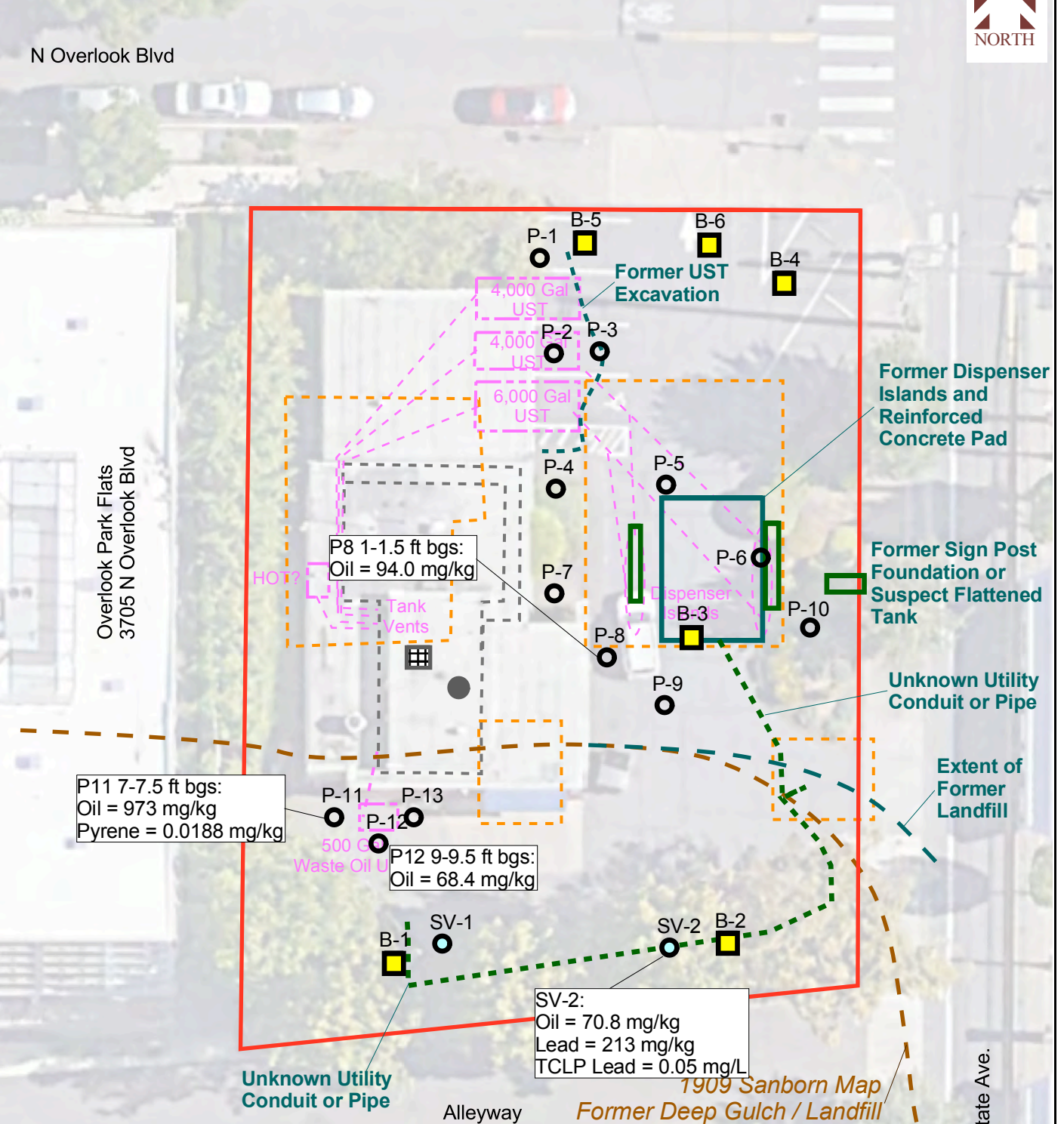
Key	
	Subject Property Boundary
	Extent of Former Gulch / Landfill
	Former Underground Storage Tank (UST)
	Former Gas Station Building Footprint (1960-1970s)
	Former Residences and Garages (1924-1960)
	Geophysical Survey Findings and Notes (in Green)
	B-2 Geotechnical Boring
	SV-1 Phase II ESA Soil Vapor Boring
	P13 Phase II ESA Soil Boring
	Former Sump
	Former Hoist



Approx. Scale: 1" = 25'	Approved By	Date/Revision
		1/14/24 Rev 0

Figure 5. Location of Borings on the Subject Property.

Notes: Aerial photo, dated June 14, 2022 is from Google Earth Pro. All indicated locations are approximate.



Key	
	Subject Property Boundary
	Extent of Former Gulch / Landfill
	Former Underground Storage Tank (UST)
	Former Gas Station Building Footprint (1960-1970s)
	Former Residences and Garages (1924-1960)
	Geophysical Survey Findings and Notes (in Green)
	Former Sump
	Former Hoist
	Phase II ESA Soil Vapor Boring
	Phase II ESA Soil Boring
	Geotechnical Boring
	Phase II ESA Soil Vapor Boring
	Phase II ESA Soil Boring



Approx. Scale: 1" = 25'	Approved By	Date/Revision
		1/16/24 Rev 0

Figure 6. Soil Analytical Results of Significance

Table 2. Summary of TCLP Analytical Data
 Future M Carter Commons Development
 Portland, OR

				10/9/23	
	Unit	Maximum Concentration for TCLP	Regulatory Level (40 CFR 261.24)	SV2	
Total Metals EPA 6020					
Cadmium	mg/kg	20	-	0.36	
Lead	mg/kg	100	-	213	
Mercury	mg/kg	4	-	0.377	
TCLP Metals EPA 6020/1311					
Cadmium	mg/L	-	1.0	-	
Lead	mg/L	-	5.0	0.05	U
Mercury	mg/L	-	0.2	-	

NOTES:

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

U = not detected above the method detection limit shown.

Bold denotes concentration above laboratory method reporting limit.

Highlighted cell denotes detected concentration exceeding the maximum concentration for TCLP.

Samples analyzed by Apex Laboratories of Tigard, Oregon.

APPENDIX A

Geophysical Survey Report



UST Survey 3715 N Interstate Avenue Portland, Oregon

A geophysical survey was conducted across the property located at the address shown above, for Coles and Betts. A gas station has operated at the site in the past. The scope of the survey was to detect the excavations from the removal of the gas station's underground storage tanks (USTs) and a heating-oil tank. An additional scope was to detect unknown tanks within the survey area, remaining on site after the removal of two residences. No surface evidence of USTs including fill ports and vent pipes was seen at the site. The edge of a municipal landfill is reportedly located at the south portion of this property. An additional goal of this survey was to detect this edge and possibly investigate the contents of this landfill. Figure 1 shows the survey location and area.

A Geonics EM61-MK2A time-domain metal detector was used to collect electromagnetic data across the survey area. Traverses were made along survey lines spaced approximately every 5 feet. A Juniper Systems Geode 2 GPS was used to constrain data positions. Figure 2 shows the resulting electromagnetic map from the first time-gate, as recorded by the instrument. Data were contoured using a contour interval of 75 mV (millivolts). In the figure, electromagnetic anomalies are shown in red and are usually found over areas where ferrous or non-ferrous objects are located below the sensors, pulled on wheels across the site. Buildings, fences, metal posts, and cars usually produce electromagnetic anomalies.

Surface metallic objects at this site included the building, parked trailers, parking curbs with rebar anchors, concrete pads, parked cars by the curb, a pole, signs, and a traffic light. These objects created significant interference. Buried metallic objects of interest located near or under these objects will have been missed.

After the data were collected and processed, an EM A6 Tracer electromagnetic metal detector and a Schonstedt magnetic gradiometer were used to locate and investigate any anomalies detected by the EM61. These instruments can pinpoint the anomalies and, in many cases, determine if an object is linear (pipe or utility) or three-dimensional (UST). A SIR-3000 ground-penetrating radar (GPR) control unit connected to a 400-MHz antenna was used subsequently.

Several anomalies can be seen across the site and were investigated. Anomalies A are caused by a reinforced concrete pad, which is the former refueling pad from the gas station. The anomaly is interrupted by a non-reinforced strip that coincides with the location of one of the former pump islands. Magnetic peaks were detected there with the Schonstedt. More magnetic peaks were detected near the east extent of the pad; they are possibly caused by remnants of a second pump island.

Anomaly B is caused by the reinforced approach ramp to the parking lot.

Anomalies C are caused by surface objects.

No three-dimensional object was detected at the location of anomaly D.

Anomalies E are interpreted to be caused by buried pipes.

Anomaly F is caused by a 3D object, as indicated by the Tracer. No reflections typical of an intact UST were seen in radar profiles across the object; nevertheless, the object may be a collapsed tank.

No anomalies from gas station piping were detected in the area north of the pad shown in a site diagram to contain product and vent pipes.

After the electromagnetic survey was completed, GPR was used to collect profiles across the areas of the known former USTs. A subtle disturbed-soil zone that is possibly caused by the removal of the station's tanks



was detected and marked on the ground. It is shown in Figure 2. No soil disturbance was detected in the area of the former HOT.

The edge of the landfill as shown in the provided site map is shown with a brown line in Figure 2. GPR traverses were made across this area but no reflections indicating a transition were seen in the profiles within the limit of penetration of the radar signal (4 feet). This transition may be hidden under a layer of fill brought onto this property. There is no response from buried metallic objects within the southern portion of the survey area, as indicated by this survey. Metal detectors were used across the asphalt driveway south of the property (Figure 1), but no metallic objects were detected there. An undulating soil horizon was detected in this area that may be the top of the landfill. It varied in depth between 2.2 and 3.3 feet.

Nikos Tzetos of Pacific Geophysics conducted the survey for Ms. Jill Betts of Coles and Betts on September 26, 2023. This letter report was written by Nikos Tzetos and emailed to Ms. Betts on October 8, 2023.

Limitations

The conclusions presented in this report were based upon widely accepted geophysical principles, methods, and equipment. This survey was conducted with limited knowledge of the site, the site history, and the subsurface conditions.

The goal of near-surface geophysics is to provide a rapid means of characterizing the subsurface using non-intrusive methods. Conclusions based upon these methods are generally reliable; however, due to the inherent ambiguity of the methods, no single interpretation of the data can be made. As an example, rocks and roots produce radar reflections that may appear the same as pipes and tanks.

Under reasonable conditions, geophysical surveys are good at detecting changes in the subsurface caused by fabricated objects or changes in subsurface conditions, but they are poor at actually identifying those objects or subsurface conditions.

Objects of interest are not always detectable due to surface and subsurface conditions. The deeper an object is buried, the more difficult it is to detect, and the less accurately it can be located.

The only way to see an object is to physically expose it.

Nikos Tzetos
Pacific Geophysics

October 8, 2023



Appendix A. Geophysical Survey Methods

Geonics EM61 Metal Detector (from Geonics.com)

“The EM61-MK2A is a high sensitivity, high resolution, time domain metal detector suitable for the detection of both ferrous and non-ferrous metal. Typical target response is a single, sharply defined peak, facilitating quick and accurate determination of location. Achievable depth of detection will depend on several target characteristics, with the surface area and orientation of the target of particular importance. A single 200 litre (55 gal.) drum can be detected at depths greater than three metres.

“In comparison with the previous-standard EM61-MK2, the EM61-MK2A provides the same feature and performance specifications. Differences between the two models are ergonomic: because the A-model does not include a backpack for system components, the electronics console is mounted on the U-handle, and the battery is positioned in the centre of the coils.

“Data from multiple time gates -- three or four, user-selectable -- are recorded to provide a description of the response decay rate, supporting both the characterization and limited discrimination of targets. Data collection is supported by the DAS70-AR Data Acquisition System.

“The system can be pushed or pulled as a trailer, by person or vehicle, as either a single unit or an array of multiple units; for multiple unit configurations, options are available to customize component specifications and layout. As may be required, with the addition of a backpack and associated cable set, the system can be carried by a single person with a belt harness.”

Ground Penetrating Radar

A Geophysical Survey Systems, Inc. (GSSI) SIR-4000 or SIR-3000 GPR system coupled to GSSI antennas of various central frequencies is used to obtain the radar data for our surveys.

GPR antennas both transmit and receive electromagnetic energy. EM energy is transmitted into the material the antenna passes over. A portion of that energy is reflected back to the antenna and amplified. Reflections are displayed in real-time in a continuous cross section. Reflections are produced where there is a sufficient electrical contrast between two materials. Changes in the electrical properties (namely the dielectric constant) that produce radar reflections are caused by changes in the moisture content, porosity, mineralogy, and texture of the material. Metallic objects of interest exhibit a strong electrical contrast with the surrounding material and thus produce relatively strong reflections. Non-metallic objects of interest (septic tanks, cesspools, dry wells, and PVC and clay tile pipes) are not always good reflectors.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. In concrete investigations reflections produced by metal rebar look exactly like those from electrical conduit or post-tension cables. Objects with too small an electrical contrast may produce no reflections at all and may be missed. Target objects buried below objects with contrasting properties that also produce reflections may be missed (e.g., USTs below roots, concrete pieces, pipes, or rocks). If an object of interest like a UST is buried below the depth of penetration of the radar signal, it will be missed.

In addition to interpreting ambiguous data, radar has several limitations that cannot be controlled by the operator. The radar signal is severely attenuated by electrically conductive material, including wet, clay-rich soil and reinforced concrete. The quality of the data is affected by the surface conditions over which the antenna is pulled. Ideally the antenna should rest firmly on a smooth surface. Rough terrain and tall grass reduce the quality of radar data.

It is the job of an experienced interpreter to examine the GPR profiles and deduce if reflections are from objects of interest. A GPR interpreter cannot see underground but can only interpret reflections based on experience.

The only way to truly identify an object is to excavate.

Hand-held Metal detectors

Two small, non-recording metal detectors are used in our surveys.



Schonstedt Magnetic Gradiometer: This magnetometer has two magnetic sensors separated vertically by 10". The magnetic field surrounding a ferrous object is strongest near the object and decreases rapidly as the distance increases. If the magnitude measured by the sensor located in the tip of the Schonstedt is very high, and the magnetic field measured by the sensor located farther up the shaft of the Schonstedt is low, there is a large vertical magnetic gradient, and the instrument responds with a loud whistle indicating the object is near the surface. If there is a small difference in the magnitudes measured by the two sensors, the object is deeper. The instrument responds with a softer tone. A discussion of this instrument is available at Schonstedt.com.

Aqua-Tronics A-6 Tracer: The Aqua-Tronics A-6 Tracer uses a different method of detecting metallic objects. This instrument measures the electrical conductivity of a metal object. It is capable of detecting any electrically conductive metal, including non-ferrous aluminum and brass. The Tracer is capable of detecting three-dimensional objects as well as pipes.

