



August 1, 2018
Project No. 1467.01.02

Alison Robertson, AICP, LEED AP
Lincoln City Urban Renewal Agency
801 SW Highway 101—Box 50
Lincoln City, Oregon 97367

Re: Site Assessment for DeLake District

Dear Ms. Robertson:

On behalf of the Lincoln City Urban Renewal Agency, Maul Foster & Alongi, Inc. (MFA) conducted a site assessment to address data gaps identified in a Phase I environmental site assessment (ESA; MFA, 2017) of Hostetler Park (the Property), located on Northeast First Street, Lincoln City, Oregon (see the attached figure). The Lincoln County tax parcel ID for the 2.3-acre Property is 07-11-15-AC-03200-00. The results of the assessment are summarized below.

BACKGROUND

The Property is currently an undeveloped, vacant lot that includes graveled and vegetated areas. Historical photographs from the 1950s and 1960s obtained during the Phase I ESA indicate that the Property was occupied by a restaurant and possibly a fueling facility, as indicated by what appeared to be fuel pumps adjacent to a bulkhead/retaining wall along the shore of Devil's Lake and a pole-mounted sign with the appearance of a 1950s-era Chevron gasoline sign. However, documents indicating whether the fueling facility included underground storage tanks (USTs) or aboveground tanks, whether USTs are still present, or whether historical releases occurred were not identified. The Phase I ESA report identified this lack of information as a data gap.

Additionally, the title report obtained during the Phase I ESA indicated that fill had been placed on a portion of the Property. Documentation of the fill material source or presence/absence of contamination in the fill was not identified. The Phase I ESA report identified the lack of information related to fill placement as a data gap.

INVESTIGATION OBJECTIVES AND SCOPE OF WORK

The objective of the assessment was to obtain data to address the data gaps identified during the Phase I ESA. The following activities were completed to address the data gaps:

- Soil samples were collected near the former bulkhead to assess the presence of petroleum substances in soil near the former fueling facility (see the figure), and to assess potential fill placed behind the bulkhead.

- A geophysical survey was conducted in the vicinity of the fueling facility to identify subsurface features that could be interpreted as a UST or a backfilled UST pit.
- Soil and groundwater samples were collected in the area of disturbed soil layers as identified by the geophysical survey to assess the presence of petroleum substances.

FIELD INVESTIGATION ACTIVITIES

On March 1, 2018, MFA contacted the Oregon Utility Notification Center (OUNC) to conduct a public utility locate on the Property. OUNC notified appropriate utility companies; no evidence of buried utilities was identified. The soil sample collection near the former bulkhead and the geophysical survey were conducted on March 7, 2018, and the soil and groundwater sample collection in the area of the disturbed soil layers was conducted on June 28, 2018.

Geophysical Survey

The geophysical investigation was conducted by GPR Data, Inc. A ground-penetrating microwave radar (GPMR) methodology was applied to investigate the potential presence of USTs on the Property. Four two-dimensional GPMR data profiles were acquired at regular and documented intervals in a grid pattern using a 400MHz frequency array GPMR antenna. Additionally, an RD8000[®] pipe and metal locator was used within the GPMR survey grid to scan for metal USTs. The geophysical survey report is provided as Attachment A.

Soil Sample Collection Near the Former Bulkhead

Two soil borings, designated SS1 and SS2 on the attached figure, were advanced 1 to 2 feet below ground surface (bgs), using a stainless steel hand auger. Soil characteristics, including color, texture, moisture content, and visual or olfactory evidence of contamination, were documented at each boring. The following soil units were encountered at both borings:

- A light brown, clayey sand was present to a depth of 1 foot. The sand included subangular to subrounded, gravel-size inclusions of clayey soil and trace organics, including woody debris. No visual or olfactory evidence of contamination such as a petroleum odor, sheen, or staining was observed. Based on the presence of the clay soil inclusions, this soil unit was interpreted as fill. Alternatively, this apparently disturbed soil unit could possibly be related to the 1964 tsunami.
- A gray, poorly sorted, medium-grained, loose sand was observed from 1 to 2 feet bgs. No visual or olfactory evidence of contamination was observed. This soil unit is interpreted as beach sand, which is visible on historical site photographs.

Based on the soil units observed, the following three soil samples were collected:

- Sample SS1-1.0 was collected from the clayey sand surface soil unit at a depth of 1 foot at boring SS1.

- Sample SS1-1.5 was collected from the loose sand subsurface soil unit at a depth of 1.5 feet at boring SS1.
- Sample SS2-1.8 was collected from the loose sand subsurface soil unit at a depth of 1.8 feet at boring SS2.

