



November 9, 2020
Project No. 1874.02.01

Nicholas Green
City of John Day
450 E Main Street
John Day, Oregon 97845

Re: Former Oregon Pine Property, John Day, Oregon—environmental assessment

Dear Mr. Green:

At the request of the City of John Day (the City), Maul Foster & Alongi, Inc. (MFA) conducted an environmental assessment of the former Oregon Pine property located in John Day, Oregon (the Property) (see Figure 1). The Property is comprised of Grant County tax lot number 13S31E22D. MFA completed this environmental assessment in support of a larger planned redevelopment, the City's Innovation Gateway, that envisions public uses at the Property including a hotel and event center; community pavilion; restored wetlands and water gardens; greenhouses and community garden space; transportation corridor extensions; water treatment plant extensions; and a multi-use trail, beach, and outdoor event space allowing for public access to the John Day River.

The purpose of this environmental assessment was to evaluate subsurface conditions, based on proposed reuse at the Property, in areas previously unassessed and/or that may have been adversely impacted by recognized environmental conditions (RECs) that were identified during a previous Phase I Environmental Site Assessment (ESA) (Mark Yinger Associates, 2017). In addition, this assessment included identification of hazardous building materials (HBMs) that may require special handling during redevelopment. The assessment consisted of collecting and analyzing groundwater and soil from reconnaissance borings; shallow soil via incremental sampling methodology (ISM); and lead paint from the chipper shed, planer shed, and lumber sorter building (Figure 2).

PROPERTY BACKGROUND

The City purchased the Property in 2018. The Property consists of approximately 50 acres and was historically used as a lumber mill and log storage area. The Property is listed in the Oregon Department of Environmental Quality (DEQ) Environmental Cleanup Site Information (ECSI) Database as ECSI site number 2739. The ECSI database indicates that the Property obtained two no further action determinations from the DEQ, one in 2014 and one in 2018, for various impacted-soil issues associated with the sawmill. The DEQ also lists the Property as a current brownfield.

The Property straddles the John Day River and consists of a former sawmill that conducted active milling and chipping operations from the 1930s through 2007. Prior to milling operations, large portions of the Property were dredged for gold in the early 1900s. Three buildings, part of the former sawmill complex, remain at the Property: a former truck shop, a former planer shed and lumber sorter shed, and a former chipper shed (see Figure 2). A Phase I ESA and a Phase II ESA with a limited soil cleanup were completed in 2017 and 2018, respectively, at the time the Property ownership changed (Mark Yinger Associates, 2017, 2018). The following RECs were identified in relation to the Property:

Mechanic's pit sump. A mechanic's pit sump was identified in the former truck shop building. The sump was filled with oily sludge and was suspected to be connected to a drainpipe or to have drained into the subsurface. This REC was visually assessed in 2017.

Hydraulic oil tanks. Two hydraulic oil tanks were identified in the chipper shed. There was heavy oil staining on the steel leak containment pan beneath one of the tanks and pump. No secondary containment for the tanks was identified. This REC was not investigated in 2017; however, the two tanks were removed from the Property.

Stained soil. Reddish-orange-stained soil was identified adjacent to the southeast corner of the concrete pad on the south side of the lumber sorter shed. This REC was assessed and removed in 2017. A total of 11.09 tons of reddish-orange-stained soil were excavated and disposed of at Finley Butte Landfill. Initial near-surface soil samples and post-excavation soil samples were analyzed for Resource Recovery and Conservation Act 8 metals. The concentrations of arsenic (1.0 milligram per kilogram [mg/kg]) remaining in place following the excavation exceed the DEQ risk-based concentrations (RBCs) for occupational receptors for soil ingestion, dermal contact, and inhalation pathways in two of the three soil samples collected. Concentrations of arsenic in all soil samples were near the DEQ background metals concentration for arsenic (4.576 mg/kg) in the Blue Mountains physiographic province and thus likely represent background arsenic.

Oil-stained kill zone. An approximately 15-foot-by-15-foot oil-stained area with no plant growth was identified adjacent to the former truck shop. This REC was assessed and removed in 2017. A total of 21.43 tons of transformer-oil-impacted soil was excavated and disposed of at the Crook County Landfill. Initial near-surface soil samples and post-excavation soil samples were analyzed for diesel-range Northwest Total Petroleum Hydrocarbons (NWTPH), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). The concentrations of diesel-range organics (2,200 mg/kg) and PCB-1260 (0.6 mg/kg) remaining in place following the excavation exceed RBCs for urban residential receptors for soil ingestion, dermal contact, and inhalation pathways. Additionally, the PCB result exceeds occupational RBCs. These RBCs are exceeded at one sample location at 4.5 feet below ground surface (bgs), below the depth that these receptors are likely to encounter (i.e., uppermost 3 feet).

Heavy oil stains. Several areas of additional oil staining associated with parked heavy machinery were identified at the Property. This REC was removed and remediated in 2017. Five small oil-stained areas of soil were excavated and removed. Approximately 1.5 cubic yards of contaminated soil were disposed of at Crook County Landfill; however, no sampling was completed as part of this removal. The heavy equipment that likely caused the staining was removed prior to cleanup.

Petroleum containers. Several containers with petroleum products and no secondary containments were identified throughout the Property. This REC was removed from the Property in 2017.

In the future, the Property will be incorporated into the City's Innovation Gateway, an approximately 80-acre amenity integrating community, technology, education, and commerce with a focus on rural innovation and value creation. Reuse at the former Oregon Pine portion of the Innovation Gateway envisions a public pavilion and event space, John Day River restoration and river access, office space, and public works offices and water treatment facility additions. Additional infrastructure improvements, creation of restored wetlands, and a water garden are also envisioned. This work plan takes into account these proposed amenities and improvements to facilitate understanding of subsurface conditions in the areas of known impacts at the Property as well as to assess soil in areas where soil removal may be needed to enable construction of the Innovation Gateway brownfield redevelopment project. Figure 3 presents the current intended public reuse at the Property.

INVESTIGATION APPROACH

The draft work plan (MFA, 2020) describes the scope of work for this environmental assessment. Past work completed at the Property focused on some of the RECs identified during the Property's transaction to the City in 2018, prior to a fully realized and detailed understanding of how the Property would be reused. Additionally, groundwater had not been assessed at the Property prior to this 2020 investigation. Figure 4 shows the 2020 sample locations that were chosen to help the City understand environmental concerns as they relate to the intended reuse areas as shown on Figure 3. The purpose of each investigation location includes:

- Borings B1 and B2 were completed to understand soil conditions in the northern portion of the Property along the future 7th Street extension to assess soil for reuse potential during construction of the transportation corridor.
- Boring B3 was completed to assess soil and groundwater conditions in the vicinity of the proposed rental cabin use.
- Borings B4 and B6 were completed to assess soil and groundwater conditions in the vicinity of the proposed restored wetland use.

- Boring B5 was completed to assess soil and groundwater conditions in the vicinity of the hydraulic oil tanks REC and proposed hotel and event center use.
- The surface soil along the John Day River and southern portions of the Property were sampled using an ISM that divides the area into three decision units (DUs, see Figure 4). The collection of ISM soil samples within each DU was designed to evaluate if detrimental surface soil impacts are present, taking into consideration the envisioned reuses (e.g., a beach, event lawn, community garden, general public spaces, multi-use trail).
- HBMs, specifically asbestos and lead paint, were assessed in the chipper shed, planer shed, and lumber sorter building for the presence of materials that may require special management or abatement prior to redeveloping these structures into a hotel, event center, and a community pavilion.

MFA's current understanding is that the Property will have a mix of uses including those described above. The Property is not going to be used specifically for a residential use, potential exposure scenarios at the Property in shallow soil (less than 3 feet) include screening to occupational receptor RBCs. This is due to the proposed public uses at the Property such as a beach, event lawn, community garden, multi-use trail, and general public spaces. Soil concentrations, including shallow and deeper soil, were also screened to construction worker and excavation worker RBCs. Potential soil exposure pathways are ingestion, dermal contact, and inhalation as well as vapor intrusion into buildings. Additionally, soil samples were screened against background metals concentrations developed by DEQ for the Blue Mountain physiographic province (DEQ, 2013), where John Day is located. Groundwater concentrations were screened to occupational RBCs for ingestion and inhalation from tapwater and vapor intrusion into buildings as well as construction worker and excavation worker RBCs.

INVESTIGATION SUMMARY

On August 26 and 27, 2020, MFA conducted the field work for the environmental assessment. Prior to field activities, the boring locations were checked for the presence of subsurface utilities by public utility locators (i.e., Underground Utility Notification Center). MFA also coordinated with a private subsurface utility locator (Applied Professional Services, Inc.) to locate subsurface utilities and structures (e.g., utilities, pipes).

Soil and Reconnaissance Groundwater Sampling

MFA coordinated with Holt Services, Inc., a driller licensed in Oregon, to complete six rotasonic borings (B01 through B06) using a TerraSonic TSi 150 drilling rig. Three borings were located on the portion of the Property to the north of the John Day River, and the remaining three borings were located on the portion of the Property to the south of the John Day River. Investigation locations are presented on Figure 4. Borings were advanced to

between 6 and 20 feet bgs under the observation of an MFA geologist, who collected samples, described soil types, and used a photoionization detector (PID) to screen for organic vapors. Boring logs including PID readings are provided in Attachment B. Soil samples were collected from each of the six borings and reconnaissance groundwater was collected from four of the borings (B03 through B06) for laboratory analysis. Groundwater field sampling data sheets are provided in Attachment C.

ISM Sampling

An ISM approach, which characterizes the average concentration of constituents in a predefined area, was used to collect increment samples from 30 locations in DU1, DU2, and DU3. Substrate material, approximately coarse-gravel-sized and larger, was purposefully excluded from the sample to improve the probability that a consistent, uniform sample from each increment location will be incorporated, resulting in a representative average concentration. The increments were combined into one ISM sample and analyzed to obtain representative average contaminant concentration for the DU.

Increments were collected using stainless-steel sampling equipment from a target depth ranging from approximately ground surface to 6 inches bgs. The sampling locations were randomly located across each DU (Figure 4). The surface conditions were restored, as nearly as practicable, to the previous condition after samples were obtained.

HBM Sampling

MFA conducted an HBM survey of the planer shed, lumber sorter building, and chipper shed at the Property. The HBM survey report is included in Attachment A.

SITE GEOLOGY AND HYDROGEOLOGY

The online geologic map of Oregon shows that Quaternary surficial deposits such as sediments, landslide deposits, alluvium, colluvium, and terrace deposits are present at and around the Property. The boring logs for the Property (Attachment B) indicate that sand and gravel are prevalent grain sizes, and gravel, sand, and sandy gravel soils are present at the site to approximately 20 feet bgs, the maximum depth explored. Some variability in subsurface soils was observed with some occasional woody debris present at depth. This variability is assumed to be an artifact of the historical dredge mining that took place at the Property. Groundwater was encountered in the borings at depths ranging from approximately 2 to 14 feet bgs.

ANALYTICAL WORK

Samples were submitted to Apex Laboratories, LLC, in Tigard, Oregon, under standard chain-of-custody procedures. Attachment D contains the laboratory report, and a data validation memorandum is included as Attachment E. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

Soil

Selected soil samples from each boring and ISM sample were analyzed for total metals by U.S. Environmental Protection Agency (EPA) Method 6020A.

Soil samples from borings B01, B02, B03, B04, B05, and B06 were analyzed for petroleum hydrocarbon identification (HCID) by NWTPH-HCID. Lube oil-range TPH were identified in the sample collected from boring B05, and followup analyses for that sample included quantification for lube oil by method NWTPH-Dx, PCBs by EPA Method 8082A, and PAHs by EPA Method 8270E selected ion monitoring (SIM).

Soil samples from the ISM DU1, DU2, and DU3 were initially analyzed for diesel- and oil-range petroleum hydrocarbons by method NWTPH-Dx. Lube-oil range detections in each DU sample facilitated the need to run followup analyses for PCBs by EPA Method 8082A and PAHs by EPA Method 8270E SIM in the ISM samples.

Groundwater

All four groundwater samples collected were initially analyzed for petroleum HCID by NWTPH-HCID and dissolved metals by EPA Method 200.8. Gasoline-range and diesel-range TPH were detected in these initial samples in groundwater collected in borings B05 and B06.

The groundwater samples for B05 and B06 were then analyzed for gasoline-range TPH by method NWTPH-Gx and volatile organic compounds by EPA Method 8260D. Additionally, the groundwater sample from B05 was analyzed for diesel- and oil-range petroleum hydrocarbons by method NWTPH-Dx, PCBs by EPA Method 8082A, and PAHs by EPA Method 8270E SIM.

RESULTS

The results below summarize the soil and groundwater analytical results and screening against appropriate DEQ RBCs described above and presented in Tables 1 and 2. Based on the likely future uses of the Property, concentrations were generally screened against occupational RBCs as well as construction and excavation worker RBCs (in the event of site redevelopment).

Soil

Soil analytical results are presented on Table 1. The soil exceedances described below focus on samples that have exceeded a DEQ RBC or DEQ-established background concentration for metals in the Blue Mountain physiographic province.

Arsenic exceeded the RBC for occupational receptors at multiple locations at the Property; however, arsenic does not exceed the established background concentration for the region in any sample. Cadmium was detected in some samples, but analytical results indicate that

cadmium does not exceed the occupational RBC and has a minimal detection above the established background concentration in surface soil collected in DU3. Additionally, lead was detected in all samples analyzed and exceeds the established background concentration in surface soil collected in DU2 and DU3; however, the results do not exceed the RBC for occupational use.

Groundwater

Groundwater analytical results are presented on Table 2. Low level groundwater detections for gasoline-range and diesel-range TPH were present at boring B05, but at concentrations below the occupational RBCs. These results were flagged by the laboratory and data validator as being potentially not associated with a known fuel pattern (Attachment E). A review of the chromatograms for the sample indicate that the groundwater detections are associated with a weathered fuel pattern. Additionally, dissolved arsenic was detected in all groundwater samples at concentrations above the occupational RBC for ingestion and inhalation of tapwater.

CONCLUSIONS AND RECOMMENDATIONS

The environmental assessment results support the following conclusions:

- Shallow surface soil in DU3 is impacted with lead and cadmium at concentrations above the appropriate RBCs and established regional background concentrations.
- Groundwater across the Property at borings B03, B04, B05, and B06 exhibits elevated dissolved arsenic concentrations above the occupational RBC for ingestion and inhalation of tapwater.

Based on these results, MFA recommends the following:

- Targeted soil sampling across DU3 may help understand if the lead and cadmium impacts in soil are area-wide or limited to a smaller location. While surface soil concentrations for lead and cadmium in DU3 do not exceed the RBC for occupational use, the lead concentration is significantly (533 milligrams per kilogram) elevated and MFA recommends additional soil sampling for lead in DU3.
- Dissolved arsenic impacts in groundwater appear to be Property-wide. Groundwater use at the Property in the future will not include potable water uses and the receptor for tapwater ingestion and inhalation is not complete. No additional investigation for groundwater is recommended.

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Sincerely,

Maul Foster & Alongi, Inc.

A handwritten signature in black ink that reads "Emily Curtis". The signature is written in a cursive, slightly slanted style.

Kyle K. Roslund, RG
Senior Geologist

Emily Curtis
Project Environmental Health and Safety
Specialist

Attachments: Limitations
References
Tables
Figures
A—Hazardous Building Materials survey
B—Boring logs
C—Field sampling data sheets
D—Laboratory reports
E—Data validation memorandum

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

REFERENCES

DEQ. 2013. Development of Oregon background metals concentrations in soil. Prepared by the Land Quality Division Cleanup Program. March.

Mark Yinger Associates. 2017. Phase I environmental site assessment. Oregon Pine. Lot 300 in Section 22 of T.13.S., R.31.3., John Day, OR 97845. Prepared for Nicholas Green, City Manager, City of John Day, Oregon. Prepared by Mark Yinger Associates, Mt. Hood, Oregon. May 11.

Mark Yinger Associates. 2018. Phase II environmental site assessment and cleanup at former Oregon Pine mill site. John Day, OR. Prepared for Nick Green, City Manager, City of John Day, Oregon. Prepared by Mark Yinger Associates, Mt. Hood, Oregon. January 4.

MFA. 2020. Draft work plan for environmental assessment—former Oregon Pine property, John Day, Oregon. Prepared for Nicholas Green, City of John Day. Prepared by Maul Foster & Alongi, Inc., Portland, Oregon.

TABLES



Table 1
Soil Analytical Results
Former Oregon Pine Property—City of John Day

Location	RBC, Soil, Soil Ingestion, Dermal Contact, and Inhalation ⁽¹⁾			RBC, Soil, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	DEQ Clean Fill, Blue Mountain Region ⁽²⁾	B01	B02	B03	B04
Sample Name						B01-S-9.0	B02-S-10.0	B03-S-11.0	B04-S-2.0
Collection Date	Occupational	Construction Worker	Excavation Worker			8/26/2020	8/26/2020	8/26/2020	8/27/2020
Collection Depth (ft bgs)						9	10	11	2
HCID (Presence/Absence)									
Gasoline-Range Hydrocarbons	NV	NV	NV	NV	NV	ND	ND	ND	ND
Diesel-Range Hydrocarbons	NV	NV	NV	NV	NV	ND	ND	ND	ND
Lube Oil-Range Hydrocarbons	NV	NV	NV	NV	NV	ND	ND	ND	ND
TPH (mg/kg)									
Diesel-Range Organics	14,000	4,600	NV	NV	NV	--	--	--	--
Residual Oil-Range Organics	14,000 ^(a)	4,600 ^(a)	NV	NV	NV	--	--	--	--
Total Metals (mg/kg)									
Arsenic	1.9	15	420	NV	14	1.6	1.2 U	1.94	2.95
Barium	220,000	69,000	NV	NV	950	70.5	91.1	80.9	148
Cadmium	1,100	350	9,700	NV	0.69	0.23 U	0.24 U	0.23 U	0.254
Chromium	NV	NV	NV	NV	190	102	38.2	114	50.5
Lead	800	800	800	NV	21	0.989	1.62	1.8	4.01
Mercury	350	110	2,900	NV	1.4	0.092 U	0.0961 U	0.092 U	0.0845 U
Selenium	NV	NV	NV	NV	0.93	1.15 U	1.2 U	1.15 U	1.06 U
Silver	5,800	1,800	49,000	NV	0.51	0.23 U	0.24 U	0.23 U	0.211 U
Total PCBs (ug/kg)									
Aroclor 1016	NV	NV	NV	NV	NV	--	--	--	--
Aroclor 1221	NV	NV	NV	NV	NV	--	--	--	--
Aroclor 1232	NV	NV	NV	NV	NV	--	--	--	--
Aroclor 1242	NV	NV	NV	NV	NV	--	--	--	--
Aroclor 1248	NV	NV	NV	NV	NV	--	--	--	--
Aroclor 1254	NV	NV	NV	NV	NV	--	--	--	--
Aroclor 1260	NV	NV	NV	NV	NV	--	--	--	--
Total PCBs ^(b)	590	4,900	140,000	NV	NV	--	--	--	--

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Location	RBC, Soil, Soil Ingestion, Dermal Contact, and Inhalation ⁽¹⁾			RBC, Soil, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	DEQ Clean Fill, Blue Mountain Region ⁽²⁾	B01	B02	B03	B04
Sample Name						B01-S-9.0	B02-S-10.0	B03-S-11.0	B04-S-2.0
Collection Date	Occupational	Construction Worker	Excavation Worker			8/26/2020	8/26/2020	8/26/2020	8/27/2020
Collection Depth (ft bgs)						9	10	11	2
PAHs (ug/kg)									
1-Methylnaphthalene	NV	NV	NV	NV	NV	--	--	--	--
2-Methylnaphthalene	NV	NV	NV	NV	NV	--	--	--	--
Acenaphthene	70,000,000	21,000,000	590,000,000	NV	NV	--	--	--	--
Acenaphthylene	NV	NV	NV	NV	NV	--	--	--	--
Anthracene	350,000,000	110,000,000	NV	NV	NV	--	--	--	--
Benzo(a)anthracene	21,000	170,000	4,800,000	NV	NV	--	--	--	--
Benzo(a)pyrene	2,100	17,000	490,000	NV	NV	--	--	--	--
Benzo(b)fluoranthene	21,000	170,000	4,900,000	NV	NV	--	--	--	--
Benzo(ghi)perylene	NV	NV	NV	NV	NV	--	--	--	--
Benzo(k)fluoranthene	210,000	1,700,000	49,000,000	NV	NV	--	--	--	--
Chrysene	2,100,000	17,000,000	490,000,000	NV	NV	--	--	--	--
Dibenzo(a,h)anthracene	2,100	17,000	490,000	NV	NV	--	--	--	--
Dibenzofuran	NV	NV	NV	NV	NV	--	--	--	--
Fluoranthene	30,000,000	10,000,000	280,000,000	NV	NV	--	--	--	--
Fluorene	47,000,000	14,000,000	390,000,000	NV	NV	--	--	--	--
Indeno(1,2,3-cd)pyrene	21,000	170,000	4,900,000	NV	NV	--	--	--	--
Naphthalene	23,000	580,000	16,000,000	83,000	NV	--	--	--	--
Phenanthrene	NV	NV	NV	NV	NV	--	--	--	--
Pyrene	23,000,000	7,500,000	210,000,000	NV	NV	--	--	--	--
cPAH TEQ ^(c)	2,100	17,000	490,000	NV	NV	--	--	--	--

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Location	RBC, Soil, Soil Ingestion, Dermal Contact, and Inhalation ⁽¹⁾			RBC, Soil, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	DEQ Clean Fill, Blue Mountain Region ⁽²⁾	B05	B06	DU1	DU2	DU3		
Sample Name	Occupational	Construction Worker	Excavation Worker			B05-S-1.5	B06-S-2.0	DU1-S-0.5	DU2-S-0.5	DU3-A-S-0.5	DU3-B-S-0.5	DU3-C-S-0.5
Collection Date						8/27/2020	8/27/2020	8/27/2020	8/27/2020	8/26/2020	8/26/2020	8/26/2020
Collection Depth (ft bgs)						1.5	2	0.5	0.5	0.5	0.5	0.5
HCID (Presence/Absence)												
Gasoline-Range Hydrocarbons	NV	NV	NV	NV	NV	ND	ND	--	--	--	--	--
Diesel-Range Hydrocarbons	NV	NV	NV	NV	NV	ND	ND	--	--	--	--	--
Lube Oil-Range Hydrocarbons	NV	NV	NV	NV	NV	DET	ND	--	--	--	--	--
TPH (mg/kg)												
Diesel-Range Organics	14,000	4,600	NV	NV	NV	25 U	--	25 U	25 U	25 U	25 U	25 U
Residual Oil-Range Organics	14,000 ^(a)	4,600 ^(a)	NV	NV	NV	247 J	--	596	579	367	367	396
Total Metals (mg/kg)												
Arsenic	1.9	15	420	NV	14	1.82	2.4	2.69	3.42	4.54	4.83	3.97
Barium	220,000	69,000	NV	NV	950	87.3	73.3	246	154	122	119	112
Cadmium	1,100	350	9,700	NV	0.69	0.234 U	0.243 U	0.364	0.394	0.687	0.831	0.6
Chromium	NV	NV	NV	NV	190	48	120	84	116	131	135	113
Lead	800	800	800	NV	21	7.31	16.9	10.8	21.6	130 J	553 J	106 J
Mercury	350	110	2,900	NV	1.4	0.0936 U	0.0973 U	0.0874 U	0.11	0.151	0.145	0.138
Selenium	NV	NV	NV	NV	0.93	1.17 U	1.22 U	1.09 U	1.09 U	1.02 U	1.02 U	1.08 U
Silver	5,800	1,800	49,000	NV	0.51	0.234 U	0.243 U	0.218 U	0.219 U	0.418	0.267	0.216 U
Total PCBs (ug/kg)												
Aroclor 1016	NV	NV	NV	NV	NV	5.7 U	--	5.11 U	5.04 U	4.74 U	4.81 U	4.8 U
Aroclor 1221	NV	NV	NV	NV	NV	11.4 U	--	5.11 U	5.04 U	4.74 U	4.81 U	4.8 U
Aroclor 1232	NV	NV	NV	NV	NV	5.7 U	--	5.11 U	5.04 U	9.49 U	9.62 U	9.61 U
Aroclor 1242	NV	NV	NV	NV	NV	5.7 U	--	5.11 U	5.04 U	4.74 U	4.81 U	4.8 U
Aroclor 1248	NV	NV	NV	NV	NV	5.7 U	--	5.11 U	5.04 U	4.74 U	4.81 U	4.8 U
Aroclor 1254	NV	NV	NV	NV	NV	5.7 U	--	5.11 U	8.57	7.28	8.39	6.46
Aroclor 1260	NV	NV	NV	NV	NV	5.7 U	--	5.11 U	6.52	4.74 U	4.81 U	4.8 U
Total PCBs ^(b)	590	4,900	140,000	NV	NV	11.4 U	--	5.11 U	15.09	7.28	8.39	6.46

Table 1
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	Sample Name	Occupational	Construction Worker			Excavation Worker	B05-S-1.5	B06-S-2.0	DU1-S-0.5	DU2-S-0.5	DU3-A-S-0.5	DU3-B-S-0.5
Collection Date						8/27/2020	8/27/2020	8/27/2020	8/27/2020	8/26/2020	8/26/2020	8/26/2020
Collection Depth (ft bgs)						1.5	2	0.5	0.5	0.5	0.5	0.5
PAHs (ug/kg)												
1-Methylnaphthalene	NV	NV	NV	NV	NV	20.8 U	--	17.4 J	16.3 J	27.2 J	64 J	28.1 J
2-Methylnaphthalene	NV	NV	NV	NV	NV	20.8 U	--	39.6 J	42.6 J	67 J	164 J	68.2 J
Acenaphthene	70,000,000	21,000,000	590,000,000	NV	NV	20.8 U	--	5.01 UJ	4.92 UJ	4.82 UJ	10.2 UJ	4.92 UJ
Acenaphthylene	NV	NV	NV	NV	NV	20.8 U	--	17.1 J	22.1 J	34.6 J	66.5 J	36.1 J
Anthracene	350,000,000	110,000,000	NV	NV	NV	20.8 U	--	5.66 J	7.36 J	9.87 J	15.3 J	11.6 J
Benzo(a)anthracene	21,000	170,000	4,800,000	NV	NV	41.6 U	--	6.75 J	11.6 J	5.2 J	6.01 J	7.75 J
Benzo(a)pyrene	2,100	17,000	490,000	NV	NV	20.8 U	--	5.01 UJ	9.48 J	4.82 UJ	5.12 UJ	4.92 UJ
Benzo(b)fluoranthene	21,000	170,000	4,900,000	NV	NV	20.8 U	--	8.53 J	24.1 J	7.92 J	7.2 J	11 J
Benzo(ghi)perylene	NV	NV	NV	NV	NV	20.8 U	--	5.45 J	18.6 J	4.82 UJ	5.12 UJ	4.92 UJ
Benzo(k)fluoranthene	210,000	1,700,000	49,000,000	NV	NV	20.8 U	--	5.01 UJ	6.08 J	4.82 UJ	5.12 UJ	4.92 UJ
Chrysene	2,100,000	17,000,000	490,000,000	NV	NV	41.6 U	--	10.4	23.9	14.5	15.3	18.2
Dibenzo(a,h)anthracene	2,100	17,000	490,000	NV	NV	20.8 U	--	5.01 UJ	4.92 UJ	4.82 UJ	5.12 UJ	4.92 UJ
Dibenzofuran	NV	NV	NV	NV	NV	20.8 U	--	25.7 J	13.3 J	15.7 J	37.9 J	16.2 J
Fluoranthene	30,000,000	10,000,000	280,000,000	NV	NV	20.8 U	--	35.4 J	52.6 J	62.3 J	88.3 J	74 J
Fluorene	47,000,000	14,000,000	390,000,000	NV	NV	20.8 U	--	5.01 UJ	4.92 UJ	4.82 UJ	9.63 J	5.2 J
Indeno(1,2,3-cd)pyrene	21,000	170,000	4,900,000	NV	NV	20.8 U	--	5.01 UJ	12 J	4.82 UJ	5.12 UJ	4.92 UJ
Naphthalene	23,000	580,000	16,000,000	83,000	NV	24.9	--	100 J	87.5 J	109 J	284 J	111 J
Phenanthrene	NV	NV	NV	NV	NV	20.8 U	--	74.3 J	78 J	102 J	190 J	110 J
Pyrene	23,000,000	7,500,000	210,000,000	NV	NV	21.8	--	28.7 J	44.9 J	56 J	71.7 J	66.6 J
cPAH TEQ ^(c)	2,100	17,000	490,000	NV	NV	41.6 U	--	6.8	16.8	6.4	6.7	7.1

Notes:

Shading (color key below) indicates values that exceed screening criteria; non-detects ("U" or "UJ") were not compared with screening criteria.

Oregon DEQ occupational soil ingestion, dermal contact, and inhalation generic RBC

-- = not analyzed.

cPAH TEQ = carcinogenic PAH toxicity equivalence.

DEQ = Department of Environmental Quality.

DET = detected.

ft bgs = feet below ground surface.

HCID = hydrocarbon identification.

J = estimated value.

mg/kg = milligrams per kilogram.

ND = non-detect.

NV = no value.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

RBC = risk-based concentration, 2018.

TPH = total petroleum hydrocarbons.

U = result is non-detect to method reporting limit.

ug/kg = micrograms per kilogram.

UJ = result is non-detect with an estimated reporting limit.

^(a) Value is for generic diesel/heating oil, since generic residual-range hydrocarbon values are not available.

^(b) Total PCBs are the sum of all Aroclors. The highest reporting limit is used when all analytes are non-detect.

^(c) cPAH TEQ values are based on toxic equivalence factors from USEPA Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. 1993. (EPA/600/R-93/089)

REFERENCES:

⁽¹⁾ State of Oregon Department of Environmental Quality Risk-Based Concentration of Individual Chemicals. Revision: May 2018.

⁽²⁾ State of Oregon Department of Environmental Quality Background Levels of Metals in Soils for Cleanups. January 2018.