The Tracer consists of a transmitter coil and a receiver coil. In the absence of any electrically conductive material in the vicinity of the Tracer, the electromagnetic field around each coil is balanced.

Basically, the electromagnetic field produced by the transmitter induces an electric current into the area surrounding the instrument. Nearby conductive objects distort the EM field. The balance between the two coils is disturbed and the instrument produces an audible tone and meter indication.

Radio Detection RD8000 PDL pipe and cable detector: This instrument may be used to detect buried, conductive pipes and utilities. It consists of a transmitter and a receiver and can be used in two configurations.

The transmitter may be used to directly apply a small electrical current to exposed, electrically conductive pipes and utilities. The RD receiver is then able to "trace" the underground portion of the pipe or utility, under some conditions for several hundred feet. The transmitter can also induce an electrical current into buried pipes and utilities where direct contact is not available.

The receiver can also be used alone. It has the capability to locate pipes and utilities by detecting the very small electrical currents induced into the features by nearby AM/FM radio stations.

The receiver also has an AC power function that may be used to detect underground power lines.

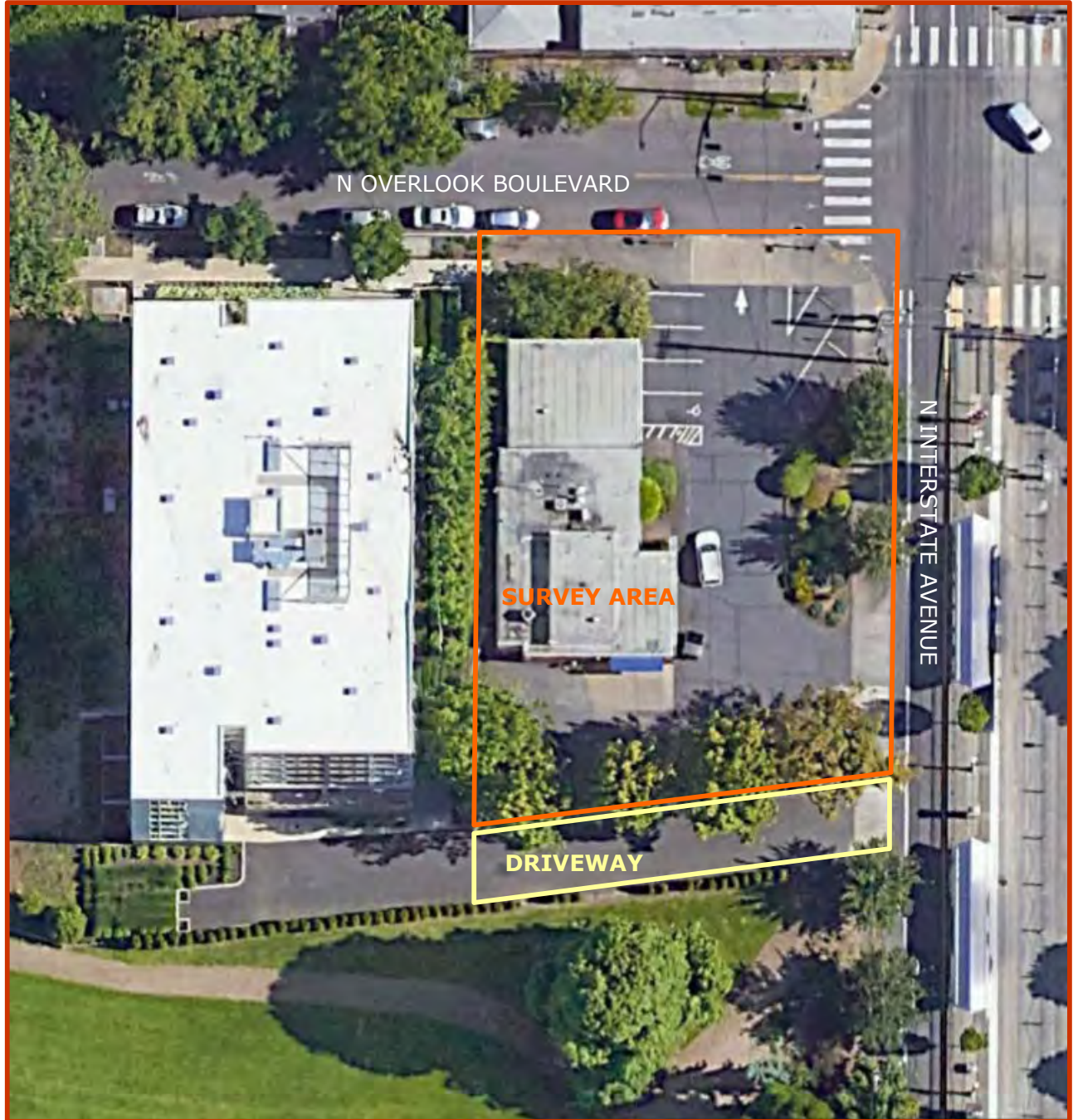


FIGURE
1

Survey Location and Area

Project: 230712	UST Survey 3715 N Interstate Avenue Portland, Oregon
Drawn by : NT	Prepared for: Coles & Betts Base Photo from Google Earth

APPENDIX B

Phase II ESA Drilling Photographs



Photograph 1: View of former UST excavation area on the north Subject Property boundary facing south. The Subject Property building is on the right side of the photograph.



Photograph 2: Location of Phase II ESA boring P1. The location of geotechnical boring B-5 is indicated with white spray paint. Photo taken facing north. N Overlook Blvd is in the background.



Photograph 3: Location of Phase II ESA boring P4. The spray painted white "T's" indicate the extent of the former UST excavation fill area. The Subject Property Building is on the right side of the photograph.



Site Photographs: Photographs taken on October 9, 2023 during the Phase II ESA Site Survey



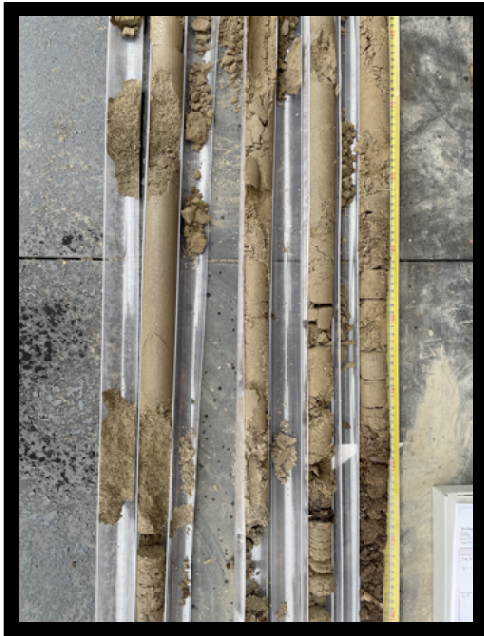
Photograph 4: Soil cores from boring P1. The top of the soil cores are at the bottom of the photo, and the first core (0 to 5 ft bgs) is on the right side of the photograph. The deepest core (15 ft to 20 ft bgs) is on the left side of the photograph.



Photograph 5: Soil cores from boring P2. The top of the soil cores are at the bottom of the photo, and the first core (0 to 5 ft bgs) is on the right side of the photograph. The deepest core (15 ft to 20 ft bgs) is on the left side of the photograph.



Photograph 6: Soil cores from boring P2. The top of the soil cores are at the bottom of the photo, and the first core (0 to 5 ft bgs) is on the right side of the photograph. The deepest core (15 ft to 20 ft bgs) is on the left side of the photograph.



Photograph 7: Soil cores from boring P4. The top of the soil cores are at the bottom of the photo, and the first core (0 to 5 ft bgs) is on the right side of the photograph. The deepest core (15 ft to 20 ft bgs) is on the left side of the photograph.



Photograph 8: View of the former UST dispenser islands area facing south. The direct push drill rig is situated at boring location P8.



Photograph 9: Soil cores from borings P8 and P9. The top of the soil cores are at the bottom of the photo. The cores for P8 are on the right side of the photograph, and the first core (0 to 5 ft bgs) is the furthest right. The core for boring P9 is on the left side of the photograph.



Photograph 10: View facing north of the landscaped area on the east side of the Subject Property with the suspect flattened UST or former sign foundation.



Photograph 11: Soil cores from boring P10. The top of the soil cores are at the bottom of the photo, and the first core (0 to 5 ft bgs) is on the right side of the photograph. The deepest core (5 ft to 10 ft bgs) is on the left side of the photograph.



Photograph 12: View facing north of the former waste oil tank area on the south side of the Subject Property building. The spray painted location of geotechnical boring B-1 was moved further east than shown to avoid potential utility conflicts.



Photograph 13: Soil cores from borings P10 and P13. The top of the soil cores are at the bottom of the photo, and the two cores on the right side of the photograph are for boring P10. The cores for boring P13 are the three from the left of the photograph, with the shallow core (0 ft to 5 ft bgs) in the center, and the deepest core (10 ft to 15 ft bgs) on the left side of the photograph.



Photograph 14: Soil cores from boring P12. The top of the soil cores are at the bottom of the photo, and the first core (0 to 5 ft bgs) is on the right side of the photograph. The deepest core (20 ft to 25 ft bgs) is on the left side of the photograph.



Photograph 15: Soil cores from boring P13. The top of the soil cores are at the bottom of the photo, and the first core (0 to 5 ft bgs) is on the right side of the photograph. The deepest core (15 ft to 20 ft bgs) is on the left side of the photograph.



Photograph 16: View of soil gas monitoring location SV-2 facing east. N Interstate Avenue and the MAX Station are in the background. The adjacent south alleyway is on the right side of the photograph, beyond which is Overlook Park.



Photograph 17: View of the SV-1 and SV-2 soil cores. The bottom of the cores are at the bottom of the photograph.



Photograph 18: View of soil vapor monitoring locations SV-1 and SV-2 facing west/southwest. The adjacent west apartment building is in the background. The alleyway and Overlook Park are on the left side of the photograph.

APPENDIX C

Analytical Laboratory Reports and Chain of Custody Documentation



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Monday, November 6, 2023

Jill Betts
Coles & Betts Environmental Consulting
5741 NE Flanders Street
Portland, OR 97213

RE: A3J1092 - 437 - 437

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3J1092, which was received by the laboratory on 10/10/2023 at 10:05:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information
Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.
(See Cooler Receipt Form for details)
Default Cooler 2.1 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report. All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

[Handwritten signature]

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

<u>Coles & Betts Environmental Consulting</u> 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV-1-0.5-4.0	A3J1092-01	Soil	10/09/23 09:10	10/10/23 10:05
SV-2-	A3J1092-02	Soil	10/09/23 09:20	10/10/23 10:05
P-1 13-13.5	A3J1092-05	Soil	10/09/23 10:15	10/10/23 10:05
P-2 7-7.5	A3J1092-07	Soil	10/09/23 10:50	10/10/23 10:05
P-2 13-13.5	A3J1092-08	Soil	10/09/23 11:00	10/10/23 10:05
P-3 8.5-9	A3J1092-09	Soil	10/09/23 11:15	10/10/23 10:05
P-4 13-13.5	A3J1092-10	Soil	10/09/23 11:50	10/10/23 10:05
P-5 3.5-4	A3J1092-11	Soil	10/09/23 12:35	10/10/23 10:05
P-6 0.5-1	A3J1092-12	Soil	10/09/23 12:45	10/10/23 10:05
P-7 1-1.5	A3J1092-13	Soil	10/09/23 12:55	10/10/23 10:05
P-8 1-1.5	A3J1092-14	Soil	10/09/23 13:05	10/10/23 10:05
P-9 3-3.5	A3J1092-16	Soil	10/09/23 13:25	10/10/23 10:05
P-10 8.5-9	A3J1092-17	Soil	10/09/23 13:45	10/10/23 10:05
P-11 7-7.5	A3J1092-18	Soil	10/09/23 14:10	10/10/23 10:05
P-11 13-13.5	A3J1092-19	Soil	10/09/23 14:15	10/10/23 10:05
P-12 9-9.5	A3J1092-20	Soil	10/09/23 14:30	10/10/23 10:05
P-12 14.5-15	A3J1092-21	Soil	10/09/23 14:35	10/10/23 10:05
P-12 19-19.5	A3J1092-22	Soil	10/09/23 14:40	10/10/23 10:05
P-13 8.5-9	A3J1092-25	Soil	10/09/23 15:30	10/10/23 10:05

Apex Laboratories

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-1-0.5-4.0 (A3J1092-01)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	22.5	mg/kg dry	1	10/16/23 23:15	NWTPH-Dx	
Oil	ND	---	45.1	mg/kg dry	1	10/16/23 23:15	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 62 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/16/23 23:15</i>	<i>NWTPH-Dx</i>
SV-2- (A3J1092-02)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	21.3	mg/kg dry	1	10/16/23 23:35	NWTPH-Dx	
Oil	70.8	---	42.6	mg/kg dry	1	10/16/23 23:35	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/16/23 23:35</i>	<i>NWTPH-Dx</i>
P-1 13-13.5 (A3J1092-05)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	23.2	mg/kg dry	1	10/16/23 23:55	NWTPH-Dx	
Oil	ND	---	46.4	mg/kg dry	1	10/16/23 23:55	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/16/23 23:55</i>	<i>NWTPH-Dx</i>
P-2 13-13.5 (A3J1092-08)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	21.0	mg/kg dry	1	10/17/23 01:36	NWTPH-Dx	
Oil	ND	---	42.0	mg/kg dry	1	10/17/23 01:36	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 01:36</i>	<i>NWTPH-Dx</i>
P-3 8.5-9 (A3J1092-09)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	21.6	mg/kg dry	1	10/17/23 01:56	NWTPH-Dx	
Oil	ND	---	43.3	mg/kg dry	1	10/17/23 01:56	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 01:56</i>	<i>NWTPH-Dx</i>
P-4 13-13.5 (A3J1092-10)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	22.5	mg/kg dry	1	10/17/23 02:16	NWTPH-Dx	
Oil	ND	---	45.0	mg/kg dry	1	10/17/23 02:16	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 73 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 02:16</i>	<i>NWTPH-Dx</i>
P-5 3.5-4 (A3J1092-11)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	24.0	mg/kg dry	1	10/17/23 02:36	NWTPH-Dx	
Oil	ND	---	47.9	mg/kg dry	1	10/17/23 02:36	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 63 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 02:36</i>	<i>NWTPH-Dx</i>