The hand auger was decontaminated prior to and between boring locations by scrubbing with a solution of Alconox® detergent and distilled water, and triple-rinsing with distilled water. The borings were backfilled with the soil removed from the boring. Decontamination washwater was absorbed with paper towels. Nitrile gloves and paper towels were disposed of in normal trash. Investigation-derived waste was not generated.

Soil and Groundwater Sample Collection in Area of Disturbed Soil Layers

Two soil borings, designated on the attached figure as HA1 and HA2, were advanced to depths of 5 feet and 3 feet bgs, respectively, using a stainless-steel hand auger. One groundwater sample was collected from soil boring HA1 using a disposable plastic bailer.

Groundwater was located at 5 feet in soil boring HA1 and refusal occurred at approximately 3 feet in soil boring HA2.

Based on the discovery of groundwater and on refusal, the following samples were collected:

- Soil sample HA-5.0-01 was collected from boring HA1 at a depth of 5 feet. The soil was wet and sandy.
- Soil sample HA-3.0-02 was collected from boring HA2 at a depth of 3 feet. The soil was moist and sandy.
- Groundwater sample GW-5.0-01 was collected from boring HA1 at a depth of 5 feet.

The hand auger was decontaminated prior to and between boring locations by scrubbing the auger with a solution of Alconox® detergent and distilled water, and triple-rinsing with distilled water. The borings were backfilled with the soil removed from the boring. Decontamination washwater was absorbed with paper towels. Nitrile gloves, paper towels, and the disposable plastic bailer were disposed of in normal trash. Investigation-derived waste was not generated.

LABORATORY ANALYSES

Soil samples were submitted to Apex Laboratories, LLC (Apex) under standard chain-of-custody procedures and were analyzed for the following:

- Diesel-range organics and residual-range organics by NWTPH-Dx.
- Gasoline-range organics by NWTPH-Gx.

- Volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (USEPA) Methods 5035A/8260C.
- Polychlorinated biphenyls (PCBs) by USEPA Method 8082A.
- Polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270D SIM.
- Priority pollutant metals by USEPA Method 6020 (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc).

Groundwater samples were also submitted to Apex under standard chain-of-custody procedures and were analyzed for the following:

- Diesel-range organics and residual-range organics by NWTPH-Dx
- Gasoline-range organics by NWTPH-Gx
- VOCs by USEPA Methods 5035A/8260C
- PAHs by USEPA Method 8270D SIM

Analytical laboratory results are included in Attachment B. Data validation memoranda are included as Attachment C. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

GEOPHYSICAL SURVEY RESULTS

The GPMR survey identified an area of disturbed soil at the location indicated on the figure. The disturbance appears to extend to a depth of at least 100 inches (Attachment A). The RD8000 pipe and metal locator did not identify metal objects buried in the survey area, including in the area of disturbed soil. The soil disturbance could have been the result of a formerly buried UST that was removed, and the UST pit backfilled. Since a building was formerly located in this area, the soil disturbance may also be due to construction or demolition of that building.

ASSESSMENT RESULTS

Soil Samples

Table 1 presents the soil sample analytical results and compares them to the following screening level values (SLVs):

- Oregon Department of Environmental Quality (DEQ) Risk-Based Concentrations (RBCs) for Soil Ingestion, Dermal Contact, and Inhalation exposure pathways for Urban Residential, Construction Worker, and Excavation Worker receptors (DEQ, 2018).
- The DEQ clean fill criteria for uplands (DEQ, 2014).

- DEQ background concentrations for metals (DEQ, 2013).

As shown on Table 1, antimony, mercury, silver, thallium, PCBs, PAHs, and residual-range petroleum hydrocarbons were not detected above the method detection limit.

The following metals and petroleum hydrocarbons were detected:

- Beryllium, chromium, copper, lead, nickel, and zinc were detected, but at concentrations less than the SLVs.
- Arsenic was detected in all five samples at concentrations exceeding the RBC for Urban Residential exposure. However, since the concentrations are less than the natural background concentration, the risk of Urban Residential receptor exposure to arsenic is less than the background risk. Additionally, the concentrations are less than the DEQ clean fill criteria, which are also based on the background concentration.
- Cadmium was detected in the surface clayey sand unit at boring SS1 at a concentration greater than the clean fill criterion and the background concentration, but less than the RBCs, indicating that there is no risk of exposure to cadmium.
- Selenium was detected in the surface clayey sand unit at boring SS1 at a concentration greater than the clean fill criterion and the background concentration. No RBC is available for selenium.
- Gasoline-range petroleum hydrocarbons were detected in the sample at HA2, but at a concentration less than the SLVs.
- Diesel-range petroleum hydrocarbons were detected in the sample at HA1, but at a concentration less than the SLVs.
- 4-Isopropyltoluene was detected in HA2; however, there are no SLVs for this constituent.