Table 2
Groundwater Analytical Results
Former Oregon Pine Property—City of John Day



Location	Groundwater, RBC, Ingestion and Inhalation from Tapwater, Occupational ⁽¹⁾	Groundwater, RBC, Volatilization to Outdoor Air, Occupational ⁽¹⁾	Groundwater, RBC, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	Groundwater, RBC, Groundwater in Excavation, Construction & Excavation Worker ⁽¹⁾	B03	B04	B05	B06
Sample Name					B03-W-14.0	B04-W-3.5	B05-W-2.0	B06-W-3.0
Collection Date					8/26/2020	8/27/2020	8/27/2020	8/27/2020
HCID (Presence/Absence)								
Gasoline-Range Hydrocarbons	NV	NV	NV	NV	ND	ND	DET	DET
Diesel-Range Hydrocarbons	NV	NV	NV	NV	ND	ND	DET	ND
Lube Oil-Range Hydrocarbons	NV	NV	NV	NV	ND	ND	ND	ND
TPH (mg/L)								
Gasoline-Range Hydrocarbons	450,000	NV	NV	14	--	--	0.199	0.1 U
Diesel-Range Hydrocarbons	430,000	NV	NV	NV	--	--	0.258	--
Lube Oil-Range Hydrocarbons	430,000 ^(a)	NV ^(a)	NV ^(a)	NV ^(a)	--	--	0.421 U	--
Dissolved Metals (ug/L)								
Arsenic	0.31	NV	NV	6,300	1.05	1.11	1.17	2.42
Barium	33,000	NV	NV	NV	32.9	46.6	210	76.2
Cadmium	160	NV	NV	130,000	0.2 U	0.2 U	0.2 U	0.2 U
Chromium	NV	NV	NV	NV	1 U	1.8	7.59	1 U
Lead	15	NV	NV	NV	0.2 U	0.286	2.36	0.2 U
Mercury	49	NV	NV	NV	0.08 U	0.08 U	0.08 U	0.08 U
Selenium	NV	NV	NV	NV	1 U	1 U	1 U	1 U
Silver	820	NV	NV	1,100,000	0.2 U	0.2 U	0.2 U	0.2 U
Total PCBs (ug/L)								
Aroclor 1016	NV	NV	NV	NV	--	--	0.098 U	--
Aroclor 1221	NV	NV	NV	NV	--	--	0.098 U	--
Aroclor 1232	NV	NV	NV	NV	--	--	0.098 U	--
Aroclor 1242	NV	NV	NV	NV	--	--	0.098 U	--
Aroclor 1248	NV	NV	NV	NV	--	--	0.098 U	--
Aroclor 1254	NV	NV	NV	NV	--	--	0.098 U	--
Aroclor 1260	NV	NV	NV	NV	--	--	0.098 U	--
Total PCBs ^(b)	0.028	NV	NV	30	--	--	0.098 U	--

Table 2
Groundwater Analytical Results
Former Oregon Pine Property—City of John Day



Location	Groundwater, RBC, Ingestion and Inhalation from Tapwater, Occupational ⁽¹⁾	Groundwater, RBC, Volatilization to Outdoor Air, Occupational ⁽¹⁾	Groundwater, RBC, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	Groundwater, RBC, Groundwater in Excavation, Construction & Excavation Worker ⁽¹⁾	B03	B04	B05	B06
					B03-W-14.0	B04-W-3.5	B05-W-2.0	B06-W-3.0
					8/26/2020	8/27/2020	8/27/2020	8/27/2020
VOCs (ug/L)								
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	--	--	0.4 U	0.4 U
1,1,1-Trichloroethane	37,000	NV	NV	1,100,000	--	--	0.4 U	0.4 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	--	--	0.5 U	0.5 U
1,1,2-Trichloroethane	1.3	21,000	11,000	49	--	--	0.5 U	0.5 U
1,1-Dichloroethane	13	68,000	14,000	10,000	--	--	0.4 U	0.4 U
1,1-Dichloroethene	1400	2,400,000	360,000	44,000	--	--	0.4 U	0.4 U
1,1-Dichloropropene	NV	NV	NV	NV	--	--	1 U	1 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	--	--	2 U	2 U
1,2,3-Trichloropropane	NV	NV	NV	NV	--	--	1 U	1 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	--	--	2 U	2 U
1,2,4-Trimethylbenzene	250	NV	NV	6,300	--	--	1 U	1 U
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	--	--	5 U	5 U
1,2-Dibromoethane	0.034	790	590	27	--	--	0.5 U	0.5 U
1,2-Dichlorobenzene	1,400	NV	NV	37,000	--	--	0.5 U	0.5 U
1,2-Dichloroethane	0.78	9,000	3,900	630	--	--	0.4 U	0.4 U
1,2-Dichloropropane	NV	NV	NV	NV	--	--	0.5 U	0.5 U
1,3,5-Trimethylbenzene	280	NV	NV	7,500	--	--	1 U	1 U
1,3-Dichlorobenzene	NV	NV	NV	NV	--	--	0.5 U	0.5 U
1,3-Dichloropropane	NV	NV	NV	NV	--	--	1 U	1 U
1,4-Dichlorobenzene	2.1	21,000	7,100	1,500	--	--	0.5 U	0.5 U
2,2-Dichloropropane	NV	NV	NV	NV	--	--	1 U	1 U
2-Butanone	NV	NV	NV	NV	--	--	10 U	10 U
2-Chlorotoluene	NV	NV	NV	NV	--	--	1 U	1 U
2-Hexanone	NV	NV	NV	NV	--	--	10 U	10 U
4-Chlorotoluene	NV	NV	NV	NV	--	--	1 U	1 U

Table 2
Groundwater Analytical Results
Former Oregon Pine Property—City of John Day



Location	Groundwater, RBC, Ingestion and Inhalation from Tapwater, Occupational ⁽¹⁾	Groundwater, RBC, Volatilization to Outdoor Air, Occupational ⁽¹⁾	Groundwater, RBC, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	Groundwater, RBC, Groundwater in Excavation, Construction & Excavation Worker ⁽¹⁾	B03	B04	B05	B06
					B03-W-14.0	B04-W-3.5	B05-W-2.0	B06-W-3.0
					8/26/2020	8/27/2020	8/27/2020	8/27/2020
4-Isopropyltoluene	NV	NV	NV	NV	--	--	15.8	1 U
4-Methyl-2-pentanone	NV	NV	NV	NV	--	--	10 U	10 U
Acetone	NV	NV	NV	NV	--	--	20 U	20 U
Acrylonitrile	0.25	9,800	9,200	250	--	--	2 U	2 U
Benzene	2.1	14,000	2,800	1,800	--	--	0.2 U	0.2 U
Bromobenzene	NV	NV	NV	NV	--	--	0.5 U	0.5 U
Bromodichloromethane	0.6	6,000	2,300	450	--	--	1 U	1 U
Bromoform	16	550,000	470,000	14,000	--	--	1 U	1 U
Bromomethane	36	130,000	27,000	1,200	--	--	5 U	5 U
Carbon disulfide	NV	NV	NV	NV	--	--	10 U	10 U
Carbon tetrachloride	2.1	7,700	1,200	1,800	--	--	1 U	1 U
Chlorobenzene	350	NV	NV	10,000	--	--	0.5 U	0.5 U
Chlorobromomethane	NV	NV	NV	NV	--	--	1 U	1 U
Chloroethane	88,000	NV	NV	2,400,000	--	--	5 UJ	5 UJ
Chloroform	0.98	6,300	1,600	720	--	--	1 U	1 U
Chloromethane	790	1,800,000	330,000	22,000	--	--	5 UJ	5 UJ
cis-1,2-Dichloroethene	260	NV	NV	18,000	--	--	0.4 U	0.4 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	--	--	1 U	1 U
Dibromochloromethane	0.77	17,000	13,000	610	--	--	1 U	1 U
Dibromomethane	NV	NV	NV	NV	--	--	1 U	1 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	--	--	1 U	1 U
Ethylbenzene	6.4	43,000	8,200	4,500	--	--	0.5 U	0.5 U
Hexachlorobutadiene	NV	NV	NV	NV	--	--	5 U	5 U
Isopropylbenzene	2,000	NV	NV	51,000	--	--	1 U	1 U
m,p-Xylene	NV	NV	NV	NV	--	--	1 U	1 U

Table 2
Groundwater Analytical Results
Former Oregon Pine Property—City of John Day

Location	Groundwater, RBC, Ingestion and Inhalation from Tapwater, Occupational ⁽¹⁾	Groundwater, RBC, Volatilization to Outdoor Air, Occupational ⁽¹⁾	Groundwater, RBC, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	Groundwater, RBC, Groundwater in Excavation, Construction & Excavation Worker ⁽¹⁾	B03	B04	B05	B06
					B03-W-14.0 8/26/2020	B04-W-3.5 8/27/2020	B05-W-2.0 8/27/2020	B06-W-3.0 8/27/2020
Methyl tert-butyl ether	68	1,500,000	870,000	63,000	--	--	1 U	1 U
Methylene chloride	200	13,000,000	3,300,000	79,000	--	--	10 UJ	10 UJ
Naphthalene	0.72	16,000	11,000	500	--	--	2 U	2 U
n-Butylbenzene	NV	NV	NV	NV	--	--	2 U	2 U
n-Propylbenzene	NV	NV	NV	NV	--	--	0.5 U	0.5 U
o-Xylene	NV	NV	NV	NV	--	--	0.5 U	0.5 U
sec-Butylbenzene	NV	NV	NV	NV	--	--	1 U	1 U
Styrene	5,700	NV	NV	170,000	--	--	1 U	1 U
tert-Butylbenzene	NV	NV	NV	NV	--	--	1 U	1 U
Tetrachloroethene	48	NV	48,000	5,600	--	--	0.4 U	0.4 U
Toluene	6,300	NV	NV	220,000	--	--	2.48	1 U
trans-1,2-Dichloroethene	2,600	NV	NV	180,000	--	--	0.4 U	0.4 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	--	--	1 U	1 U
Trichloroethene	3.3	20,000	3,700	430	--	--	0.4 U	0.4 U
Trichlorofluoromethane (Freon 11)	5,200	NV	460,000	160,000	--	--	2 U	2 U
Vinyl chloride	0.49	5,900	880	960	--	--	0.4 U	0.4 U

Table 2
Groundwater Analytical Results
Former Oregon Pine Property—City of John Day

Location	Groundwater, RBC, Ingestion and Inhalation from Tapwater, Occupational ⁽¹⁾	Groundwater, RBC, Volatilization to Outdoor Air, Occupational ⁽¹⁾	Groundwater, RBC, Vapor Intrusion into Buildings, Occupational ⁽¹⁾	Groundwater, RBC, Groundwater in Excavation, Construction & Excavation Worker ⁽¹⁾	B03	B04	B05	B06
					B03-W-14.0	B04-W-3.5	B05-W-2.0	B06-W-3.0
					8/26/2020	8/27/2020	8/27/2020	8/27/2020
PAHs (ug/L)								
1-Methylnaphthalene	NV	NV	NV	NV	--	--	0.0899 U	--
2-Methylnaphthalene	NV	NV	NV	NV	--	--	0.0899 U	--
Acenaphthene	2,500	NV	NV	NV	--	--	0.0449 U	--
Acenaphthylene	NV	NV	NV	NV	--	--	0.0449 U	--
Anthracene	NV	NV	NV	NV	--	--	0.0449 U	--
Benzo(a)anthracene	0.38	NV	NV	NV	--	--	0.0449 U	--
Benzo(a)pyrene	0.47	NV	NV	NV	--	--	0.0449 U	--
Benzo(b)fluoranthene	NV	NV	NV	NV	--	--	0.0449 U	--
Benzo(ghi)perylene	NV	NV	NV	NV	--	--	0.0449 U	--
Benzo(k)fluoranthene	NV	NV	NV	NV	--	--	0.0449 U	--
Chrysene	NV	NV	NV	NV	--	--	0.0449 U	--
Dibenzo(a,h)anthracene	0.47	NV	NV	NV	--	--	0.0449 U	--
Dibenzofuran	NV	NV	NV	NV	--	--	0.0449 U	--
Fluoranthene	NV	NV	NV	NV	--	--	0.0449 U	--
Fluorene	1,300	NV	NV	NV	--	--	0.0674 U	--
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	--	--	0.0449 U	--
Naphthalene	0.72	16,000	11,000	500	--	--	0.0899 U	--
Phenanthrene	NV	NV	NV	NV	--	--	0.0449 U	--
Pyrene	NV	NV	NV	NV	--	--	0.0449 U	--
cPAH TEQ ^(c)	0.47	NV	NV	NV	--	--	0.0449 U	--

Table 2
Groundwater Analytical Results
Former Oregon Pine Property—City of John Day



Notes:

Shading (color key below) indicates values that exceed screening criteria; non-detects ("U" or "UJ") were not compared with screening criteria.

Oregon DEQ occupational groundwater ingestion and inhalation from tapwater generic RBC.

-- = not analyzed.

cPAH TEQ = carcinogenic PAH toxicity equivalence.

DEQ = Department of Environmental Quality.

DET = detected.

HCID = hydrocarbon identification.

mg/L = milligrams per liter.

ND = not detected.

NV = no value.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyls.

RBC = risk-based concentration 2018.

TPH = total petroleum hydrocarbons.

U = result is non-detect to method reporting limit.

ug/L = micrograms per liter.

UJ = result is non-detect with an estimated reporting limit.

VOC = volatile organic compound.

^(a) Value is for generic diesel/heating oil, since generic residual-range hydrocarbon values are not available.

^(b) Total PCBs are the sum of all Aroclors. The highest reporting limit is used when all analytes are non-detect.

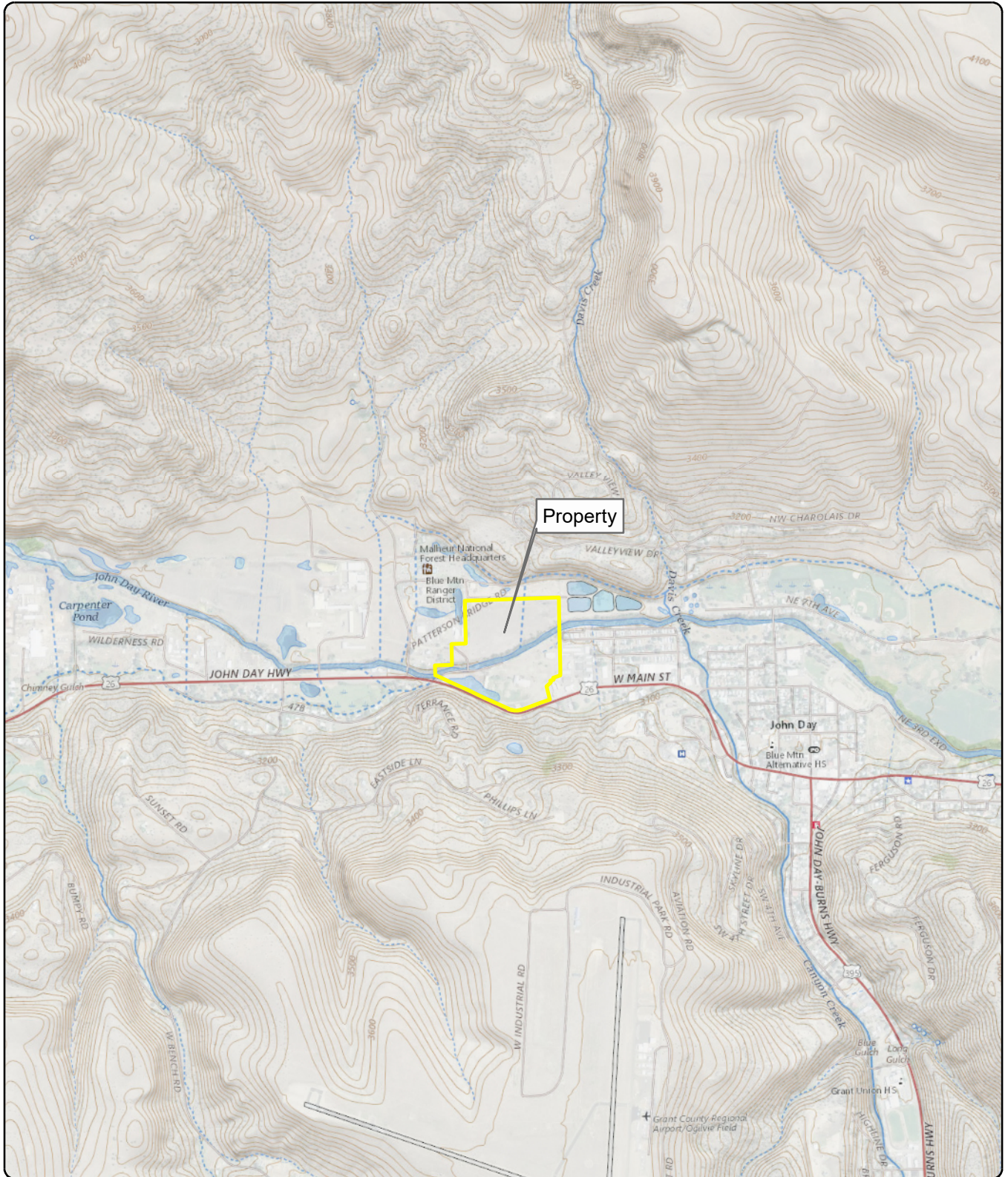
^(c) cPAH TEQ values are based on toxic equivalence factors from USEPA Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. 1993. (EPA/600/R-93/089)

References:

⁽¹⁾ State of Oregon Department of Environmental Quality Risk-Based Concentration of Individual Chemicals. Revision: May 2018.

FIGURES





Source:
 U.S. Geological Survey (2020) 7.5-minute
 topographic quadrangle: John Day.
 Property boundary obtained from Grant County GIS.
 Township 13 South, Range 31 East, Section 22.


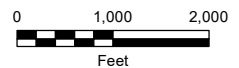
Legend
 Property Tax Lot

Figure 1
Property Location
 Former Oregon Pine Property
 Grant County
 Tax Lot 13S31E22D

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Project: 1874_02 Produced By: slurner Approved By: krossland Print Date: 10/13/2020 Path: X:\1874_02\ 01\Fig2_Site_Features.mxd

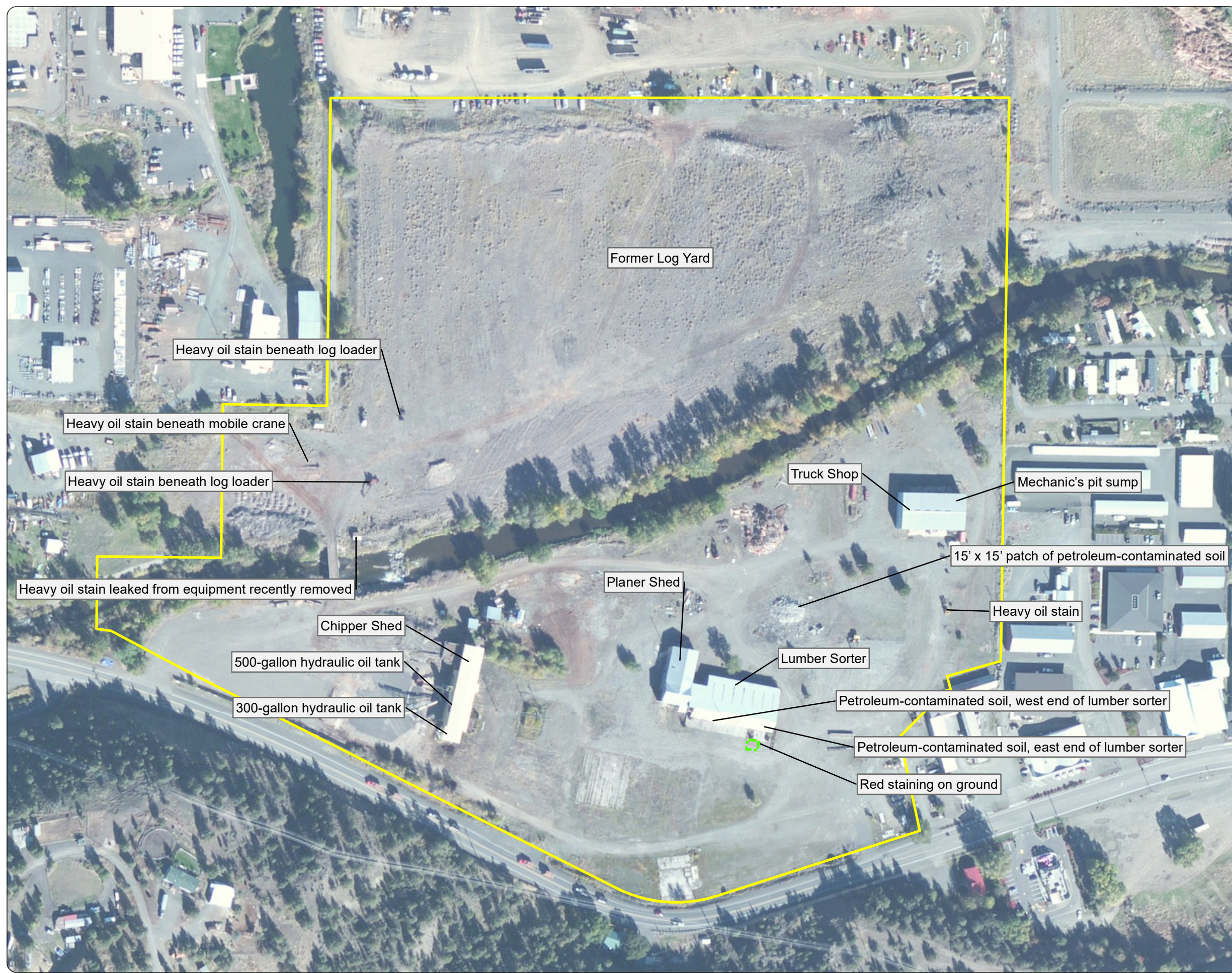


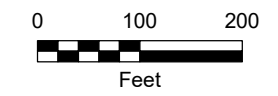


Figure 2
Site Features and Areas
of Environmental Concern

Former Oregon Pine Property
John Day, Oregon

Legend

-  Excavation Boundary
-  Property Boundary



Source: Aerial photograph obtained from
ArcGIS Online. Property boundary obtained
from Grant County GIS.



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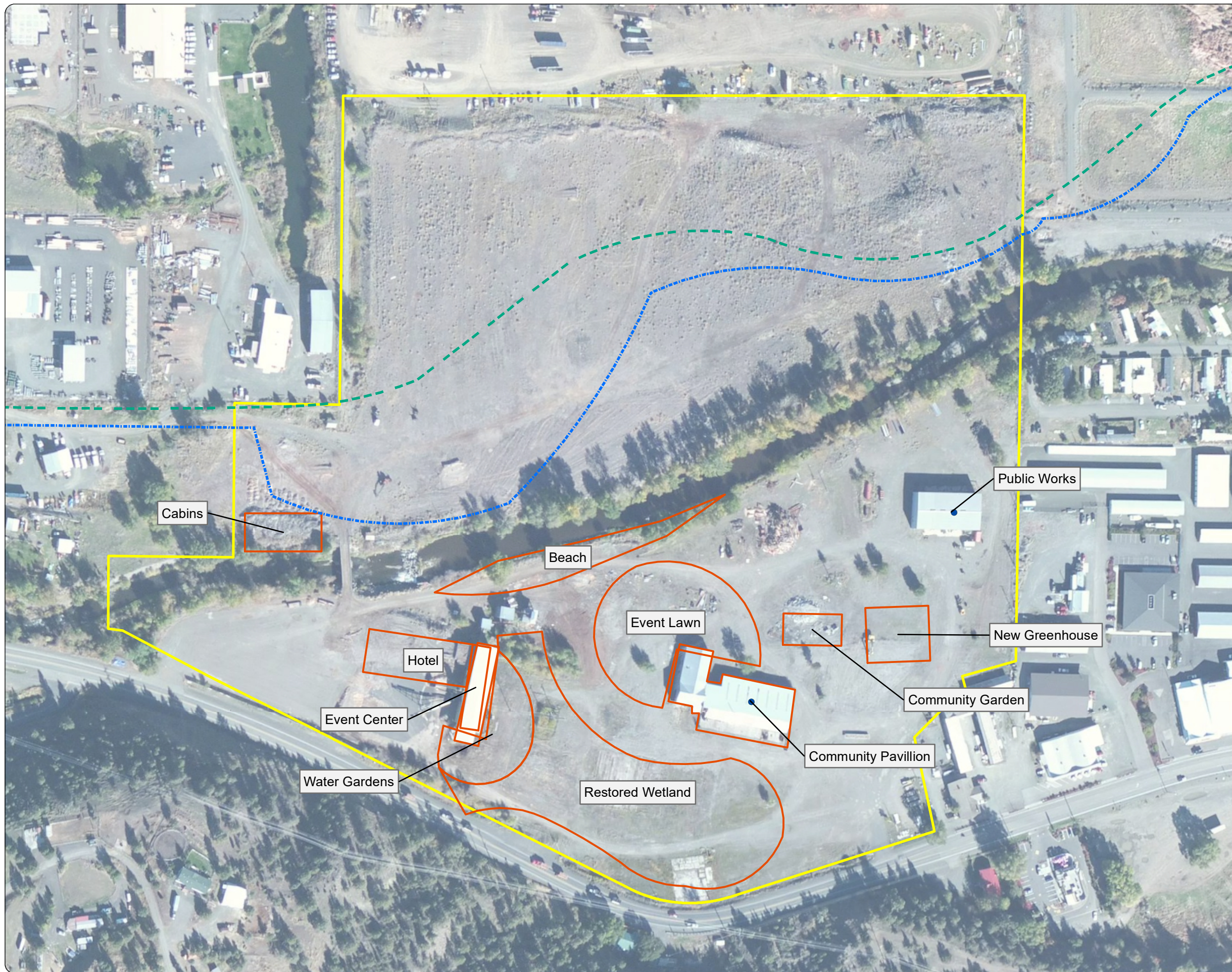
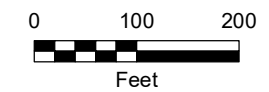


Figure 3
Proposed Site Features
 Former Oregon Pine Property
 John Day, Oregon

Legend

- Site Feature
- - - Future 7th Street Extension
- - - Future John Day River Multi-Use Trail
- Proposed Site Feature
- Property



Source: Aerial photograph obtained from ArcGIS Online. Property boundary obtained from Grant County GIS.

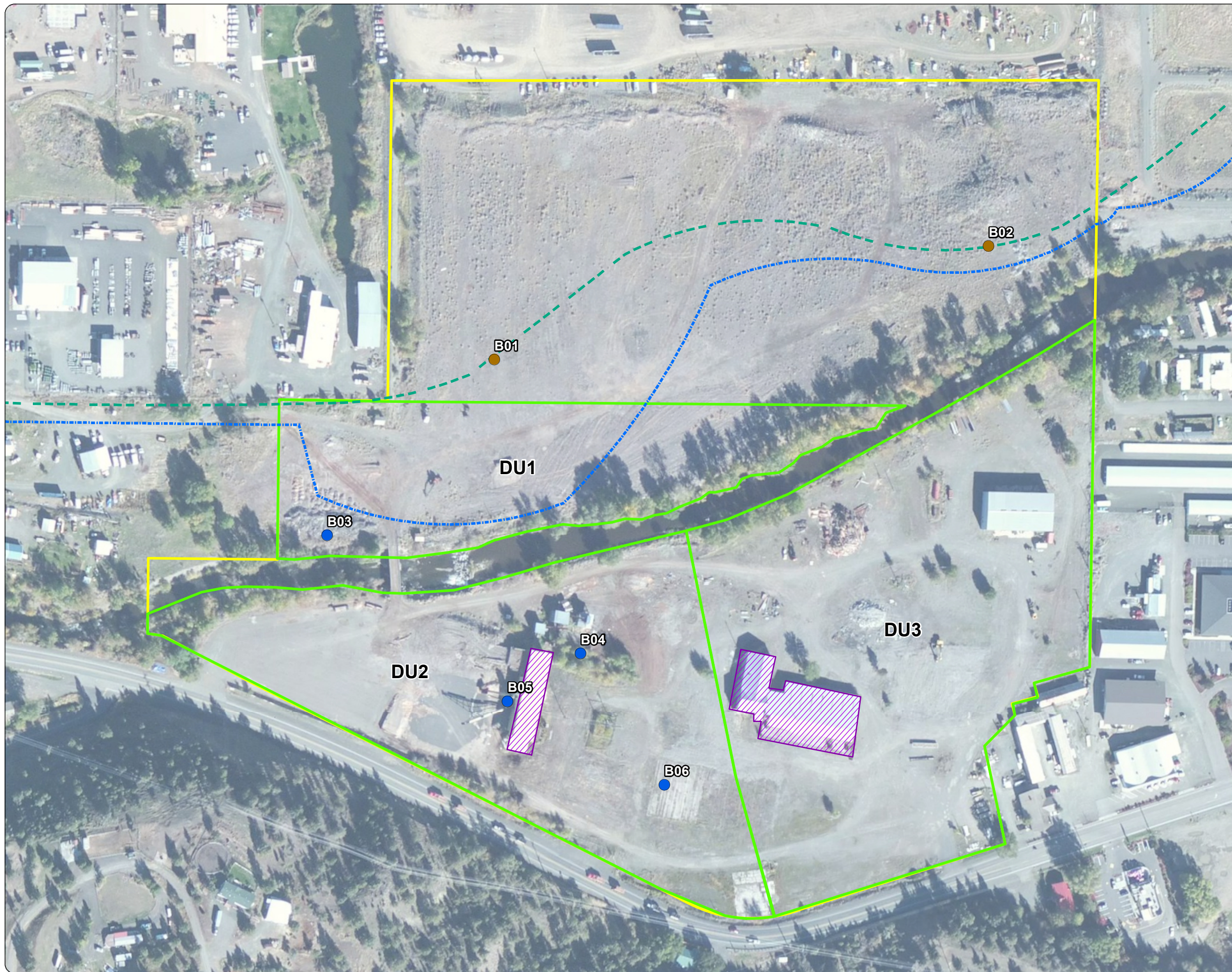
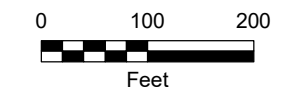


Figure 4
Sampling Locations
 Former Oregon Pine Property
 John Day, Oregon

Legend

- Soil Boring
- Soil and Groundwater Boring
- Hazardous Building Material Survey Structure
- Proposed Decision Unit (DU)
- Future 7th Street Extension
- Future John Day River Multi-Use Trail
- Property



Source: Aerial photograph obtained from ArcGIS Online. Property boundary obtained from Grant County GIS.

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ATTACHMENT A

HBM SURVEY





November 9, 2020
Project No. 1874.02.01

Nicholas Green
City of John Day
450 East Main Street
John Day, Oregon 97845

Re: Former Oregon Pine Property, John Day, Oregon – Hazardous Building Materials Survey

Dear Mr. Green:

On August 25, 2020, at the request of the City of John Day (the City), Maul Foster & Alongi, Inc. (MFA) conducted an assessment of suspected asbestos-containing material (ACM) and lead-based paint (LBP) inside the chipper shed, planer shed, and lumber sorter located at the former Oregon Pine property in John Day, Oregon (the Property). The Property is comprised of Grant County tax lot number 13S31E22D. The City requested this assessment in support of planned redevelopment of the Property.

The assessment was conducted consistent with federal standards, Oregon Department of Environmental Quality building survey requirements, and Oregon Administrative Rules pertaining to ACM. Sampling was conducted by Emily Curtis, an Asbestos Hazard Emergency Response Act (AHERA)-accredited asbestos building inspector. Ms. Curtis's AHERA building inspector certificate is included in Attachment A. Access to the Property was coordinated with Nicholas Green of the City.

SAMPLING PROCEDURES

Asbestos-Containing Material

The asbestos sampling procedure was consistent with AHERA protocol outlined in 40 Code of Federal Regulations (CFR) 763. MFA did not identify any suspected ACM that could be sampled. Therefore, no ACM samples were collected as part of the survey.

Lead-Based Paint

MFA conducted a survey for interior and exterior paint coatings on the chipper shed, planer shed, and lumber sorter, using a Viken PB200i x-ray fluorescence (XRF) analyzer for each identified color and/or layer. If a painted surface has a detectable result for lead, it is considered lead-containing. LBP is defined as a paint containing lead concentrations of over 5,000 parts per million (greater than 0.5 percent) according to the U.S. Environmental Protection Agency (EPA) (40 CFR 745) and the Oregon Health Authority.

For quality assurance, paint chip samples were collected from approximately 5 percent of XRF sampling locations and submitted to the laboratory for analysis. The identification of LBP summarized in this report is based on the XRF results and the confirmation paint chip sample collected from the main shop building. Test results are considered representative of similarly-colored paint that was observed in the same homogeneous areas.