Apex Laboratories

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-6 0.5-1 (A3J1092-12)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	22.3	mg/kg dry	1	10/17/23 02:56	NWTPH-Dx	
Oil	ND	---	44.7	mg/kg dry	1	10/17/23 02:56	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 76 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 02:56</i>	<i>NWTPH-Dx</i>
P-7 1-1.5 (A3J1092-13)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	23.8	mg/kg dry	1	10/17/23 03:17	NWTPH-Dx	
Oil	ND	---	47.5	mg/kg dry	1	10/17/23 03:17	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 03:17</i>	<i>NWTPH-Dx</i>
P-8 1-1.5 (A3J1092-14)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	24.2	mg/kg dry	1	10/17/23 03:37	NWTPH-Dx	
Oil	94.0	---	48.4	mg/kg dry	1	10/17/23 03:37	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 03:37</i>	<i>NWTPH-Dx</i>
P-9 3-3.5 (A3J1092-16)				Matrix: Soil		Batch: 23J0576		
Diesel	ND	---	22.8	mg/kg dry	1	10/17/23 04:37	NWTPH-Dx	
Oil	ND	---	45.5	mg/kg dry	1	10/17/23 04:37	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/17/23 04:37</i>	<i>NWTPH-Dx</i>
P-10 8.5-9 (A3J1092-17)				Matrix: Soil		Batch: 23J0574		
Diesel	ND	---	24.0	mg/kg dry	1	10/16/23 18:51	NWTPH-Dx	
Oil	ND	---	48.0	mg/kg dry	1	10/16/23 18:51	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/16/23 18:51</i>	<i>NWTPH-Dx</i>
P-11 7-7.5 (A3J1092-18)				Matrix: Soil		Batch: 23J0574		
Diesel	ND	---	22.9	mg/kg dry	1	10/16/23 19:32	NWTPH-Dx	
Oil	973	---	45.8	mg/kg dry	1	10/16/23 19:32	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/16/23 19:32</i>	<i>NWTPH-Dx</i>
P-11 13-13.5 (A3J1092-19)				Matrix: Soil		Batch: 23J0574		
Diesel	ND	---	25.0	mg/kg dry	1	10/16/23 19:52	NWTPH-Dx	
Oil	ND	---	49.9	mg/kg dry	1	10/16/23 19:52	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/16/23 19:52</i>	<i>NWTPH-Dx</i>

Apex Laboratories

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-12 9-9.5 (A3J1092-20)				Matrix: Soil		Batch: 23J0574		
Diesel	ND	---	24.8	mg/kg dry	1	10/16/23 20:13	NWTPH-Dx	
Oil	68.4	---	49.6	mg/kg dry	1	10/16/23 20:13	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 69 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/16/23 20:13</i>	<i>NWTPH-Dx</i>	
P-12 14.5-15 (A3J1092-21)				Matrix: Soil		Batch: 23J0574		
Diesel	ND	---	24.9	mg/kg dry	1	10/16/23 20:33	NWTPH-Dx	
Oil	ND	---	49.8	mg/kg dry	1	10/16/23 20:33	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 79 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/16/23 20:33</i>	<i>NWTPH-Dx</i>	
P-12 19-19.5 (A3J1092-22)				Matrix: Soil		Batch: 23J0574		
Diesel	ND	---	24.9	mg/kg dry	1	10/16/23 20:53	NWTPH-Dx	
Oil	ND	---	49.8	mg/kg dry	1	10/16/23 20:53	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 69 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/16/23 20:53</i>	<i>NWTPH-Dx</i>	
P-13 8.5-9 (A3J1092-25)				Matrix: Soil		Batch: 23J0574		
Diesel	ND	---	25.3	mg/kg dry	1	10/16/23 21:13	NWTPH-Dx	
Oil	ND	---	50.5	mg/kg dry	1	10/16/23 21:13	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/16/23 21:13</i>	<i>NWTPH-Dx</i>	

Apex Laboratories

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
SV-1-0.5-4.0 (A3J1092-01)				Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	4.61	mg/kg dry	50	10/11/23 14:56	NWTPH-Gx (MS)		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 14:56</i>	<i>NWTPH-Gx (MS)</i>		
<i>1,4-Difluorobenzene (Sur)</i>			<i>97 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 14:56</i>	<i>NWTPH-Gx (MS)</i>		
SV-2- (A3J1092-02)				Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	4.61	mg/kg dry	50	10/11/23 15:22	NWTPH-Gx (MS)		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 15:22</i>	<i>NWTPH-Gx (MS)</i>		
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 15:22</i>	<i>NWTPH-Gx (MS)</i>		
P-1 13-13.5 (A3J1092-05)				Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	5.27	mg/kg dry	50	10/11/23 15:47	NWTPH-Gx (MS)		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 15:47</i>	<i>NWTPH-Gx (MS)</i>		
<i>1,4-Difluorobenzene (Sur)</i>			<i>99 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 15:47</i>	<i>NWTPH-Gx (MS)</i>		
P-2 7-7.5 (A3J1092-07)				Matrix: Soil		Batch: 23J0384			V-15
Gasoline Range Organics	ND	---	7.07	mg/kg dry	50	10/11/23 16:13	NWTPH-Gx (MS)		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 16:13</i>	<i>NWTPH-Gx (MS)</i>		
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 16:13</i>	<i>NWTPH-Gx (MS)</i>		
P-2 13-13.5 (A3J1092-08)				Matrix: Soil		Batch: 23J0384			V-15
Gasoline Range Organics	ND	---	5.72	mg/kg dry	50	10/11/23 16:38	NWTPH-Gx (MS)		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 16:38</i>	<i>NWTPH-Gx (MS)</i>		
<i>1,4-Difluorobenzene (Sur)</i>			<i>99 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 16:38</i>	<i>NWTPH-Gx (MS)</i>		
P-3 8.5-9 (A3J1092-09)				Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	4.25	mg/kg dry	50	10/11/23 17:04	NWTPH-Gx (MS)		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 17:04</i>	<i>NWTPH-Gx (MS)</i>		
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 17:04</i>	<i>NWTPH-Gx (MS)</i>		
P-4 13-13.5 (A3J1092-10)				Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	5.34	mg/kg dry	50	10/11/23 17:30	NWTPH-Gx (MS)		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 17:30</i>	<i>NWTPH-Gx (MS)</i>		
<i>1,4-Difluorobenzene (Sur)</i>			<i>100 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 17:30</i>	<i>NWTPH-Gx (MS)</i>		

Apex Laboratories

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
--	---	---

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-5 3.5-4 (A3J1092-11)				Matrix: Soil		Batch: 23J0384		
Gasoline Range Organics	ND	---	6.14	mg/kg dry	50	10/11/23 17:55	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 17:55</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>99 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 17:55</i>	<i>NWTPH-Gx (MS)</i>	
P-6 0.5-1 (A3J1092-12)				Matrix: Soil		Batch: 23J0384		
Gasoline Range Organics	ND	---	5.18	mg/kg dry	50	10/11/23 18:46	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 97 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 18:46</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>101 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 18:46</i>	<i>NWTPH-Gx (MS)</i>	
P-7 1-1.5 (A3J1092-13)				Matrix: Soil		Batch: 23J0384		
Gasoline Range Organics	ND	---	5.75	mg/kg dry	50	10/11/23 19:12	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 19:12</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>100 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 19:12</i>	<i>NWTPH-Gx (MS)</i>	
P-8 1-1.5 (A3J1092-14)				Matrix: Soil		Batch: 23J0384		
Gasoline Range Organics	ND	---	5.59	mg/kg dry	50	10/11/23 19:38	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 19:38</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>101 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 19:38</i>	<i>NWTPH-Gx (MS)</i>	
P-9 3-3.5 (A3J1092-16)				Matrix: Soil		Batch: 23J0384		
Gasoline Range Organics	ND	---	5.18	mg/kg dry	50	10/11/23 20:03	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 20:03</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>101 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 20:03</i>	<i>NWTPH-Gx (MS)</i>	
P-10 8.5-9 (A3J1092-17)				Matrix: Soil		Batch: 23J0384		
Gasoline Range Organics	ND	---	6.07	mg/kg dry	50	10/11/23 20:29	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 20:29</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>100 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 20:29</i>	<i>NWTPH-Gx (MS)</i>	
P-11 7-7.5 (A3J1092-18)				Matrix: Soil		Batch: 23J0384		
Gasoline Range Organics	ND	---	5.01	mg/kg dry	50	10/11/23 20:54	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 20:54</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>100 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 20:54</i>	<i>NWTPH-Gx (MS)</i>	

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Darrell Auvil, Client Services Manager

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-11 13-13.5 (A3J1092-19)			Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	6.10	mg/kg dry	50	10/11/23 21:20	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 21:20</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>101 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 21:20</i>	<i>NWTPH-Gx (MS)</i>	
P-12 9-9.5 (A3J1092-20)			Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	5.40	mg/kg dry	50	10/11/23 21:46	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 21:46</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>102 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 21:46</i>	<i>NWTPH-Gx (MS)</i>	
P-12 14.5-15 (A3J1092-21)			Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	5.88	mg/kg dry	50	10/11/23 22:11	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 22:11</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>103 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 22:11</i>	<i>NWTPH-Gx (MS)</i>	
P-12 19-19.5 (A3J1092-22)			Matrix: Soil		Batch: 23J0441			
Gasoline Range Organics	ND	---	5.57	mg/kg dry	50	10/12/23 13:48	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/12/23 13:48</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>101 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/12/23 13:48</i>	<i>NWTPH-Gx (MS)</i>	
P-13 8.5-9 (A3J1092-25)			Matrix: Soil		Batch: 23J0384			
Gasoline Range Organics	ND	---	5.78	mg/kg dry	50	10/11/23 22:37	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/11/23 22:37</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>103 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/11/23 22:37</i>	<i>NWTPH-Gx (MS)</i>	

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Darrell Auvil, Client Services Manager

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Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-1-0.5-4.0 (A3J1092-01)				Matrix: Soil		Batch: 23J0384		
Acetone	ND	---	923	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Acrylonitrile	ND	---	92.3	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Benzene	ND	---	9.23	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Bromobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Bromochloromethane	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Bromodichloromethane	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Bromoform	ND	---	92.3	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Bromomethane	ND	---	461	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
2-Butanone (MEK)	ND	---	461	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
n-Butylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
sec-Butylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
tert-Butylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Carbon disulfide	ND	---	461	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Carbon tetrachloride	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Chlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Chloroethane	ND	---	461	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Chloroform	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Chloromethane	ND	---	231	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
2-Chlorotoluene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
4-Chlorotoluene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Dibromochloromethane	ND	---	92.3	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	---	231	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Dibromomethane	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,2-Dichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,3-Dichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,4-Dichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Dichlorodifluoromethane	ND	---	92.3	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,1-Dichloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,1-Dichloroethene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
cis-1,2-Dichloroethene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
trans-1,2-Dichloroethene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	

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ANALYTICAL REPORT

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 ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-1-0.5-4.0 (A3J1092-01)				Matrix: Soil		Batch: 23J0384		
1,2-Dichloropropane	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,3-Dichloropropane	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
2,2-Dichloropropane	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,1-Dichloropropene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
cis-1,3-Dichloropropene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
trans-1,3-Dichloropropene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Ethylbenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Hexachlorobutadiene	ND	---	92.3	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
2-Hexanone	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Isopropylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
4-Isopropyltoluene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Methylene chloride	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
4-Methyl-2-pentanone (MIBK)	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Naphthalene	ND	---	92.3	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
n-Propylbenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Styrene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Tetrachloroethene (PCE)	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Toluene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,2,3-Trichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,2,4-Trichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,1,1-Trichloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,1,2-Trichloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Trichloroethene (TCE)	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Trichlorofluoromethane	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	EST
1,2,3-Trichloropropane	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,2,4-Trimethylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
1,3,5-Trimethylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
Vinyl chloride	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
m,p-Xylene	ND	---	46.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	
o-Xylene	ND	---	23.1	ug/kg dry	50	10/11/23 14:56	5035A/8260D	

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Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-1-0.5-4.0 (A3J1092-01)				Matrix: Soil		Batch: 23J0384		
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 80-120 %</i>	<i>1</i>	<i>10/11/23 14:56</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>80-120 %</i>	<i>1</i>	<i>10/11/23 14:56</i>	<i>5035A/8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>79-120 %</i>	<i>1</i>	<i>10/11/23 14:56</i>	<i>5035A/8260D</i>	
SV-2- (A3J1092-02)				Matrix: Soil		Batch: 23J0384		
Acetone	ND	---	923	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Acrylonitrile	ND	---	92.3	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Benzene	ND	---	9.23	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Bromobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Bromochloromethane	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Bromodichloromethane	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Bromoform	ND	---	92.3	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Bromomethane	ND	---	461	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
2-Butanone (MEK)	ND	---	461	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
n-Butylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
sec-Butylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
tert-Butylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Carbon disulfide	ND	---	461	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Carbon tetrachloride	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Chlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Chloroethane	ND	---	461	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Chloroform	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Chloromethane	ND	---	231	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
2-Chlorotoluene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
4-Chlorotoluene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Dibromochloromethane	ND	---	92.3	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	---	231	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Dibromomethane	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,2-Dichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,3-Dichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,4-Dichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Dichlorodifluoromethane	ND	---	92.3	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,1-Dichloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	

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ANALYTICAL REPORT

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ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-2- (A3J1092-02)				Matrix: Soil		Batch: 23J0384		
1,2-Dichloroethane (EDC)	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,1-Dichloroethene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
cis-1,2-Dichloroethene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
trans-1,2-Dichloroethene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,2-Dichloropropane	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,3-Dichloropropane	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
2,2-Dichloropropane	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,1-Dichloropropene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
cis-1,3-Dichloropropene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
trans-1,3-Dichloropropene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Ethylbenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Hexachlorobutadiene	ND	---	92.3	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
2-Hexanone	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Isopropylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
4-Isopropyltoluene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Methylene chloride	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
4-Methyl-2-pentanone (MIBK)	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Naphthalene	ND	---	92.3	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
n-Propylbenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Styrene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Tetrachloroethene (PCE)	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Toluene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,2,3-Trichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,2,4-Trichlorobenzene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,1,1-Trichloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,1,2-Trichloroethane	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Trichloroethene (TCE)	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Trichlorofluoromethane	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	EST
1,2,3-Trichloropropane	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
1,2,4-Trimethylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
 Tigard, OR 97223
 503-718-2323
 ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-2- (A3J1092-02)				Matrix: Soil		Batch: 23J0384		
1,3,5-Trimethylbenzene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
Vinyl chloride	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
m,p-Xylene	ND	---	46.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
o-Xylene	ND	---	23.1	ug/kg dry	50	10/11/23 15:22	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>10/11/23 15:22</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>	<i>1</i>	<i>10/11/23 15:22</i>	<i>5035A/8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>79-120 %</i>	<i>1</i>	<i>10/11/23 15:22</i>	<i>5035A/8260D</i>	
P-11 7-7.5 (A3J1092-18)				Matrix: Soil		Batch: 23J0384		
Acetone	ND	---	1000	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Acrylonitrile	ND	---	100	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Benzene	ND	---	10.0	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Bromobenzene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Bromochloromethane	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Bromodichloromethane	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Bromoform	ND	---	100	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Bromomethane	ND	---	501	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
2-Butanone (MEK)	ND	---	501	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
n-Butylbenzene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
sec-Butylbenzene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
tert-Butylbenzene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Carbon disulfide	ND	---	501	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Carbon tetrachloride	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Chlorobenzene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Chloroethane	ND	---	501	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Chloroform	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Chloromethane	ND	---	251	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
2-Chlorotoluene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
4-Chlorotoluene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Dibromochloromethane	ND	---	100	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	---	251	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Dibromomethane	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	

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ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-11 7-7.5 (A3J1092-18)				Matrix: Soil		Batch: 23J0384		
1,2-Dichlorobenzene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,3-Dichlorobenzene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,4-Dichlorobenzene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Dichlorodifluoromethane	ND	---	100	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,1-Dichloroethane	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,1-Dichloroethene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
cis-1,2-Dichloroethene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
trans-1,2-Dichloroethene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,2-Dichloropropane	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,3-Dichloropropane	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
2,2-Dichloropropane	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,1-Dichloropropene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
cis-1,3-Dichloropropene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
trans-1,3-Dichloropropene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Ethylbenzene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Hexachlorobutadiene	ND	---	100	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
2-Hexanone	ND	---	501	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Isopropylbenzene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
4-Isopropyltoluene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Methylene chloride	ND	---	501	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
4-Methyl-2-pentanone (MIBK)	ND	---	501	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Naphthalene	ND	---	100	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
n-Propylbenzene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Styrene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,1,1,2,2-Tetrachloroethane	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Tetrachloroethene (PCE)	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Toluene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,2,3-Trichlorobenzene	ND	---	251	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,2,4-Trichlorobenzene	ND	---	251	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,1,1-Trichloroethane	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	

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Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-11 7-7.5 (A3J1092-18)				Matrix: Soil		Batch: 23J0384		
1,1,2-Trichloroethane	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Trichloroethene (TCE)	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Trichlorofluoromethane	ND	---	251	ug/kg dry	50	10/11/23 20:54	5035A/8260D	EST
1,2,3-Trichloropropane	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,2,4-Trimethylbenzene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
1,3,5-Trimethylbenzene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
Vinyl chloride	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
m,p-Xylene	ND	---	50.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
o-Xylene	ND	---	25.1	ug/kg dry	50	10/11/23 20:54	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 80-120 %</i>	<i>1</i>	<i>10/11/23 20:54</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>80-120 %</i>	<i>1</i>	<i>10/11/23 20:54</i>	<i>5035A/8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>	<i>79-120 %</i>	<i>1</i>	<i>10/11/23 20:54</i>	<i>5035A/8260D</i>	

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Darrell Auvil, Client Services Manager



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Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-11 7-7.5 (A3J1092-18)				Matrix: Soil		Batch: 23J0794		C-07
Aroclor 1016	ND	---	12.3	ug/kg dry	1	10/23/23 12:05	EPA 8082A	
Aroclor 1221	ND	---	12.3	ug/kg dry	1	10/23/23 12:05	EPA 8082A	
Aroclor 1232	ND	---	12.3	ug/kg dry	1	10/23/23 12:05	EPA 8082A	
Aroclor 1242	ND	---	12.3	ug/kg dry	1	10/23/23 12:05	EPA 8082A	
Aroclor 1248	ND	---	12.3	ug/kg dry	1	10/23/23 12:05	EPA 8082A	
Aroclor 1254	ND	---	12.3	ug/kg dry	1	10/23/23 12:05	EPA 8082A	
Aroclor 1260	ND	---	12.3	ug/kg dry	1	10/23/23 12:05	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 78 %</i>	<i>Limits: 60-125 %</i>	<i>1</i>	<i>10/23/23 12:05</i>	<i>EPA 8082A</i>	

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ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E (SIM)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-11 7-7.5 (A3J1092-18RE1)				Matrix: Soil		Batch: 23J0793		
Acenaphthene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Acenaphthylene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Anthracene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Benz(a)anthracene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Benzo(a)pyrene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Benzo(b)fluoranthene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Benzo(k)fluoranthene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Benzo(g,h,i)perylene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Chrysene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Dibenz(a,h)anthracene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Fluoranthene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Fluorene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Indeno(1,2,3-cd)pyrene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
1-Methylnaphthalene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
2-Methylnaphthalene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Naphthalene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Phenanthrene	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Pyrene	18.8	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
Dibenzofuran	ND	---	12.2	ug/kg dry	1	10/20/23 14:29	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 72 %</i>	<i>Limits: 44-120 %</i>	<i>1</i>	<i>10/20/23 14:29</i>	<i>EPA 8270E SIM</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>77 %</i>	<i>54-127 %</i>	<i>1</i>	<i>10/20/23 14:29</i>	<i>EPA 8270E SIM</i>	

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-1-0.5-4.0 (A3J1092-01) Matrix: Soil								
Batch: 23J0635								
Arsenic	3.37	---	1.15	mg/kg dry	10	10/18/23 10:30	EPA 6020B	
Barium	130	---	1.15	mg/kg dry	10	10/18/23 10:30	EPA 6020B	Q-42
Cadmium	ND	---	0.230	mg/kg dry	10	10/18/23 10:30	EPA 6020B	
Chromium	11.0	---	1.15	mg/kg dry	10	10/18/23 10:30	EPA 6020B	
Lead	21.7	---	0.230	mg/kg dry	10	10/18/23 10:30	EPA 6020B	
Mercury	0.115	---	0.0922	mg/kg dry	10	10/18/23 10:30	EPA 6020B	
Selenium	ND	---	1.15	mg/kg dry	10	10/18/23 10:30	EPA 6020B	
Silver	ND	---	0.230	mg/kg dry	10	10/18/23 10:30	EPA 6020B	
SV-2- (A3J1092-02) Matrix: Soil								
Batch: 23J0635								
Arsenic	4.52	---	1.25	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
Barium	383	---	1.25	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
Cadmium	0.355	---	0.250	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
Chromium	16.5	---	1.25	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
Lead	213	---	0.250	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
Mercury	0.377	---	0.0999	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
Selenium	ND	---	1.25	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
Silver	ND	---	0.250	mg/kg dry	10	10/18/23 10:45	EPA 6020B	
P-2 7-7.5 (A3J1092-07) Matrix: Soil								
Batch: 23J0635								
Arsenic	2.65	---	1.21	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
Barium	137	---	1.21	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
Cadmium	ND	---	0.243	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
Chromium	9.06	---	1.21	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
Lead	9.01	---	0.243	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
Mercury	ND	---	0.0971	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
Selenium	ND	---	1.21	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
Silver	ND	---	0.243	mg/kg dry	10	10/18/23 10:50	EPA 6020B	
P-11 7-7.5 (A3J1092-18) Matrix: Soil								
Batch: 23J0635								

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Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
P-11 7-7.5 (A3J1092-18)				Matrix: Soil					
Arsenic	3.03	---	1.33	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
Barium	165	---	1.33	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
Cadmium	ND	---	0.266	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
Chromium	13.6	---	1.33	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
Lead	41.7	---	0.266	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
Mercury	ND	---	0.106	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
Selenium	ND	---	1.33	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
Silver	ND	---	0.266	mg/kg dry	10	10/18/23 10:55	EPA 6020B		
P-11 13-13.5 (A3J1092-19)				Matrix: Soil					
Batch: 23J0635									
Arsenic	4.95	---	1.28	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
Barium	171	---	1.28	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
Cadmium	ND	---	0.257	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
Chromium	21.5	---	1.28	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
Lead	8.75	---	0.257	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
Mercury	ND	---	0.103	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
Selenium	ND	---	1.28	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
Silver	ND	---	0.257	mg/kg dry	10	10/18/23 11:01	EPA 6020B		
P-12 9-9.5 (A3J1092-20)				Matrix: Soil					
Batch: 23J0635									
Arsenic	4.67	---	1.33	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
Barium	164	---	1.33	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
Cadmium	ND	---	0.267	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
Chromium	17.5	---	1.33	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
Lead	9.51	---	0.267	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
Mercury	ND	---	0.107	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
Selenium	ND	---	1.33	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
Silver	ND	---	0.267	mg/kg dry	10	10/18/23 11:06	EPA 6020B		
P-12 14.5-15 (A3J1092-21)				Matrix: Soil					
Batch: 23J0635									
Arsenic	4.94	---	1.30	mg/kg dry	10	10/18/23 11:21	EPA 6020B		

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
P-12 14.5-15 (A3J1092-21)				Matrix: Soil				
Barium	184	---	1.30	mg/kg dry	10	10/18/23 11:21	EPA 6020B	
Cadmium	ND	---	0.260	mg/kg dry	10	10/18/23 11:21	EPA 6020B	
Chromium	19.5	---	1.30	mg/kg dry	10	10/18/23 11:21	EPA 6020B	
Lead	9.44	---	0.260	mg/kg dry	10	10/18/23 11:21	EPA 6020B	
Mercury	ND	---	0.104	mg/kg dry	10	10/18/23 11:21	EPA 6020B	
Selenium	ND	---	1.30	mg/kg dry	10	10/18/23 11:21	EPA 6020B	
Silver	ND	---	0.260	mg/kg dry	10	10/18/23 11:21	EPA 6020B	
P-12 19-19.5 (A3J1092-22)				Matrix: Soil				
Batch: 23J0635								
Arsenic	4.15	---	1.33	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
Barium	155	---	1.33	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
Cadmium	ND	---	0.267	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
Chromium	17.2	---	1.33	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
Lead	8.59	---	0.267	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
Mercury	ND	---	0.107	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
Selenium	ND	---	1.33	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
Silver	ND	---	0.267	mg/kg dry	10	10/18/23 11:26	EPA 6020B	
P-13 8.5-9 (A3J1092-25)				Matrix: Soil				
Batch: 23J0635								
Arsenic	4.44	---	1.32	mg/kg dry	10	10/18/23 11:32	EPA 6020B	
Barium	172	---	1.32	mg/kg dry	10	10/18/23 11:32	EPA 6020B	
Cadmium	ND	---	0.265	mg/kg dry	10	10/18/23 11:32	EPA 6020B	
Chromium	17.5	---	1.32	mg/kg dry	10	10/18/23 11:32	EPA 6020B	
Lead	8.32	---	0.265	mg/kg dry	10	10/18/23 11:32	EPA 6020B	
Mercury	ND	---	0.106	mg/kg dry	10	10/18/23 11:32	EPA 6020B	
Selenium	ND	---	1.32	mg/kg dry	10	10/18/23 11:32	EPA 6020B	
Silver	ND	---	0.265	mg/kg dry	10	10/18/23 11:32	EPA 6020B	

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ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-2- (A3J1092-02)				Matrix: Soil				
Batch: 23J1218								
Lead	ND	---	0.0500	mg/L	10	10/31/23 22:22	1311/6020B	

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight									
Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
SV-1-0.5-4.0 (A3J1092-01)				Matrix: Soil		Batch: 23J0374			
% Solids	86.4	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
SV-2- (A3J1092-02)				Matrix: Soil		Batch: 23J0374			
% Solids	86.8	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-1 13-13.5 (A3J1092-05)				Matrix: Soil		Batch: 23J0374			
% Solids	83.2	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-2 7-7.5 (A3J1092-07)				Matrix: Soil		Batch: 23J0374			
% Solids	82.3	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-2 13-13.5 (A3J1092-08)				Matrix: Soil		Batch: 23J0374			
% Solids	90.3	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-3 8.5-9 (A3J1092-09)				Matrix: Soil		Batch: 23J0374			
% Solids	91.7	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-4 13-13.5 (A3J1092-10)				Matrix: Soil		Batch: 23J0374			
% Solids	88.1	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-5 3.5-4 (A3J1092-11)				Matrix: Soil		Batch: 23J0374			
% Solids	80.7	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-6 0.5-1 (A3J1092-12)				Matrix: Soil		Batch: 23J0374			
% Solids	84.8	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-7 1-1.5 (A3J1092-13)				Matrix: Soil		Batch: 23J0374			
% Solids	83.7	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-8 1-1.5 (A3J1092-14)				Matrix: Soil		Batch: 23J0374			
% Solids	78.2	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-9 3-3.5 (A3J1092-16)				Matrix: Soil		Batch: 23J0374			
% Solids	81.3	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-10 8.5-9 (A3J1092-17)				Matrix: Soil		Batch: 23J0374			

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight									
Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
P-10 8.5-9 (A3J1092-17)				Matrix: Soil		Batch: 23J0374			
% Solids	77.9	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-11 7-7.5 (A3J1092-18)				Matrix: Soil		Batch: 23J0374			
% Solids	80.1	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-11 13-13.5 (A3J1092-19)				Matrix: Soil		Batch: 23J0374			
% Solids	77.9	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-12 9-9.5 (A3J1092-20)				Matrix: Soil		Batch: 23J0374			
% Solids	80.3	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-12 14.5-15 (A3J1092-21)				Matrix: Soil		Batch: 23J0374			
% Solids	77.6	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-12 19-19.5 (A3J1092-22)				Matrix: Soil		Batch: 23J0374			
% Solids	78.9	---	1.00	%	1	10/12/23 05:04	EPA 8000D		
P-13 8.5-9 (A3J1092-25)				Matrix: Soil		Batch: 23J0374			
% Solids	79.1	---	1.00	%	1	10/12/23 05:04	EPA 8000D		

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ANALYTICAL SAMPLE RESULTS

TCLP Extraction by EPA 1311

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SV-2- (A3J1092-02)				Matrix: Soil		Batch: 23J1142		
TCLP Extraction	PREP	---		N/A	1	10/30/23 16:30	EPA 1311	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0574 - EPA 3546 (Fuels)						Soil						
Blank (23J0574-BLK1)						Prepared: 10/16/23 11:49 Analyzed: 10/16/23 18:11						
<u>NWTPH-Dx</u>												
Diesel	ND	---	20.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	40.0	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (23J0574-BS1)						Prepared: 10/16/23 11:49 Analyzed: 10/16/23 18:31						
<u>NWTPH-Dx</u>												
Diesel	115	---	20.0	mg/kg wet	1	125	---	92	38-132%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (23J0574-DUP1)						Prepared: 10/16/23 11:49 Analyzed: 10/16/23 19:12						
<u>QC Source Sample: P-10 8.5-9 (A3J1092-17)</u>												
<u>NWTPH-Dx</u>												
Diesel	ND	---	24.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	48.1	mg/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (23J0574-DUP3)						Prepared: 10/16/23 11:49 Analyzed: 10/17/23 09:28						
<u>QC Source Sample: Non-SDG (A3J1201-02RE1)</u>												
Diesel	ND	---	42.5	mg/kg dry	2	---	ND	---	---	---	30%	
Oil	401	---	84.9	mg/kg dry	2	---	369	---	---	8	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 2x</i>						S-05
Batch 23J0576 - EPA 3546 (Fuels)						Soil						
Blank (23J0576-BLK1)						Prepared: 10/16/23 11:54 Analyzed: 10/16/23 18:11						
<u>NWTPH-Dx</u>												
Diesel	ND	---	20.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	40.0	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (23J0576-BS1)						Prepared: 10/16/23 11:54 Analyzed: 10/16/23 18:31						
<u>NWTPH-Dx</u>												