Sampling locations were chosen by the inspector based on identification of painted surfaces.

The paint chip sample was placed in a labeled sample bag and sent to NVL Laboratories, Inc., for analysis by EPA Method 3051/7000B.

RESULTS AND DISCUSSION

Field sampling data, as well as photographs documenting ACM and LBP samples, are included in Attachment B. Figures documenting the sample locations are included in Attachment C. A certified laboratory report is included in Attachment D. LBP sample results are also summarized in the attached Table.

All XRF measurements collected in the field were negative for lead. One paint chip sample was collected and submitted for laboratory confirmation. The laboratory analysis reported that the sample contained 0.017 percent lead (2-2-PB-2), which is below the EPA-regulated definition of LBP. The sample was collected from the yellow handrailing on the interior of the chipper shed.

The materials assessed in the chipper shed, planer shed, and lumber sorter do not require abatement; however, the presence of lead in one sample requires appropriate hazard communications with contractors working at the Property. Additionally, special handling during disturbance activities should comply with the Oregon Occupational Safety and Health Administration's lead standard.

Sincerely,

Maul Foster & Alongi, Inc.



Emily Curtis
Project Environmental Health and Safety
Specialist



Kyle Roslund, RG
Senior Geologist

Nicholas Green
November 9, 2020
Page 3

Project No. 1874.02.01

Attachments: Limitations
Table
Attachment A—AHERA Certificate
Attachment B—Field Sampling Data Sheets
Attachment C—Figures
Attachment D—Laboratory Report

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

TABLE



Table
Summary of Lead-Based Paint Sample Results
City of John Day
Former Oregon Pine Property, John Day, Oregon

Sample Name	Sample Date	Material Description	Location	Lead Result— XRF	Lead Result— Laboratory (wt %)
Lumber Sorter/Planer Shed					
1-1-PB-1	08/25/2020	Gray paint	Interior wooden beam	ND	--
1-2-PB-2	08/25/2020	White/gray paint	Interior wooden beam	ND	--
1-3-PB-3	08/25/2020	Orange paint	Interior handrail	ND	--
1-4-PB-4	08/25/2020	Dark gray paint	Exterior of north side	ND	--
1-5-PB-5	08/25/2020	Gray paint	Exterior of north side	ND	--
Chipper Shed					
2-1-PB-1	08/25/2020	Dark red paint	Interior metal beam	ND	--
2-2-PB-2	08/25/2020	Yellow paint	Interior handrail	ND	0.017
2-3-PB-3	08/25/2020	Gray paint	Interior walls	ND	--
2-4-PB-4	08/25/2020	Red paint	Exterior of east side	ND	--
2-5-PB-5	08/25/2020	Tan paint	Exterior of east side	ND	--
<p>NOTES:</p> <p>Samples were analyzed consistent with U.S. Environmental Protection Agency Method 3050B/7000B.</p> <p>-- = no result.</p> <p>ND = none detected.</p> <p>wt% = percent by weight.</p> <p>XRF = x-ray fluorescence.</p>					

ATTACHMENT A

AHERA CERTIFICATE



Certificate of Completion

This is to certify that
Emily Curtis

has satisfactorily completed
4 hours of refresher training as an
AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

176906
Certificate Number



Feb 5, 2020

Expires in 1 year.

Date(s) of Training

Exam Score: N/A
(if applicable)

A handwritten signature in black ink, appearing to be "M. S. [unclear]".

Instructor

ARGUS PACIFIC, INC / 21905 64th AVE W, SUITE 100 / MOUNTLAKE TERRACE, WASHINGTON 98043 / 206.285.3373 / ARGUSPACIFIC.COM

ATTACHMENT B

FIELD SAMPLING DATA SHEETS



HBM Survey

Project Name:	1874.02.01
Project Number:	City of John Day
Date:	8/25/2020
Field Personnel:	Emily Curtis
Sample Types:	Lead
Sample Areas:	Lumber sorter

Samples

Sample ID:		Sample Type:	
1-1-PB-1		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
SE corner of building		Wooden beam	
Sample Friable?:		Sample Condition:	
Sample Color:		Sample Quantity:	XRF
Gray		NA	Negative

Sample Photo:



Sample ID:		Sample Type:	
1-2-PB-2		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
NW corner		Wooden beam	
Sample Friable?:		Sample Condition:	

Sample Color:	Sample Quantity:	XRF
White/gray	NA	Negative

Sample Photo:



Sample ID:		Sample Type:	
1-3-PB-3		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
West side		Handrail	
Sample Friable?:		Sample Condition:	
Sample Color:	Sample Quantity:	XRF	
Orange	NA	Negative	

Sample Photo:



Sample ID:		Sample Type:	
1-4-PB-4		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
North side exteriors		Door	
Sample Friable?:		Sample Condition:	
Sample Color:		Sample Quantity:	XRF
Dark gray		NA	Negative

Sample Photo:



Sample ID:		Sample Type:	
1-5-PB-5		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
North side exterior		Metal sheeting	
Sample Friable?:		Sample Condition:	
Sample Color:		Sample Quantity:	XRF
Gray		NA	Negative

Sample Photo:



Project Name:	1874.02.01
Project Number:	City of John Day
Date:	8/25/2020
Field Personnel:	Emily Curtis
Sample Types:	Lead
Sample Areas:	Chipper shed

Samples

Sample ID:		Sample Type:	
2-1-PB-1		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
Southern end of building		Metal beam	
Sample Friable?:		Sample Condition:	
Sample Color:		Sample Quantity:	XRF
Dark red		NA	Negeative

Sample Photo:



Sample ID:		Sample Type:	
2-2-PB-2		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
East side of building		Stair handrail	
Sample Friable?:		Sample Condition:	

Sample Color:	Sample Quantity:	XRF
Yellow	NA	Negative

Sample Photo:



Sample ID:	Sample Type:
2-3-PB-3	PB
Misc Sample Material:	
Sample Location:	Detailed Sample Location:
East wall	Interior metal walls
Sample Friable?:	Sample Condition:

Sample Color:		Sample Quantity:	XRF
Gray		NA	Negative.

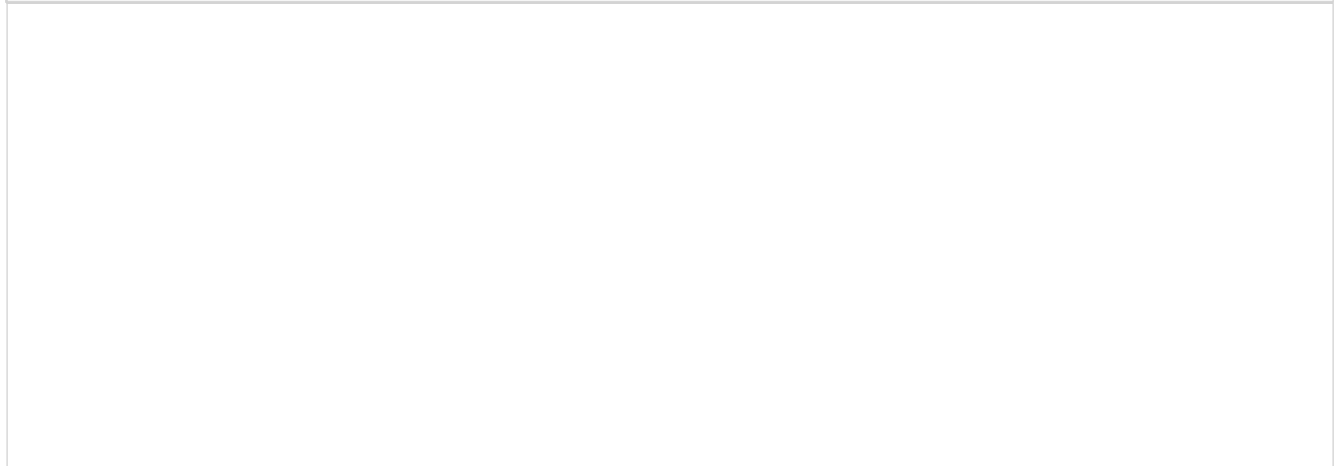
Sample Photo:



Sample ID:		Sample Type:	
2-4-PB-4		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
East side exterior		Metal buildout	
Sample Friable?:		Sample Condition:	

Sample Color:		Sample Quantity:	XRF
Red		NA	Negative

Sample Photo:





Sample ID:		Sample Type:	
2-5-PB-5		PB	
Misc Sample Material:			
Sample Location:		Detailed Sample Location:	
East side exterior		Metal walls (lower portion)	
Sample Friable?:		Sample Condition:	
Sample Color:		Sample Quantity:	XRF
Tan		NA	Negative

Sample Photo:



ATTACHMENT C

FIGURES





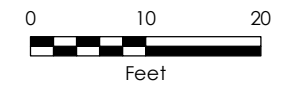


Figure 2
Chipper Shed
Sampling Locations

Former Oregon Pine Property
 John Day, Oregon

Legend

-  Lead Sample
-  Building Outline



Source:
 Aerial photograph obtained from ArcGIS Online.

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This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

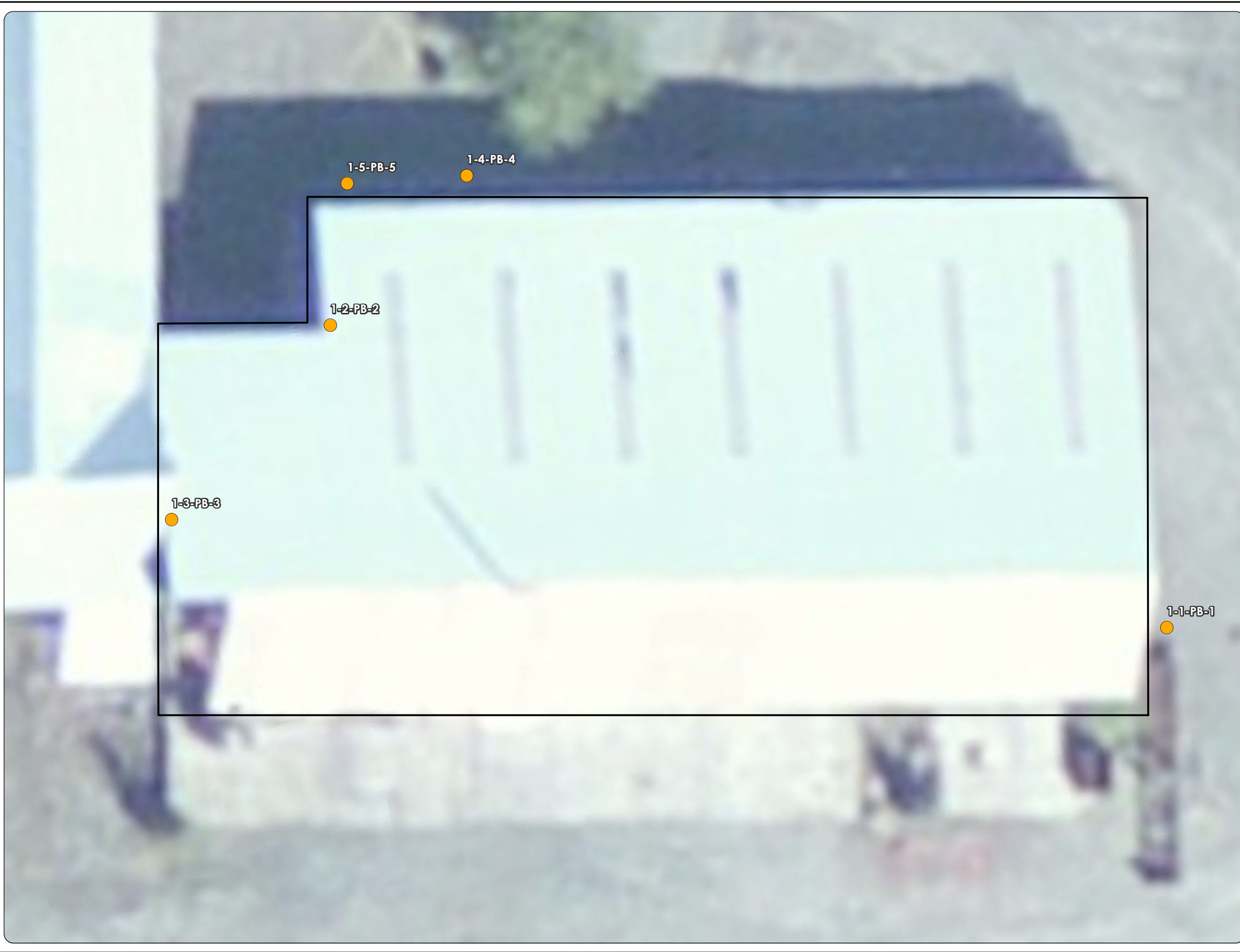
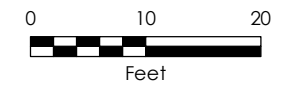


Figure 1
Lumber Sorter
Sampling Locations

Former Oregon Pine Property
 John Day, Oregon

Legend

- Lead Sample
- Building Outline



Source:
 Aerial photograph obtained from ArcGIS Online.



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

ATTACHMENT D

LABORATORY REPORT



September 3, 2020

Kyle Roslund

Maul Foster & Alongi, Inc.

109 E 13th St.

Vancouver, WA 98660



NVL Batch # 2014800.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 1874.02.01

Location: OR

Dear Mr. Roslund,

NVL Labs received 1 sample(s) for the said project on 9/2/2020. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Lab Supervisor



Enc.: Sample results



Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Analysis Report

Total Lead (Pb)



Client: Maul Foster & Alongi, Inc.
Address: 109 E 13th St.
Vancouver, WA 98660

Batch #: 2014800.00

Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 1874.02.01
Date Received: 9/2/2020
Samples Received: 1
Samples Analyzed: 1

Attention: Mr. Kyle Roslund
Project Location: OR

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
20096647	2-2-PB-2	0.0910	110	170	0.017


Sampled by: Client

Analyzed by: Ruth Schumaker

Reviewed by: Shalini Patel

Date Analyzed: 09/02/2020

Date Issued: 09/03/2020


Shalini Patel, Lab Supervisor

mg/ Kg =Milligrams per kilogram

Percent = Milligrams per kilogram / 10000

Note : Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

RL = Reporting Limit

'<' = Below the reporting Limit

Bench Run No: 2020-0902-7

FAA-02

LEAD LABORATORY SERVICES



Company Maul Foster & Alongi, Inc.	NVL Batch Number 2014800.00
Address 109 E 13th St. Vancouver, WA 98660	TAT 10 Days AH No
Project Manager Mr. Kyle Roslund	Rush TAT
Phone (971) 544-2139	Due Date 9/17/2020 Time 9:30 AM
Cell (503) 341-8112	Email krOSLUND@maulfoster.com
	Fax

Project Name/Number: 1874.02.01 **Project Location:** OR

Subcategory Flame AA (FAA)
Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 1 **Rush Samples** _____

Lab ID	Sample ID	Description	A/R
1	20096647	2-2-PB-2	A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	UPS				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	9/2/20	930
Analyzed by	Ruth Schumaker		NVL	9/2/20	
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

Special Instructions: _____

Date: 9/2/2020
 Time: 9:34 AM
 Entered By: Kelly AuVu

2014800



METALS CHAIN OF CUSTODY

- 2 Hour 4 Hours 24 Hours
 - 2 Days 3 Days 4 Days
 - 5 Days 6-10 Days **STAT**
- Please call for TAT less than 24 Hours

Company Mawi Foster + Alongi Inc. Project Manager Kyle Roslund
 Address 3140 NE Broadway Cell ()
PDX, OR 97232 Email Kroslund@mawifoster.com
 Phone _____ Fax ()

Project Name/Number 1874.02.01 Project Location OR

- | | | | | | | |
|---------------------------------------|-------------------------------------|---|---|-------------------------------|--|--------------------------------------|
| <input type="checkbox"/> Total Metals | <input type="checkbox"/> FAA (ppm) | <input type="checkbox"/> Air Filter | <input checked="" type="checkbox"/> Paint Chips (%) | <input type="checkbox"/> Soil | RCRA 8 | RCRA 11 |
| <input type="checkbox"/> TCLP | <input type="checkbox"/> ICP (PPM) | <input type="checkbox"/> Paint Chips (cm) | <input checked="" type="checkbox"/> Dust Wipes | | <input type="checkbox"/> Barium <input type="checkbox"/> Chromium <input type="checkbox"/> Silver | <input type="checkbox"/> Copper |
| | <input type="checkbox"/> GFAA (ppb) | <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Waste Water | | <input type="checkbox"/> Arsenic <input type="checkbox"/> Mercury <input checked="" type="checkbox"/> Lead | <input type="checkbox"/> Zinc |
| | <input type="checkbox"/> CVAA (ppb) | <input type="checkbox"/> Other _____ | | | <input type="checkbox"/> Selenium <input type="checkbox"/> Cadmium | <input type="checkbox"/> Other _____ |

Reporting Instructions Report to Emily Curtis
 Call () Fax () Email ecurtis@mawifoster.com

Total Number of Samples 1

Sample ID	Description	A/R
1	2-2-PB-2 yellow paint	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Print Name	Signature	Company	Date	Time
Sampled by <u>Emily Curtis</u>	<u>[Signature]</u>	<u>MFA</u>	<u>8/27/20</u>	<u>1600</u>
Relinquish by <u>Emily Curtis</u>	<u>[Signature]</u>	<u>MFA</u>	<u>8/29/20</u>	<u>1200</u>

Office Use Only

Print Name	Signature	Company	Date	Time
Received by <u>[Signature]</u>	<u>[Signature]</u>	<u>MFA</u>	<u>9/2/20</u>	<u>930 UPS</u>
Analyzed by				
Called by				
Faxed/Email by				

ATTACHMENT B

BORING LOGS





MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number
1874.02.01

Boring Number
B-01

Sheet
1 of 1

Project Name **Former Oregon Pine Environmental Assessment**
 Project Location **John Day, OR**
 Start/End Date **8/26/2020 to 8/26/2020**
 Driller/Equipment **Holt Services, Inc./Terra Sonic TSi 150**
 Geologist/Engineer **A. Clements**
 Sample Method **Core Barrel**

Surface Elevation (feet)
 Northing
 Easting
 Total Depth of Borehole **15.0-feet**
 Outer Hole Diam **4-inch**

Depth (feet, BGS)	Water Levels	Percent Recovery	Screen Int.	Sample Data		Lithologic Column	Soil Description
				Sample ID	PID (ppm)		
0							0 to 9.0 feet: GRAVEL (GW); dark to light gray clasts; 100% gravel, fine to coarse, angular to subrounded; loose; trace fines and sand; dry to moist.
1							
2							
3		50					
4							
5							
6							
7							
8		60					
9							
10				B01-S-9.0	0		9.0 to 15.0 feet: GRAVEL with SILT (GW-GM); dark gray with dark to light gray clasts; 10% fines; 90% gravel, fine to coarse, angular to subrounded; loose; moist to wet.
11							
12							
13		40					
14	▽						
15							

Total Depth = 15.0 feet bgs

NOTES:

1) bgs = below ground surface. 2) PID = photoionization detector. 3) ppm = parts per million.

Borehole Completion Details
0 to 15.0 feet: 4-inch borehole.

Borehole Abandonment Details
0 to 15.0 feet bgs: Bentonite chips hydrated with potable water.

▽ Observed at time of drilling.

MFA BOREHOLE WIRECON SCREEN W:\GINT\GINT\PROJECTS\1874.02\OREGON PINE ENVIRONMENTAL ASSESSMENT.GPJ 10/13/20



MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number
1874.02.01

Boring Number
B-02

Sheet
1 of 1

Project Name **Former Oregon Pine Environmental Assessment**
 Project Location **John Day, OR**
 Start/End Date **8/26/2020 to 8/26/2020**
 Driller/Equipment **Holt Services, Inc./Terra Sonic TSi 150**
 Geologist/Engineer **A. Clements**
 Sample Method **Core Barrel**

Surface Elevation (feet)
 Northing
 Easting
 Total Depth of Borehole **15.0-feet**
 Outer Hole Diam **4-inch**

Depth (feet, BGS)	Water Levels	Percent Recovery	Screen Int.	Sample Data		Lithologic Column	Soil Description
				Sample ID	PID (ppm)		
0							0 to 1.5 feet: GRAVEL (GW); light to dark gray clasts; 5% sand; 95% gravel, fine to coarse, angular to subrounded; loose; trace cobbles up to 6 inches in diameter; dry.
1							
2		50					1.5 to 10.0 feet: SANDY GRAVEL (GW); dark grayish brown with light to dark gray clasts; 30% sand, fine to coarse, angular to subrounded; 70% gravel, fine to coarse, angular to subrounded; loose; dry to moist.
3							
4							
5							
6							
7							
8		20					
9							
10				B02-S-10.0	0		10.0 to 15.0 feet: GRAVELLY SAND (SW); dark gray with gray clasts; 60% sand, fine to coarse, angular to subrounded; 40% gravel, fine to medium, angular to subrounded; loose; wet.
11							
12							
13	▽	100					
14							
15							

Total Depth = 15.0 feet bgs

NOTES:

1) bgs = below ground surface. 2) PID = photoionization detector. 3) ppm = parts per million.

Borehole Completion Details
0 to 15.0 feet: 4-inch borehole.

Borehole Abandonment Details
0 to 15.0 feet bgs: Bentonite chips hydrated with potable water.

▽ Observed at time of drilling.

MFA BOREHOLE WIRECON SCREEN W:\GINT\GINT\PROJECTS\1874.02\OREGON PINE ENVIRONMENTAL ASSESSMENT.GPJ_10/13/20



MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number
1874.02.01

Boring Number
B-03

Sheet
1 of 1

Project Name **Former Oregon Pine Environmental Assessment**
 Project Location **John Day, OR**
 Start/End Date **8/26/2020 to 8/26/2020**
 Driller/Equipment **Holt Services, Inc./Terra Sonic TSi 150**
 Geologist/Engineer **A. Clements**
 Sample Method **Core Barrel**

Surface Elevation (feet)
 Northing
 Easting
 Total Depth of Borehole **20.0-feet**
 Outer Hole Diam **4-inch**

Depth (feet, BGS)	Water Levels	Percent Recovery	Screen Int.	Sample Data		Lithologic Column	Soil Description
				Sample ID	PID (ppm)		
1							0 to 2.0 feet: GRAVEL with SAND (GW); gray with gray clasts; 10% sand, fine to coarse, angular to subrounded; 90% gravel, fine to coarse, angular to subrounded; loose; trace cobbles up to 5 inches in diameter; dry.
2							2.0 to 3.0 feet: SANDY GRAVEL (GW); gray with gray clasts; 30% sand, fine to coarse, angular to subangular; 70% gravel, fine to coarse, angular to subrounded; loose; dry.
3		60					3.0 to 5.0 feet: No recovery.
4							
5							5.0 to 6.0 feet: SANDY GRAVEL (GW); gray with gray clasts; 30% sand, fine to coarse, angular to subangular; 70% gravel, fine to coarse, angular to subrounded; loose; dry.
6							6.0 to 7.0 feet: GRAVEL with SAND (GW); gray with gray clasts; 10% sand; 90% gravel, fine to coarse, angular to subrounded; loose; dry.
7							7.0 to 10.0 feet: No recovery.
8		40					
9							
10							10.0 to 11.5 feet: GRAVEL with SAND (GP); dark brown with gray clasts; 10% sand, fine to coarse, angular to subrounded; 90% gravel, fine to medium, subangular to subrounded; loose; moist.
11				B03-S-11.0			11.5 to 15.0 feet: No recovery.
12							
13		30					
14							
15	▼			B03-W-14.0			
16							15.0 to 18.0 feet: GRAVEL with SAND (GP); dark brown with gray clasts; 10% sand, fine to coarse, angular to subrounded; 90% gravel, fine to medium, subangular to subrounded; loose; wet.
17							
18		60					18.0 to 20.0 feet: No recovery.
19							
20							

Total Depth = 20.0 feet bgs

NOTES:

1) bgs = below ground surface. 2) PID = photoionization detector. 3) ppm = parts per million.

Borehole Completion Details
 0 to 20.0 feet: 4-inch borehole.

Reconnaissance Well Completion Details
 Temporary polyvinyl chloride screen set from 10.0 to 15.0 feet bgs.

Borehole Abandonment Details
 0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.

▼ Observed at time of drilling. ▾ Observed at time of sampling.

MFA BOREHOLE WIRECON SCREEN W:\GINT\GINT\PROJECTS\1874.02\OREGON PINE ENVIRONMENTAL ASSESSMENT.GPJ 10/13/20



MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number
1874.02.01

Boring Number
B-04

Sheet
1 of 1

Project Name **Former Oregon Pine Environmental Assessment**
 Project Location **John Day, OR**
 Start/End Date **8/27/2020 to 8/27/2020**
 Driller/Equipment **Holt Services, Inc./Terra Sonic TSi 150**
 Geologist/Engineer **A. Clements**
 Sample Method **Core Barrel**

Surface Elevation (feet)
 Northing
 Easting
 Total Depth of Borehole **10.0-feet**
 Outer Hole Diam **4-inch**

Depth (feet, BGS)	Water Levels	Percent Recovery	Screen Int.	Sample Data		Lithologic Column	Soil Description
				Sample ID	PID (ppm)		
0							0 to 1.0 feet: SILTY SAND (SM) ; dark brown; 40% fines; 60% sand, fine to medium, subangular to rounded; loose; trace gravel, roots, and rootlets; organic odor; dry.
1							
2				B04-S-2.0			1.0 to 2.5 feet: SANDY GRAVEL with SILT (GW) ; grayish brown with gray clasts; 10% fines, 40% sand, fine to coarse, subangular to subrounded; 50% gravel, fine to coarse, angular to subrounded; loose; dry to moist.
3	▼	50					2.5 to 5.0 feet: No recovery.
4				B04-W-3.5			
5							
6							5.0 to 6.0 feet: SANDY GRAVEL with SILT (GW) ; grayish brown with gray clasts; 10% fines, 40% sand, fine to coarse, subangular to subrounded; 50% gravel, fine to coarse, angular to subrounded; loose; dry to moist.
7							6.0 to 7.5 feet: SAND (SW) ; dark gray; 100% sand, fine to coarse, angular to subrounded; loose; trace fines and gravel; wet.
8		50					7.5 to 10.0 feet: No recovery.
9	▽						
10							

Total Depth = 10.0 feet bgs

NOTES:

1) bgs = below ground surface. 2) PID = photoionization detector. 3) ppm = parts per million.

Borehole Completion Details
0 to 10.0 feet: 4-inch borehole.

Reconnaissance Well Completion Details
Temporary polyvinyl chloride screen set from 0 to 5.0 feet bgs.

Borehole Abandonment Details
0 to 10.0 feet bgs: Bentonite chips hydrated with potable water.

▽ Observed at time of drilling. ▼ Observed at time of sampling.

MFA BOREHOLE WIRECON SCREEN W:\GINT\GINT\PROJECTS\1874.02\OREGON PINE ENVIRONMENTAL ASSESSMENT.GPJ 10/13/20



Geologic Borehole Log

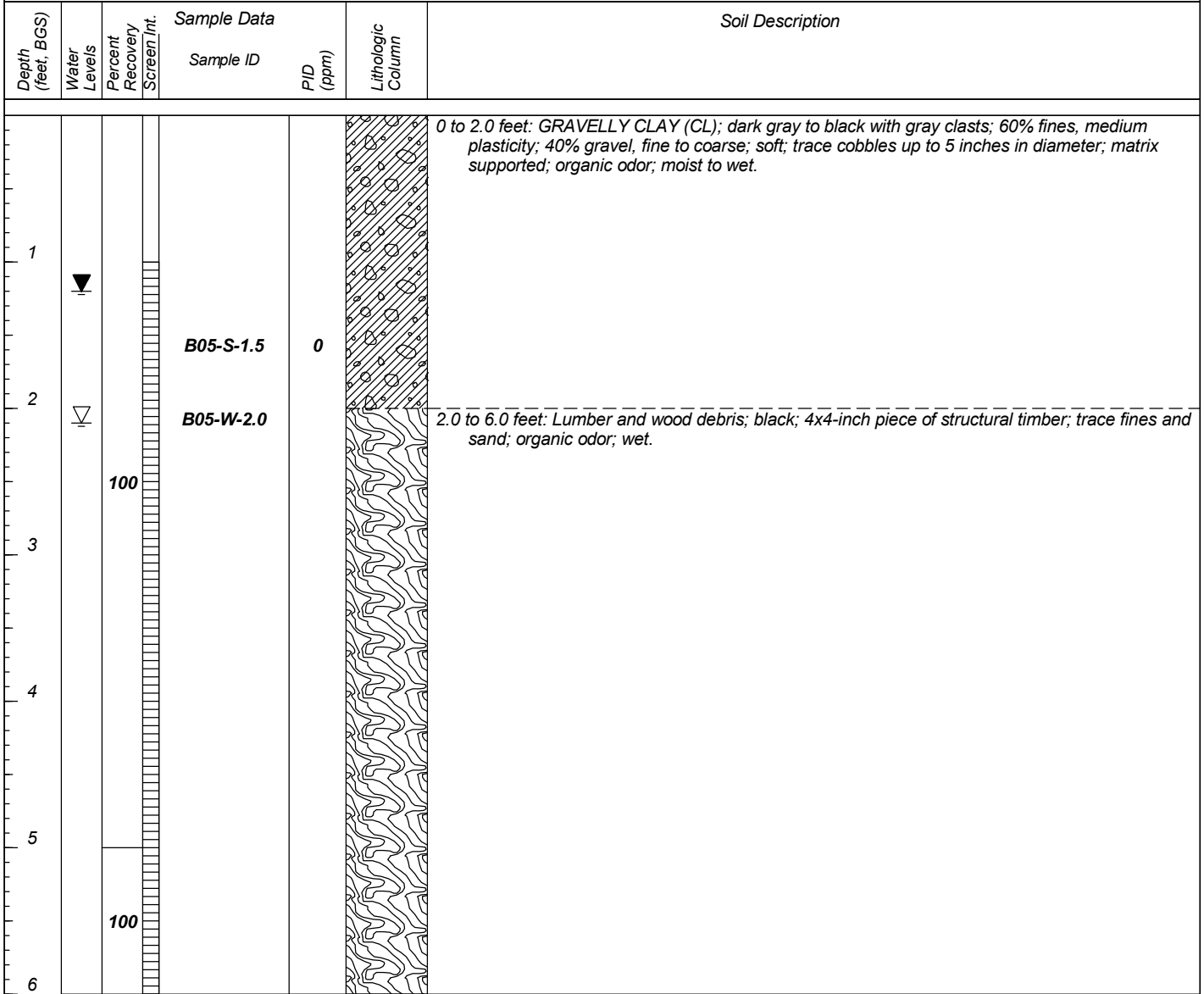
Project Number
1874.02.01

Boring Number
B-05

Sheet
1 of 1

Project Name **Former Oregon Pine Environmental Assessment**
 Project Location **John Day, OR**
 Start/End Date **8/27/2020 to 8/27/2020**
 Driller/Equipment **Holt Services, Inc./Terra Sonic TSi 150**
 Geologist/Engineer **A. Clements**
 Sample Method **Core Barrel**

Surface Elevation (feet)
 Northing
 Easting
 Total Depth of Borehole **6.0-feet**
 Outer Hole Diam **4-inch**



Total Depth = 6.0 feet bgs

NOTES:

1) bgs = below ground surface. 2) PID = photoionization detector. 3) ppm = parts per million.