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0576 - EPA 3546 (Fuels)						Soil						
LCS (23J0576-BS1)						Prepared: 10/16/23 11:54 Analyzed: 10/16/23 18:31						
Diesel	112	---	20.0	mg/kg wet	1	125	---	89	38-132%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (23J0576-DUP1)						Prepared: 10/16/23 11:54 Analyzed: 10/16/23 19:12 PRO						
QC Source Sample: Non-SDG (A3J0930-08)												
Diesel	ND	---	18.8	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	37.5	mg/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 61 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (23J0576-DUP2)						Prepared: 10/16/23 11:54 Analyzed: 10/17/23 03:57						
QC Source Sample: P-8 1-1.5 (A3J1092-14)												
NWTPH-Dx												
Diesel	ND	---	24.4	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	48.8	mg/kg dry	1	---	94.0	---	---	***	30%	Q-05
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A												
Soil												
Blank (23J0384-BLK1)												
						Prepared: 10/11/23 10:00 Analyzed: 10/11/23 13:14						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	5.00	mg/kg wet	50	---	---	---	---	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>99 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (23J0384-BS2)												
						Prepared: 10/11/23 10:00 Analyzed: 10/11/23 12:48						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	25.3	---	5.00	mg/kg wet	50	25.0	---	101	80-120%	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>98 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (23J0384-DUP1)												
						Prepared: 10/10/23 10:15 Analyzed: 10/11/23 14:05						
<u>QC Source Sample: Non-SDG (A3J1145-02)</u>												
Gasoline Range Organics	108	---	6.61	mg/kg dry	50	---	96.9	---	---	11	30%	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 106 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>98 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (23J0384-DUP2)												
						Prepared: 10/09/23 12:35 Analyzed: 10/11/23 18:21						
<u>QC Source Sample: P-5 3.5-4 (A3J1092-11)</u>												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	6.14	mg/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>99 %</i>		<i>50-150 %</i>		<i>"</i>						

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0441 - EPA 5035A						Soil						
Blank (23J0441-BLK1)						Prepared: 10/12/23 09:23 Analyzed: 10/12/23 12:57						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	5.00	mg/kg wet	50	---	---	---	---	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (23J0441-BS2)						Prepared: 10/12/23 09:23 Analyzed: 10/12/23 12:31						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	24.8	---	5.00	mg/kg wet	50	25.0	---	99	80-120%	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>100 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (23J0441-DUP1)						Prepared: 10/09/23 09:20 Analyzed: 10/12/23 14:39						
<u>QC Source Sample: Non-SDG (A3J1123-01)</u>												
Gasoline Range Organics	ND	---	5.41	mg/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>102 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (23J0441-DUP2)						Prepared: 10/10/23 12:30 Analyzed: 10/12/23 23:12						
<u>QC Source Sample: Non-SDG (A3J1192-01)</u>												
Gasoline Range Organics	ND	---	6.44	mg/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 98 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>100 %</i>		<i>50-150 %</i>		<i>"</i>						

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Darrell Auvil, Client Services Manager

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Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Blank (23J0384-BLK1)			Prepared: 10/11/23 10:00 Analyzed: 10/11/23 13:14									
<u>5035A/8260D</u>												
Acetone	ND	---	1000	ug/kg wet	50	---	---	---	---	---	---	
Acrylonitrile	ND	---	100	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	10.0	ug/kg wet	50	---	---	---	---	---	---	
Bromobenzene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Bromochloromethane	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromodichloromethane	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromoform	ND	---	100	ug/kg wet	50	---	---	---	---	---	---	
Bromomethane	ND	---	500	ug/kg wet	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	500	ug/kg wet	50	---	---	---	---	---	---	
n-Butylbenzene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Carbon disulfide	ND	---	500	ug/kg wet	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Chloroethane	ND	---	500	ug/kg wet	50	---	---	---	---	---	---	
Chloroform	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chloromethane	ND	---	250	ug/kg wet	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromochloromethane	ND	---	100	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	250	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromomethane	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	100	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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 503-718-2323
 ORELAP ID: OR100062

Coles & Betts Environmental Consulting	Project: 437	
5741 NE Flanders Street	Project Number: 437	Report ID:
Portland, OR 97213	Project Manager: Jill Betts	A3J1092 - 11 06 23 1004

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Blank (23J0384-BLK1)			Prepared: 10/11/23 10:00 Analyzed: 10/11/23 13:14									
1,2-Dichloropropane	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	100	ug/kg wet	50	---	---	---	---	---	---	
2-Hexanone	ND	---	500	ug/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Methylene chloride	ND	---	500	ug/kg wet	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MIBK)	ND	---	500	ug/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	100	ug/kg wet	50	---	---	---	---	---	---	
n-Propylbenzene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Styrene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	250	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	250	ug/kg wet	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	250	ug/kg wet	50	---	---	---	---	---	---	EST
1,2,3-Trichloropropane	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	---	50.0	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	---	25.0	ug/kg wet	50	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 100 % Limits: 80-120 % Dilution: 1x

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ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Blank (23J0384-BLK1)						Prepared: 10/11/23 10:00 Analyzed: 10/11/23 13:14						
<i>Surr: Toluene-d8 (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>79-120 %</i>		<i>"</i>						
LCS (23J0384-BS1)						Prepared: 10/11/23 10:00 Analyzed: 10/11/23 12:23						
5035A/8260D												
Acetone	2200	---	1000	ug/kg wet	50	2000	---	110	80-120%	---	---	
Acrylonitrile	1000	---	100	ug/kg wet	50	1000	---	100	80-120%	---	---	
Benzene	990	---	10.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
Bromobenzene	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Bromochloromethane	1010	---	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Bromodichloromethane	1070	---	50.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
Bromoform	1090	---	100	ug/kg wet	50	1000	---	109	80-120%	---	---	
Bromomethane	1040	---	500	ug/kg wet	50	1000	---	104	80-120%	---	---	
2-Butanone (MEK)	2050	---	500	ug/kg wet	50	2000	---	103	80-120%	---	---	
n-Butylbenzene	948	---	50.0	ug/kg wet	50	1000	---	95	80-120%	---	---	
sec-Butylbenzene	994	---	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
tert-Butylbenzene	920	---	50.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
Carbon disulfide	1060	---	500	ug/kg wet	50	1000	---	106	80-120%	---	---	
Carbon tetrachloride	1080	---	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Chlorobenzene	1030	---	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Chloroethane	939	---	500	ug/kg wet	50	1000	---	94	80-120%	---	---	
Chloroform	1020	---	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Chloromethane	860	---	250	ug/kg wet	50	1000	---	86	80-120%	---	---	
2-Chlorotoluene	988	---	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
4-Chlorotoluene	976	---	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Dibromochloromethane	1140	---	100	ug/kg wet	50	1000	---	114	80-120%	---	---	
1,2-Dibromo-3-chloropropane	995	---	250	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,2-Dibromoethane (EDB)	1040	---	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Dibromomethane	1070	---	50.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
1,2-Dichlorobenzene	1020	---	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,3-Dichlorobenzene	1050	---	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
1,4-Dichlorobenzene	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Dichlorodifluoromethane	815	---	100	ug/kg wet	50	1000	---	82	80-120%	---	---	
1,1-Dichloroethane	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	

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ANALYTICAL REPORT

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Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
LCS (23J0384-BS1)						Prepared: 10/11/23 10:00 Analyzed: 10/11/23 12:23						
1,2-Dichloroethane (EDC)	1020	---	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,1-Dichloroethene	996	---	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
cis-1,2-Dichloroethene	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
trans-1,2-Dichloroethene	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
1,2-Dichloropropane	1000	---	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,3-Dichloropropane	986	---	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
2,2-Dichloropropane	1100	---	50.0	ug/kg wet	50	1000	---	110	80-120%	---	---	
1,1-Dichloropropene	998	---	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
cis-1,3-Dichloropropene	1040	---	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
trans-1,3-Dichloropropene	1040	---	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Ethylbenzene	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Hexachlorobutadiene	978	---	100	ug/kg wet	50	1000	---	98	80-120%	---	---	
2-Hexanone	1760	---	500	ug/kg wet	50	2000	---	88	80-120%	---	---	
Isopropylbenzene	998	---	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
4-Isopropyltoluene	973	---	50.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
Methylene chloride	1070	---	500	ug/kg wet	50	1000	---	107	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	1810	---	500	ug/kg wet	50	2000	---	90	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	974	---	50.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
Naphthalene	925	---	100	ug/kg wet	50	1000	---	92	80-120%	---	---	
n-Propylbenzene	980	---	25.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Styrene	996	---	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,1,1,2-Tetrachloroethane	1100	---	25.0	ug/kg wet	50	1000	---	110	80-120%	---	---	
1,1,2,2-Tetrachloroethane	960	---	50.0	ug/kg wet	50	1000	---	96	80-120%	---	---	
Tetrachloroethene (PCE)	1080	---	25.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Toluene	961	---	50.0	ug/kg wet	50	1000	---	96	80-120%	---	---	
1,2,3-Trichlorobenzene	982	---	250	ug/kg wet	50	1000	---	98	80-120%	---	---	
1,2,4-Trichlorobenzene	945	---	250	ug/kg wet	50	1000	---	94	80-120%	---	---	
1,1,1-Trichloroethane	1030	---	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
1,1,2-Trichloroethane	1000	---	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Trichloroethene (TCE)	1100	---	25.0	ug/kg wet	50	1000	---	110	80-120%	---	---	
Trichlorofluoromethane	990	---	250	ug/kg wet	50	1000	---	99	80-120%	---	---	EST
1,2,3-Trichloropropane	1030	---	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
1,2,4-Trimethylbenzene	1010	---	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
1,3,5-Trimethylbenzene	1040	---	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	

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Coles & Betts Environmental Consulting	Project: 437	
5741 NE Flanders Street	Project Number: 437	Report ID:
Portland, OR 97213	Project Manager: Jill Betts	A3J1092 - 11 06 23 1004

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
LCS (23J0384-BS1)						Prepared: 10/11/23 10:00 Analyzed: 10/11/23 12:23						
Vinyl chloride	974	---	25.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
m,p-Xylene	2070	---	50.0	ug/kg wet	50	2000	---	104	80-120%	---	---	
o-Xylene	968	---	25.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>79-120 %</i>		<i>"</i>						

Duplicate (23J0384-DUP1)						Prepared: 10/10/23 10:15 Analyzed: 10/11/23 14:05						
QC Source Sample: Non-SDG (A3J1145-02)												
Acetone	ND	---	1320	ug/kg dry	50	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	---	13.2	ug/kg dry	50	---	ND	---	---	---	30%	
Bromobenzene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Bromoform	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	
Bromomethane	ND	---	661	ug/kg dry	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	661	ug/kg dry	50	---	ND	---	---	---	30%	
n-Butylbenzene	140	---	66.1	ug/kg dry	50	---	142	---	---	1	30%	M-02
sec-Butylbenzene	122	---	66.1	ug/kg dry	50	---	116	---	---	4	30%	
tert-Butylbenzene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	661	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroethane	ND	---	661	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroform	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Chloromethane	ND	---	330	ug/kg dry	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	330	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromomethane	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Duplicate (23J0384-DUP1)			Prepared: 10/10/23 10:15 Analyzed: 10/11/23 14:05									
QC Source Sample: Non-SDG (A3J1145-02)												
1,3-Dichlorobenzene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	33.0	ug/kg dry	50	---	26.4	---	---	***	30%	
Hexachlorobutadiene	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	
2-Hexanone	ND	---	661	ug/kg dry	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	66.1	ug/kg dry	50	---	36.3	---	---	***	30%	
4-Isopropyltoluene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Methylene chloride	ND	---	661	ug/kg dry	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MIBK)	ND	---	661	ug/kg dry	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Naphthalene	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	
n-Propylbenzene	94.5	---	33.0	ug/kg dry	50	---	93.8	---	---	0.7	30%	
Styrene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	---	66.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	330	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	330	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	R-02

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting	Project: 437	
5741 NE Flanders Street	Project Number: 437	Report ID:
Portland, OR 97213	Project Manager: Jill Betts	A3J1092 - 11 06 23 1004

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Duplicate (23J0384-DUP1)			Prepared: 10/10/23 10:15 Analyzed: 10/11/23 14:05									
QC Source Sample: Non-SDG (A3J1145-02)												
Trichloroethene (TCE)	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	330	ug/kg dry	50	---	ND	---	---	---	30%	EST
1,2,3-Trichloropropane	ND	---	132	ug/kg dry	50	---	ND	---	---	---	30%	R-02
1,2,4-Trimethylbenzene	487	---	66.1	ug/kg dry	50	---	488	---	---	0.3	30%	
1,3,5-Trimethylbenzene	114	---	66.1	ug/kg dry	50	---	112	---	---	2	30%	
Vinyl chloride	ND	---	33.0	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	66.1	ug/kg dry	50	---	34.4	---	---	***	30%	
o-Xylene	33.0	---	33.0	ug/kg dry	50	---	33.0	---	---	0	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>94 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>79-120 %</i>		<i>"</i>						

Duplicate (23J0384-DUP2)			Prepared: 10/09/23 12:35 Analyzed: 10/11/23 18:21									
QC Source Sample: P-5 3.5-4 (A3J1092-11)												
5035A/8260D												
Acetone	ND	---	1230	ug/kg dry	50	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	123	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	---	12.3	ug/kg dry	50	---	ND	---	---	---	30%	
Bromobenzene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Bromoform	ND	---	123	ug/kg dry	50	---	ND	---	---	---	30%	
Bromomethane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroethane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroform	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Chloromethane	ND	---	307	ug/kg dry	50	---	ND	---	---	---	30%	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting	Project: 437	
5741 NE Flanders Street	Project Number: 437	Report ID:
Portland, OR 97213	Project Manager: Jill Betts	A3J1092 - 11 06 23 1004

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A							Soil					
Duplicate (23J0384-DUP2)			Prepared: 10/09/23 12:35 Analyzed: 10/11/23 18:21									
QC Source Sample: P-5 3.5-4 (A3J1092-11)												
2-Chlorotoluene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	123	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	307	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromomethane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	123	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	123	ug/kg dry	50	---	ND	---	---	---	30%	
2-Hexanone	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Methylene chloride	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Naphthalene	ND	---	123	ug/kg dry	50	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Styrene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting	Project: 437	
5741 NE Flanders Street	Project Number: 437	Report ID:
Portland, OR 97213	Project Manager: Jill Betts	A3J1092 - 11 06 23 1004

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Duplicate (23J0384-DUP2)			Prepared: 10/09/23 12:35 Analyzed: 10/11/23 18:21									
QC Source Sample: P-5 3.5-4 (A3J1092-11)												
1,1,2,2-Tetrachloroethane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	307	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	307	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	307	ug/kg dry	50	---	ND	---	---	---	30%	EST
1,2,3-Trichloropropane	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	61.4	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	---	30.7	ug/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>79-120 %</i>		<i>"</i>						

Matrix Spike (23J0384-MS1)			Prepared: 10/09/23 15:30 Analyzed: 10/11/23 23:53									
QC Source Sample: P-13 8.5-9 (A3J1092-25)												
5035A/8260D												
Acetone	3600	---	1160	ug/kg dry	50	2310	ND	156	36-164%	---	---	
Acrylonitrile	1210	---	116	ug/kg dry	50	1160	ND	105	65-134%	---	---	
Benzene	1230	---	11.6	ug/kg dry	50	1160	ND	107	77-121%	---	---	
Bromobenzene	1230	---	28.9	ug/kg dry	50	1160	ND	106	78-121%	---	---	
Bromochloromethane	1230	---	57.8	ug/kg dry	50	1160	ND	106	78-125%	---	---	
Bromodichloromethane	1300	---	57.8	ug/kg dry	50	1160	ND	112	75-127%	---	---	
Bromoform	1320	---	116	ug/kg dry	50	1160	ND	114	67-132%	---	---	
Bromomethane	1290	---	578	ug/kg dry	50	1160	ND	112	53-143%	---	---	
2-Butanone (MEK)	3350	---	578	ug/kg dry	50	2310	ND	145	51-148%	---	---	
n-Butylbenzene	1200	---	57.8	ug/kg dry	50	1160	ND	104	70-128%	---	---	
sec-Butylbenzene	1250	---	57.8	ug/kg dry	50	1160	ND	108	73-126%	---	---	

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323

ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Matrix Spike (23J0384-MS1)						Prepared: 10/09/23 15:30 Analyzed: 10/11/23 23:53						
QC Source Sample: P-13 8.5.9 (A3J1092-25)												
tert-Butylbenzene	1130	---	57.8	ug/kg dry	50	1160	ND	98	73-125%	---	---	
Carbon disulfide	1290	---	57.8	ug/kg dry	50	1160	ND	112	63-132%	---	---	
Carbon tetrachloride	1360	---	57.8	ug/kg dry	50	1160	ND	118	70-135%	---	---	
Chlorobenzene	1250	---	28.9	ug/kg dry	50	1160	ND	108	79-120%	---	---	
Chloroethane	1150	---	57.8	ug/kg dry	50	1160	ND	100	59-139%	---	---	
Chloroform	1260	---	57.8	ug/kg dry	50	1160	ND	109	78-123%	---	---	
Chloromethane	1070	---	289	ug/kg dry	50	1160	ND	93	50-136%	---	---	
2-Chlorotoluene	1200	---	57.8	ug/kg dry	50	1160	ND	104	75-122%	---	---	
4-Chlorotoluene	1200	---	57.8	ug/kg dry	50	1160	ND	104	72-124%	---	---	
Dibromochloromethane	1410	---	116	ug/kg dry	50	1160	ND	122	74-126%	---	---	
1,2-Dibromo-3-chloropropane	1140	---	289	ug/kg dry	50	1160	ND	98	61-132%	---	---	
1,2-Dibromoethane (EDB)	1260	---	57.8	ug/kg dry	50	1160	ND	109	78-122%	---	---	
Dibromomethane	1290	---	57.8	ug/kg dry	50	1160	ND	111	78-125%	---	---	
1,2-Dichlorobenzene	1220	---	28.9	ug/kg dry	50	1160	ND	105	78-121%	---	---	
1,3-Dichlorobenzene	1270	---	28.9	ug/kg dry	50	1160	ND	110	77-121%	---	---	
1,4-Dichlorobenzene	1210	---	28.9	ug/kg dry	50	1160	ND	105	75-120%	---	---	
Dichlorodifluoromethane	1040	---	116	ug/kg dry	50	1160	ND	90	29-149%	---	---	
1,1-Dichloroethane	1240	---	28.9	ug/kg dry	50	1160	ND	108	76-125%	---	---	
1,2-Dichloroethane (EDC)	1230	---	28.9	ug/kg dry	50	1160	ND	106	73-128%	---	---	
1,1-Dichloroethene	1260	---	28.9	ug/kg dry	50	1160	ND	109	70-131%	---	---	
cis-1,2-Dichloroethene	1220	---	28.9	ug/kg dry	50	1160	ND	106	77-123%	---	---	
trans-1,2-Dichloroethene	1240	---	28.9	ug/kg dry	50	1160	ND	107	74-125%	---	---	
1,2-Dichloropropane	1220	---	28.9	ug/kg dry	50	1160	ND	106	76-123%	---	---	
1,3-Dichloropropane	1190	---	57.8	ug/kg dry	50	1160	ND	103	77-121%	---	---	
2,2-Dichloropropane	1190	---	57.8	ug/kg dry	50	1160	ND	103	67-133%	---	---	
1,1-Dichloropropene	1260	---	57.8	ug/kg dry	50	1160	ND	109	76-125%	---	---	
cis-1,3-Dichloropropene	1210	---	57.8	ug/kg dry	50	1160	ND	105	74-126%	---	---	
trans-1,3-Dichloropropene	1240	---	57.8	ug/kg dry	50	1160	ND	107	71-130%	---	---	
Ethylbenzene	1230	---	28.9	ug/kg dry	50	1160	ND	107	76-122%	---	---	
Hexachlorobutadiene	1190	---	116	ug/kg dry	50	1160	ND	103	61-135%	---	---	
2-Hexanone	2520	---	57.8	ug/kg dry	50	2310	ND	109	53-145%	---	---	
Isopropylbenzene	1220	---	57.8	ug/kg dry	50	1160	ND	106	68-134%	---	---	
4-Isopropyltoluene	1230	---	57.8	ug/kg dry	50	1160	ND	106	73-127%	---	---	

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ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0384 - EPA 5035A						Soil						
Matrix Spike (23J0384-MS1)			Prepared: 10/09/23 15:30 Analyzed: 10/11/23 23:53									
QC Source Sample: P-13 8.5-9 (A3J1092-25)												
Methylene chloride	1250	---	578	ug/kg dry	50	1160	ND	108	70-128%	---	---	
4-Methyl-2-pentanone (MiBK)	2230	---	578	ug/kg dry	50	2310	ND	96	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1180	---	57.8	ug/kg dry	50	1160	ND	102	73-125%	---	---	
Naphthalene	1070	---	116	ug/kg dry	50	1160	ND	93	62-129%	---	---	
n-Propylbenzene	1200	---	28.9	ug/kg dry	50	1160	ND	104	73-125%	---	---	
Styrene	1230	---	57.8	ug/kg dry	50	1160	ND	106	76-124%	---	---	
1,1,1,2-Tetrachloroethane	1360	---	28.9	ug/kg dry	50	1160	ND	118	78-125%	---	---	
1,1,2,2-Tetrachloroethane	1030	---	57.8	ug/kg dry	50	1160	ND	89	70-124%	---	---	
Tetrachloroethene (PCE)	1320	---	28.9	ug/kg dry	50	1160	ND	114	73-128%	---	---	
Toluene	1170	---	57.8	ug/kg dry	50	1160	ND	101	77-121%	---	---	
1,2,3-Trichlorobenzene	1150	---	289	ug/kg dry	50	1160	ND	100	66-130%	---	---	
1,2,4-Trichlorobenzene	1100	---	289	ug/kg dry	50	1160	ND	95	67-129%	---	---	
1,1,1-Trichloroethane	1300	---	28.9	ug/kg dry	50	1160	ND	112	73-130%	---	---	
1,1,2-Trichloroethane	1220	---	28.9	ug/kg dry	50	1160	ND	106	78-121%	---	---	
Trichloroethene (TCE)	1430	---	28.9	ug/kg dry	50	1160	ND	124	77-123%	---	---	Q-01
Trichlorofluoromethane	8750	---	289	ug/kg dry	50	1160	ND	757	62-140%	---	---	EST
1,2,3-Trichloropropane	1210	---	57.8	ug/kg dry	50	1160	ND	105	73-125%	---	---	
1,2,4-Trimethylbenzene	1270	---	57.8	ug/kg dry	50	1160	ND	110	75-123%	---	---	
1,3,5-Trimethylbenzene	1290	---	57.8	ug/kg dry	50	1160	ND	112	73-124%	---	---	
Vinyl chloride	1230	---	28.9	ug/kg dry	50	1160	ND	106	56-135%	---	---	
m,p-Xylene	2510	---	57.8	ug/kg dry	50	2310	ND	109	77-124%	---	---	
o-Xylene	1180	---	28.9	ug/kg dry	50	1160	ND	102	77-123%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>79-120 %</i>		<i>"</i>						

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Darrell Auvil, Client Services Manager



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Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23J0794 - EPA 3546						Soil							
Blank (23J0794-BLK1)			Prepared: 10/20/23 04:51 Analyzed: 10/20/23 12:56						C-07				
<u>EPA 8082A</u>													
Aroclor 1016	ND	---	10.0	ug/kg wet	1	---	---	---	---	---	---		
Aroclor 1221	ND	---	10.0	ug/kg wet	1	---	---	---	---	---	---		
Aroclor 1232	ND	---	10.0	ug/kg wet	1	---	---	---	---	---	---		
Aroclor 1242	ND	---	10.0	ug/kg wet	1	---	---	---	---	---	---		
Aroclor 1248	ND	---	10.0	ug/kg wet	1	---	---	---	---	---	---		
Aroclor 1254	ND	---	10.0	ug/kg wet	1	---	---	---	---	---	---		
Aroclor 1260	ND	---	10.0	ug/kg wet	1	---	---	---	---	---	---		
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 110 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>							
LCS (23J0794-BS1)			Prepared: 10/20/23 04:51 Analyzed: 10/20/23 13:13						C-07				
<u>EPA 8082A</u>													
Aroclor 1016	198	---	10.0	ug/kg wet	1	250	---	79	47-134%	---	---		
Aroclor 1260	236	---	10.0	ug/kg wet	1	250	---	95	53-140%	---	---		
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 117 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>							
Duplicate (23J0794-DUP1)			Prepared: 10/20/23 04:51 Analyzed: 10/20/23 14:07						C-07				
<u>QC Source Sample: Non-SDG (A3J0834-19)</u>													
Aroclor 1016	ND	---	11.3	ug/kg dry	1	---	ND	---	---	---	30%		
Aroclor 1221	ND	---	11.3	ug/kg dry	1	---	ND	---	---	---	30%		
Aroclor 1232	ND	---	11.3	ug/kg dry	1	---	ND	---	---	---	30%		
Aroclor 1242	ND	---	11.3	ug/kg dry	1	---	ND	---	---	---	30%		
Aroclor 1248	ND	---	11.3	ug/kg dry	1	---	ND	---	---	---	30%		
Aroclor 1254	27.2	---	11.3	ug/kg dry	1	---	38.6	---	---	35	30%	P-09, Q-05	
Aroclor 1260	ND	---	11.3	ug/kg dry	1	---	ND	---	---	---	30%		
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>							
Matrix Spike (23J0794-MS2)			Prepared: 10/20/23 04:51 Analyzed: 10/23/23 12:52						C-07				
<u>QC Source Sample: Non-SDG (A3J1453-01RE1)</u>													
<u>EPA 8082A</u>													
Aroclor 1016	111	---	20.7	ug/kg dry	1	516	ND	21	47-134%	---	---	Q-02	
Aroclor 1260	342	---	20.7	ug/kg dry	1	516	ND	66	53-140%	---	---		
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>							

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<u>Coles & Betts Environmental Consulting</u> 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0794 - EPA 3546							Soil					

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Darrell Auvil, Client Services Manager



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QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E (SIM)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546						Soil						
Blank (23J0793-BLK1)			Prepared: 10/20/23 04:48 Analyzed: 10/20/23 11:31									
<u>EPA 8270E SIM</u>												
Acenaphthene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Anthracene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Chrysene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Fluoranthene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Fluorene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Naphthalene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Phenanthrene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Pyrene	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
Dibenzofuran	ND	---	2.67	ug/kg wet	1	---	---	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>96 %</i>		<i>54-127 %</i>		"						

LCS (23J0793-BS1)			Prepared: 10/20/23 04:48 Analyzed: 10/20/23 11:57									
<u>EPA 8270E SIM</u>												
Acenaphthene	478	---	2.67	ug/kg wet	1	533	---	90	40-123%	---	---	---
Acenaphthylene	494	---	2.67	ug/kg wet	1	533	---	93	32-132%	---	---	---
Anthracene	474	---	2.67	ug/kg wet	1	533	---	89	47-123%	---	---	---
Benz(a)anthracene	471	---	2.67	ug/kg wet	1	533	---	88	49-126%	---	---	---
Benzo(a)pyrene	488	---	2.67	ug/kg wet	1	533	---	91	45-129%	---	---	---
Benzo(b)fluoranthene	503	---	2.67	ug/kg wet	1	533	---	94	45-132%	---	---	---
Benzo(k)fluoranthene	515	---	2.67	ug/kg wet	1	533	---	97	47-132%	---	---	---
Benzo(g,h,i)perylene	381	---	2.67	ug/kg wet	1	533	---	72	43-134%	---	---	---
Chrysene	483	---	2.67	ug/kg wet	1	533	---	91	50-124%	---	---	---