Borehole Completion Details
0 to 6.0 feet: 4-inch borehole.

Reconnaissance Well Completion Details
Temporary polyvinyl chloride screen set from 1.0 to 6.0 feet bgs.

Borehole Abandonment Details
0 to 6.0 feet bgs: Bentonite chips hydrated with potable water.

▽ Observed at time of drilling. ▼ Observed at time of sampling.



MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number
1874.02.01

Boring Number
B-06

Sheet
1 of 1

Project Name **Former Oregon Pine Environmental Assessment**
 Project Location **John Day, OR**
 Start/End Date **8/27/2020 to 8/27/2020**
 Driller/Equipment **Holt Services, Inc./Terra Sonic TSi 150**
 Geologist/Engineer **A. Clements**
 Sample Method **Core Barrel**

Surface Elevation (feet)
 Northing
 Easting
 Total Depth of Borehole **10.0-feet**
 Outer Hole Diam **4-inch**

Depth (feet, BGS)	Water Levels	Percent Recovery	Screen Int.	Sample Data		Lithologic Column	Soil Description
				Sample ID	PID (ppm)		
0							0 to 0.5 feet: SAND/SILT (SW/ML); brown; 50% fines; 50% sand; soft; roots and rootlets; dry.
1							0.5 to 2.0 feet: GRAVELLY SAND with SILT (SW); dark brown to dark gray with dark gray clasts; 10% fines; 50% sand, fine to coarse, angular to subrounded; 40% gravel, fine to coarse, angular to subrounded; loose; moist.
2	▽			B06-S-2.0			2.0 to 2.5 feet: GRAVELLY SAND (SW); dark grayish brown with dark gray clasts; 60% sand, fine to coarse, angular to subrounded; 40% gravel, fine to coarse, subangular to subrounded; loose; moist to wet.
3	80			B06-W-3.0			2.5 to 5.0 feet: No recovery.
4							
5							
6							
7							5.0 to 7.5 feet: GRAVELLY SAND (SW); dark grayish brown with dark gray clasts; 60% sand, fine to coarse, angular to subrounded; 40% gravel, fine to coarse, subangular to subrounded; loose; wet.
8							7.5 to 10.0 feet: No recovery.
9							
10							

Total Depth = 10.0 feet bgs

NOTES:

1) bgs = below ground surface. 2) PID = photoionization detector. 3) ppm = parts per million.

Borehole Completion Details
0 to 10.0 feet: 4-inch borehole.

Reconnaissance Well Completion Details
Temporary polyvinyl chloride screen set from 0 to 5.0 feet bgs.

Borehole Abandonment Details
0 to 10.0 feet bgs: Bentonite chips hydrated with potable water.

▽ Observed at time of drilling. ▼ Observed at time of sampling.

MFA BOREHOLE WIRECON SCREEN W:\GINT\GINT\PROJECTS\1874.02\OREGON PINE ENVIRONMENTAL ASSESSMENT.GPJ 10/13/20

ATTACHMENT C

FIELD SAMPLING DATA SHEETS



Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	City of John Day	Sample Location	B-03		
Project #	1874.02	Sampler	A. Clements		
Project Name	Oregon Pine Env. Assessment	Sampling Date	8/26/2020		
Sampling Event	August 2020	Sample Name	B03-W-14.0		
Sub Area		Sample Depth	14		
FSDS QA:	K. Roslund 09/16/2020	Easting		Northing	
		TOC			

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
8/26/2020	15:40	15.38		14.15			

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	3:59:00 PM			8.05	21.6	316.8			1623
Final Field Parameters	4:00:00 PM	0.5		7.75	21.2	318.6			51

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Slightly turbid.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	4:00:00 PM	VOA-Glass	3	No
			Amber Glass	5	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly	1	Yes
			Total Bottles	9	

General Sampling Comments

Begin purge at 15:53.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	City of John Day	Sample Location	B-04		
Project #	1874.02	Sampler	A. Clements		
Project Name	Oregon Pine Env. Assessment	Sampling Date	8/27/2020		
Sampling Event	August 2020	Sample Name	B04-W-3.5		
Sub Area		Sample Depth	3.5		
FSDS QA:	K. Roslund 09/16/2020	Easting		Northing	
				TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
8/27/2020	13:00	4.9		2.91			

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	1:01:00 PM			6.96	15.9	315.4			1471
Final Field Parameters	1:03:00 PM	0.5		6.88	15.8	315			1269

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Turbid.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	1:03:00 PM	VOA-Glass	3	No
			Amber Glass	5	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly	1	Yes
			Total Bottles	9	

General Sampling Comments

Begin purge at 12:56.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	City of John Day	Sample Location	B-05		
Project #	1874.02	Sampler	A. Clements		
Project Name	Oregon Pine Env. Assessment	Sampling Date	8/27/2020		
Sampling Event	August 2020	Sample Name	B05-W-2.0		
Sub Area		Sample Depth	2		
FSDS QA:	K. Roslund 09/16/2020	Easting		Northing	
		TOC			

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
8/27/2020	11:54	5.55		1.2			

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	12:05:00 PM			6.73	24	669.6			1143
Final Field Parameters	12:07:00 PM	0.5		6.76	23.8	669.1			1095

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Turbid.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	12:07:00 PM	VOA-Glass	3	No
			Amber Glass	5	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly	1	Yes
			Total Bottles	9	

General Sampling Comments

Begin purge at 12:00.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	City of John Day	Sample Location	B-06		
Project #	1874.02	Sampler	A. Clements		
Project Name	Oregon Pine Env. Assessment	Sampling Date	9/27/2020		
Sampling Event	August 2020	Sample Name	B06-W-3.0		
Sub Area		Sample Depth			
FSDS QA:	K. Roslund 09/16/2020	Easting		Northing	
				TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
8/27/2020	13:29	5.17		2.3			

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	1:41:00 PM			7.79	19.8	678.8			41
Final Field Parameters	1:43:00 PM	0.5		7.73	19.3	679			9

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	1:43:00 PM	VOA-Glass	3	No
			Amber Glass	5	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly	1	Yes
			Total Bottles	9	

General Sampling Comments

Begin purge at 13:36.

ATTACHMENT D

LABORATORY REPORTS





Wednesday, September 23, 2020

Kyle Roslund
Maul Foster & Alongi, INC.
3140 NE Broadway Street
Portland, OR 97232

RE: A0H0755 - Former Oregon Pine - 1874.02.01-02

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 A0H0755, which was received by the laboratory on 8/28/2020 at 12:30:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@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

(See Cooler Receipt Form for details)

Cooler #1	0.8 degC	Cooler #2	0.4 degC
Cooler #3	0.3 degC	Cooler #4	0.9 degC
Cooler #5	0.9 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

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: Former Oregon Pine

Project Number: 1874.02.01-02

Project Manager: Kyle Roslund

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B03-W-14.0	A0H0755-01	Water	08/26/20 16:00	08/28/20 12:30
B05-W-2.0	A0H0755-02	Water	08/27/20 12:07	08/28/20 12:30
B04-W-3.5	A0H0755-03	Water	08/27/20 13:03	08/28/20 12:30
B06-W-3.0	A0H0755-04	Water	08/27/20 13:43	08/28/20 12:30
B03-S-11.0	A0H0755-06	Soil	08/26/20 17:45	08/28/20 12:30
B02-S-10.0	A0H0755-07	Soil	08/26/20 18:15	08/28/20 12:30
B01-S-9.0	A0H0755-08	Soil	08/26/20 18:30	08/28/20 12:30
B05-S-1.5	A0H0755-09	Soil	08/27/20 10:00	08/28/20 12:30
B04-S-2.0	A0H0755-10	Soil	08/27/20 10:40	08/28/20 12:30
B06-S-2.0	A0H0755-11	Soil	08/27/20 11:30	08/28/20 12:30
DU3-A-S-0.5--After Processing	A0H0755-14	Soil	08/26/20 16:45	08/28/20 12:30
DU3-B-S-0.5--After Processing	A0H0755-16	Soil	08/26/20 16:45	08/28/20 12:30
DU3-C-S-0.5--After Processing	A0H0755-18	Soil	08/26/20 16:45	08/28/20 12:30
DU1-S-0.5--After Processing	A0H0755-20	Soil	08/27/20 17:20	08/28/20 12:30
DU2-S-0.5--After Processing	A0H0755-22	Soil	08/27/20 14:15	08/28/20 12:30



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B03-W-14.0 (A0H0755-01)				Matrix: Water		Batch: 0090034		
Gasoline Range Organics	ND	---	0.100	mg/L	1	09/02/20 02:55	NWTPH-HCID	
Diesel Range Organics	ND	---	0.250	mg/L	1	09/02/20 02:55	NWTPH-HCID	
Oil Range Organics	ND	---	0.250	mg/L	1	09/02/20 02:55	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 02:55</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>44 %</i>		<i>10-120 %</i>		<i>1</i>	<i>09/02/20 02:55</i>	<i>NWTPH-HCID</i>
B05-W-2.0 (A0H0755-02)				Matrix: Water		Batch: 0090034		
Gasoline Range Organics	DET	---	0.105	mg/L	1	09/02/20 03:18	NWTPH-HCID	
Diesel Range Organics	DET	---	0.263	mg/L	1	09/02/20 03:18	NWTPH-HCID	
Oil Range Organics	ND	---	0.263	mg/L	1	09/02/20 03:18	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 03:18</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>51 %</i>		<i>10-120 %</i>		<i>1</i>	<i>09/02/20 03:18</i>	<i>NWTPH-HCID</i>
B04-W-3.5 (A0H0755-03)				Matrix: Water		Batch: 0090034		
Gasoline Range Organics	ND	---	0.106	mg/L	1	09/02/20 03:40	NWTPH-HCID	
Diesel Range Organics	ND	---	0.266	mg/L	1	09/02/20 03:40	NWTPH-HCID	
Oil Range Organics	ND	---	0.266	mg/L	1	09/02/20 03:40	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 03:40</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>49 %</i>		<i>10-120 %</i>		<i>1</i>	<i>09/02/20 03:40</i>	<i>NWTPH-HCID</i>
B06-W-3.0 (A0H0755-04)				Matrix: Water		Batch: 0080922		
Gasoline Range Organics	DET	---	0.100	mg/L	1	09/01/20 07:12	NWTPH-HCID	
Diesel Range Organics	ND	---	0.250	mg/L	1	09/01/20 07:12	NWTPH-HCID	
Oil Range Organics	ND	---	0.250	mg/L	1	09/01/20 07:12	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/01/20 07:12</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>41 %</i>		<i>10-120 %</i>		<i>1</i>	<i>09/01/20 07:12</i>	<i>NWTPH-HCID</i>
B03-S-11.0 (A0H0755-06)				Matrix: Soil		Batch: 0090028		
Gasoline Range Organics	ND	---	20.7	mg/kg dry	1	09/02/20 02:53	NWTPH-HCID	
Diesel Range Organics	ND	---	51.7	mg/kg dry	1	09/02/20 02:53	NWTPH-HCID	
Oil Range Organics	ND	---	103	mg/kg dry	1	09/02/20 02:53	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 02:53</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/02/20 02:53</i>	<i>NWTPH-HCID</i>

Apex Laboratories

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B02-S-10.0 (A0H0755-07)				Matrix: Soil		Batch: 0090028		
Gasoline Range Organics	ND	---	23.1	mg/kg dry	1	09/02/20 03:14	NWTPH-HCID	
Diesel Range Organics	ND	---	57.8	mg/kg dry	1	09/02/20 03:14	NWTPH-HCID	
Oil Range Organics	ND	---	116	mg/kg dry	1	09/02/20 03:14	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 03:14</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>108 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/02/20 03:14</i>	<i>NWTPH-HCID</i>
B01-S-9.0 (A0H0755-08)				Matrix: Soil		Batch: 0090028		
Gasoline Range Organics	ND	---	19.0	mg/kg dry	1	09/02/20 03:35	NWTPH-HCID	
Diesel Range Organics	ND	---	47.6	mg/kg dry	1	09/02/20 03:35	NWTPH-HCID	
Oil Range Organics	ND	---	95.2	mg/kg dry	1	09/02/20 03:35	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 03:35</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>89 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/02/20 03:35</i>	<i>NWTPH-HCID</i>
B05-S-1.5 (A0H0755-09)				Matrix: Soil		Batch: 0090028		
Gasoline Range Organics	ND	---	21.2	mg/kg dry	1	09/02/20 03:55	NWTPH-HCID	
Diesel Range Organics	ND	---	53.0	mg/kg dry	1	09/02/20 03:55	NWTPH-HCID	
Oil Range Organics	DET	---	106	mg/kg dry	1	09/02/20 03:55	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 109 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 03:55</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>118 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/02/20 03:55</i>	<i>NWTPH-HCID</i>
B04-S-2.0 (A0H0755-10)				Matrix: Soil		Batch: 0090028		
Gasoline Range Organics	ND	---	20.8	mg/kg dry	1	09/02/20 04:37	NWTPH-HCID	
Diesel Range Organics	ND	---	52.0	mg/kg dry	1	09/02/20 04:37	NWTPH-HCID	
Oil Range Organics	ND	---	104	mg/kg dry	1	09/02/20 04:37	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 04:37</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/02/20 04:37</i>	<i>NWTPH-HCID</i>
B06-S-2.0 (A0H0755-11)				Matrix: Soil		Batch: 0090028		
Gasoline Range Organics	ND	---	22.2	mg/kg dry	1	09/02/20 04:58	NWTPH-HCID	
Diesel Range Organics	ND	---	55.5	mg/kg dry	1	09/02/20 04:58	NWTPH-HCID	
Oil Range Organics	ND	---	111	mg/kg dry	1	09/02/20 04:58	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 145 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 04:58</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>145 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/02/20 04:58</i>	<i>NWTPH-HCID</i>

Apex Laboratories

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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
B05-W-2.0 (A0H0755-02)				Matrix: Water		Batch: 0090034		
Diesel	0.258	---	0.211	mg/L	1	09/02/20 03:18	NWTPH-Dx	F-17
Oil	ND	---	0.421	mg/L	1	09/02/20 03:18	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 110 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/20 03:18</i>	<i>NWTPH-Dx</i>
B05-S-1.5 (A0H0755-09RE1)				Matrix: Soil		Batch: 0090299		
Diesel	ND	---	25.0	mg/kg dry	1	09/11/20 07:39	NWTPH-Dx	
Oil	247	---	50.0	mg/kg dry	1	09/11/20 07:39	NWTPH-Dx	Q-42
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/11/20 07:39</i>	<i>NWTPH-Dx</i>
DU3-A-S-0.5--After Processing (A0H0755-14)				Matrix: Soil		Batch: 0090122		
Diesel	ND	---	25.0	mg/kg dry	1	09/03/20 21:13	NWTPH-Dx	
Oil	367	---	50.0	mg/kg dry	1	09/03/20 21:13	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/03/20 21:13</i>	<i>NWTPH-Dx</i>
DU3-B-S-0.5--After Processing (A0H0755-16)				Matrix: Soil		Batch: 0090122		
Diesel	ND	---	25.0	mg/kg dry	1	09/03/20 21:55	NWTPH-Dx	
Oil	367	---	50.0	mg/kg dry	1	09/03/20 21:55	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/03/20 21:55</i>	<i>NWTPH-Dx</i>
DU3-C-S-0.5--After Processing (A0H0755-18)				Matrix: Soil		Batch: 0090122		
Diesel	ND	---	25.0	mg/kg dry	1	09/03/20 22:16	NWTPH-Dx	
Oil	396	---	50.0	mg/kg dry	1	09/03/20 22:16	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/03/20 22:16</i>	<i>NWTPH-Dx</i>
DU1-S-0.5--After Processing (A0H0755-20)				Matrix: Soil		Batch: 0090122		
Diesel	ND	---	25.0	mg/kg dry	1	09/03/20 22:37	NWTPH-Dx	
Oil	596	---	50.0	mg/kg dry	1	09/03/20 22:37	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/03/20 22:37</i>	<i>NWTPH-Dx</i>
DU2-S-0.5--After Processing (A0H0755-22)				Matrix: Soil		Batch: 0090122		
Diesel	ND	---	25.0	mg/kg dry	1	09/03/20 22:58	NWTPH-Dx	
Oil	579	---	50.0	mg/kg dry	1	09/03/20 22:58	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/03/20 22:58</i>	<i>NWTPH-Dx</i>

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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
B05-W-2.0 (A0H0755-02)				Matrix: Water		Batch: 0090077		
Gasoline Range Organics	0.199	---	0.100	mg/L	1	09/03/20 19:13	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/03/20 19:13</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>94 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/03/20 19:13</i>	<i>NWTPH-Gx (MS)</i>
B06-W-3.0 (A0H0755-04)				Matrix: Water		Batch: 0090077		
Gasoline Range Organics	ND	---	0.100	mg/L	1	09/03/20 19:46	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 87 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/03/20 19:46</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>95 %</i>		<i>50-150 %</i>		<i>1</i>	<i>09/03/20 19:46</i>	<i>NWTPH-Gx (MS)</i>



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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
B05-W-2.0 (A0H0755-02)				Matrix: Water		Batch: 0090077		
Acetone	ND	---	20.0	ug/L	1	09/03/20 19:13	EPA 8260D	
Acrylonitrile	ND	---	2.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Benzene	ND	---	0.200	ug/L	1	09/03/20 19:13	EPA 8260D	
Bromobenzene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Bromochloromethane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Bromodichloromethane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Bromoform	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Bromomethane	ND	---	5.00	ug/L	1	09/03/20 19:13	EPA 8260D	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	09/03/20 19:13	EPA 8260D	
n-Butylbenzene	ND	---	2.00	ug/L	1	09/03/20 19:13	EPA 8260D	
sec-Butylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
tert-Butylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Carbon disulfide	ND	---	10.0	ug/L	1	09/03/20 19:13	EPA 8260D	
Carbon tetrachloride	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Chlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Chloroethane	ND	---	5.00	ug/L	1	09/03/20 19:13	EPA 8260D	EST
Chloroform	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Chloromethane	ND	---	5.00	ug/L	1	09/03/20 19:13	EPA 8260D	
2-Chlorotoluene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
4-Chlorotoluene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Dibromochloromethane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Dibromomethane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B05-W-2.0 (A0H0755-02)			Matrix: Water			Batch: 0090077		
1,2-Dichloropropane	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	09/03/20 19:13	EPA 8260D	
2-Hexanone	ND	---	10.0	ug/L	1	09/03/20 19:13	EPA 8260D	
Isopropylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
4-Isopropyltoluene	15.8	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Methylene chloride	ND	---	10.0	ug/L	1	09/03/20 19:13	EPA 8260D	
4-Methyl-2-pentanone (MIBK)	ND	---	10.0	ug/L	1	09/03/20 19:13	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Naphthalene	ND	---	2.00	ug/L	1	09/03/20 19:13	EPA 8260D	
n-Propylbenzene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Styrene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
Toluene	2.48	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
Vinyl chloride	ND	---	0.400	ug/L	1	09/03/20 19:13	EPA 8260D	
m,p-Xylene	ND	---	1.00	ug/L	1	09/03/20 19:13	EPA 8260D	
o-Xylene	ND	---	0.500	ug/L	1	09/03/20 19:13	EPA 8260D	



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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
B05-W-2.0 (A0H0755-02)				Matrix: Water		Batch: 0090077		
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>09/03/20 19:13</i>	<i>EPA 8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>	<i>1</i>	<i>09/03/20 19:13</i>	<i>EPA 8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>	<i>1</i>	<i>09/03/20 19:13</i>	<i>EPA 8260D</i>	
B06-W-3.0 (A0H0755-04)				Matrix: Water		Batch: 0090077		
Acetone	ND	---	20.0	ug/L	1	09/03/20 19:46	EPA 8260D	
Acrylonitrile	ND	---	2.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Benzene	ND	---	0.200	ug/L	1	09/03/20 19:46	EPA 8260D	
Bromobenzene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Bromochloromethane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Bromodichloromethane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Bromoform	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Bromomethane	ND	---	5.00	ug/L	1	09/03/20 19:46	EPA 8260D	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	09/03/20 19:46	EPA 8260D	
n-Butylbenzene	ND	---	2.00	ug/L	1	09/03/20 19:46	EPA 8260D	
sec-Butylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
tert-Butylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Carbon disulfide	ND	---	10.0	ug/L	1	09/03/20 19:46	EPA 8260D	
Carbon tetrachloride	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Chlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Chloroethane	ND	---	5.00	ug/L	1	09/03/20 19:46	EPA 8260D	EST
Chloroform	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Chloromethane	ND	---	5.00	ug/L	1	09/03/20 19:46	EPA 8260D	
2-Chlorotoluene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
4-Chlorotoluene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Dibromochloromethane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Dibromomethane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
 Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
			Matrix: Water			Batch: 0090077		
B06-W-3.0 (A0H0755-04)								
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	09/03/20 19:46	EPA 8260D	
2-Hexanone	ND	---	10.0	ug/L	1	09/03/20 19:46	EPA 8260D	
Isopropylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Methylene chloride	ND	---	10.0	ug/L	1	09/03/20 19:46	EPA 8260D	
4-Methyl-2-pentanone (MIBK)	ND	---	10.0	ug/L	1	09/03/20 19:46	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Naphthalene	ND	---	2.00	ug/L	1	09/03/20 19:46	EPA 8260D	
n-Propylbenzene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Styrene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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
B06-W-3.0 (A0H0755-04)			Matrix: Water			Batch: 0090077		
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
Vinyl chloride	ND	---	0.400	ug/L	1	09/03/20 19:46	EPA 8260D	
m,p-Xylene	ND	---	1.00	ug/L	1	09/03/20 19:46	EPA 8260D	
o-Xylene	ND	---	0.500	ug/L	1	09/03/20 19:46	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>09/03/20 19:46</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>09/03/20 19:46</i>	<i>EPA 8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>09/03/20 19:46</i>	<i>EPA 8260D</i>



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B05-W-2.0 (A0H0755-02)				Matrix: Water		Batch: 0090248		C-07
Aroclor 1016	ND	---	0.0980	ug/L	1	09/09/20 18:29	EPA 8082A	
Aroclor 1221	ND	---	0.0980	ug/L	1	09/09/20 18:29	EPA 8082A	
Aroclor 1232	ND	---	0.0980	ug/L	1	09/09/20 18:29	EPA 8082A	
Aroclor 1242	ND	---	0.0980	ug/L	1	09/09/20 18:29	EPA 8082A	
Aroclor 1248	ND	---	0.0980	ug/L	1	09/09/20 18:29	EPA 8082A	
Aroclor 1254	ND	---	0.0980	ug/L	1	09/09/20 18:29	EPA 8082A	
Aroclor 1260	ND	---	0.0980	ug/L	1	09/09/20 18:29	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>09/09/20 18:29</i>	<i>EPA 8082A</i>
B05-S-1.5 (A0H0755-09)				Matrix: Soil		Batch: 0090280		C-07
Aroclor 1016	ND	5.70	11.4	ug/kg dry	1	09/10/20 17:41	EPA 8082A	
Aroclor 1221	ND	11.4	11.4	ug/kg dry	1	09/10/20 17:41	EPA 8082A	
Aroclor 1232	ND	5.70	11.4	ug/kg dry	1	09/10/20 17:41	EPA 8082A	
Aroclor 1242	ND	5.70	11.4	ug/kg dry	1	09/10/20 17:41	EPA 8082A	
Aroclor 1248	ND	5.70	11.4	ug/kg dry	1	09/10/20 17:41	EPA 8082A	
Aroclor 1254	ND	5.70	11.4	ug/kg dry	1	09/10/20 17:41	EPA 8082A	
Aroclor 1260	ND	5.70	11.4	ug/kg dry	1	09/10/20 17:41	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 60-125 %</i>		<i>1</i>	<i>09/10/20 17:41</i>	<i>EPA 8082A</i>
DU3-A-S-0.5--After Processing (A0H0755-14)				Matrix: Soil		Batch: 0090559		C-07
Aroclor 1016	ND	4.74	9.49	ug/kg dry	1	09/21/20 15:09	EPA 8082A	
Aroclor 1221	ND	4.74	9.49	ug/kg dry	1	09/21/20 15:09	EPA 8082A	
Aroclor 1232	ND	9.49	9.49	ug/kg dry	1	09/21/20 15:09	EPA 8082A	
Aroclor 1242	ND	4.74	9.49	ug/kg dry	1	09/21/20 15:09	EPA 8082A	
Aroclor 1248	ND	4.74	9.49	ug/kg dry	1	09/21/20 15:09	EPA 8082A	
Aroclor 1254	7.28	4.74	9.49	ug/kg dry	1	09/21/20 15:09	EPA 8082A	J
Aroclor 1260	ND	4.74	9.49	ug/kg dry	1	09/21/20 15:09	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 60-125 %</i>		<i>1</i>	<i>09/21/20 15:09</i>	<i>EPA 8082A</i>
DU3-B-S-0.5--After Processing (A0H0755-16)				Matrix: Soil		Batch: 0090559		C-07
Aroclor 1016	ND	4.81	9.62	ug/kg dry	1	09/21/20 16:20	EPA 8082A	
Aroclor 1221	ND	4.81	9.62	ug/kg dry	1	09/21/20 16:20	EPA 8082A	
Aroclor 1232	ND	9.62	9.62	ug/kg dry	1	09/21/20 16:20	EPA 8082A	

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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
DU3-B-S-0.5--After Processing (A0H0755-16)				Matrix: Soil		Batch: 0090559		C-07
Aroclor 1242	ND	4.81	9.62	ug/kg dry	1	09/21/20 16:20	EPA 8082A	
Aroclor 1248	ND	4.81	9.62	ug/kg dry	1	09/21/20 16:20	EPA 8082A	
Aroclor 1254	8.39	4.81	9.62	ug/kg dry	1	09/21/20 16:20	EPA 8082A	J
Aroclor 1260	ND	4.81	9.62	ug/kg dry	1	09/21/20 16:20	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 60-125 %</i>		<i>1</i>	<i>09/21/20 16:20</i>	<i>EPA 8082A</i>
DU3-C-S-0.5--After Processing (A0H0755-18)				Matrix: Soil		Batch: 0090559		C-07
Aroclor 1016	ND	4.80	9.61	ug/kg dry	1	09/21/20 16:55	EPA 8082A	
Aroclor 1221	ND	4.80	9.61	ug/kg dry	1	09/21/20 16:55	EPA 8082A	
Aroclor 1232	ND	9.61	9.61	ug/kg dry	1	09/21/20 16:55	EPA 8082A	
Aroclor 1242	ND	4.80	9.61	ug/kg dry	1	09/21/20 16:55	EPA 8082A	
Aroclor 1248	ND	4.80	9.61	ug/kg dry	1	09/21/20 16:55	EPA 8082A	
Aroclor 1254	6.46	4.80	9.61	ug/kg dry	1	09/21/20 16:55	EPA 8082A	J
Aroclor 1260	ND	4.80	9.61	ug/kg dry	1	09/21/20 16:55	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 60-125 %</i>		<i>1</i>	<i>09/21/20 16:55</i>	<i>EPA 8082A</i>
DU1-S-0.5--After Processing (A0H0755-20)				Matrix: Soil		Batch: 0090559		C-07
Aroclor 1016	ND	5.11	10.2	ug/kg dry	1	09/21/20 17:30	EPA 8082A	
Aroclor 1221	ND	5.11	10.2	ug/kg dry	1	09/21/20 17:30	EPA 8082A	
Aroclor 1232	ND	5.11	10.2	ug/kg dry	1	09/21/20 17:30	EPA 8082A	
Aroclor 1242	ND	5.11	10.2	ug/kg dry	1	09/21/20 17:30	EPA 8082A	
Aroclor 1248	ND	5.11	10.2	ug/kg dry	1	09/21/20 17:30	EPA 8082A	
Aroclor 1254	ND	5.11	10.2	ug/kg dry	1	09/21/20 17:30	EPA 8082A	
Aroclor 1260	ND	5.11	10.2	ug/kg dry	1	09/21/20 17:30	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 60-125 %</i>		<i>1</i>	<i>09/21/20 17:30</i>	<i>EPA 8082A</i>
DU2-S-0.5--After Processing (A0H0755-22)				Matrix: Soil		Batch: 0090559		C-07
Aroclor 1016	ND	5.04	10.1	ug/kg dry	1	09/21/20 18:06	EPA 8082A	
Aroclor 1221	ND	5.04	10.1	ug/kg dry	1	09/21/20 18:06	EPA 8082A	
Aroclor 1232	ND	5.04	10.1	ug/kg dry	1	09/21/20 18:06	EPA 8082A	
Aroclor 1242	ND	5.04	10.1	ug/kg dry	1	09/21/20 18:06	EPA 8082A	
Aroclor 1248	ND	5.04	10.1	ug/kg dry	1	09/21/20 18:06	EPA 8082A	
Aroclor 1254	8.57	5.04	10.1	ug/kg dry	1	09/21/20 18:06	EPA 8082A	J

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Philip Nerenberg, Lab Director



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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
DU2-S-0.5--After Processing (A0H0755-22)				Matrix: Soil		Batch: 0090559		C-07
Aroclor 1260	6.52	5.04	10.1	ug/kg dry	1	09/21/20 18:06	EPA 8082A	J
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 89 %</i>		<i>Limits: 60-125 %</i>		<i>1</i>	<i>09/21/20 18:06</i>	<i>EPA 8082A</i>

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B05-W-2.0 (A0H0755-02RE1)				Matrix: Water		Batch: 0090113		
Acenaphthene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Acenaphthylene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Anthracene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Benz(a)anthracene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Benzo(a)pyrene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Benzo(b)fluoranthene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Benzo(k)fluoranthene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Benzo(g,h,i)perylene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Chrysene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Dibenz(a,h)anthracene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Fluoranthene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Fluorene	ND	---	0.0674	ug/L	1	09/09/20 14:20	EPA 8270E SIM	R-02
Indeno(1,2,3-cd)pyrene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
1-Methylnaphthalene	ND	---	0.0899	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
2-Methylnaphthalene	ND	---	0.0899	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Naphthalene	ND	---	0.0899	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Phenanthrene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Pyrene	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
Dibenzofuran	ND	---	0.0449	ug/L	1	09/09/20 14:20	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 57 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>09/09/20 14:20</i>	<i>EPA 8270E SIM</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>67 %</i>		<i>50-134 %</i>		<i>1</i>	<i>09/09/20 14:20</i>	<i>EPA 8270E SIM</i>

B05-S-1.5 (A0H0755-09)				Matrix: Soil		Batch: 0090251		R-04
Acenaphthene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Acenaphthylene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Anthracene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Benz(a)anthracene	ND	41.6	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Benzo(a)pyrene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Benzo(b)fluoranthene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Benzo(k)fluoranthene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Benzo(g,h,i)perylene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Chrysene	ND	41.6	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Dibenz(a,h)anthracene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	

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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
B05-S-1.5 (A0H0755-09)				Matrix: Soil		Batch: 0090251		R-04
Fluoranthene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Fluorene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Indeno(1,2,3-cd)pyrene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
1-Methylnaphthalene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
2-Methylnaphthalene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Naphthalene	24.9	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	J
Phenanthrene	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
Pyrene	21.8	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	J
Dibenzofuran	ND	20.8	41.6	ug/kg dry	4	09/11/20 02:54	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 44-120 %</i>		<i>4</i>	<i>09/11/20 02:54</i>	<i>EPA 8270E SIM</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>74 %</i>		<i>54-127 %</i>		<i>4</i>	<i>09/11/20 02:54</i>	<i>EPA 8270E SIM</i>