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QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E (SIM)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546												
Soil												
LCS (23J0793-BS1)												
Prepared: 10/20/23 04:48						Analyzed: 10/20/23 11:57						
Dibenz(a,h)anthracene	498	---	2.67	ug/kg wet	1	533	---	93	45-134%	---	---	
Fluoranthene	497	---	2.67	ug/kg wet	1	533	---	93	50-127%	---	---	
Fluorene	490	---	2.67	ug/kg wet	1	533	---	92	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	457	---	2.67	ug/kg wet	1	533	---	86	45-133%	---	---	
1-Methylnaphthalene	484	---	2.67	ug/kg wet	1	533	---	91	40-120%	---	---	
2-Methylnaphthalene	465	---	2.67	ug/kg wet	1	533	---	87	38-122%	---	---	
Naphthalene	455	---	2.67	ug/kg wet	1	533	---	85	35-123%	---	---	
Phenanthrene	476	---	2.67	ug/kg wet	1	533	---	89	50-121%	---	---	
Pyrene	506	---	2.67	ug/kg wet	1	533	---	95	47-127%	---	---	
Dibenzofuran	479	---	2.67	ug/kg wet	1	533	---	90	44-120%	---	---	
Surr: 2-Fluorobiphenyl (Surr) Recovery: 88 % Limits: 44-120 % Dilution: 1x												
p-Terphenyl-d14 (Surr) 95 % 54-127 % "												

Duplicate (23J0793-DUP1)												
Prepared: 10/20/23 04:48						Analyzed: 10/20/23 12:47						
QC Source Sample: Non-SDG (A3J1366-06)												
Acenaphthene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Anthracene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Benzo(k)fluoranthene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Chrysene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Dibenz(a,h)anthracene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Fluoranthene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Fluorene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
1-Methylnaphthalene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Naphthalene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Phenanthrene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Pyrene	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	
Dibenzofuran	ND	---	293	ug/kg dry	100	---	ND	---	---	---	30%	

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Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E (SIM)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23J0793 - EPA 3546													
Soil													
Duplicate (23J0793-DUP1)													
						Prepared: 10/20/23 04:48	Analyzed: 10/20/23 12:47						R-04
QC Source Sample: Non-SDG (A3J1366-06)													
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 66 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 100x</i>							<i>S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>88 %</i>		<i>54-127 %</i>		<i>"</i>							<i>S-05</i>

Matrix Spike (23J0793-MS1)												
						Prepared: 10/20/23 04:48	Analyzed: 10/20/23 13:38					
QC Source Sample: Non-SDG (A3J1366-07)												
EPA 8270E SIM												
Acenaphthene	539	---	2.99	ug/kg dry	1	599	ND	90	40-123%	---	---	
Acenaphthylene	564	---	2.99	ug/kg dry	1	599	ND	94	32-132%	---	---	
Anthracene	527	---	2.99	ug/kg dry	1	599	ND	88	47-123%	---	---	
Benz(a)anthracene	517	---	2.99	ug/kg dry	1	599	ND	86	49-126%	---	---	
Benzo(a)pyrene	542	---	2.99	ug/kg dry	1	599	ND	91	45-129%	---	---	
Benzo(b)fluoranthene	565	---	2.99	ug/kg dry	1	599	ND	94	45-132%	---	---	
Benzo(k)fluoranthene	569	---	2.99	ug/kg dry	1	599	ND	95	47-132%	---	---	
Benzo(g,h,i)perylene	414	---	2.99	ug/kg dry	1	599	ND	69	43-134%	---	---	
Chrysene	529	---	2.99	ug/kg dry	1	599	ND	88	50-124%	---	---	
Dibenz(a,h)anthracene	544	---	2.99	ug/kg dry	1	599	ND	91	45-134%	---	---	
Fluoranthene	551	---	2.99	ug/kg dry	1	599	ND	92	50-127%	---	---	
Fluorene	551	---	2.99	ug/kg dry	1	599	ND	92	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	498	---	2.99	ug/kg dry	1	599	ND	83	45-133%	---	---	
1-Methylnaphthalene	541	---	2.99	ug/kg dry	1	599	ND	90	40-120%	---	---	
2-Methylnaphthalene	525	---	2.99	ug/kg dry	1	599	ND	88	38-122%	---	---	
Naphthalene	509	---	2.99	ug/kg dry	1	599	ND	85	35-123%	---	---	
Phenanthrene	530	---	2.99	ug/kg dry	1	599	ND	88	50-121%	---	---	
Pyrene	555	---	2.99	ug/kg dry	1	599	ND	93	47-127%	---	---	
Dibenzofuran	542	---	2.99	ug/kg dry	1	599	ND	90	44-120%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 89 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>96 %</i>		<i>54-127 %</i>		<i>"</i>						

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ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0635 - EPA 3051A												
Soil												
Blank (23J0635-BLK1) Prepared: 10/17/23 11:49 Analyzed: 10/18/23 10:19												
<u>EPA 6020B</u>												
Arsenic	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
Chromium	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Lead	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
Mercury	ND	---	0.0800	mg/kg wet	10	---	---	---	---	---	---	
Selenium	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Silver	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
LCS (23J0635-BS1) Prepared: 10/17/23 11:49 Analyzed: 10/18/23 10:24												
<u>EPA 6020B</u>												
Arsenic	49.3	---	1.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	
Barium	50.7	---	1.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Cadmium	50.0	---	0.200	mg/kg wet	10	50.0	---	100	80-120%	---	---	
Chromium	49.8	---	1.00	mg/kg wet	10	50.0	---	100	80-120%	---	---	
Lead	52.6	---	0.200	mg/kg wet	10	50.0	---	105	80-120%	---	---	
Mercury	1.01	---	0.0800	mg/kg wet	10	1.00	---	101	80-120%	---	---	
Selenium	25.6	---	1.00	mg/kg wet	10	25.0	---	102	80-120%	---	---	
Silver	26.9	---	0.200	mg/kg wet	10	25.0	---	108	80-120%	---	---	
Duplicate (23J0635-DUP1) Prepared: 10/17/23 11:49 Analyzed: 10/18/23 10:35												
<u>QC Source Sample: SV-1-0.5-4.0 (A3J1092-01)</u>												
<u>EPA 6020B</u>												
Arsenic	2.66	---	1.25	mg/kg dry	10	---	3.37	---	---	23	20%	Q-05
Barium	124	---	1.25	mg/kg dry	10	---	130	---	---	5	20%	
Cadmium	ND	---	0.251	mg/kg dry	10	---	0.162	---	---	***	20%	
Chromium	9.55	---	1.25	mg/kg dry	10	---	11.0	---	---	14	20%	
Lead	21.6	---	0.251	mg/kg dry	10	---	21.7	---	---	0.8	20%	
Mercury	ND	---	0.100	mg/kg dry	10	---	0.115	---	---	***	20%	Q-05
Selenium	ND	---	1.25	mg/kg dry	10	---	ND	---	---	---	20%	
Silver	ND	---	0.251	mg/kg dry	10	---	ND	---	---	---	20%	
Matrix Spike (23J0635-MS1) Prepared: 10/17/23 11:49 Analyzed: 10/18/23 10:40												

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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0635 - EPA 3051A						Soil						
Matrix Spike (23J0635-MS1)						Prepared: 10/17/23 11:49 Analyzed: 10/18/23 10:40						
QC Source Sample: SV-1-0.5-4.0 (A3J1092-01)												
EPA 6020B												
Arsenic	60.4	---	1.21	mg/kg dry	10	60.4	3.37	94	75-125%	---	---	
Barium	166	---	1.21	mg/kg dry	10	60.4	130	60	75-125%	---	---	Q-04
Cadmium	60.1	---	0.241	mg/kg dry	10	60.4	0.162	99	75-125%	---	---	
Chromium	68.5	---	1.21	mg/kg dry	10	60.4	11.0	95	75-125%	---	---	
Lead	83.9	---	0.241	mg/kg dry	10	60.4	21.7	103	75-125%	---	---	
Mercury	1.19	---	0.0966	mg/kg dry	10	1.21	0.115	89	75-125%	---	---	
Selenium	29.6	---	1.21	mg/kg dry	10	30.2	ND	98	75-125%	---	---	
Silver	31.9	---	0.241	mg/kg dry	10	30.2	ND	106	75-125%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J1218 - EPA 1311/3015A						Soil						
Blank (23J1218-BLK1)			Prepared: 10/31/23 14:10 Analyzed: 10/31/23 22:10									
<u>1311/6020B</u>												
Lead	ND	---	0.0500	mg/L	10	---	---	---	---	---	---	TCLP
LCS (23J1218-BS1)			Prepared: 10/31/23 14:10 Analyzed: 10/31/23 22:16									
<u>1311/6020B</u>												
Lead	4.70	---	0.0500	mg/L	10	5.00	---	94	80-120%	---	---	TCLP
Duplicate (23J1218-DUP1)			Prepared: 10/31/23 14:10 Analyzed: 10/31/23 22:28									
<u>QC Source Sample: SV-2- (A3J1092-02)</u>												
<u>1311/6020B</u>												
Lead	ND	---	0.0500	mg/L	10	---	ND	---	---	---	20%	
Matrix Spike (23J1218-MS1)			Prepared: 10/31/23 14:10 Analyzed: 10/31/23 22:45									
<u>QC Source Sample: SV-2- (A3J1092-02)</u>												
<u>1311/6020B</u>												
Lead	4.74	---	0.0500	mg/L	10	5.00	ND	95	50-150%	---	---	
Matrix Spike (23J1218-MS2)			Prepared: 10/31/23 14:10 Analyzed: 10/31/23 22:57									
<u>QC Source Sample: Non-SDG (A3J1523-01)</u>												
<u>1311/6020B</u>												
Lead	4.50	---	0.0500	mg/L	10	5.00	ND	90	50-150%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0374 - Total Solids (Dry Weight) - 2022							Soil					
Duplicate (23J0374-DUP1)			Prepared: 10/11/23 09:34 Analyzed: 10/12/23 05:04									
<u>QC Source Sample: SV-1-0.5-4.0 (A3J1092-01)</u>												
<u>EPA 8000D</u>												
% Solids	84.0	---	1.00	%	1	---	86.4	---	---	3	10%	
Duplicate (23J0374-DUP2)			Prepared: 10/11/23 09:34 Analyzed: 10/12/23 05:04									
<u>QC Source Sample: SV-2- (A3J1092-02)</u>												
<u>EPA 8000D</u>												
% Solids	85.2	---	1.00	%	1	---	86.8	---	---	2	10%	
Duplicate (23J0374-DUP3)			Prepared: 10/11/23 09:34 Analyzed: 10/12/23 05:04									
<u>QC Source Sample: P-1 13-13.5 (A3J1092-05)</u>												
<u>EPA 8000D</u>												
% Solids	82.7	---	1.00	%	1	---	83.2	---	---	0.6	10%	
Duplicate (23J0374-DUP4)			Prepared: 10/11/23 09:34 Analyzed: 10/12/23 05:04									
<u>QC Source Sample: P-2 7-7.5 (A3J1092-07)</u>												
<u>EPA 8000D</u>												
% Solids	84.5	---	1.00	%	1	---	82.3	---	---	3	10%	
Duplicate (23J0374-DUP5)			Prepared: 10/11/23 19:18 Analyzed: 10/12/23 05:04									
<u>QC Source Sample: Non-SDG (A3J1177-01)</u>												
<u>EPA 8000D</u>												
% Solids	90.1	---	1.00	%	1	---	91.9	---	---	2	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0574</u>							
A3J1092-17	Soil	NWTPH-Dx	10/09/23 13:45	10/16/23 11:49	10.7g/5mL	10g/5mL	0.94
A3J1092-18	Soil	NWTPH-Dx	10/09/23 14:10	10/16/23 11:49	10.9g/5mL	10g/5mL	0.92
A3J1092-19	Soil	NWTPH-Dx	10/09/23 14:15	10/16/23 11:49	10.28g/5mL	10g/5mL	0.97
A3J1092-20	Soil	NWTPH-Dx	10/09/23 14:30	10/16/23 11:49	10.05g/5mL	10g/5mL	1.00
A3J1092-21	Soil	NWTPH-Dx	10/09/23 14:35	10/16/23 11:49	10.35g/5mL	10g/5mL	0.97
A3J1092-22	Soil	NWTPH-Dx	10/09/23 14:40	10/16/23 11:49	10.17g/5mL	10g/5mL	0.98
A3J1092-25	Soil	NWTPH-Dx	10/09/23 15:30	10/16/23 11:49	10.01g/5mL	10g/5mL	1.00
<u>Batch: 23J0576</u>							
A3J1092-01	Soil	NWTPH-Dx	10/09/23 09:10	10/16/23 11:54	10.26g/5mL	10g/5mL	0.98
A3J1092-02	Soil	NWTPH-Dx	10/09/23 09:20	10/16/23 11:54	10.81g/5mL	10g/5mL	0.93
A3J1092-05	Soil	NWTPH-Dx	10/09/23 10:15	10/16/23 11:54	10.36g/5mL	10g/5mL	0.97
A3J1092-08	Soil	NWTPH-Dx	10/09/23 11:00	10/16/23 11:54	10.56g/5mL	10g/5mL	0.95
A3J1092-09	Soil	NWTPH-Dx	10/09/23 11:15	10/16/23 11:54	10.08g/5mL	10g/5mL	0.99
A3J1092-10	Soil	NWTPH-Dx	10/09/23 11:50	10/16/23 11:54	10.09g/5mL	10g/5mL	0.99
A3J1092-11	Soil	NWTPH-Dx	10/09/23 12:35	10/16/23 11:54	10.35g/5mL	10g/5mL	0.97
A3J1092-12	Soil	NWTPH-Dx	10/09/23 12:45	10/16/23 11:54	10.56g/5mL	10g/5mL	0.95
A3J1092-13	Soil	NWTPH-Dx	10/09/23 12:55	10/16/23 11:54	10.05g/5mL	10g/5mL	1.00
A3J1092-14	Soil	NWTPH-Dx	10/09/23 13:05	10/16/23 11:54	10.58g/5mL	10g/5mL	0.95
A3J1092-16	Soil	NWTPH-Dx	10/09/23 13:25	10/16/23 11:59	10.81g/5mL	10g/5mL	0.93

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0384</u>							
A3J1092-01	Soil	NWTPH-Gx (MS)	10/09/23 09:10	10/09/23 09:10	7.55g/5mL	5g/5mL	0.66
A3J1092-02	Soil	NWTPH-Gx (MS)	10/09/23 09:20	10/09/23 09:20	7.47g/5mL	5g/5mL	0.67
A3J1092-05	Soil	NWTPH-Gx (MS)	10/09/23 10:15	10/09/23 10:15	7.07g/5mL	5g/5mL	0.71
A3J1092-07	Soil	NWTPH-Gx (MS)	10/09/23 10:50	10/10/23 13:05	5.07g/5mL	5g/5mL	0.99
A3J1092-08	Soil	NWTPH-Gx (MS)	10/09/23 11:00	10/10/23 13:05	5.34g/5mL	5g/5mL	0.94
A3J1092-09	Soil	NWTPH-Gx (MS)	10/09/23 11:15	10/09/23 11:15	7.19g/5mL	5g/5mL	0.70
A3J1092-10	Soil	NWTPH-Gx (MS)	10/09/23 11:50	10/09/23 11:50	6.08g/5mL	5g/5mL	0.82
A3J1092-11	Soil	NWTPH-Gx (MS)	10/09/23 12:35	10/09/23 12:35	6.27g/5mL	5g/5mL	0.80
A3J1092-12	Soil	NWTPH-Gx (MS)	10/09/23 12:45	10/09/23 12:45	6.89g/5mL	5g/5mL	0.73
A3J1092-13	Soil	NWTPH-Gx (MS)	10/09/23 12:55	10/09/23 12:55	6.24g/5mL	5g/5mL	0.80
A3J1092-14	Soil	NWTPH-Gx (MS)	10/09/23 13:05	10/09/23 13:05	7.63g/5mL	5g/5mL	0.66