DU3-A-S-0.5--After Processing (A0H0755-14RE1)				Matrix: Soil		Batch: 0090577		H-02
Acenaphthene	ND	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Acenaphthylene	34.6	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Anthracene	9.87	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Benz(a)anthracene	5.20	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	J
Benzo(a)pyrene	ND	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Benzo(b)fluoranthene	7.92	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	J
Benzo(k)fluoranthene	ND	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Benzo(g,h,i)perylene	ND	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Chrysene	14.5	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	M-05
Dibenz(a,h)anthracene	ND	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Fluoranthene	62.3	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Fluorene	ND	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Indeno(1,2,3-cd)pyrene	ND	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
1-Methylnaphthalene	27.2	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
2-Methylnaphthalene	67.0	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Naphthalene	109	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Phenanthrene	102	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Pyrene	56.0	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
Dibenzofuran	15.7	4.82	9.64	ug/kg dry	1	09/21/20 15:52	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>09/21/20 15:52</i>	<i>EPA 8270E SIM</i>

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Philip Nerenberg, Lab Director



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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
DU3-A-S-0.5--After Processing (A0H0755-14RE1)				Matrix: Soil		Batch: 0090577		H-02
<i>Surrogate: p-Terphenyl-d14 (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 54-127 %</i>		<i>1</i>	<i>09/21/20 15:52</i>	<i>EPA 8270E SIM</i>
DU3-B-S-0.5--After Processing (A0H0755-16)				Matrix: Soil		Batch: 0090533		H-02
Acenaphthene	ND	10.2	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Acenaphthylene	66.5	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Anthracene	15.3	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Benz(a)anthracene	6.01	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	J
Benzo(a)pyrene	ND	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Benzo(b)fluoranthene	7.20	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	J
Benzo(k)fluoranthene	ND	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Benzo(g,h,i)perylene	ND	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Chrysene	15.3	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	M-05
Dibenz(a,h)anthracene	ND	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Fluoranthene	88.3	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Fluorene	9.63	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	J
Indeno(1,2,3-cd)pyrene	ND	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
1-Methylnaphthalene	64.0	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
2-Methylnaphthalene	164	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Naphthalene	284	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Phenanthrene	190	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Pyrene	71.7	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
Dibenzofuran	37.9	5.12	10.2	ug/kg dry	1	09/18/20 17:46	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 64 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>09/18/20 17:46</i>	<i>EPA 8270E SIM</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>56 %</i>		<i>54-127 %</i>		<i>1</i>	<i>09/18/20 17:46</i>	<i>EPA 8270E SIM</i>

DU3-C-S-0.5--After Processing (A0H0755-18RE1)				Matrix: Soil		Batch: 0090577		H-02
Acenaphthene	ND	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Acenaphthylene	36.1	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Anthracene	11.6	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Benz(a)anthracene	7.75	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	J
Benzo(a)pyrene	ND	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Benzo(b)fluoranthene	11.0	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Benzo(k)fluoranthene	ND	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Benzo(g,h,i)perylene	ND	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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
DU3-C-S-0.5--After Processing (A0H0755-18RE1)			Matrix: Soil		Batch: 0090577		H-02	
Chrysene	18.2	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	M-05
Dibenz(a,h)anthracene	ND	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Fluoranthene	74.0	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Fluorene	5.20	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	J
Indeno(1,2,3-cd)pyrene	ND	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
1-Methylnaphthalene	28.1	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
2-Methylnaphthalene	68.2	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Naphthalene	111	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Phenanthrene	110	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Pyrene	66.6	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
Dibenzofuran	16.2	4.92	9.83	ug/kg dry	1	09/21/20 16:44	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 64 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>09/21/20 16:44</i>	<i>EPA 8270E SIM</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>61 %</i>		<i>54-127 %</i>		<i>1</i>	<i>09/21/20 16:44</i>	<i>EPA 8270E SIM</i>

DU1-S-0.5--After Processing (A0H0755-20)			Matrix: Soil		Batch: 0090533		H-02	
Acenaphthene	ND	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Acenaphthylene	17.1	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Anthracene	5.66	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	J
Benz(a)anthracene	6.75	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	J
Benzo(a)pyrene	ND	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Benzo(b)fluoranthene	8.53	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	J
Benzo(k)fluoranthene	ND	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Benzo(g,h,i)perylene	5.45	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	J
Chrysene	10.4	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	M-05
Dibenz(a,h)anthracene	ND	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Fluoranthene	35.4	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Fluorene	ND	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Indeno(1,2,3-cd)pyrene	ND	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
1-Methylnaphthalene	17.4	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
2-Methylnaphthalene	39.6	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Naphthalene	100	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Phenanthrene	74.3	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
Pyrene	28.7	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	

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Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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
DU1-S-0.5--After Processing (A0H0755-20)			Matrix: Soil		Batch: 0090533		H-02	
Dibenzofuran	25.7	5.01	10.0	ug/kg dry	1	09/18/20 18:39	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 59 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>09/18/20 18:39</i>	<i>EPA 8270E SIM</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>68 %</i>		<i>54-127 %</i>		<i>1</i>	<i>09/18/20 18:39</i>	<i>EPA 8270E SIM</i>
DU2-S-0.5--After Processing (A0H0755-22)			Matrix: Soil		Batch: 0090533		H-02	
Acenaphthene	ND	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Acenaphthylene	22.1	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Anthracene	7.36	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	J
Benz(a)anthracene	11.6	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Benzo(a)pyrene	9.48	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	J
Benzo(b)fluoranthene	24.1	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Benzo(k)fluoranthene	6.08	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	J
Benzo(g,h,i)perylene	18.6	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Chrysene	23.9	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	M-05
Dibenz(a,h)anthracene	ND	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Fluoranthene	52.6	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Fluorene	ND	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Indeno(1,2,3-cd)pyrene	12.0	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
1-Methylnaphthalene	16.3	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
2-Methylnaphthalene	42.6	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Naphthalene	87.5	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Phenanthrene	78.0	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Pyrene	44.9	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
Dibenzofuran	13.3	4.92	9.85	ug/kg dry	1	09/18/20 19:06	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 55 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>09/18/20 19:06</i>	<i>EPA 8270E SIM</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>62 %</i>		<i>54-127 %</i>		<i>1</i>	<i>09/18/20 19:06</i>	<i>EPA 8270E SIM</i>



Maul Foster & Alongi, INC.

3140 NE Broadway Street
 Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
B03-S-11.0 (A0H0755-06)		Matrix: Soil							
Batch: 0090288									
Arsenic	1.94	---	1.15	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
Barium	80.9	---	1.15	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
Cadmium	ND	---	0.230	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
Chromium	114	---	1.15	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
Lead	1.80	---	0.230	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
Mercury	ND	---	0.0920	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
Selenium	ND	---	1.15	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
Silver	ND	---	0.230	mg/kg dry	10	09/10/20 21:36	EPA 6020A		
B02-S-10.0 (A0H0755-07)		Matrix: Soil							
Batch: 0090288									
Arsenic	ND	---	1.20	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
Barium	91.1	---	1.20	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
Cadmium	ND	---	0.240	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
Chromium	38.2	---	1.20	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
Lead	1.62	---	0.240	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
Mercury	ND	---	0.0961	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
Selenium	ND	---	1.20	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
Silver	ND	---	0.240	mg/kg dry	10	09/10/20 21:41	EPA 6020A		
B01-S-9.0 (A0H0755-08)		Matrix: Soil							
Batch: 0090288									
Arsenic	1.60	---	1.15	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
Barium	70.5	---	1.15	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
Cadmium	ND	---	0.230	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
Chromium	102	---	1.15	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
Lead	0.989	---	0.230	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
Mercury	ND	---	0.0920	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
Selenium	ND	---	1.15	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
Silver	ND	---	0.230	mg/kg dry	10	09/10/20 21:46	EPA 6020A		
B05-S-1.5 (A0H0755-09)		Matrix: Soil							
Batch: 0090288									

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B05-S-1.5 (A0H0755-09)				Matrix: Soil				
Arsenic	1.82	---	1.17	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
Barium	87.3	---	1.17	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
Cadmium	ND	---	0.234	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
Chromium	48.0	---	1.17	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
Lead	7.31	---	0.234	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
Mercury	ND	---	0.0936	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
Selenium	ND	---	1.17	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
Silver	ND	---	0.234	mg/kg dry	10	09/10/20 21:51	EPA 6020A	
B04-S-2.0 (A0H0755-10)				Matrix: Soil				
Batch: 0090288								
Arsenic	2.95	---	1.06	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
Barium	148	---	1.06	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
Cadmium	0.254	---	0.211	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
Chromium	50.5	---	1.06	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
Lead	4.01	---	0.211	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
Mercury	ND	---	0.0845	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
Selenium	ND	---	1.06	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
Silver	ND	---	0.211	mg/kg dry	10	09/10/20 21:55	EPA 6020A	
B06-S-2.0 (A0H0755-11)				Matrix: Soil				
Batch: 0090288								
Arsenic	2.40	---	1.22	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
Barium	73.3	---	1.22	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
Cadmium	ND	---	0.243	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
Chromium	120	---	1.22	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
Lead	16.9	---	0.243	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
Mercury	ND	---	0.0973	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
Selenium	ND	---	1.22	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
Silver	ND	---	0.243	mg/kg dry	10	09/10/20 22:00	EPA 6020A	
DU3-A-S-0.5--After Processing (A0H0755-14)				Matrix: Soil				
Batch: 0090288								
Arsenic	4.54	---	1.02	mg/kg dry	10	09/10/20 22:14	EPA 6020A	

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
DU3-A-S-0.5--After Processing (A0H0755-14)				Matrix: Soil					
Barium	122	---	1.02	mg/kg dry	10	09/10/20 22:14	EPA 6020A		
Cadmium	0.687	---	0.204	mg/kg dry	10	09/10/20 22:14	EPA 6020A		
Chromium	131	---	1.02	mg/kg dry	10	09/10/20 22:14	EPA 6020A		
Lead	130	---	0.204	mg/kg dry	10	09/10/20 22:14	EPA 6020A		
Mercury	0.151	---	0.0816	mg/kg dry	10	09/10/20 22:14	EPA 6020A		
Selenium	ND	---	1.02	mg/kg dry	10	09/10/20 22:14	EPA 6020A		
Silver	0.418	---	0.204	mg/kg dry	10	09/10/20 22:14	EPA 6020A		
DU3-B-S-0.5--After Processing (A0H0755-16)				Matrix: Soil					
Batch: 0090288									
Arsenic	4.83	---	1.02	mg/kg dry	10	09/10/20 22:19	EPA 6020A		
Barium	119	---	1.02	mg/kg dry	10	09/10/20 22:19	EPA 6020A		
Cadmium	0.831	---	0.204	mg/kg dry	10	09/10/20 22:19	EPA 6020A		
Chromium	135	---	1.02	mg/kg dry	10	09/10/20 22:19	EPA 6020A		
Mercury	0.145	---	0.0814	mg/kg dry	10	09/10/20 22:19	EPA 6020A		
Selenium	ND	---	1.02	mg/kg dry	10	09/10/20 22:19	EPA 6020A		
Silver	0.267	---	0.204	mg/kg dry	10	09/10/20 22:19	EPA 6020A		
DU3-B-S-0.5--After Processing (A0H0755-16RE1)				Matrix: Soil					
Batch: 0090288									
Lead	553	---	1.02	mg/kg dry	50	09/11/20 12:20	EPA 6020A		
DU3-C-S-0.5--After Processing (A0H0755-18)				Matrix: Soil					
Batch: 0090288									
Arsenic	3.97	---	1.08	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
Barium	112	---	1.08	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
Cadmium	0.600	---	0.216	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
Chromium	113	---	1.08	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
Lead	106	---	0.216	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
Mercury	0.138	---	0.0864	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
Selenium	ND	---	1.08	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
Silver	ND	---	0.216	mg/kg dry	10	09/10/20 22:23	EPA 6020A		
DU1-S-0.5--After Processing (A0H0755-20)				Matrix: Soil					
Batch: 0090288									

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Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
DU1-S-0.5--After Processing (A0H0755-20)				Matrix: Soil					
Arsenic	2.69	---	1.09	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
Barium	246	---	1.09	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
Cadmium	0.364	---	0.218	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
Chromium	84.0	---	1.09	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
Lead	10.8	---	0.218	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
Mercury	ND	---	0.0874	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
Selenium	ND	---	1.09	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
Silver	ND	---	0.218	mg/kg dry	10	09/10/20 22:28	EPA 6020A		
DU2-S-0.5--After Processing (A0H0755-22)				Matrix: Soil					
Batch: 0090288									
Arsenic	3.42	---	1.09	mg/kg dry	10	09/10/20 22:33	EPA 6020A		
Barium	154	---	1.09	mg/kg dry	10	09/10/20 22:33	EPA 6020A		
Cadmium	0.394	---	0.219	mg/kg dry	10	09/10/20 22:33	EPA 6020A		
Chromium	116	---	1.09	mg/kg dry	10	09/10/20 22:33	EPA 6020A		
Lead	21.6	---	0.219	mg/kg dry	10	09/10/20 22:33	EPA 6020A		
Mercury	0.110	---	0.0874	mg/kg dry	10	09/10/20 22:33	EPA 6020A		
Selenium	ND	---	1.09	mg/kg dry	10	09/10/20 22:33	EPA 6020A		
Silver	ND	---	0.219	mg/kg dry	10	09/10/20 22:33	EPA 6020A		



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B03-W-14.0 (A0H0755-01) Matrix: Water								
Batch: 0090250								
Arsenic	1.05	---	1.00	ug/L	1	09/09/20 22:58	EPA 200.8 (Diss)	
Barium	32.9	---	1.00	ug/L	1	09/09/20 22:58	EPA 200.8 (Diss)	
Cadmium	ND	---	0.200	ug/L	1	09/09/20 22:58	EPA 200.8 (Diss)	
Chromium	ND	---	1.00	ug/L	1	09/09/20 22:58	EPA 200.8 (Diss)	
Lead	ND	---	0.200	ug/L	1	09/09/20 22:58	EPA 200.8 (Diss)	
Mercury	ND	---	0.0800	ug/L	1	09/09/20 22:58	EPA 200.8 (Hg)	
Selenium	ND	---	1.00	ug/L	1	09/09/20 22:58	EPA 200.8 (Diss)	
Silver	ND	---	0.200	ug/L	1	09/09/20 22:58	EPA 200.8 (Diss)	
B05-W-2.0 (A0H0755-02) Matrix: Water								
Batch: 0090254								
Arsenic	1.17	---	1.00	ug/L	1	09/09/20 22:10	EPA 200.8 (Diss)	
Barium	210	---	1.00	ug/L	1	09/09/20 22:10	EPA 200.8 (Diss)	
Cadmium	ND	---	0.200	ug/L	1	09/09/20 22:10	EPA 200.8 (Diss)	
Chromium	7.59	---	1.00	ug/L	1	09/09/20 22:10	EPA 200.8 (Diss)	
Lead	2.36	---	0.200	ug/L	1	09/09/20 22:10	EPA 200.8 (Diss)	
Mercury	ND	---	0.0800	ug/L	1	09/09/20 22:10	EPA 200.8 (Hg)	
Selenium	ND	---	1.00	ug/L	1	09/09/20 22:10	EPA 200.8 (Diss)	
Silver	ND	---	0.200	ug/L	1	09/09/20 22:10	EPA 200.8 (Diss)	
B04-W-3.5 (A0H0755-03) Matrix: Water								
Batch: 0090250								
Arsenic	1.11	---	1.00	ug/L	1	09/09/20 23:12	EPA 200.8 (Diss)	
Barium	46.6	---	1.00	ug/L	1	09/09/20 23:12	EPA 200.8 (Diss)	
Cadmium	ND	---	0.200	ug/L	1	09/09/20 23:12	EPA 200.8 (Diss)	
Chromium	1.80	---	1.00	ug/L	1	09/09/20 23:12	EPA 200.8 (Diss)	
Lead	0.286	---	0.200	ug/L	1	09/09/20 23:12	EPA 200.8 (Diss)	
Mercury	ND	---	0.0800	ug/L	1	09/09/20 23:12	EPA 200.8 (Hg)	
Selenium	ND	---	1.00	ug/L	1	09/09/20 23:12	EPA 200.8 (Diss)	
Silver	ND	---	0.200	ug/L	1	09/09/20 23:12	EPA 200.8 (Diss)	
B06-W-3.0 (A0H0755-04) Matrix: Water								
Batch: 0090250								

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ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B06-W-3.0 (A0H0755-04)				Matrix: Water				
Arsenic	2.42	---	1.00	ug/L	1	09/09/20 23:16	EPA 200.8 (Diss)	
Barium	76.2	---	1.00	ug/L	1	09/09/20 23:16	EPA 200.8 (Diss)	
Cadmium	ND	---	0.200	ug/L	1	09/09/20 23:16	EPA 200.8 (Diss)	
Chromium	ND	---	1.00	ug/L	1	09/09/20 23:16	EPA 200.8 (Diss)	
Lead	ND	---	0.200	ug/L	1	09/09/20 23:16	EPA 200.8 (Diss)	
Mercury	ND	---	0.0800	ug/L	1	09/09/20 23:16	EPA 200.8 (Hg)	
Selenium	ND	---	1.00	ug/L	1	09/09/20 23:16	EPA 200.8 (Diss)	
Silver	ND	---	0.200	ug/L	1	09/09/20 23:16	EPA 200.8 (Diss)	



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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight									
Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
B03-S-11.0 (A0H0755-06)				Matrix: Soil			Batch: 0080909		
% Solids	94.3	---	1.00	%	1	09/01/20 08:31	EPA 8000D		
B02-S-10.0 (A0H0755-07)				Matrix: Soil			Batch: 0080909		
% Solids	85.7	---	1.00	%	1	09/01/20 08:31	EPA 8000D		
B01-S-9.0 (A0H0755-08)				Matrix: Soil			Batch: 0080909		
% Solids	96.2	---	1.00	%	1	09/01/20 08:31	EPA 8000D		
B05-S-1.5 (A0H0755-09)				Matrix: Soil			Batch: 0080909		
% Solids	86.2	---	1.00	%	1	09/01/20 08:31	EPA 8000D		
B04-S-2.0 (A0H0755-10)				Matrix: Soil			Batch: 0080909		
% Solids	94.3	---	1.00	%	1	09/01/20 08:31	EPA 8000D		
B06-S-2.0 (A0H0755-11)				Matrix: Soil			Batch: 0080909		
% Solids	87.6	---	1.00	%	1	09/01/20 08:31	EPA 8000D		
DU3-A-S-0.5--After Processing (A0H0755-14)				Matrix: Soil			Batch: 0090048		
% Solids	97.5	---	1.00	%	1	09/03/20 08:55	EPA 8000D		
DU3-B-S-0.5--After Processing (A0H0755-16)				Matrix: Soil			Batch: 0090048		
% Solids	97.5	---	1.00	%	1	09/03/20 08:55	EPA 8000D		
DU3-C-S-0.5--After Processing (A0H0755-18)				Matrix: Soil			Batch: 0090048		
% Solids	97.7	---	1.00	%	1	09/03/20 08:55	EPA 8000D		
DU1-S-0.5--After Processing (A0H0755-20)				Matrix: Soil			Batch: 0090048		
% Solids	94.2	---	1.00	%	1	09/03/20 08:55	EPA 8000D		
DU2-S-0.5--After Processing (A0H0755-22)				Matrix: Soil			Batch: 0090048		
% Solids	96.5	---	1.00	%	1	09/03/20 08:55	EPA 8000D		

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Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0080922 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (0080922-BLK1)			Prepared: 08/31/20 11:00 Analyzed: 09/01/20 23:59									
NWTPH-HCID												
Gasoline Range Organics	ND	---	0.0909	mg/L	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	0.227	mg/L	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	0.227	mg/L	1	---	---	---	---	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 87 %		Limits: 50-150 %		Dilution: 1x						
4-Bromofluorobenzene (Surr)		27 %		10-120 %		"						

Batch 0090028 - NWTPH-HCID (Soil)						Soil						
Blank (0090028-BLK1)			Prepared: 09/01/20 13:05 Analyzed: 09/02/20 00:27									
NWTPH-HCID												
Gasoline Range Organics	ND	---	18.2	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	45.5	mg/kg wet	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	90.9	mg/kg wet	1	---	---	---	---	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						
4-Bromofluorobenzene (Surr)		96 %		50-150 %		"						

Duplicate (0090028-DUP1)			Prepared: 09/01/20 13:05 Analyzed: 09/02/20 01:09									
QC Source Sample: Non-SDG (A0H0746-01)												
Gasoline Range Organics	ND	---	29.9	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	74.8	mg/kg dry	1	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	150	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 71 %		Limits: 50-150 %		Dilution: 1x						
4-Bromofluorobenzene (Surr)		65 %		50-150 %		"						

Duplicate (0090028-DUP2)			Prepared: 09/01/20 13:05 Analyzed: 09/02/20 05:19									
QC Source Sample: B06-S-2.0 (A0H0755-11)												
NWTPH-HCID												
Gasoline Range Organics	ND	---	22.2	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	55.5	mg/kg dry	1	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	111	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 78 %		Limits: 50-150 %		Dilution: 1x						
4-Bromofluorobenzene (Surr)		71 %		50-150 %		"						

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090028 - NWTPH-HCID (Soil)							Soil					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090034 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (0090034-BLK1)			Prepared: 09/01/20 14:47 Analyzed: 09/02/20 00:14									
NWTPH-HCID												
Gasoline Range Organics	ND	---	0.0909	mg/L	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	0.227	mg/L	1	---	---	---	---	---	---	
Oil Range Organics	ND	---	0.227	mg/L	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>34 %</i>		<i>10-120 %</i>		<i>"</i>						

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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 0090034 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (0090034-BLK1)						Prepared: 09/01/20 14:47 Analyzed: 09/02/20 00:14						
<u>NWTPH-Dx</u>												
Diesel	ND	---	0.182	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.364	mg/L	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (0090034-BS1)						Prepared: 09/01/20 14:47 Analyzed: 09/02/20 00:37						
<u>NWTPH-Dx</u>												
Diesel	1.20	---	0.200	mg/L	1	1.25	---	96	59-115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 113 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS Dup (0090034-BSD1)						Prepared: 09/01/20 14:47 Analyzed: 09/02/20 01:00						
<u>NWTPH-Dx</u>												
Diesel	1.20	---	0.200	mg/L	1	1.25	---	96	59-115%	0.05	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 110 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						



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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 0090122 - EPA 3546 (Fuels)						Soil						
Blank (0090122-BLK1)						Prepared: 09/03/20 12:49 Analyzed: 09/03/20 20:30						
<u>NWTPH-Dx</u>												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Mineral Oil	ND	---	36.4	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (0090122-BS1)						Prepared: 09/03/20 12:49 Analyzed: 09/03/20 20:51						
<u>NWTPH-Dx</u>												
Diesel	113	---	25.0	mg/kg wet	1	125	---	91	73-115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (0090122-DUP1)						Prepared: 09/03/20 12:49 Analyzed: 09/03/20 21:34						
<u>QC Source Sample: DU3-A-S-0.5--After Processing (A0H0755-14)</u>												
<u>NWTPH-Dx</u>												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	362	---	50.0	mg/kg dry	1	---	367	---	---	1	30%	F-03
Mineral Oil	ND	---	38.1	mg/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (0090122-DUP2)						Prepared: 09/03/20 12:49 Analyzed: 09/04/20 06:15						
<u>QC Source Sample: Non-SDG (A0H0784-05)</u>												
Diesel	ND	---	221	mg/kg dry	10	---	ND	---	---	---	30%	
Oil	549	---	442	mg/kg dry	10	---	614	---	---	11	30%	F-03
Mineral Oil	ND	---	442	mg/kg dry	10	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 10x</i>						S-05



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A0H0755 - 09 23 20 1623

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 0090299 - EPA 3546 (Fuels)						Soil						
Blank (0090299-BLK1)						Prepared: 09/10/20 11:53 Analyzed: 09/10/20 22:36						
<u>NWTPH-Dx</u>												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (0090299-BS1)						Prepared: 09/10/20 11:53 Analyzed: 09/10/20 22:59						
<u>NWTPH-Dx</u>												
Diesel	110	---	20.0	mg/kg wet	1	125	---	88	73-115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (0090299-DUP2)						Prepared: 09/10/20 12:45 Analyzed: 09/11/20 01:16						
<u>QC Source Sample: Non-SDG (A010148-07)</u>												
Diesel	77.9	---	19.7	mg/kg dry	1	---	63.1	---	---	21	30%	F-24
Oil	106	---	39.5	mg/kg dry	1	---	105	---	---	0.5	30%	F-24
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (0090299-DUP3)						Prepared: 09/10/20 11:53 Analyzed: 09/11/20 08:19						
<u>QC Source Sample: B05-S-1.5 (A0H0755-09RE1)</u>												
<u>NWTPH-Dx</u>												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	440	---	50.0	mg/kg dry	1	---	247	---	---	56	30%	Q-04
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 85 %</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 0090077 - EPA 5030B						Water						
Blank (0090077-BLK1)			Prepared: 09/03/20 08:00 Analyzed: 09/03/20 10:05									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 84 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		96 %		50-150 %		"						
LCS (0090077-BS2)			Prepared: 09/03/20 08:00 Analyzed: 09/03/20 09:36									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.481	---	0.100	mg/L	1	0.500	---	96	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 88 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		92 %		50-150 %		"						
Duplicate (0090077-DUP1)			Prepared: 09/03/20 10:09 Analyzed: 09/03/20 13:04									
<u>QC Source Sample: Non-SDG (A010066-07)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 88 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		96 %		50-150 %		"						



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A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B						Water						
Blank (0090077-BLK1)			Prepared: 09/03/20 08:00 Analyzed: 09/03/20 10:05									
EPA 8260D												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromodichloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromoform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
n-Butylbenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Carbon disulfide	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	EST
Chloroform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	

Apex Laboratories

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
Blank (0090077-BLK1)			Prepared: 09/03/20 08:00 Analyzed: 09/03/20 10:05									
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr)

Recovery: 91%

Limits: 80-120%

Dilution: 1x

Apex Laboratories

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**
Project Number: **1874.02.01-02**
Project Manager: **Kyle Roslund**

Report ID:
A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
Blank (0090077-BLK1)												
Prepared: 09/03/20 08:00 Analyzed: 09/03/20 10:05												
Surr: Toluene-d8 (Surr) Recovery: 105 % Limits: 80-120 % Dilution: 1x												
4-Bromofluorobenzene (Surr) 106 % 80-120 % "												
LCS (0090077-BS1)												
Prepared: 09/03/20 08:00 Analyzed: 09/03/20 09:08												
EPA 8260D												
Acetone	32.9	---	20.0	ug/L	1	40.0	---	82	80-120%	---	---	
Acrylonitrile	17.1	---	2.00	ug/L	1	20.0	---	86	80-120%	---	---	
Benzene	17.6	---	0.200	ug/L	1	20.0	---	88	80-120%	---	---	
Bromobenzene	21.3	---	0.500	ug/L	1	20.0	---	107	80-120%	---	---	
Bromochloromethane	19.5	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Bromodichloromethane	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Bromoform	22.7	---	1.00	ug/L	1	20.0	---	113	80-120%	---	---	
Bromomethane	16.7	---	5.00	ug/L	1	20.0	---	84	80-120%	---	---	
2-Butanone (MEK)	35.8	---	10.0	ug/L	1	40.0	---	90	80-120%	---	---	
n-Butylbenzene	21.1	---	2.00	ug/L	1	20.0	---	105	80-120%	---	---	
sec-Butylbenzene	23.2	---	1.00	ug/L	1	20.0	---	116	80-120%	---	---	
tert-Butylbenzene	23.2	---	1.00	ug/L	1	20.0	---	116	80-120%	---	---	
Carbon disulfide	19.2	---	10.0	ug/L	1	20.0	---	96	80-120%	---	---	
Carbon tetrachloride	21.4	---	1.00	ug/L	1	20.0	---	107	80-120%	---	---	
Chlorobenzene	20.6	---	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
Chloroethane	13.4	---	5.00	ug/L	1	20.0	---	67	80-120%	---	---	EST, Q-55
Chloroform	18.6	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
Chloromethane	14.6	---	5.00	ug/L	1	20.0	---	73	80-120%	---	---	Q-55
2-Chlorotoluene	21.6	---	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
4-Chlorotoluene	21.5	---	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
Dibromochloromethane	21.9	---	1.00	ug/L	1	20.0	---	110	80-120%	---	---	
1,2-Dibromo-3-chloropropane	19.7	---	5.00	ug/L	1	20.0	---	99	80-120%	---	---	
1,2-Dibromoethane (EDB)	19.9	---	0.500	ug/L	1	20.0	---	100	80-120%	---	---	
Dibromomethane	17.7	---	1.00	ug/L	1	20.0	---	89	80-120%	---	---	
1,2-Dichlorobenzene	22.5	---	0.500	ug/L	1	20.0	---	112	80-120%	---	---	
1,3-Dichlorobenzene	22.3	---	0.500	ug/L	1	20.0	---	111	80-120%	---	---	
1,4-Dichlorobenzene	21.5	---	0.500	ug/L	1	20.0	---	108	80-120%	---	---	
Dichlorodifluoromethane	22.4	---	1.00	ug/L	1	20.0	---	112	80-120%	---	---	
1,1-Dichloroethane	17.4	---	0.400	ug/L	1	20.0	---	87	80-120%	---	---	

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Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
LCS (0090077-BS1)												
						Prepared: 09/03/20 08:00 Analyzed: 09/03/20 09:08						
1,2-Dichloroethane (EDC)	19.4	---	0.400	ug/L	1	20.0	---	97	80-120%	---	---	
1,1-Dichloroethene	18.8	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
cis-1,2-Dichloroethene	17.9	---	0.400	ug/L	1	20.0	---	90	80-120%	---	---	
trans-1,2-Dichloroethene	17.3	---	0.400	ug/L	1	20.0	---	86	80-120%	---	---	
1,2-Dichloropropane	17.0	---	0.500	ug/L	1	20.0	---	85	80-120%	---	---	
1,3-Dichloropropane	20.0	---	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
2,2-Dichloropropane	27.1	---	1.00	ug/L	1	20.0	---	135	80-120%	---	---	Q-56
1,1-Dichloropropene	19.0	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
cis-1,3-Dichloropropene	20.3	---	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
trans-1,3-Dichloropropene	21.6	---	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
Ethylbenzene	20.3	---	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Hexachlorobutadiene	25.5	---	5.00	ug/L	1	20.0	---	128	80-120%	---	---	Q-56
2-Hexanone	38.9	---	10.0	ug/L	1	40.0	---	97	80-120%	---	---	
Isopropylbenzene	22.3	---	1.00	ug/L	1	20.0	---	112	80-120%	---	---	
4-Isopropyltoluene	20.7	---	1.00	ug/L	1	20.0	---	103	80-120%	---	---	
Methylene chloride	15.9	---	10.0	ug/L	1	20.0	---	79	80-120%	---	---	Q-55
4-Methyl-2-pentanone (MiBK)	41.7	---	10.0	ug/L	1	40.0	---	104	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	19.3	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Naphthalene	16.0	---	2.00	ug/L	1	20.0	---	80	80-120%	---	---	
n-Propylbenzene	21.6	---	0.500	ug/L	1	20.0	---	108	80-120%	---	---	
Styrene	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,1,1,2-Tetrachloroethane	22.5	---	0.400	ug/L	1	20.0	---	113	80-120%	---	---	
1,1,2,2-Tetrachloroethane	20.4	---	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Tetrachloroethene (PCE)	22.1	---	0.400	ug/L	1	20.0	---	111	80-120%	---	---	
Toluene	19.1	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,2,3-Trichlorobenzene	19.2	---	2.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,2,4-Trichlorobenzene	18.8	---	2.00	ug/L	1	20.0	---	94	80-120%	---	---	
1,1,1-Trichloroethane	19.9	---	0.400	ug/L	1	20.0	---	99	80-120%	---	---	
1,1,2-Trichloroethane	20.3	---	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Trichloroethene (TCE)	18.8	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
Trichlorofluoromethane	23.6	---	2.00	ug/L	1	20.0	---	118	80-120%	---	---	
1,2,3-Trichloropropane	21.2	---	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
1,2,4-Trimethylbenzene	22.9	---	1.00	ug/L	1	20.0	---	115	80-120%	---	---	
1,3,5-Trimethylbenzene	23.4	---	1.00	ug/L	1	20.0	---	117	80-120%	---	---	



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
LCS (0090077-BS1)			Prepared: 09/03/20 08:00 Analyzed: 09/03/20 09:08									
Vinyl chloride	17.8	---	0.400	ug/L	1	20.0	---	89	80-120%	---	---	
m,p-Xylene	41.8	---	1.00	ug/L	1	40.0	---	104	80-120%	---	---	
o-Xylene	20.7	---	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 89 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						

Duplicate (0090077-DUP1)

Prepared: 09/03/20 10:09 Analyzed: 09/03/20 13:04

QC Source Sample: Non-SDG (A010066-07)

Acetone	ND	---	20.0	ug/L	1	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
Benzene	ND	---	0.200	ug/L	1	---	ND	---	---	---	30%	
Bromobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromoform	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromomethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Chloroethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	EST
Chloroform	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Chloromethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Dibromomethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	

Apex Laboratories

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Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
Duplicate (0090077-DUP1)			Prepared: 09/03/20 10:09 Analyzed: 09/03/20 13:04									
QC Source Sample: Non-SDG (A010066-07)												
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Hexanone	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Methylene chloride	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Naphthalene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Styrene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
Duplicate (0090077-DUP1)			Prepared: 09/03/20 10:09 Analyzed: 09/03/20 13:04									
QC Source Sample: Non-SDG (A0I0066-07)												
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
o-Xylene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>106 %</i>		<i>80-120 %</i>		<i>"</i>						
Matrix Spike (0090077-MS1)												
Prepared: 09/03/20 10:09 Analyzed: 09/03/20 15:46												
QC Source Sample: Non-SDG (A0H0738-03RE1)												
EPA 8260D												
Acetone	650	---	400	ug/L	20	800	ND	81	39-160%	---	---	
Acrylonitrile	337	---	40.0	ug/L	20	400	ND	84	63-135%	---	---	
Benzene	1430	---	4.00	ug/L	20	400	1120	79	79-120%	---	---	
Bromobenzene	440	---	10.0	ug/L	20	400	ND	110	80-120%	---	---	
Bromochloromethane	396	---	20.0	ug/L	20	400	ND	99	78-123%	---	---	
Bromodichloromethane	378	---	20.0	ug/L	20	400	ND	94	79-125%	---	---	
Bromoform	442	---	20.0	ug/L	20	400	ND	111	66-130%	---	---	
Bromomethane	339	---	100	ug/L	20	400	ND	85	53-141%	---	---	
2-Butanone (MEK)	719	---	200	ug/L	20	800	ND	90	56-143%	---	---	
n-Butylbenzene	469	---	40.0	ug/L	20	400	ND	117	75-128%	---	---	
sec-Butylbenzene	497	---	20.0	ug/L	20	400	ND	124	77-126%	---	---	
tert-Butylbenzene	493	---	20.0	ug/L	20	400	ND	123	78-124%	---	---	
Carbon disulfide	364	---	200	ug/L	20	400	ND	91	64-133%	---	---	
Carbon tetrachloride	444	---	20.0	ug/L	20	400	ND	111	72-136%	---	---	
Chlorobenzene	426	---	10.0	ug/L	20	400	ND	107	80-120%	---	---	
Chloroethane	325	---	100	ug/L	20	400	ND	81	60-138%	---	---	EST, Q-54c
Chloroform	385	---	20.0	ug/L	20	400	ND	96	79-124%	---	---	
Chloromethane	303	---	100	ug/L	20	400	ND	76	50-139%	---	---	Q-54d

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
 Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
Matrix Spike (0090077-MS1)												
Prepared: 09/03/20 10:09 Analyzed: 09/03/20 15:46												
QC Source Sample: Non-SDG (A0H0738-03RE1)												
2-Chlorotoluene	450	---	20.0	ug/L	20	400	ND	112	79-122%	---	---	
4-Chlorotoluene	448	---	20.0	ug/L	20	400	ND	112	78-122%	---	---	
Dibromochloromethane	425	---	20.0	ug/L	20	400	ND	106	74-126%	---	---	
1,2-Dibromo-3-chloropropane	418	---	100	ug/L	20	400	ND	105	62-128%	---	---	
1,2-Dibromoethane (EDB)	416	---	10.0	ug/L	20	400	ND	104	77-121%	---	---	
Dibromomethane	367	---	20.0	ug/L	20	400	ND	92	79-123%	---	---	
1,2-Dichlorobenzene	473	---	10.0	ug/L	20	400	ND	118	80-120%	---	---	
1,3-Dichlorobenzene	467	---	10.0	ug/L	20	400	ND	117	80-120%	---	---	
1,4-Dichlorobenzene	454	---	10.0	ug/L	20	400	ND	113	79-120%	---	---	
Dichlorodifluoromethane	411	---	20.0	ug/L	20	400	ND	103	32-152%	---	---	
1,1-Dichloroethane	360	---	8.00	ug/L	20	400	ND	90	77-125%	---	---	
1,2-Dichloroethane (EDC)	396	---	8.00	ug/L	20	400	ND	99	73-128%	---	---	
1,1-Dichloroethene	397	---	8.00	ug/L	20	400	ND	99	71-131%	---	---	
cis-1,2-Dichloroethene	375	---	8.00	ug/L	20	400	ND	94	78-123%	---	---	
trans-1,2-Dichloroethene	372	---	8.00	ug/L	20	400	ND	93	75-124%	---	---	
1,2-Dichloropropane	348	---	10.0	ug/L	20	400	ND	87	78-122%	---	---	
1,3-Dichloropropane	411	---	20.0	ug/L	20	400	ND	103	80-120%	---	---	
2,2-Dichloropropane	492	---	20.0	ug/L	20	400	ND	123	60-139%	---	---	Q-54
1,1-Dichloropropene	400	---	20.0	ug/L	20	400	ND	100	79-125%	---	---	
cis-1,3-Dichloropropene	402	---	20.0	ug/L	20	400	ND	101	75-124%	---	---	
trans-1,3-Dichloropropene	444	---	20.0	ug/L	20	400	ND	111	73-127%	---	---	
Ethylbenzene	711	---	10.0	ug/L	20	400	289	106	79-121%	---	---	
Hexachlorobutadiene	567	---	100	ug/L	20	400	ND	142	66-134%	---	---	Q-54a
2-Hexanone	841	---	200	ug/L	20	800	ND	105	57-139%	---	---	
Isopropylbenzene	499	---	20.0	ug/L	20	400	15.4	121	72-131%	---	---	
4-Isopropyltoluene	457	---	20.0	ug/L	20	400	ND	114	77-127%	---	---	
Methylene chloride	337	---	200	ug/L	20	400	ND	84	74-124%	---	---	Q-54b
4-Methyl-2-pentanone (MiBK)	858	---	200	ug/L	20	800	ND	107	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	380	---	20.0	ug/L	20	400	ND	95	71-124%	---	---	
Naphthalene	2070	---	40.0	ug/L	20	400	1820	61	61-128%	---	---	
n-Propylbenzene	452	---	10.0	ug/L	20	400	ND	113	76-126%	---	---	
Styrene	410	---	20.0	ug/L	20	400	ND	102	78-123%	---	---	
1,1,1,2-Tetrachloroethane	460	---	8.00	ug/L	20	400	ND	115	78-124%	---	---	



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090077 - EPA 5030B												
Water												
Matrix Spike (0090077-MS1)												
Prepared: 09/03/20 10:09 Analyzed: 09/03/20 15:46												
QC Source Sample: Non-SDG (A0H0738-03RE1)												
1,1,2,2-Tetrachloroethane	423	---	10.0	ug/L	20	400	ND	106	71-121%	---	---	
Tetrachloroethene (PCE)	455	---	8.00	ug/L	20	400	ND	114	74-129%	---	---	
Toluene	420	---	20.0	ug/L	20	400	25.3	99	80-121%	---	---	
1,2,3-Trichlorobenzene	527	---	40.0	ug/L	20	400	ND	132	69-129%	---	---	Q-01
1,2,4-Trichlorobenzene	513	---	40.0	ug/L	20	400	ND	128	69-130%	---	---	
1,1,1-Trichloroethane	416	---	8.00	ug/L	20	400	ND	104	74-131%	---	---	
1,1,2-Trichloroethane	420	---	10.0	ug/L	20	400	ND	105	80-120%	---	---	
Trichloroethene (TCE)	384	---	8.00	ug/L	20	400	ND	96	79-123%	---	---	
Trichlorofluoromethane	459	---	40.0	ug/L	20	400	ND	115	65-141%	---	---	
1,2,3-Trichloropropane	445	---	20.0	ug/L	20	400	ND	111	73-122%	---	---	
1,2,4-Trimethylbenzene	542	---	20.0	ug/L	20	400	43.6	125	76-124%	---	---	Q-01
1,3,5-Trimethylbenzene	507	---	20.0	ug/L	20	400	14.0	123	75-124%	---	---	
Vinyl chloride	379	---	8.00	ug/L	20	400	ND	95	58-137%	---	---	
m,p-Xylene	936	---	20.0	ug/L	20	800	69.7	108	80-121%	---	---	
o-Xylene	541	---	10.0	ug/L	20	400	77.7	116	78-122%	---	---	
Surr: 1,4-Difluorobenzene (Surr) Recovery: 89 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr) 100 % 80-120 % "												
4-Bromofluorobenzene (Surr) 98 % 80-120 % "												



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090248 - EPA 3510C (Neutral pH)						Water							
Blank (0090248-BLK1)			Prepared: 09/09/20 10:11 Analyzed: 09/09/20 17:18						C-07				
<u>EPA 8082A</u>													
Aroclor 1016	ND	---	0.0182	ug/L	1	---	---	---	---	---	---		
Aroclor 1221	ND	---	0.0182	ug/L	1	---	---	---	---	---	---		
Aroclor 1232	ND	---	0.0182	ug/L	1	---	---	---	---	---	---		
Aroclor 1242	ND	---	0.0182	ug/L	1	---	---	---	---	---	---		
Aroclor 1248	ND	---	0.0182	ug/L	1	---	---	---	---	---	---		
Aroclor 1254	ND	---	0.0182	ug/L	1	---	---	---	---	---	---		
Aroclor 1260	ND	---	0.0182	ug/L	1	---	---	---	---	---	---		
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 120 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>							
LCS (0090248-BS1)			Prepared: 09/09/20 10:11 Analyzed: 09/09/20 17:36						C-07				
<u>EPA 8082A</u>													
Aroclor 1016	0.785	---	0.0200	ug/L	1	1.25	---	63	46-129%	---	---		
Aroclor 1260	1.08	---	0.0200	ug/L	1	1.25	---	86	45-134%	---	---		
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>							
LCS Dup (0090248-BSD1)			Prepared: 09/09/20 10:11 Analyzed: 09/09/20 17:53						C-07, Q-19				
<u>EPA 8082A</u>													
Aroclor 1016	0.772	---	0.0200	ug/L	1	1.25	---	62	46-129%	2	30%		
Aroclor 1260	1.04	---	0.0200	ug/L	1	1.25	---	83	45-134%	4	30%		
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>							



Maul Foster & Alongi, INC.

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Portland, OR 97232

Project: **Former Oregon Pine**

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Project Manager: **Kyle Roslund**

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A0H0755 - 09 23 20 1623

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 0090280 - EPA 3546												
Soil												
Blank (0090280-BLK1)												
Prepared: 09/10/20 07:11 Analyzed: 09/10/20 17:41 C-07												
<u>EPA 8082A</u>												
Aroclor 1016	ND	1.82	3.64	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	1.82	3.64	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	1.82	3.64	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	1.82	3.64	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	1.82	3.64	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	1.82	3.64	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	1.82	3.64	ug/kg wet	1	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr) Recovery: 93 % Limits: 60-125 % Dilution: 1x												
LCS (0090280-BS1)												
Prepared: 09/10/20 07:11 Analyzed: 09/10/20 17:58 C-07												
<u>EPA 8082A</u>												
Aroclor 1016	180	2.00	4.00	ug/kg wet	1	250	---	72	47-134%	---	---	
Aroclor 1260	215	2.00	4.00	ug/kg wet	1	250	---	86	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr) Recovery: 95 % Limits: 60-125 % Dilution: 1x												
Duplicate (0090280-DUP1)												
Prepared: 09/10/20 07:11 Analyzed: 09/10/20 18:51 C-07												
<u>QC Source Sample: Non-SDG (A0H0768-01)</u>												
Aroclor 1016	ND	2.33	4.67	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	6.07	6.07	ug/kg dry	1	---	ND	---	---	---	30%	R-02
Aroclor 1232	ND	4.67	4.67	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1242	ND	2.33	4.67	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1248	ND	2.33	4.67	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1254	ND	2.33	4.67	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1260	ND	2.33	4.67	ug/kg dry	1	---	ND	---	---	---	30%	
Surr: Decachlorobiphenyl (Surr) Recovery: 82 % Limits: 60-125 % Dilution: 1x												
Matrix Spike (0090280-MS1)												
Prepared: 09/10/20 07:11 Analyzed: 09/10/20 20:02 C-07												
<u>QC Source Sample: Non-SDG (A0H0768-02)</u>												
<u>EPA 8082A</u>												
Aroclor 1016	228	2.48	4.96	ug/kg dry	1	310	ND	73	47-134%	---	---	
Aroclor 1260	252	2.48	4.96	ug/kg dry	1	310	ND	81	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr) Recovery: 78 % Limits: 60-125 % Dilution: 1x												

Apex Laboratories

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Philip Nerenberg, Lab Director



Apex Laboratories, LLC

6700 S.W. Sandburg Street
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ORELAP ID: OR100062

Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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 0090280 - EPA 3546							Soil					

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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 0090559 - EPA 3546												
Soil												
Blank (0090559-BLK1)												
Prepared: 09/21/20 07:04 Analyzed: 09/21/20 14:34 C-07												
<u>EPA 8082A</u>												
Aroclor 1016	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	4.55	9.09	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr) Recovery: 105 % Limits: 60-125 % Dilution: 1x</i>												
LCS (0090559-BS1)												
Prepared: 09/21/20 07:04 Analyzed: 09/21/20 14:52 C-07												
<u>EPA 8082A</u>												
Aroclor 1016	183	5.00	10.0	ug/kg wet	1	250	---	73	47-134%	---	---	
Aroclor 1260	213	5.00	10.0	ug/kg wet	1	250	---	85	53-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr) Recovery: 108 % Limits: 60-125 % Dilution: 1x</i>												
Duplicate (0090559-DUP1)												
Prepared: 09/21/20 07:04 Analyzed: 09/21/20 15:44 C-07												
<u>QC Source Sample: DU3-A-S-0.5--After Processing (A0H0755-14)</u>												
<u>EPA 8082A</u>												
Aroclor 1016	ND	4.76	9.52	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	4.76	9.52	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1232	ND	9.52	9.52	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1242	ND	4.76	9.52	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1248	ND	4.76	9.52	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1254	7.85	4.76	9.52	ug/kg dry	1	---	7.28	---	---	8	30%	J
Aroclor 1260	ND	4.76	9.52	ug/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: Decachlorobiphenyl (Surr) Recovery: 96 % Limits: 60-125 % Dilution: 1x</i>												
Matrix Spike (0090559-MS1)												
Prepared: 09/21/20 07:04 Analyzed: 09/21/20 17:28 C-07												
<u>QC Source Sample: Non-SDG (A010398-08)</u>												
<u>EPA 8082A</u>												
Aroclor 1016	182	5.46	10.9	ug/kg dry	1	273	ND	67	47-134%	---	---	
Aroclor 1260	204	5.46	10.9	ug/kg dry	1	273	ND	75	53-140%	---	---	

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

Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090559 - EPA 3546						Soil							
Matrix Spike (0090559-MS1)			Prepared: 09/21/20 07:04 Analyzed: 09/21/20 17:28						C-07				
QC Source Sample: Non-SDG (A010398-08)													
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>							

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3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090113 - EPA 3510C (Acid Extraction)						Water						
Blank (0090113-BLK3)			Prepared: 09/03/20 10:58 Analyzed: 09/09/20 13:01									
<u>EPA 8270E SIM</u>												
Acenaphthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>95 %</i>		<i>50-134 %</i>		<i>"</i>						

LCS (0090113-BS4)

Prepared: 09/03/20 10:58 Analyzed: 09/09/20 13:27

<u>EPA 8270E SIM</u>												
Acenaphthene	2.72	---	0.0400	ug/L	2	4.00	---	68	47-122%	---	---	
Acenaphthylene	2.76	---	0.0400	ug/L	2	4.00	---	69	41-130%	---	---	
Anthracene	2.71	---	0.0400	ug/L	2	4.00	---	68	57-123%	---	---	
Benz(a)anthracene	2.90	---	0.0400	ug/L	2	4.00	---	73	58-125%	---	---	
Benzo(a)pyrene	2.85	---	0.0400	ug/L	2	4.00	---	71	54-128%	---	---	
Benzo(b)fluoranthene	2.97	---	0.0400	ug/L	2	4.00	---	74	53-131%	---	---	
Benzo(k)fluoranthene	2.96	---	0.0400	ug/L	2	4.00	---	74	57-129%	---	---	
Benzo(g,h,i)perylene	2.85	---	0.0400	ug/L	2	4.00	---	71	50-134%	---	---	
Chrysene	2.93	---	0.0400	ug/L	2	4.00	---	73	59-123%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.	Project: Former Oregon Pine	
3140 NE Broadway Street	Project Number: 1874.02.01-02	Report ID:
Portland, OR 97232	Project Manager: Kyle Roslund	A0H0755 - 09 23 20 1623

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 0090113 - EPA 3510C (Acid Extraction)						Water						
LCS (0090113-BS4)			Prepared: 09/03/20 10:58 Analyzed: 09/09/20 13:27									
Dibenz(a,h)anthracene	2.95	---	0.0400	ug/L	2	4.00	---	74	51-134%	---	---	
Fluoranthene	2.82	---	0.0400	ug/L	2	4.00	---	71	57-128%	---	---	
Fluorene	2.69	---	0.0400	ug/L	2	4.00	---	67	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	2.87	---	0.0400	ug/L	2	4.00	---	72	52-134%	---	---	
1-Methylnaphthalene	2.39	---	0.0800	ug/L	2	4.00	---	60	41-120%	---	---	
2-Methylnaphthalene	2.38	---	0.0800	ug/L	2	4.00	---	60	40-121%	---	---	
Naphthalene	2.41	---	0.0800	ug/L	2	4.00	---	60	40-121%	---	---	
Phenanthrene	2.76	---	0.0400	ug/L	2	4.00	---	69	59-120%	---	---	
Pyrene	2.81	---	0.0400	ug/L	2	4.00	---	70	57-126%	---	---	
Dibenzofuran	2.64	---	0.0400	ug/L	2	4.00	---	66	53-120%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 66 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 2x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>83 %</i>		<i>50-134 %</i>		<i>"</i>						

LCS Dup (0090113-BSD4)			Prepared: 09/03/20 10:58 Analyzed: 09/09/20 13:54								Q-19	
EPA 8270E SIM												
Acenaphthene	2.83	---	0.0400	ug/L	2	4.00	---	71	47-122%	4	30%	
Acenaphthylene	2.93	---	0.0400	ug/L	2	4.00	---	73	41-130%	6	30%	
Anthracene	2.94	---	0.0400	ug/L	2	4.00	---	73	57-123%	8	30%	
Benz(a)anthracene	3.12	---	0.0400	ug/L	2	4.00	---	78	58-125%	7	30%	
Benzo(a)pyrene	3.11	---	0.0400	ug/L	2	4.00	---	78	54-128%	9	30%	
Benzo(b)fluoranthene	3.25	---	0.0400	ug/L	2	4.00	---	81	53-131%	9	30%	
Benzo(k)fluoranthene	3.28	---	0.0400	ug/L	2	4.00	---	82	57-129%	10	30%	
Benzo(g,h,i)perylene	3.11	---	0.0400	ug/L	2	4.00	---	78	50-134%	9	30%	
Chrysene	3.23	---	0.0400	ug/L	2	4.00	---	81	59-123%	10	30%	
Dibenz(a,h)anthracene	3.35	---	0.0400	ug/L	2	4.00	---	84	51-134%	13	30%	
Fluoranthene	3.10	---	0.0400	ug/L	2	4.00	---	77	57-128%	9	30%	
Fluorene	2.84	---	0.0400	ug/L	2	4.00	---	71	52-124%	6	30%	
Indeno(1,2,3-cd)pyrene	3.13	---	0.0400	ug/L	2	4.00	---	78	52-134%	9	30%	
1-Methylnaphthalene	2.53	---	0.0800	ug/L	2	4.00	---	63	41-120%	6	30%	
2-Methylnaphthalene	2.49	---	0.0800	ug/L	2	4.00	---	62	40-121%	5	30%	
Naphthalene	2.51	---	0.0800	ug/L	2	4.00	---	63	40-121%	4	30%	
Phenanthrene	2.98	---	0.0400	ug/L	2	4.00	---	75	59-120%	8	30%	
Pyrene	3.04	---	0.0400	ug/L	2	4.00	---	76	57-126%	8	30%	
Dibenzofuran	2.78	---	0.0400	ug/L	2	4.00	---	70	53-120%	5	30%	

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Philip Nerenberg, Lab Director



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 ORELAP ID: OR100062

Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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 0090113 - EPA 3510C (Acid Extraction)						Water							
LCS Dup (0090113-BSD4)			Prepared: 09/03/20 10:58 Analyzed: 09/09/20 13:54						Q-19				
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 69 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 2x</i>							
<i>p-Terphenyl-d14 (Surr)</i>		<i>88 %</i>		<i>50-134 %</i>		<i>"</i>							

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090251 - EPA 3546												
Soil												
Blank (0090251-BLK1)												
Prepared: 09/09/20 10:22 Analyzed: 09/10/20 03:30												
<u>EPA 8270E SIM</u>												
Acenaphthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>88 %</i>		<i>54-127 %</i>		<i>"</i>						

LCS (0090251-BS1)												
Prepared: 09/09/20 10:22 Analyzed: 09/10/20 03:56												
<u>EPA 8270E SIM</u>												
Acenaphthene	690	5.00	10.0	ug/kg wet	1	800	---	86	40-123%	---	---	
Acenaphthylene	694	5.00	10.0	ug/kg wet	1	800	---	87	32-132%	---	---	
Anthracene	649	5.00	10.0	ug/kg wet	1	800	---	81	47-123%	---	---	
Benz(a)anthracene	654	5.00	10.0	ug/kg wet	1	800	---	82	49-126%	---	---	
Benzo(a)pyrene	660	5.00	10.0	ug/kg wet	1	800	---	83	45-129%	---	---	
Benzo(b)fluoranthene	707	5.00	10.0	ug/kg wet	1	800	---	88	45-132%	---	---	
Benzo(k)fluoranthene	688	5.00	10.0	ug/kg wet	1	800	---	86	47-132%	---	---	
Benzo(g,h,i)perylene	608	5.00	10.0	ug/kg wet	1	800	---	76	43-134%	---	---	
Chrysene	664	5.00	10.0	ug/kg wet	1	800	---	83	50-124%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.	Project: Former Oregon Pine	
3140 NE Broadway Street	Project Number: 1874.02.01-02	Report ID:
Portland, OR 97232	Project Manager: Kyle Roslund	A0H0755 - 09 23 20 1623

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 0090251 - EPA 3546												
Soil												
LCS (0090251-BS1)												
Prepared: 09/09/20 10:22 Analyzed: 09/10/20 03:56												
Dibenz(a,h)anthracene	689	5.00	10.0	ug/kg wet	1	800	---	86	45-134%	---	---	
Fluoranthene	661	5.00	10.0	ug/kg wet	1	800	---	83	50-127%	---	---	
Fluorene	645	5.00	10.0	ug/kg wet	1	800	---	81	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	638	5.00	10.0	ug/kg wet	1	800	---	80	45-133%	---	---	
1-Methylnaphthalene	635	5.00	10.0	ug/kg wet	1	800	---	79	40-120%	---	---	
2-Methylnaphthalene	635	5.00	10.0	ug/kg wet	1	800	---	79	38-122%	---	---	
Naphthalene	617	5.00	10.0	ug/kg wet	1	800	---	77	35-123%	---	---	
Phenanthrene	649	5.00	10.0	ug/kg wet	1	800	---	81	50-121%	---	---	
Pyrene	653	5.00	10.0	ug/kg wet	1	800	---	82	47-127%	---	---	
Dibenzofuran	652	5.00	10.0	ug/kg wet	1	800	---	81	44-120%	---	---	
Surr: 2-Fluorobiphenyl (Surr) Recovery: 77 % Limits: 44-120 % Dilution: 1x												
p-Terphenyl-d14 (Surr) 84 % 54-127 % "												

Duplicate (0090251-DUP1)												
Prepared: 09/09/20 10:22 Analyzed: 09/10/20 04:49												
QC Source Sample: Non-SDG (A0H0746-02)												
Acenaphthene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Acenaphthylene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Anthracene	ND	10.8	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(k)fluoranthene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Chrysene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Dibenz(a,h)anthracene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Fluoranthene	ND	5.39	10.8	ug/kg dry	1	---	5.88	---	---	***	30%	Q-05
Fluorene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
1-Methylnaphthalene	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	5.39	10.8	ug/kg dry	1	---	6.19	---	---	***	30%	Q-05
Naphthalene	10.3	5.39	10.8	ug/kg dry	1	---	14.6	---	---	35	30%	Q-05, J
Phenanthrene	9.48	5.39	10.8	ug/kg dry	1	---	14.6	---	---	43	30%	Q-05, J
Pyrene	ND	5.39	10.8	ug/kg dry	1	---	5.44	---	---	***	30%	Q-05
Dibenzofuran	ND	5.39	10.8	ug/kg dry	1	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
 Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090251 - EPA 3546												
Soil												
Duplicate (0090251-DUP1)												
						Prepared: 09/09/20 10:22 Analyzed: 09/10/20 04:49						
QC Source Sample: Non-SDG (A0H0746-02)												
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 70 %		Limits: 44-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		76 %		54-127 %		"						

Matrix Spike (0090251-MS1)												
						Prepared: 09/09/20 10:22 Analyzed: 09/10/20 05:41						
QC Source Sample: Non-SDG (A0I0114-21)												
EPA 8270E SIM												
Acenaphthene	702	23.0	23.0	ug/kg dry	1	874	ND	80	40-123%	---	---	
Acenaphthylene	702	16.4	16.4	ug/kg dry	1	874	ND	80	32-132%	---	---	
Anthracene	661	42.6	42.6	ug/kg dry	1	874	ND	71	47-123%	---	---	
Benz(a)anthracene	771	5.46	10.9	ug/kg dry	1	874	115	75	49-126%	---	---	
Benzo(a)pyrene	1050	5.46	10.9	ug/kg dry	1	874	122	106	45-129%	---	---	
Benzo(b)fluoranthene	992	5.46	10.9	ug/kg dry	1	874	157	96	45-132%	---	---	
Benzo(k)fluoranthene	760	5.46	10.9	ug/kg dry	1	874	47.5	82	47-132%	---	---	
Benzo(g,h,i)perylene	1010	5.46	10.9	ug/kg dry	1	874	79.9	107	43-134%	---	---	
Chrysene	809	5.46	10.9	ug/kg dry	1	874	139	77	50-124%	---	---	
Dibenz(a,h)anthracene	724	5.46	10.9	ug/kg dry	1	874	20.4	80	45-134%	---	---	
Fluoranthene	835	5.46	10.9	ug/kg dry	1	874	224	70	50-127%	---	---	
Fluorene	695	5.46	10.9	ug/kg dry	1	874	39.1	75	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	964	5.46	10.9	ug/kg dry	1	874	80.3	101	45-133%	---	---	
1-Methylnaphthalene	844	5.46	10.9	ug/kg dry	1	874	144	80	40-120%	---	---	
2-Methylnaphthalene	912	5.46	10.9	ug/kg dry	1	874	178	84	38-122%	---	---	
Naphthalene	741	5.46	10.9	ug/kg dry	1	874	115	72	35-123%	---	---	
Phenanthrene	868	5.46	10.9	ug/kg dry	1	874	277	68	50-121%	---	---	
Pyrene	879	5.46	10.9	ug/kg dry	1	874	221	75	47-127%	---	---	
Dibenzofuran	723	5.46	10.9	ug/kg dry	1	874	47.7	77	44-120%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 67 %		Limits: 44-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		77 %		54-127 %		"						



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090533 - EPA 3546												
Soil												
Blank (0090533-BLK1)												
Prepared: 09/18/20 10:05 Analyzed: 09/18/20 14:39												
<u>EPA 8270E SIM</u>												
Acenaphthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>90 %</i>		<i>54-127 %</i>		<i>"</i>						

LCS (0090533-BS1)

Prepared: 09/18/20 10:05 Analyzed: 09/18/20 15:05

<u>EPA 8270E SIM</u>												
Acenaphthene	675	5.00	10.0	ug/kg wet	1	800	---	84	40-123%	---	---	
Acenaphthylene	683	5.00	10.0	ug/kg wet	1	800	---	85	32-132%	---	---	
Anthracene	657	5.00	10.0	ug/kg wet	1	800	---	82	47-123%	---	---	
Benz(a)anthracene	640	5.00	10.0	ug/kg wet	1	800	---	80	49-126%	---	---	
Benzo(a)pyrene	663	5.00	10.0	ug/kg wet	1	800	---	83	45-129%	---	---	
Benzo(b)fluoranthene	670	5.00	10.0	ug/kg wet	1	800	---	84	45-132%	---	---	
Benzo(k)fluoranthene	665	5.00	10.0	ug/kg wet	1	800	---	83	47-132%	---	---	
Benzo(g,h,i)perylene	669	5.00	10.0	ug/kg wet	1	800	---	84	43-134%	---	---	
Chrysene	658	5.00	10.0	ug/kg wet	1	800	---	82	50-124%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090533 - EPA 3546												
Soil												
LCS (0090533-BS1)												
Prepared: 09/18/20 10:05 Analyzed: 09/18/20 15:05												
Dibenz(a,h)anthracene	685	5.00	10.0	ug/kg wet	1	800	---	86	45-134%	---	---	
Fluoranthene	609	5.00	10.0	ug/kg wet	1	800	---	76	50-127%	---	---	
Fluorene	640	5.00	10.0	ug/kg wet	1	800	---	80	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	650	5.00	10.0	ug/kg wet	1	800	---	81	45-133%	---	---	
1-Methylnaphthalene	788	5.00	10.0	ug/kg wet	1	800	---	98	40-120%	---	---	
2-Methylnaphthalene	794	5.00	10.0	ug/kg wet	1	800	---	99	38-122%	---	---	
Naphthalene	611	5.00	10.0	ug/kg wet	1	800	---	76	35-123%	---	---	
Phenanthrene	647	5.00	10.0	ug/kg wet	1	800	---	81	50-121%	---	---	
Pyrene	619	5.00	10.0	ug/kg wet	1	800	---	77	47-127%	---	---	
Dibenzofuran	641	5.00	10.0	ug/kg wet	1	800	---	80	44-120%	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 76 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		87 %		54-127 %		"						