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SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A3J1092-16	Soil	NWTPH-Gx (MS)	10/09/23 13:25	10/09/23 13:25	7.64g/5mL	5g/5mL	0.65
A3J1092-17	Soil	NWTPH-Gx (MS)	10/09/23 13:45	10/09/23 13:45	6.9g/5mL	5g/5mL	0.73
A3J1092-18	Soil	NWTPH-Gx (MS)	10/09/23 14:10	10/09/23 14:10	8.27g/5mL	5g/5mL	0.61
A3J1092-19	Soil	NWTPH-Gx (MS)	10/09/23 14:15	10/09/23 14:15	6.85g/5mL	5g/5mL	0.73
A3J1092-20	Soil	NWTPH-Gx (MS)	10/09/23 14:30	10/09/23 14:30	7.46g/5mL	5g/5mL	0.67
A3J1092-21	Soil	NWTPH-Gx (MS)	10/09/23 14:35	10/09/23 14:35	7.27g/5mL	5g/5mL	0.69
A3J1092-25	Soil	NWTPH-Gx (MS)	10/09/23 15:30	10/09/23 15:30	7.09g/5mL	5g/5mL	0.71
Batch: 23J0441							
A3J1092-22	Soil	NWTPH-Gx (MS)	10/09/23 14:40	10/09/23 14:40	7.49g/5mL	5g/5mL	0.67

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0384							
A3J1092-01	Soil	5035A/8260D	10/09/23 09:10	10/09/23 09:10	7.55g/5mL	5g/5mL	0.66
A3J1092-02	Soil	5035A/8260D	10/09/23 09:20	10/09/23 09:20	7.47g/5mL	5g/5mL	0.67
A3J1092-18	Soil	5035A/8260D	10/09/23 14:10	10/09/23 14:10	8.27g/5mL	5g/5mL	0.61

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0794							
A3J1092-18	Soil	EPA 8082A	10/09/23 14:10	10/20/23 09:17	10.15g/5mL	10g/5mL	0.99

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E (SIM)

Prep: EPA 3546					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0793							
A3J1092-18RE1	Soil	EPA 8270E SIM	10/09/23 14:10	10/20/23 04:48	10.26g/5mL	10g/5mL	0.98

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor

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SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0635</u>							
A3J1092-01	Soil	EPA 6020B	10/09/23 09:10	10/17/23 11:49	0.502g/50mL	0.5g/50mL	1.00
A3J1092-02	Soil	EPA 6020B	10/09/23 09:20	10/17/23 11:49	0.461g/50mL	0.5g/50mL	1.08
A3J1092-07	Soil	EPA 6020B	10/09/23 10:50	10/17/23 11:49	0.501g/50mL	0.5g/50mL	1.00
A3J1092-18	Soil	EPA 6020B	10/09/23 14:10	10/17/23 11:49	0.469g/50mL	0.5g/50mL	1.07
A3J1092-19	Soil	EPA 6020B	10/09/23 14:15	10/17/23 11:49	0.5g/50mL	0.5g/50mL	1.00
A3J1092-20	Soil	EPA 6020B	10/09/23 14:30	10/17/23 11:49	0.467g/50mL	0.5g/50mL	1.07
A3J1092-21	Soil	EPA 6020B	10/09/23 14:35	10/17/23 11:49	0.496g/50mL	0.5g/50mL	1.01
A3J1092-22	Soil	EPA 6020B	10/09/23 14:40	10/17/23 11:49	0.475g/50mL	0.5g/50mL	1.05
A3J1092-25	Soil	EPA 6020B	10/09/23 15:30	10/17/23 11:49	0.478g/50mL	0.5g/50mL	1.05

TCLP Metals by EPA 6020B (ICPMS)

Prep: EPA 1311/3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J1218</u>							
A3J1092-02	Soil	1311/6020B	10/09/23 09:20	10/31/23 14:10	10mL/50mL	10mL/50mL	1.00

Percent Dry Weight

Prep: Total Solids (Dry Weight) - 2022					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0374</u>							
A3J1092-01	Soil	EPA 8000D	10/09/23 09:10	10/11/23 09:34			NA
A3J1092-02	Soil	EPA 8000D	10/09/23 09:20	10/11/23 09:34			NA
A3J1092-05	Soil	EPA 8000D	10/09/23 10:15	10/11/23 09:34			NA
A3J1092-07	Soil	EPA 8000D	10/09/23 10:50	10/11/23 09:34			NA
A3J1092-08	Soil	EPA 8000D	10/09/23 11:00	10/11/23 09:34			NA
A3J1092-09	Soil	EPA 8000D	10/09/23 11:15	10/11/23 09:34			NA
A3J1092-10	Soil	EPA 8000D	10/09/23 11:50	10/11/23 09:34			NA
A3J1092-11	Soil	EPA 8000D	10/09/23 12:35	10/11/23 09:34			NA
A3J1092-12	Soil	EPA 8000D	10/09/23 12:45	10/11/23 09:34			NA
A3J1092-13	Soil	EPA 8000D	10/09/23 12:55	10/11/23 09:34			NA
A3J1092-14	Soil	EPA 8000D	10/09/23 13:05	10/11/23 09:34			NA
A3J1092-16	Soil	EPA 8000D	10/09/23 13:25	10/11/23 09:34			NA
A3J1092-17	Soil	EPA 8000D	10/09/23 13:45	10/11/23 09:34			NA
A3J1092-18	Soil	EPA 8000D	10/09/23 14:10	10/11/23 09:34			NA

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

<u>Coles & Betts Environmental Consulting</u> 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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SAMPLE PREPARATION INFORMATION

Percent Dry Weight

<u>Prep: Total Solids (Dry Weight) - 2022</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A3J1092-19	Soil	EPA 8000D	10/09/23 14:15	10/11/23 09:34			NA
A3J1092-20	Soil	EPA 8000D	10/09/23 14:30	10/11/23 09:34			NA
A3J1092-21	Soil	EPA 8000D	10/09/23 14:35	10/11/23 09:34			NA
A3J1092-22	Soil	EPA 8000D	10/09/23 14:40	10/11/23 09:34			NA
A3J1092-25	Soil	EPA 8000D	10/09/23 15:30	10/11/23 09:34			NA

TCLP Extraction by EPA 1311

<u>Prep: EPA 1311 (TCLP)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J1142</u>							
A3J1092-02	Soil	EPA 1311	10/09/23 09:20	10/30/23 16:30	100g/2000.1g	100g/2000g	NA

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Darrell Auvil, Client Services Manager



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<u>Coles & Betts Environmental Consulting</u> 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- EST** Result reported as an Estimated Value. Failed initial calibration criteria
- M-02** Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- P-09** Due to weathering and/or the presence of an unknown mixture of PCB Congeners, the pattern does not match the standard used for calibration. Results are Estimated and based on the closest matching Aroclor.
- PRO** Sample has undergone sample processing prior to extraction and analysis.
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-02** Spike recovery is outside of established control limits due to matrix interference.
- Q-04** Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-42** Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- R-02** The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- TCLP** This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23J1142.
- V-15** Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

- " dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
- " wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
- " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a "dry weight" basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an "As Received" basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

- Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
- For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
- For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
- For further details, please request a copy of this document.
- Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.
- 'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Table with 3 columns: Client Information (Coles & Betts Environmental Consulting), Project Information (Project: 437, Project Number: 437, Project Manager: Jill Betts), and Report ID (A3J1092 - 11 06 23 1004).

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Table header with columns: Matrix, Analysis, TNI_ID, Analyte, TNI_ID, Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

Handwritten signature of Darrell Auvil

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

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<p>Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213</p>	<p>Project: 437 Project Number: 437 Project Manager: Jill Betts</p>	<p style="text-align: right;">Report ID: A3J1092 - 11 06 23 1004</p>
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A3J1092

CHAIN OF CUSTODY																																																																																																																																																											
<p>COLES + BETTS ENVIRONMENTAL CONSULTING, LLC 5741 NE Flanders St., Portland, OR 97213 office: 503-477-6150 mobile: 503-919-2835</p> <p>Project Manager: <u>Jill Betts</u> Project No: <u>437</u> Project Name: <u>437</u> Collected by: <u>Jill Betts and Mike Reynolds (Reynolds Engineering)</u></p>	<p>Apex Labs Lab Project No. <u>1043</u> Chain of Custody No. <u>1043</u></p> <p>Samples Received at AC (Y or N) _____ Appropriate Containers Used (Y or N) _____ Provide Verbal Results (Y or N) _____ Provide Preliminary Results _____ Yes _____ No _____</p>																																																																																																																																																										
<p>Liquid with Sediment Sample Test Filtrate _____ Test Both _____ Multi-Phase Sample Test One (which) _____ Test Separately _____ Shake _____</p>	<p>Analyses to be Performed</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Soil</th> <th>Water</th> <th>Other</th> <th>Number of Containers</th> <th>NWTPH-DX</th> <th>NWTPH-GX</th> <th>VOCs</th> <th>RCRAB</th> <th>PAH</th> <th>PCB</th> <th>TCLP</th> <th>RUSH</th> <th>Remarks</th> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td>HOLD</td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>HOLD</td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>HOLD</td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>1</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>X</td> <td></td> <td></td> <td>4</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Matrix	Soil	Water	Other	Number of Containers	NWTPH-DX	NWTPH-GX	VOCs	RCRAB	PAH	PCB	TCLP	RUSH	Remarks		X			4	✓	✓	✓	✓							X			4	✓	✓	✓	✓					HOLD		X			1									HOLD		X			4	✓	✓							HOLD		X			1	✓	✓									X			4	✓	✓		✓							X			4	✓	✓									X			4	✓	✓									X			4	✓	✓									X			4	✓	✓							
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<p>Received by <u>[Signature]</u> Date <u>10/10/23</u> Company <u>Apex Labs</u> Received by _____ Date _____ Company _____ Received by _____ Date _____ Company _____</p>	<p>Time <u>10:05</u> Time <u>10/10/23</u> Time <u>1005</u></p>																																																																																																																																																										

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503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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COLES + BETTS ENVIRONMENTAL CONSULTING, LLC
 5741 NE Flanders St., Portland, OR 97213
 office: 503-477-6150
 mobile: 503-819-2835

Project Manager: Jill Betts
 Project No.: 437
 Project Name: 43-Mer-05-457
 Collected by: Jill Betts and Mike Reynolds (Reynolds Engineering)

Laboratory Apex Labs
 Lab Project No. _____

Liquid with Sediment Sample
 Test Filtrate _____ Test Sediment _____
 Test Both _____

Multi-Phase Sample
 Test One (which) _____ Test Separately _____ Shake _____

CHAIN OF CUSTODY
 Chain of Custody No. 2-13

Samples Received at 4C (Y or N) _____
 Appropriate Containers Used (Y or N) _____
 Provide Verbal Results (Y or N) _____ No _____ Yes _____
 Provide Preliminary Results _____ Yes _____ No _____

Lab ID	Sample #	Date	Time	Sample Description	Matrix			Number of Containers	Analyses to be Performed							Remarks		
					Soil	Water	Other		NWTPH-DX	NWTPH-GX	VOCs	RCRA8	PAH	PCB	TCLP		RUSH	
	P-6 051	10/9/23	12:45	P-6 05-1	X			4	✓									
	P-7 115		12:55	P-7 1-15	X			4	✓									
	P-8 115		13:05	P-8 1-15	X			4	✓									
	P-8 859		13:10	P-8 85-9	X			1										#102A
	P-9 3-35		13:25	P-9 3-35	X			4	✓									
	P-10 859		13:45	P-10 85-9	X			4	✓									
	P-11 7-75		14:10	P-11 7-75	X			4	✓				✓					
	P-11 12-185		14:15	P-11 13-185	X			4	✓				✓					
	P-12 945		14:20	P-12 9-15					✓				✓					
	P-12 1455B		14:35	P-12 14515					✓				✓					
	P-12 1445		14:40	P-12 14-100					✓				✓					
Relinquished by	<u>Jill Betts</u>			Company	CT-ABC			Date	10/10/23	Time	11:05	Received by	<u>EW</u>	Company	1005	Company	APEX LABS	
Relinquished by				Company				Date		Time		Received by	<u>EW</u>	Company	10/10/23	Company		
Relinquished by				Company				Date		Time		Received by		Company		Company		

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Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Coles & Betts Environmental Consulting
5741 NE Flanders Street
Portland, OR 97213
Project: 437
Project Number: 437
Project Manager: Jill Betts
Report ID:
A3J1092 - 11 06 23 1004

Table with 2 columns: COC Reads and Container Reads/Comments. Title: COC/Container Discrepancies. WO# A3J1092. Rows include sample IDs like P-1 8.5-9 and container counts like 4 cants.

Handwritten note: FROM 10/15

Form Y-004 R-00

Apex Laboratories

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Darrell Auvil, Client Services Manager

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Coles & Betts Environmental Consulting 5741 NE Flanders Street Portland, OR 97213	Project: 437 Project Number: 437 Project Manager: Jill Betts	Report ID: A3J1092 - 11 06 23 1004
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APEX LABS COOLER RECEIPT FORM

Client: Coles + Betts Environmental Consulting, LLC Element WO#: A3J1092

Project/Project #: 437

Delivery Info:
Date/time received: 10/10/23 @ 1005 By: EST
Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 10/10/23 @ 1055 By: EST
Chain of Custody included? Yes No
Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>2.1</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>In</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
Green dots applied to out of temperature samples? Yes/No
Out of temperature samples form initiated? Yes/No

Sample Inspection: Date/time inspected: 10/10/23 @ 11:36 By: AAW
All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: SV-2 cont. ID reads SV-2:0.5-4.0, P-13.5-41 cont. ID reads P-1:3.5-4.0. See form

COC/container discrepancies form initiated? Yes No AAW 10/10

Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA

Comments: _____

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA pH ID: _____

Comments: _____

Additional information:

Labeled by: AAW Witness: DJS Cooler Inspected by: AAW
Form Y-003 R-01

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

Darrell Auvil, Client Services Manager