Duplicate (0090533-DUP1)

Prepared: 09/18/20 10:05 Analyzed: 09/18/20 16:01

QC Source Sample: Non-SDG (A010204-01)

Acenaphthene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Acenaphthylene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Anthracene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	94.8	190	ug/kg dry	20	---	144	---	---	***	30%	Q-04
Benzo(a)pyrene	ND	94.8	190	ug/kg dry	20	---	186	---	---	***	30%	Q-04
Benzo(b)fluoranthene	101	94.8	190	ug/kg dry	20	---	272	---	---	92	30%	J, Q-04
Benzo(k)fluoranthene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	113	94.8	190	ug/kg dry	20	---	179	---	---	45	30%	J, Q-04
Chrysene	ND	94.8	190	ug/kg dry	20	---	213	---	---	***	30%	Q-04
Dibenz(a,h)anthracene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Fluoranthene	ND	94.8	190	ug/kg dry	20	---	283	---	---	***	30%	Q-04
Fluorene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	ND	94.8	190	ug/kg dry	20	---	142	---	---	***	30%	Q-04
1-Methylnaphthalene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Naphthalene	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	
Phenanthrene	ND	94.8	190	ug/kg dry	20	---	154	---	---	***	30%	Q-04
Pyrene	122	94.8	190	ug/kg dry	20	---	357	---	---	98	30%	J, Q-04
Dibenzofuran	ND	94.8	190	ug/kg dry	20	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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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 0090533 - EPA 3546												
Soil												
Duplicate (0090533-DUP1)												
Prepared: 09/18/20 10:05 Analyzed: 09/18/20 16:01												
QC Source Sample: Non-SDG (A010204-01)												
Surr: 2-Fluorobiphenyl (Surr) Recovery: 71 % Limits: 44-120 % Dilution: 20x												
p-Terphenyl-d14 (Surr) 76 % 54-127 % "												
Matrix Spike (0090533-MS1)												
Prepared: 09/18/20 10:05 Analyzed: 09/18/20 16:54												
QC Source Sample: Non-SDG (A010296-02)												
EPA 8270E SIM												
Acenaphthene	329	5.66	11.3	ug/kg dry	1	906	ND	36	40-123%	---	---	Q-01
Acenaphthylene	319	5.66	11.3	ug/kg dry	1	906	ND	35	32-132%	---	---	
Anthracene	563	5.66	11.3	ug/kg dry	1	906	7.97	61	47-123%	---	---	
Benz(a)anthracene	630	5.66	11.3	ug/kg dry	1	906	53.8	64	49-126%	---	---	
Benzo(a)pyrene	641	5.66	11.3	ug/kg dry	1	906	51.3	65	45-129%	---	---	
Benzo(b)fluoranthene	649	5.66	11.3	ug/kg dry	1	906	64.2	65	45-132%	---	---	
Benzo(k)fluoranthene	633	5.66	11.3	ug/kg dry	1	906	19.1	68	47-132%	---	---	
Benzo(g,h,i)perylene	634	5.66	11.3	ug/kg dry	1	906	33.9	66	43-134%	---	---	
Chrysene	656	5.66	11.3	ug/kg dry	1	906	57.5	66	50-124%	---	---	
Dibenz(a,h)anthracene	592	5.66	11.3	ug/kg dry	1	906	6.66	65	45-134%	---	---	
Fluoranthene	656	5.66	11.3	ug/kg dry	1	906	73.1	64	50-127%	---	---	
Fluorene	410	5.66	11.3	ug/kg dry	1	906	ND	45	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	599	5.66	11.3	ug/kg dry	1	906	33.1	62	45-133%	---	---	
1-Methylnaphthalene	250	5.66	11.3	ug/kg dry	1	906	ND	28	40-120%	---	---	Q-01
2-Methylnaphthalene	253	5.66	11.3	ug/kg dry	1	906	ND	28	38-122%	---	---	Q-01
Naphthalene	222	5.66	11.3	ug/kg dry	1	906	ND	24	35-123%	---	---	Q-01
Phenanthrene	582	5.66	11.3	ug/kg dry	1	906	26.5	61	50-121%	---	---	
Pyrene	670	5.66	11.3	ug/kg dry	1	906	89.2	64	47-127%	---	---	
Dibenzofuran	357	5.66	11.3	ug/kg dry	1	906	9.66	38	44-120%	---	---	Q-01
Surr: 2-Fluorobiphenyl (Surr) Recovery: 25 % Limits: 44-120 % Dilution: 1x S-03												
p-Terphenyl-d14 (Surr) 70 % 54-127 % "												



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090577 - EPA 3546												
Soil												
Blank (0090577-BLK1)												
Prepared: 09/21/20 10:54 Analyzed: 09/21/20 14:59												
<u>EPA 8270E SIM</u>												
Acenaphthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	4.17	8.33	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>86 %</i>		<i>54-127 %</i>		<i>"</i>						

LCS (0090577-BS1)												
Prepared: 09/21/20 10:54 Analyzed: 09/21/20 15:25												
<u>EPA 8270E SIM</u>												
Acenaphthene	617	5.00	10.0	ug/kg wet	1	800	---	77	40-123%	---	---	
Acenaphthylene	633	5.00	10.0	ug/kg wet	1	800	---	79	32-132%	---	---	
Anthracene	626	5.00	10.0	ug/kg wet	1	800	---	78	47-123%	---	---	
Benz(a)anthracene	638	5.00	10.0	ug/kg wet	1	800	---	80	49-126%	---	---	
Benzo(a)pyrene	650	5.00	10.0	ug/kg wet	1	800	---	81	45-129%	---	---	
Benzo(b)fluoranthene	651	5.00	10.0	ug/kg wet	1	800	---	81	45-132%	---	---	
Benzo(k)fluoranthene	662	5.00	10.0	ug/kg wet	1	800	---	83	47-132%	---	---	
Benzo(g,h,i)perylene	666	5.00	10.0	ug/kg wet	1	800	---	83	43-134%	---	---	
Chrysene	658	5.00	10.0	ug/kg wet	1	800	---	82	50-124%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090577 - EPA 3546												
Soil												
LCS (0090577-BS1)												
Prepared: 09/21/20 10:54 Analyzed: 09/21/20 15:25												
Dibenz(a,h)anthracene	686	5.00	10.0	ug/kg wet	1	800	---	86	45-134%	---	---	
Fluoranthene	652	5.00	10.0	ug/kg wet	1	800	---	82	50-127%	---	---	
Fluorene	591	5.00	10.0	ug/kg wet	1	800	---	74	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	651	5.00	10.0	ug/kg wet	1	800	---	81	45-133%	---	---	
1-Methylnaphthalene	576	5.00	10.0	ug/kg wet	1	800	---	72	40-120%	---	---	
2-Methylnaphthalene	579	5.00	10.0	ug/kg wet	1	800	---	72	38-122%	---	---	
Naphthalene	573	5.00	10.0	ug/kg wet	1	800	---	72	35-123%	---	---	
Phenanthrene	618	5.00	10.0	ug/kg wet	1	800	---	77	50-121%	---	---	
Pyrene	642	5.00	10.0	ug/kg wet	1	800	---	80	47-127%	---	---	
Dibenzofuran	587	5.00	10.0	ug/kg wet	1	800	---	73	44-120%	---	---	
Surr: 2-Fluorobiphenyl (Surr) Recovery: 73 % Limits: 44-120 % Dilution: 1x												
p-Terphenyl-d14 (Surr) 84 % 54-127 % "												

Duplicate (0090577-DUP1)												
Prepared: 09/21/20 10:54 Analyzed: 09/21/20 16:18												
H-02												
QC Source Sample: DU3-A-S-0.5--After Processing (A0H0755-14RE1)												
EPA 8270E SIM												
Acenaphthene	ND	4.72	9.44	ug/kg dry	1	---	ND	---	---	---	30%	
Acenaphthylene	40.9	4.72	9.44	ug/kg dry	1	---	34.6	---	---	17	30%	
Anthracene	12.2	4.72	9.44	ug/kg dry	1	---	9.87	---	---	21	30%	
Benz(a)anthracene	5.43	4.72	9.44	ug/kg dry	1	---	5.20	---	---	4	30%	J
Benzo(a)pyrene	ND	4.72	9.44	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	8.61	4.72	9.44	ug/kg dry	1	---	7.92	---	---	8	30%	J
Benzo(k)fluoranthene	ND	4.72	9.44	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	4.72	9.44	ug/kg dry	1	---	ND	---	---	---	30%	
Chrysene	16.0	4.72	9.44	ug/kg dry	1	---	14.5	---	---	10	30%	M-05
Dibenz(a,h)anthracene	ND	4.72	9.44	ug/kg dry	1	---	ND	---	---	---	30%	
Fluoranthene	71.1	4.72	9.44	ug/kg dry	1	---	62.3	---	---	13	30%	
Fluorene	5.79	4.72	9.44	ug/kg dry	1	---	ND	---	---		30%	J, Q-05
Indeno(1,2,3-cd)pyrene	ND	4.72	9.44	ug/kg dry	1	---	ND	---	---	---	30%	
1-Methylnaphthalene	32.8	4.72	9.44	ug/kg dry	1	---	27.2	---	---	19	30%	
2-Methylnaphthalene	80.2	4.72	9.44	ug/kg dry	1	---	67.0	---	---	18	30%	
Naphthalene	128	4.72	9.44	ug/kg dry	1	---	109	---	---	16	30%	
Phenanthrene	120	4.72	9.44	ug/kg dry	1	---	102	---	---	16	30%	
Pyrene	64.1	4.72	9.44	ug/kg dry	1	---	56.0	---	---	14	30%	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090577 - EPA 3546												
Soil												
Duplicate (0090577-DUP1)												
Prepared: 09/21/20 10:54						Analyzed: 09/21/20 16:18						
QC Source Sample: DU3-A-S-0.5--After Processing (A0H0755-14RE1)												
Dibenzofuran	18.5	4.72	9.44	ug/kg dry	1	---	15.7	---	---	17	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>66 %</i>		<i>54-127 %</i>		<i>"</i>						

Matrix Spike (0090577-MS1)

Prepared: 09/21/20 10:54 Analyzed: 09/21/20 18:03

QC Source Sample: Non-SDG (A010385-02)

EPA 8270E SIM

Acenaphthene	1300	517	517	ug/kg dry	10	984	ND	132	40-123%	---	---	Q-02
Acenaphthylene	1000	123	123	ug/kg dry	10	984	ND	102	32-132%	---	---	
Anthracene	1010	185	185	ug/kg dry	10	984	ND	102	47-123%	---	---	
Benz(a)anthracene	738	61.5	123	ug/kg dry	10	984	ND	75	49-126%	---	---	
Benzo(a)pyrene	696	61.5	123	ug/kg dry	10	984	ND	71	45-129%	---	---	
Benzo(b)fluoranthene	740	61.5	123	ug/kg dry	10	984	ND	75	45-132%	---	---	
Benzo(k)fluoranthene	721	61.5	123	ug/kg dry	10	984	ND	73	47-132%	---	---	
Benzo(g,h,i)perylene	719	61.5	123	ug/kg dry	10	984	ND	73	43-134%	---	---	
Chrysene	787	61.5	123	ug/kg dry	10	984	ND	80	50-124%	---	---	
Dibenz(a,h)anthracene	689	61.5	123	ug/kg dry	10	984	ND	70	45-134%	---	---	
Fluoranthene	878	61.5	123	ug/kg dry	10	984	119	77	50-127%	---	---	
Fluorene	2060	61.5	123	ug/kg dry	10	984	1280	78	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	702	61.5	123	ug/kg dry	10	984	ND	71	45-133%	---	---	
1-Methylnaphthalene	6140	61.5	123	ug/kg dry	10	984	5310	84	40-120%	---	---	
2-Methylnaphthalene	5030	61.5	123	ug/kg dry	10	984	4230	81	38-122%	---	---	
Naphthalene	1220	295	295	ug/kg dry	10	984	ND	124	35-123%	---	---	Q-02
Phenanthrene	3450	61.5	123	ug/kg dry	10	984	2580	89	50-121%	---	---	
Pyrene	1110	61.5	123	ug/kg dry	10	984	294	83	47-127%	---	---	
Dibenzofuran	1550	61.5	123	ug/kg dry	10	984	769	79	44-120%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 76 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 10x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>79 %</i>		<i>54-127 %</i>		<i>"</i>						



Maul Foster & Alongi, INC. 3140 NE Broadway Street Portland, OR 97232	Project: Former Oregon Pine Project Number: 1874.02.01-02 Project Manager: Kyle Roslund	Report ID: A0H0755 - 09 23 20 1623
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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090288 - EPA 3051A												
Soil												
Blank (0090288-BLK1) Prepared: 09/10/20 10:08 Analyzed: 09/10/20 20:31												
<u>EPA 6020A</u>												
Arsenic	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
Chromium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Lead	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
Mercury	ND	---	0.0769	mg/kg wet	10	---	---	---	---	---	---	
Selenium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Silver	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
LCS (0090288-BS1) Prepared: 09/10/20 10:08 Analyzed: 09/10/20 20:40												
<u>EPA 6020A</u>												
Arsenic	50.6	---	1.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Barium	53.8	---	1.00	mg/kg wet	10	50.0	---	108	80-120%	---	---	
Cadmium	50.7	---	0.200	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Chromium	52.1	---	1.00	mg/kg wet	10	50.0	---	104	80-120%	---	---	
Lead	47.2	---	0.200	mg/kg wet	10	50.0	---	94	80-120%	---	---	
Mercury	0.943	---	0.0800	mg/kg wet	10	1.00	---	94	80-120%	---	---	
Selenium	25.0	---	1.00	mg/kg wet	10	25.0	---	100	80-120%	---	---	
Silver	26.6	---	0.200	mg/kg wet	10	25.0	---	106	80-120%	---	---	
Duplicate (0090288-DUP1) Prepared: 09/10/20 10:08 Analyzed: 09/10/20 21:22												
<u>QC Source Sample: Non-SDG (A0H0746-04)</u>												
Arsenic	3.48	---	1.08	mg/kg dry	10	---	2.92	---	---	18	20%	
Barium	167	---	1.08	mg/kg dry	10	---	122	---	---	32	20%	Q-04
Cadmium	ND	---	0.215	mg/kg dry	10	---	0.109	---	---	***	20%	Q-05
Chromium	16.0	---	1.08	mg/kg dry	10	---	13.4	---	---	18	20%	
Lead	7.81	---	0.215	mg/kg dry	10	---	6.21	---	---	23	20%	Q-04
Mercury	ND	---	0.0861	mg/kg dry	10	---	0.0675	---	---	***	20%	
Selenium	ND	---	1.08	mg/kg dry	10	---	ND	---	---	---	20%	
Silver	ND	---	0.215	mg/kg dry	10	---	ND	---	---	---	20%	
Matrix Spike (0090288-MS1) Prepared: 09/10/20 10:08 Analyzed: 09/10/20 21:27												

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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090288 - EPA 3051A						Soil						
Matrix Spike (0090288-MS1)						Prepared: 09/10/20 10:08 Analyzed: 09/10/20 21:27						
QC Source Sample: Non-SDG (A0H0746-04)												
EPA 6020A												
Arsenic	56.4	---	1.08	mg/kg dry	10	54.1	2.92	99	75-125%	---	---	
Barium	186	---	1.08	mg/kg dry	10	54.1	122	120	75-125%	---	---	
Cadmium	54.3	---	0.216	mg/kg dry	10	54.1	0.109	100	75-125%	---	---	
Chromium	67.0	---	1.08	mg/kg dry	10	54.1	13.4	99	75-125%	---	---	
Lead	56.3	---	0.216	mg/kg dry	10	54.1	6.21	93	75-125%	---	---	
Mercury	1.03	---	0.0866	mg/kg dry	10	1.08	0.0675	89	75-125%	---	---	
Selenium	26.0	---	1.08	mg/kg dry	10	27.1	ND	96	75-125%	---	---	
Silver	28.1	---	0.216	mg/kg dry	10	27.1	ND	104	75-125%	---	---	



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090250 - Matrix Matched Direct Inject												
Water												
Blank (0090250-BLK1)												
Prepared: 09/09/20 10:20 Analyzed: 09/09/20 22:24												
<u>EPA 200.8 (Diss)</u>												
Arsenic	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Chromium	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Selenium	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Silver	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
<u>EPA 200.8 (Hg)</u>												
Mercury	ND	---	0.0800	ug/L	1	---	---	---	---	---	---	
LCS (0090250-BS1)												
Prepared: 09/09/20 10:20 Analyzed: 09/09/20 22:29												
<u>EPA 200.8 (Diss)</u>												
Arsenic	53.7	---	1.00	ug/L	1	55.6	---	97	85-115%	---	---	
Barium	55.2	---	1.00	ug/L	1	55.6	---	99	85-115%	---	---	
Cadmium	56.5	---	0.200	ug/L	1	55.6	---	102	85-115%	---	---	
Chromium	53.3	---	1.00	ug/L	1	55.6	---	96	85-115%	---	---	
Lead	56.3	---	1.00	ug/L	1	55.6	---	101	85-115%	---	---	
Silver	29.3	---	0.200	ug/L	1	27.8	---	106	85-115%	---	---	
<u>EPA 200.8 (Hg)</u>												
Mercury	1.10	---	0.0800	ug/L	1	1.11	---	99	85-115%	---	---	
LCS (0090250-BS3)												
Prepared: 09/09/20 10:20 Analyzed: 09/10/20 13:26												
<u>EPA 200.8 (Diss)</u>												
Selenium	27.2	---	1.00	ug/L	1	27.8	---	98	85-115%	---	---	Q-16
Duplicate (0090250-DUP1)												
Prepared: 09/09/20 10:20 Analyzed: 09/09/20 23:02												
<u>QC Source Sample: B03-W-14.0 (A0H0755-01)</u>												
<u>EPA 200.8 (Diss)</u>												
Arsenic	1.05	---	1.00	ug/L	1	---	1.05	---	---	0.4	20%	
Barium	33.5	---	1.00	ug/L	1	---	32.9	---	---	2	20%	
Cadmium	ND	---	0.200	ug/L	1	---	ND	---	---	---	20%	
Chromium	ND	---	1.00	ug/L	1	---	0.762	---	---	***	20%	
Lead	ND	---	0.200	ug/L	1	---	ND	---	---	---	20%	

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Maul Foster & Alongi, INC.	Project: Former Oregon Pine	
3140 NE Broadway Street	Project Number: 1874.02.01-02	Report ID:
Portland, OR 97232	Project Manager: Kyle Roslund	A0H0755 - 09 23 20 1623

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090250 - Matrix Matched Direct Inject						Water						
Duplicate (0090250-DUP1)						Prepared: 09/09/20 10:20 Analyzed: 09/09/20 23:02						
QC Source Sample: B03-W-14.0 (A0H0755-01)												
Selenium	ND	---	1.00	ug/L	1	---	ND	---	---	---	20%	
Silver	ND	---	0.200	ug/L	1	---	ND	---	---	---	20%	
EPA 200.8 (Hg)												
Mercury	ND	---	0.0800	ug/L	1	---	ND	---	---	---	20%	
Matrix Spike (0090250-MS1)						Prepared: 09/09/20 10:20 Analyzed: 09/09/20 23:07						
QC Source Sample: B03-W-14.0 (A0H0755-01)												
EPA 200.8 (Diss)												
Arsenic	55.1	---	1.00	ug/L	1	55.6	1.05	97	70-130%	---	---	
Barium	88.1	---	1.00	ug/L	1	55.6	32.9	99	70-130%	---	---	
Cadmium	57.4	---	0.200	ug/L	1	55.6	ND	103	70-130%	---	---	
Chromium	53.8	---	1.00	ug/L	1	55.6	0.762	96	70-130%	---	---	
Lead	56.0	---	1.00	ug/L	1	55.6	ND	101	70-130%	---	---	
Selenium	28.4	---	1.00	ug/L	1	27.8	ND	102	70-130%	---	---	
Silver	29.1	---	0.200	ug/L	1	27.8	ND	105	70-130%	---	---	
EPA 200.8 (Hg)												
Mercury	1.11	---	0.0800	ug/L	1	1.11	ND	100	70-130%	---	---	



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090254 - EPA 3015A - Dissolved						Water						
Blank (0090254-BLK1)						Prepared: 09/09/20 10:59 Analyzed: 09/09/20 21:56						
<u>EPA 200.8 (Diss)</u>												
Arsenic	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Barium	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Cadmium	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Chromium	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Selenium	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Silver	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
<u>EPA 200.8 (Hg)</u>												
Mercury	ND	---	0.0800	ug/L	1	---	---	---	---	---	---	---
LCS (0090254-BS1)						Prepared: 09/09/20 10:59 Analyzed: 09/09/20 22:01						
<u>EPA 200.8 (Diss)</u>												
Arsenic	54.6	---	1.00	ug/L	1	55.6	---	98	85-115%	---	---	---
Barium	55.4	---	1.00	ug/L	1	55.6	---	100	85-115%	---	---	---
Cadmium	56.4	---	0.200	ug/L	1	55.6	---	101	85-115%	---	---	---
Chromium	53.7	---	1.00	ug/L	1	55.6	---	97	85-115%	---	---	---
Lead	55.2	---	0.200	ug/L	1	55.6	---	99	85-115%	---	---	---
Selenium	27.8	---	1.00	ug/L	1	27.8	---	100	85-115%	---	---	---
Silver	29.0	---	0.200	ug/L	1	27.8	---	105	85-115%	---	---	---
<u>EPA 200.8 (Hg)</u>												
Mercury	1.09	---	0.0800	ug/L	1	1.11	---	98	85-115%	---	---	---
Duplicate (0090254-DUP1)						Prepared: 09/09/20 10:59 Analyzed: 09/09/20 22:15						
<u>QC Source Sample: B05-W-2.0 (A0H0755-02)</u>												
<u>EPA 200.8 (Diss)</u>												
Arsenic	1.17	---	1.00	ug/L	1	---	1.17	---	---	0.4	20%	---
Barium	216	---	1.00	ug/L	1	---	210	---	---	2	20%	---
Cadmium	ND	---	0.200	ug/L	1	---	ND	---	---	---	20%	---
Chromium	7.73	---	1.00	ug/L	1	---	7.59	---	---	2	20%	---
Lead	2.36	---	0.200	ug/L	1	---	2.36	---	---	0.08	20%	---
Selenium	ND	---	1.00	ug/L	1	---	ND	---	---	---	20%	---
Silver	ND	---	0.200	ug/L	1	---	ND	---	---	---	20%	---
<u>EPA 200.8 (Hg)</u>												

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
 Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0090254 - EPA 3015A - Dissolved						Water						
Duplicate (0090254-DUP1)						Prepared: 09/09/20 10:59 Analyzed: 09/09/20 22:15						
QC Source Sample: B05-W-2.0 (A0H0755-02)												
Mercury	ND	---	0.0800	ug/L	1	---	ND	---	---	---	20%	
Matrix Spike (0090254-MS1)						Prepared: 09/09/20 10:59 Analyzed: 09/09/20 22:20						
QC Source Sample: B05-W-2.0 (A0H0755-02)												
EPA 200.8 (Diss)												
Arsenic	55.6	---	1.00	ug/L	1	55.6	1.17	98	70-130%	---	---	
Barium	268	---	1.00	ug/L	1	55.6	210	105	70-130%	---	---	
Cadmium	56.8	---	0.200	ug/L	1	55.6	ND	102	70-130%	---	---	
Chromium	60.7	---	1.00	ug/L	1	55.6	7.59	96	70-130%	---	---	
Lead	56.8	---	0.200	ug/L	1	55.6	2.36	98	70-130%	---	---	
Selenium	28.7	---	1.00	ug/L	1	27.8	ND	103	70-130%	---	---	
Silver	28.8	---	0.200	ug/L	1	27.8	ND	104	70-130%	---	---	
EPA 200.8 (Hg)												
Mercury	1.09	---	0.0800	ug/L	1	1.11	ND	98	70-130%	---	---	



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0080909 - Total Solids (Dry Weight)							Soil					
Duplicate (0080909-DUP1)			Prepared: 08/31/20 08:13 Analyzed: 09/01/20 08:31									
<u>QC Source Sample: Non-SDG (A0H0268-10)</u>												
% Solids	77.5	---	1.00	%	1	---	77.1	---	---	0.5	10%	
Duplicate (0080909-DUP2)			Prepared: 08/31/20 08:13 Analyzed: 09/01/20 08:31									
<u>QC Source Sample: Non-SDG (A0H0701-04)</u>												
% Solids	97.0	---	1.00	%	1	---	97.1	---	---	0.1	10%	
Duplicate (0080909-DUP3)			Prepared: 08/31/20 08:13 Analyzed: 09/01/20 08:31									
<u>QC Source Sample: Non-SDG (A0H0715-04)</u>												
% Solids	90.9	---	1.00	%	1	---	91.8	---	---	1	10%	
Duplicate (0080909-DUP4)			Prepared: 08/31/20 08:14 Analyzed: 09/01/20 08:31									
<u>QC Source Sample: Non-SDG (A0H0746-04)</u>												
% Solids	91.6	---	1.00	%	1	---	90.8	---	---	0.9	10%	
Duplicate (0080909-DUP5)			Prepared: 08/31/20 08:14 Analyzed: 09/01/20 08:31									
<u>QC Source Sample: Non-SDG (A0H0763-05)</u>												
% Solids	84.5	---	1.00	%	1	---	84.8	---	---	0.4	10%	
Duplicate (0080909-DUP6)			Prepared: 08/31/20 19:35 Analyzed: 09/01/20 08:31									
<u>QC Source Sample: Non-SDG (A0H0789-01)</u>												
% Solids	79.6	---	1.00	%	1	---	79.2	---	---	0.6	10%	
Duplicate (0080909-DUP7)			Prepared: 08/31/20 19:35 Analyzed: 09/01/20 08:31									
<u>QC Source Sample: Non-SDG (A0H0794-02)</u>												
% Solids	76.9	---	1.00	%	1	---	76.3	---	---	0.8	10%	

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

Apex Laboratories

Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
 Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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 0090048 - Total Solids (Dry Weight)							Soil					
Duplicate (0090048-DUP1)			Prepared: 09/02/20 08:24 Analyzed: 09/03/20 08:55									
<u>QC Source Sample: Non-SDG (A0H0254-10)</u>												
% Solids	84.5	---	1.00	%	1	---	83.6	---	---	1	10%	
Duplicate (0090048-DUP2)			Prepared: 09/02/20 08:24 Analyzed: 09/03/20 08:55									
<u>QC Source Sample: Non-SDG (A0H0734-03)</u>												
% Solids	82.2	---	1.00	%	1	---	80.1	---	---	3	10%	
Duplicate (0090048-DUP3)			Prepared: 09/02/20 08:24 Analyzed: 09/03/20 08:55									
<u>QC Source Sample: Non-SDG (A0H0776-09)</u>												
% Solids	91.0	---	1.00	%	1	---	90.7	---	---	0.4	10%	
Duplicate (0090048-DUP4)			Prepared: 09/02/20 19:50 Analyzed: 09/03/20 08:55									
<u>QC Source Sample: Non-SDG (A0I0041-01)</u>												
% Solids	79.8	---	1.00	%	1	---	78.5	---	---	2	10%	
Duplicate (0090048-DUP5)			Prepared: 09/02/20 19:50 Analyzed: 09/03/20 08:55									
<u>QC Source Sample: Non-SDG (A0I0070-02)</u>												
% Solids	92.3	---	1.00	%	1	---	92.0	---	---	0.4	10%	

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



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Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

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Report ID:

A0H0755 - 09 23 20 1623

SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0080922</u>							
A0H0755-04	Water	NWTPH-HCID	08/27/20 13:43	08/31/20 13:55	1000mL/5mL	1000mL/5mL	1.00
<u>Batch: 0090034</u>							
A0H0755-01	Water	NWTPH-HCID	08/26/20 16:00	09/01/20 14:47	1000mL/5mL	1000mL/5mL	1.00
A0H0755-02	Water	NWTPH-HCID	08/27/20 12:07	09/01/20 14:47	950mL/5mL	1000mL/5mL	1.05
A0H0755-03	Water	NWTPH-HCID	08/27/20 13:03	09/01/20 14:47	940mL/5mL	1000mL/5mL	1.06

Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090028</u>							
A0H0755-06	Soil	NWTPH-HCID	08/26/20 17:45	09/01/20 13:05	10.26g/10mL	10g/10mL	0.98
A0H0755-07	Soil	NWTPH-HCID	08/26/20 18:15	09/01/20 13:05	10.1g/10mL	10g/10mL	0.99
A0H0755-08	Soil	NWTPH-HCID	08/26/20 18:30	09/01/20 13:05	10.92g/10mL	10g/10mL	0.92
A0H0755-09	Soil	NWTPH-HCID	08/27/20 10:00	09/01/20 13:05	10.94g/10mL	10g/10mL	0.91
A0H0755-10	Soil	NWTPH-HCID	08/27/20 10:40	09/01/20 13:05	10.19g/10mL	10g/10mL	0.98
A0H0755-11	Soil	NWTPH-HCID	08/27/20 11:30	09/01/20 13:05	10.28g/10mL	10g/10mL	0.97

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090034</u>							
A0H0755-02	Water	NWTPH-Dx	08/27/20 12:07	09/01/20 14:47	950mL/5mL	1000mL/5mL	1.05

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090122</u>							
A0H0755-14	Soil	NWTPH-Dx	08/26/20 16:45	09/03/20 12:49	10.67g/5mL	10g/5mL	0.94
A0H0755-16	Soil	NWTPH-Dx	08/26/20 16:45	09/03/20 12:49	10.82g/5mL	10g/5mL	0.92
A0H0755-18	Soil	NWTPH-Dx	08/26/20 16:45	09/03/20 12:49	10.3g/5mL	10g/5mL	0.97
A0H0755-20	Soil	NWTPH-Dx	08/27/20 17:20	09/03/20 12:49	10.5g/5mL	10g/5mL	0.95
A0H0755-22	Soil	NWTPH-Dx	08/27/20 14:15	09/03/20 12:49	10.46g/5mL	10g/5mL	0.96
<u>Batch: 0090299</u>							
A0H0755-09RE1	Soil	NWTPH-Dx	08/27/20 10:00	09/10/20 11:53	10.25g/5mL	10g/5mL	0.98

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Philip Nerenberg, Lab Director



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Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

SAMPLE PREPARATION INFORMATION

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

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090077</u>							
A0H0755-02	Water	NWTPH-Gx (MS)	08/27/20 12:07	09/03/20 10:09	5mL/5mL	5mL/5mL	1.00
A0H0755-04	Water	NWTPH-Gx (MS)	08/27/20 13:43	09/03/20 10:09	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090077</u>							
A0H0755-02	Water	EPA 8260D	08/27/20 12:07	09/03/20 10:09	5mL/5mL	5mL/5mL	1.00
A0H0755-04	Water	EPA 8260D	08/27/20 13:43	09/03/20 10:09	5mL/5mL	5mL/5mL	1.00

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090248</u>							
A0H0755-02	Water	EPA 8082A	08/27/20 12:07	09/09/20 10:11	1020mL/5mL	1000mL/5mL	0.98

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090280</u>							
A0H0755-09	Soil	EPA 8082A	08/27/20 10:00	09/10/20 07:11	10.17g/5mL	10g/5mL	0.98
<u>Batch: 0090559</u>							
A0H0755-14	Soil	EPA 8082A	08/26/20 16:45	09/21/20 07:04	10.81g/5mL	10g/5mL	0.93
A0H0755-16	Soil	EPA 8082A	08/26/20 16:45	09/21/20 07:04	10.66g/5mL	10g/5mL	0.94
A0H0755-18	Soil	EPA 8082A	08/26/20 16:45	09/21/20 07:04	10.65g/5mL	10g/5mL	0.94
A0H0755-20	Soil	EPA 8082A	08/27/20 17:20	09/21/20 07:04	10.38g/5mL	10g/5mL	0.96
A0H0755-22	Soil	EPA 8082A	08/27/20 14:15	09/21/20 07:04	10.28g/5mL	10g/5mL	0.97

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090113</u>							
A0H0755-02RE1	Water	EPA 8270E SIM	08/27/20 12:07	09/03/20 15:18	890mL/2mL	1000mL/2mL	1.12

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Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090251</u>							
A0H0755-09	Soil	EPA 8270E SIM	08/27/20 10:00	09/09/20 10:52	11.15g/5mL	10g/5mL	0.90
<u>Batch: 0090533</u>							
A0H0755-16	Soil	EPA 8270E SIM	08/26/20 16:45	09/18/20 12:25	10.01g/5mL	10g/5mL	1.00
A0H0755-20	Soil	EPA 8270E SIM	08/27/20 17:20	09/18/20 12:25	10.6g/5mL	10g/5mL	0.94
A0H0755-22	Soil	EPA 8270E SIM	08/27/20 14:15	09/18/20 12:25	10.52g/5mL	10g/5mL	0.95
<u>Batch: 0090577</u>							
A0H0755-14RE1	Soil	EPA 8270E SIM	08/26/20 16:45	09/21/20 10:54	10.64g/5mL	10g/5mL	0.94
A0H0755-18RE1	Soil	EPA 8270E SIM	08/26/20 16:45	09/21/20 10:54	10.41g/5mL	10g/5mL	0.96

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090288</u>							
A0H0755-06	Soil	EPA 6020A	08/26/20 17:45	09/10/20 10:08	0.461g/50mL	0.5g/50mL	1.08
A0H0755-07	Soil	EPA 6020A	08/26/20 18:15	09/10/20 10:08	0.486g/50mL	0.5g/50mL	1.03
A0H0755-08	Soil	EPA 6020A	08/26/20 18:30	09/10/20 10:08	0.452g/50mL	0.5g/50mL	1.11
A0H0755-09	Soil	EPA 6020A	08/27/20 10:00	09/10/20 10:08	0.496g/50mL	0.5g/50mL	1.01
A0H0755-10	Soil	EPA 6020A	08/27/20 10:40	09/10/20 10:08	0.502g/50mL	0.5g/50mL	1.00
A0H0755-11	Soil	EPA 6020A	08/27/20 11:30	09/10/20 10:08	0.469g/50mL	0.5g/50mL	1.07
A0H0755-14	Soil	EPA 6020A	08/26/20 16:45	09/10/20 10:08	0.503g/50mL	0.5g/50mL	0.99
A0H0755-16	Soil	EPA 6020A	08/26/20 16:45	09/10/20 10:08	0.504g/50mL	0.5g/50mL	0.99
A0H0755-16RE1	Soil	EPA 6020A	08/26/20 16:45	09/10/20 10:08	0.504g/50mL	0.5g/50mL	0.99
A0H0755-18	Soil	EPA 6020A	08/26/20 16:45	09/10/20 10:08	0.474g/50mL	0.5g/50mL	1.05
A0H0755-20	Soil	EPA 6020A	08/27/20 17:20	09/10/20 10:08	0.486g/50mL	0.5g/50mL	1.03
A0H0755-22	Soil	EPA 6020A	08/27/20 14:15	09/10/20 10:08	0.474g/50mL	0.5g/50mL	1.05

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A - Dissolved

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090254</u>							
A0H0755-02	Water	EPA 200.8 (Diss)	08/27/20 12:07	09/09/20 10:59	45mL/50mL	45mL/50mL	1.00
A0H0755-02	Water	EPA 200.8 (Hg)	08/27/20 12:07	09/09/20 10:59	45mL/50mL	45mL/50mL	1.00

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

3140 NE Broadway Street
 Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

SAMPLE PREPARATION INFORMATION

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0090250</u>							
A0H0755-01	Water	EPA 200.8 (Diss)	08/26/20 16:00	09/09/20 10:20	45mL/50mL	45mL/50mL	1.00
A0H0755-01	Water	EPA 200.8 (Hg)	08/26/20 16:00	09/09/20 10:20	45mL/50mL	45mL/50mL	1.00
A0H0755-03	Water	EPA 200.8 (Diss)	08/27/20 13:03	09/09/20 10:20	45mL/50mL	45mL/50mL	1.00
A0H0755-03	Water	EPA 200.8 (Hg)	08/27/20 13:03	09/09/20 10:20	45mL/50mL	45mL/50mL	1.00
A0H0755-04	Water	EPA 200.8 (Diss)	08/27/20 13:43	09/09/20 10:20	45mL/50mL	45mL/50mL	1.00
A0H0755-04	Water	EPA 200.8 (Hg)	08/27/20 13:43	09/09/20 10:20	45mL/50mL	45mL/50mL	1.00

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0080909</u>							
A0H0755-06	Soil	EPA 8000D	08/26/20 17:45	08/31/20 08:14			NA
A0H0755-07	Soil	EPA 8000D	08/26/20 18:15	08/31/20 08:14			NA
A0H0755-08	Soil	EPA 8000D	08/26/20 18:30	08/31/20 08:14			NA
A0H0755-09	Soil	EPA 8000D	08/27/20 10:00	08/31/20 08:14			NA
A0H0755-10	Soil	EPA 8000D	08/27/20 10:40	08/31/20 08:14			NA
A0H0755-11	Soil	EPA 8000D	08/27/20 11:30	08/31/20 08:14			NA
<u>Batch: 0090048</u>							
A0H0755-14	Soil	EPA 8000D	08/26/20 16:45	09/02/20 19:50			NA
A0H0755-16	Soil	EPA 8000D	08/26/20 16:45	09/02/20 19:50			NA
A0H0755-18	Soil	EPA 8000D	08/26/20 16:45	09/02/20 19:50			NA
A0H0755-20	Soil	EPA 8000D	08/27/20 17:20	09/02/20 19:50			NA
A0H0755-22	Soil	EPA 8000D	08/27/20 14:15	09/02/20 19:50			NA



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Project: **Former Oregon Pine**

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Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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. Result estimated. Initial Calibration Verification Standard (ICV) failed low
- F-03** The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
- F-17** No fuel pattern detected. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
- F-24** The chromatographic pattern does not resemble the fuel standard used for quantitation. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
- H-02** This sample was extracted outside of the recommended holding time.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- M-05** Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
- 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-16** Reanalysis of an original Batch QC sample.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- 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.)
- Q-54** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by +15%. The results are reported as Estimated Values.
- Q-54a** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by +8%. The results are reported as Estimated Values.
- Q-54b** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -1%. The results are reported as Estimated Values.
- Q-54c** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -13%. The results are reported as Estimated Values.
- Q-54d** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -7%. The results are reported as Estimated Values.
- Q-55** Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA 8260, however there is adequate sensitivity to ensure detection at the reporting level.

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC

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Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

- Q-56** Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260
- 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-03** Reextraction and analysis, or analysis of laboratory duplicate, confirms surrogate failure due to sample matrix effect.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

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3140 NE Broadway Street

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Portland, OR 97232

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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'.

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).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 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.



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A0H0755 - 09 23 20 1623

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

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.

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.



Apex Laboratories, LLC

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

Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**

Project Manager: **Kyle Roslund**

Report ID:

A0H0755 - 09 23 20 1623

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

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

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**
Project Number: **1874.02.01-02**
Project Manager: **Kyle Roslund**

Report ID:
A0H0755 - 09 23 20 1623

Lab # **MHD 755** COC **1** of **3**

CHAIN OF CUSTODY

APEX LABS

6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

Company: MFA	Project Mgr: Kyle Roslund	Project Name: Former Oregon Pine	Project #: 1874.02.01-02
Address: 105 E. 13th St Vancouver WA 98660	Phone: 503-371-3812	Email: Kroslund@mfa-labs.com	PO #
Sampled by: A. Clements	ANALYSIS REQUEST		
Site Location:	ARCHIVE		
WA CA	TOTAL DISS. TCLP		
AK ID	V.2a		
SAMPLE ID	AL, SP, AS, BA, BA, BA, CA, CA, CA, CU, CR, PE, PB, HG, ME, MN, MO, NI, K, SE, AR, NA, T, T		
B03-W-14.0	X	H	X
B05-W-2.0	X	H	X
B04-W-3.5	X	H	X
B06-W-3.0	X	H	X
Trip Blank			
Trip Blank			
TAT Requested (circle)	1 Day	2 Day	3 Day
	4 DAY	5 DAY	Other:
SPECIAL INSTRUCTIONS: H = half packing HCD & BCB's results. Please call Kyle Roslund with initial results. Match were full Element (FF).			
RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: ML Clements	Signature: [Signature]	Signature:	Signature:
Date: 8/23/20	Date: 8/18/20	Date:	Date:
Printed Name: Allen Clements	Printed Name: Amir Bakajeg	Printed Name:	Printed Name:
Time: 12:30	Time: 12:00	Time:	Time:
Company: MFA	Company: Apex Labs	Company:	Company:

Philip Nerenberg



Maul Foster & Alongi, INC.
3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**
Project Number: **1874.02.01-02**
Project Manager: **Kyle Roslund**

Report ID:
A0H0755 - 09 23 20 1623

Lab # **A0H0755** COC **2** of **3**

CHAIN OF CUSTODY

APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

Company: MFA	Project Mgr: Kyle Roslund	Project Name: Former Oregon Pine	Project #: 1874.02.01-02
Address: 109 E. 1st St Vancouver, WA 98660	Phone: 503-341-8112	Email: Kroslund@maulforalongi.com	PO #
Sampled by: A. Clement	ANALYSIS REQUEST		
Site Location: <input checked="" type="radio"/> WA CA AK ID _____	<input type="checkbox"/> TCLP Metals (8) <input type="checkbox"/> TOTAL DISS. TCLP <input type="checkbox"/> V. Zn <input type="checkbox"/> Mn, Mo, Ni, K, Se, Ag, Na, TL <input type="checkbox"/> Al, Sb, As, Ba, Be, Bi, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg <input type="checkbox"/> Priority Metals (13) <input type="checkbox"/> RCRA Metals (8) <input type="checkbox"/> 8081 Pest <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> 8270 Semi-Vol Full List <input type="checkbox"/> 8270 SIM PAHs <input type="checkbox"/> 8260 VOCs Full List <input type="checkbox"/> 8260 Halo VOCs <input type="checkbox"/> 8260 RBDM VOCs <input type="checkbox"/> 8260 BTEX <input type="checkbox"/> NWTPH-Gx <input type="checkbox"/> NWTPH-Dx <input type="checkbox"/> NWTPH-CID <input type="checkbox"/> # OF CONTAINERS <input type="checkbox"/> MATRIX <input type="checkbox"/> TIME <input type="checkbox"/> DATE <input type="checkbox"/> LAB ID #		
1303-S-11.0	8/26/20	17:45	56.1
1302-S-10.0	8/26/20	18:15	
1301-S-9.0	8/26/20	18:30	
1305-S-1.5	8/26/20	19:00	
1304-S-2.0	8/26/20	19:40	
1306-S-2.0	8/26/20	19:30	
Trip Blank			
SPECIAL INSTRUCTIONS: H= built pending HCD & OSHA 8 with. Please call Kyle Roslund with initial results.			
TAT Requested (circle) <input type="radio"/> 1 Day <input type="radio"/> 2 Day <input type="radio"/> 3 Day <input type="radio"/> 4 DAY <input type="radio"/> 5 DAY Other: _____			
SAMPLES ARE HELD FOR 30 DAYS RELINQUISHED BY: Signature: Allie Clement Date: 8/28/20 Printed Name: Allie Clement Time: 12:30 Company: MFA			
RECEIVED BY: Signature: [Signature] Date: 8/28/20 Printed Name: Amber Kopy Time: 12:00 Company: Apex Labs			

Philip Nerenberg

Maul Foster & Alongi, INC.
3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**
Project Number: **1874.02.01-02**
Project Manager: **Kyle Roslund**

Report ID:
A0H0755 - 09 23 20 1623

Lab # **A0H0755** COC **3** of **3**

CHAIN OF CUSTODY

APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

Company: MFA	Project Mgr: Kyle Roslund	Project Name: Former Oregon Pine	Project #: 1874.02.01-02																																																																																																																																				
Address: 109 E. 13th St. Vancouver WA 98660	Phone: 503-391-8112	Email: K.Roslund@maul-foster.com	PO #																																																																																																																																				
Sampled by: A. Oberster	ANALYSIS REQUEST																																																																																																																																						
Site Location: WA CA AK ID	<table border="1"> <thead> <tr> <th>LAB ID #</th> <th>DATE</th> <th>TIME</th> <th>MATRIX</th> <th># OF CONTAINERS</th> <th>NWTPH-HCID</th> <th>NWTPH-DX</th> <th>NWTPH-GX</th> <th>8260 BTEX</th> <th>8260 RBDM VOCs</th> <th>8260 Halo VOCs</th> <th>8260 VOCs Full List</th> <th>8270 SIM PAHs</th> <th>8270 Semi-Volat Full List</th> <th>8082 PCBs</th> <th>8081 Pest</th> <th>RCRA Metals (8)</th> <th>Priority Metals (13)</th> <th>Cr, Cu, Ni, Pb, Hg, Cd, Mn, Mo, Ni, K, Se, Ag, Na, Tl</th> <th>TCLP Metals (8)</th> <th>TOTAL DISS. TCLP</th> <th>Archive</th> </tr> </thead> <tbody> <tr> <td>DU3-A-S-0.5</td> <td>8/28/20</td> <td>16:45</td> <td>Soil</td> <td>1</td> <td>X</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DU3-B-S-0.5</td> <td>↓</td> <td>16:45</td> <td>↓</td> <td>↓</td> <td>X</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DU3-C-S-0.5</td> <td>↓</td> <td>16:45</td> <td>↓</td> <td>↓</td> <td>X</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DU4-S-0.5</td> <td>8/29/20</td> <td>17:20</td> <td>↓</td> <td>↓</td> <td>X</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DU2-S-0.5</td> <td>↓</td> <td>14:15</td> <td>↓</td> <td>↓</td> <td>X</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-DX	NWTPH-GX	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Semi-Volat Full List	8082 PCBs	8081 Pest	RCRA Metals (8)	Priority Metals (13)	Cr, Cu, Ni, Pb, Hg, Cd, Mn, Mo, Ni, K, Se, Ag, Na, Tl	TCLP Metals (8)	TOTAL DISS. TCLP	Archive	DU3-A-S-0.5	8/28/20	16:45	Soil	1	X	H	H	H	H	H	H	H	H	H	X	X	X					DU3-B-S-0.5	↓	16:45	↓	↓	X	H	H	H	H	H	H	H	H	H	X	X	X					DU3-C-S-0.5	↓	16:45	↓	↓	X	H	H	H	H	H	H	H	H	H	X	X	X					DU4-S-0.5	8/29/20	17:20	↓	↓	X	H	H	H	H	H	H	H	H	H	X	X	X					DU2-S-0.5	↓	14:15	↓	↓	X	H	H	H	H	H	H	H	H	H	X	X	X				
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RELINQUISHED BY: Signature: Allen Oberster Date: 8/28/20	RECEIVED BY: Signature: [Signature] Date: _____	RELINQUISHED BY: Signature: [Signature] Date: 8/28/20	RECEIVED BY: Signature: _____ Date: _____																																																																																																																																				
Printed Name: Allen Oberster	Printed Name: Ami Sagar	Printed Name: _____	Printed Name: _____																																																																																																																																				
Time: 17:30	Time: 12:30	Time: _____	Time: _____																																																																																																																																				
Company: MFA	Company: Apex Labs	Company: _____	Company: _____																																																																																																																																				

Philip Nerenberg



Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**

Project Number: **1874.02.01-02**
Project Manager: **Kyle Roslund**

Report ID:
A0H0755 - 09 23 20 1623

A0H0755

Cameron O'Brien

From: Philip Nerenberg
Sent: Monday, August 31, 2020 2:23 PM
To: SampleControl
Subject: FW: Former Oregon Pine

Please scan and add this to H755

From: Mary Benzinger [<mailto:mbenzinger@maulfoster.com>]
Sent: Monday, August 31, 2020 1:56 PM
To: Philip Nerenberg
Cc: Kyle Roslund; Allen Clements
Subject: RE: Former Oregon Pine

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Philip,
Please analyze the "DU" samples for NWTPH-Dx instead of HCID. The request for RCRA 8 metals is unchanged.
The samples are still on hold for 8270 PAHs and 8082 PCBs pending the Dx results.
The NWTPH-Gx analysis marked as "hold" on the COC for these "DU" samples can be canceled

- DU3-A-S-0.5
- DU3-B-S-0.5
- DU3-C-S-0.5
- DU1-S-0.5
- DU2-S-0.5

Thank you,

MARY BENZINGER | MAUL FOSTER & ALONGI, INC.
m. 503 319 7132

I'm working from home in response to COVID-19. Maul Foster & Alongi, Inc. is fully operational and responsive to all projects. Please note there may be a delay if you send hard copy mail to our offices. We are happy to connect with you via email, phone, or videoconference at this time.

Maul Foster & Alongi, INC.
3140 NE Broadway Street
Portland, OR 97232

Project: **Former Oregon Pine**
Project Number: **1874.02.01-02**
Project Manager: **Kyle Roslund**

Report ID:
A0H0755 - 09 23 20 1623

APEX LABS COOLER RECEIPT FORM

Client: MFA Element WO#: A0 #0755

Project/Project #: Former Oregon Pine #1874.02.01-02

Delivery Info:

Date/time received: 8/28/20 @ 1230 By: AKK
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 8/28/20 @ 1200 By: AKK

Chain of Custody included? Yes No Custody seals? Yes No

Signed/dated by client? Yes No

Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>0.8</u>	<u>0.4</u>	<u>0.3</u>	<u>0.9</u>	<u>0.9</u>		
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>		
Temp. blanks? (Y/N)	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>		
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>Real</u>	<u>Real</u>	<u>Real</u>	<u>Real</u>		
Condition:	<u>Metty</u>	<u>Good</u>	<u>Metty</u>	<u>Good</u>	<u>Good</u>		

Cooler out of temp? (Y/N) Possible reason why: _____
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA
Samples Inspection: Date/time inspected: 8/28/20 @ 16:50 By: WJ

All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: T reads 15:40 on all coats Br B03-W-14.0

COC/container discrepancies form initiated? Yes No NA

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

Do VOA vials have visible headspace? Yes No NA

Comments Seal in all vials

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

Comments: _____

Additional information: TBH 2392

Labeled by: AKK Witness: OB Cooler Inspected by: AKK See Project Contact Form: Y



ATTACHMENT E

DATA VALIDATION MEMORANDUM



DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 1874.02.01 | SEPTEMBER 29, 2020 | CITY OF JOHN DAY

Maul Foster & Alongi, Inc., conducted an independent review of the quality of analytical results for groundwater, soil, and quality assurance (QA) samples collected at the former Oregon Pine property. The samples were collected on August 26 and 27, 2020.

Apex Laboratories, LLC (Apex) performed the analyses. Apex report number A0H0755 was reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
Diesel- and/or Oil-Range Hydrocarbons	NWTPH-Dx
Gasoline-Range Hydrocarbons	NWTPH-Gx
HCID	NWTPH-HCID
Total and Dissolved Metals	EPA 6020A
Percent Dry Weight	EPA 8000D
Polyaromatic Hydrocarbons	EPA 8270E-SIM
Polychlorinated Biphenyls	EPA 8082A
Volatile Organic Compounds	EPA 8260D

NOTES:

- EPA = U.S. Environmental Protection Agency.
- HCID = hydrocarbon identification.
- NWTPH = Northwest Total Petroleum Hydrocarbons.
- SIM = selective ion monitoring.

Samples Analyzed		
Report A0H0755		
B03-W-14.0	B02-S-10.0	DU3-A-S-0.5-After Processing
B05-W-2.0	B01-S-9.0	DU3-B-S-0.5-After Processing
B04-W-3.5	B05-S-1.5	DU3-C-0.5-After Processing
B06-W-3.0	B04-S-2.0	DU1-S-0.5-After Processing
B03-S-11.0	B06-S-2.0	DU2-S-0.5-After Processing

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of EPA procedures (EPA, 2017a,b) and appropriate laboratory and method-specific guidelines (Apex, 2019; EPA, 1986).

Data validation procedures were modified, as appropriate, to accommodate quality-control (QC) requirements for methods not specifically addressed by the EPA procedures (e.g., NWTPH-Dx).

According to report A0H0755, the NWTPH-Dx diesel result from sample B05-W-2.0 has been flagged by the laboratory with no fuel pattern detected. The validator confirmed laboratory flagging with the chromatogram. The results were reported as hydrocarbon range results and not as specific products; thus, qualification was not required.

According to report A0H0775, the NWTPH-Dx oil results from samples DU3-A-S-0.5, DU3-B-S-0.5, DU3-C-S-0.5, DU1-S-0.5, and DU2-S-0.5 have been flagged by the laboratory as elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported. The results were reported as hydrocarbon range results and not as specific products; thus, qualification was not required.

According to report A0H0775, the EPA 8260D chloroethane results from samples B05-W-2.0 and B06-W-3.0 were flagged by the laboratory as estimated due to a low initial calibration verification standard. The chloroethane results from samples B05-W-2.0 and B06-W-3.0 have been qualified with “UJ” as non-detect with an estimated reporting limit in the table below.

Report	Sample	Analyte	Original Result (ug/L)	Qualified Result (ug/L)
A0H0775	B05-W-2.0	Chloroethane	5.00 U	5.00 UJ
	B06-W-3.0		5.00 U	5.00 UJ

NOTES:

U = result is non-detect.

ug/L = micrograms per liter.

UJ = result is non-detect with an estimated reporting limit.

Apex noted that, to minimize matrix interference, EPA Method 8082A samples and associated batch QC samples were processed with sulfuric acid cleanup by EPA Method 3665A, sulfur cleanup by EPA Method 3660B, and florisol cleanup by EPA Method 3620B. No action was required.

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

Holding Times

Extractions and analyses were performed within the recommended holding time criteria, except the EPA 8270E-SIM results from samples DU3-A-S-0.5, DU3-B-S-0.5, DU3-C-S-0.5, DU1-S-0.5, and DU2-S-0.5 and their associated QC, which exceeded the 14-day hold time by 10 to 14 days. The associated sample detection results have been qualified with “J” as estimated and the non-detect results have been qualified with “UJ” as non-detect with estimated reporting limits.

Report	Sample	Analysis	Original Result (ug/kg)	Qualified Result (ug/kg)
A0H0755	DU3-A-S-0.5	EPA 8270E-SIM	Detected	J
			Non-Detect	UJ
	DU3-B-S-0.5		Detected	J
			Non-Detect	UJ
	DU3-C-S-0.5		Detected	J
			Non-Detect	UJ
	DU1-S-0.5		Detected	J
			Non-Detect	UJ
	DU2-S-0.5		Detected	J
			Non-Detect	UJ

NOTES:

EPA = U.S. Environmental Protection Agency.

J = result is estimated.

SIM = selective ion monitoring.

ug/kg = micrograms per kilogram.

UJ = result is non-detect with an estimated reporting limit.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

BLANKS

Method Blanks

Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the method blanks were associated with all samples prepared in the analytical batch. All analytes were non-detect to the reporting limit.

Trip Blanks

Trip blanks were not required for this sampling event.

Equipment Rinse Blanks

Equipment rinse blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples.

The reviewer took no action based on minor surrogate outliers or surrogate percent recoveries that were outside of acceptance limits due to dilutions necessary to quantify high concentrations of target analytes present in the samples. The laboratory appropriately documented and qualified surrogate outliers. Associated batch QA/QC for samples with surrogate outliers was within acceptance limits. All remaining surrogate recoveries were within acceptance limits.

MATRIX SPIKE RESULTS

Matrix spike (MS) results are used to evaluate laboratory precision and accuracy. All MS samples were extracted and analyzed at the required frequency. When MS percent recoveries and relative percent differences (RPDs) were outside acceptance limits because of high concentrations of analyte in the sample, and MS exceedances were flagged by the laboratory because of high concentrations of analyte, no qualifications were made by the reviewer.

According to report A0H0755, the NWTPH-Dx batch 0090034 had a laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) analyzed in lieu of the MS. No actions were required by the reviewer.

According to report A0H0755, the EPA Method 8260D batch 0090077 MS (0090077-MS1) hexachlorobutadiene; 1,2,3-trichlorobenzene; and 1,2,4-trimethylbenzene recoveries exceeded the upper control limits, ranging from 125 percent to 142 percent. The source sample used to prepare the MS was not project related; thus, no qualifications were necessary.

According to report A0H0755, the EPA Method 8082A batch 0090248 had an LCS and LCSD analyzed in lieu of the MS. No actions were required by the reviewer.

According to report A0H0755, the EPA Method 8270E-SIM batch 0090113 had an LCS and LCSD analyzed in lieu of the MS. No actions were required by the reviewer.

According to report A0H0755, the EPA Method 8270E-SIM batch 0090533 MS (0090533-MS1) 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, and dibenzofuran recoveries were below the lower acceptance limit, ranging from 24 percent to 38 percent. The source sample used to prepare the MS was not project related; thus, no qualifications were necessary.

According to report A0H0755, the EPA Method 8270E-SIM batch 0090577 MS (0090577-MS1) acenaphthene and naphthalene exceeded the upper control limit at 132 percent and 124 percent, respectively. The source sample used to prepare the MS was not project related; thus, no qualifications were necessary.

All remaining MS recoveries were within acceptance limits for percent recovery and RPDs.

LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All duplicate samples were extracted and analyzed at the required frequency. Laboratory duplicate results within five times the method reporting limit (MRL) were not evaluated for precision.

According to report A0H0755, the NWTPH-Dx batch 0090299 laboratory duplicate (0090299-DUP2) diesel and oil chromatographic pattern does not resemble the fuel standard. The source sample used to prepare the laboratory duplicate was not project related; thus, no qualifications were necessary.

According to report A0H0755, the NWTPH-Dx batch 0090299 laboratory duplicate (0090299-DUP3) oil RPD exceeded the 20 percent limit, at 56 percent. The associated oil result from the source sample has been qualified with “J” as estimated in the table below.

Report	Sample	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)
A0H0755	B05-S-1.5	Oil	247	247 J

NOTES:

J = result is estimated.

mg/kg = milligrams per kilogram.

According to report A0H0755, the EPA Method 6020A batch 0090288 laboratory duplicate (0090288-DUP1) barium and lead RPD exceeded the 20 percent limit, at 32 percent and 23 percent, respectively. The source sample used to prepare the laboratory duplicate was not project related; thus, no qualifications were necessary.

All remaining laboratory duplicate RPDs were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

An LCS/LCSD is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency.

According to report A0H0755, the EPA Method 8260D batch 0090077 LCS (0090077-BS1) chloroethane, chloromethane, and methylene chloride recoveries were below the lower acceptance range of 80 percent, at 67 percent, 73 percent, and 79 percent, respectively; and 2,2-dichloropropane and hexachlorobutadiene recovery exceeded the upper control limit of 120 percent, at 135 percent and 128 percent, respectively. The associated chloroethane was previously qualified in the data qualification section, and 2,2-dichloropropane and hexachlorobutadiene were not detected in the associated samples; thus, no qualifications were necessary. The chloromethane, and methylene chloride results from samples B05-W-2.0 and B06-W-3.0 have been qualified with “UJ” as non-detect with estimated reporting limits.

Report	Sample	Analyte	Original Result (ug/L)	Qualified Result (ug/L)
A0H0755	B05-GW-2.0	Chloromethane	5.00 U	5.00 UJ
	B06-GW-3.0		5.00 U	5.00 UJ
	B05-GW-2.0	Methylene Chloride	10.0 U	10.0 UJ
	B06-GW-3.0		10.0 U	10.0 UJ

NOTES:

U = result is non-detect.

ug/L = micrograms per liter.

UJ = result is non-detect with an estimated reporting limit.

All remaining LCS/LCSD results were within acceptance limits for percent recovery and RPD.

INCREMENTAL SAMPLING METHODOLOGY REPLICATE EVALUATION

An ISM sample replicate set was collected in triplicate and submitted to Apex for polycyclic aromatic hydrocarbons, polychlorinated biphenyls, metals, and NWTPH-Dx analysis. The ISM replicate set included samples DU3-A-S-0.5, DU3-B-S-0.5, and DU3-C-S-0.5. The relative standard deviations (RSDs) of the replicate sets were not calculated for results that were non-detect or less than five times the MRL. The validator qualified results that exceeded the RSD upper control limit of 30 percent and that have not been previously qualified in the data qualification section with “J” as estimated in the table below.

Analyte	RSD (%)	Original Results (mg/kg)			Qualified Results (mg/kg)		
		DU3-A-S-0.5	DU3-B-S-0.5	DU3-C-S-0.5	DU3-A-S-0.5	DU3-B-S-0.5	DU3-C-S-0.5
Lead	96	130	553	106	130 J	553 J	106 J

NOTES:

% = percent.

J = result is estimated.

mg/kg = milligrams per kilogram.

REPORTING LIMITS

Apex used routine reporting limits for non-detect results, except for samples requiring dilutions because of high analyte concentrations and/or matrix interferences. Results between the method detection limit and the reporting limit were qualified by Apex with “J” as estimated.

According to report A0H0755, the EPA Method 8270E-SIM results from sample B05-S-1.5 were flagged by the laboratory due to elevated reporting levels due to preparation and/or analytical dilution necessary for analysis. No actions were required by the reviewer.

DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies.

All ISM sample names reported by Apex were appended with “-After Processing” to indicate ISM sample processing was conducted prior to analysis, or with “-As Received” to indicate the unprocessed sample.

According to report A0H0755, sample B03-W-14.0 sample time on the bottle did not match the chain of custody. The time on the chain of custody was used; thus, no further actions were required.

According to report A0H0755, all samples had sediment in the vials. No actions were required by the reviewer.

According to report A0H0755, the project manager requested samples DU3-A-S-0.5, DU3-B-S-0.5, DU3-C-S-0.5, DU1-S-0.5, and DU2-S-0.5 be analyzed via NWTPH-Dx instead of HCID, and the NWTPH-Gx analysis was cancelled. No further actions were required by the reviewer.

No additional issues were found.

REFERENCES

- Apex. 2019. Quality systems manual. Rev. 7. Apex Laboratories, LLC, Tigard, Oregon. February 11.
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- EPA. 2017a. EPA contract laboratory program, national functional guidelines for inorganic Superfund methods data review. EPA 540-R-2017-001. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. January.
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