Groundwater Sample

The groundwater sample analytical results are presented and compared to the following SLVs on Table 2:

- DEQ RBCs for groundwater for Urban Residential and groundwater in Excavation for Construction Worker and Excavation Worker receptors (DEQ, 2018).

As shown in Table 2, VOCs, PAHs, and diesel- and residual-range petroleum hydrocarbons were not detected above the method detection limit. Gasoline-range petroleum hydrocarbons were detected in the sample, but at a concentration less than the SLVs.

CONCLUSIONS

The site assessment results indicate the following with respect to the data gaps identified in the Phase I ESA:

- There was no evidence of a UST present at the site, and there was no indication of a former release in the area of disturbed soil identified by the geophysical survey.
- There was evidence of surface fill at the site. Metals concentrations in at least one location slightly exceeded the clean fill criteria. During future redevelopment of the site, removed soil should be sampled to determine options for reuse or potential disposal.

Sincerely,

Maul Foster & Alongi, Inc.



Merideth D'Andrea, RG
Senior Geologist

Seth Otto, AICP, LEED AP
Senior Planner/Project Manager

Attachments: Limitations
References
Tables
Figure
A—Geophysical Survey Report (GPR Data, Inc.)
B—Laboratory Analytical Reports
C—Data Validation Memoranda

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. Oregon Department of Environmental Quality. March.
- DEQ. 2014. Internal management directive—clean fill determinations. Oregon Department of Environmental Quality. <http://www.oregon.gov/deq/Filtered%20Library/IMDcleanfill.pdf>. July 23.
- DEQ. 2018. Risk-based concentrations for individual chemicals. Oregon Department of Environmental Quality. <http://www.oregon.gov/deq/FilterDocs/RBDMTable.pdf>. November 1. Updated May 2018.
- MFA. 2017. Phase I environmental site assessment for the DeLake District. Maul Foster & Alongi, Inc., Portland, Oregon. December 15.

TABLES



Table 1
Summary of Soil Analytical Results
DeLake Property Assessment
Lincoln City Urban Renewal Agency
Lincoln City, Oregon

Location:	Oregon Background Metals, Coast Range	DEQ Clean Fill for Uplands ^a	RBC, Soil, Ingestion, Dermal Contact, and Inhalation		SS1		SS2	HA1	HA2
Sample Name:			Urban Residential	Construction/ Excavation Worker ^b	SS1-1.0	SS1-1.5	SS2-1.8	HA-5.0-01	HA-3.0-02
Collection Date:					03/07/2018	03/07/2018	03/07/2018	06/28/2018	06/28/2018
Collection Depth (ft bgs):					1.0	1.5	1.8	5.0	3.0
Metals (mg/kg)									
Antimony	0.55	0.55	NV	NV	0.828 U	0.681 U	0.72 U	1.31 U	1.08 U
Arsenic	12	12	1	15	11.1	2.78	2.2	2.34	1.89
Beryllium	2.8	21	310	700	1.04	0.136 U	0.144 U	0.263 U	0.216 U
Cadmium	0.54	0.54	160	350	0.58	0.136 J	0.144 U	0.263 U	0.216 U
Chromium	240	240	230000 ^c	530000 ^c	28.3	19	14.1	11.2	7.95
Copper	100	100	6200	14000	69.3	5.58	3.76	7.35	2.04
Lead	34	34	400	800	10.7	2.34	8.11	1.21	2.01
Mercury	0.11	0.11	47	110	0.0709 U	0.0545 U	0.0576 U	0.105 U	0.0863 U
Nickel	160	160	3100	7000	8.81	7.31	4.55	7.57	3.32
Selenium	1.5	1.5	NV	NV	1.64 J	0.681 U	0.72 U	1.31 U	1.08 U
Silver	0.41	4.2	780	1800	0.166 U	0.136 U	0.144 U	0.263 U	0.216 U
Thallium	5.4	5.4	NV	NV	0.166 U	0.136 U	0.144 U	0.263 U	0.216 U
Zinc	140	140	NV	NV	60.4	16.8	10.8	10.6	8.7
PCB Aroclors (mg/kg)									
Aroclor 1016	NV	NV	NV	NV	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U
Aroclor 1221	NV	NV	NV	NV	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U
Aroclor 1232	NV	NV	NV	NV	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U
Aroclor 1242	NV	NV	NV	NV	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U
Aroclor 1248	NV	NV	NV	NV	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U
Aroclor 1254	NV	NV	NV	NV	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U
Aroclor 1260	NV	NV	NV	NV	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U
Total PCBs ^d	NV	0.20	0.33	4.9	0.00795 U	0.00627 U	0.00648 U	0.0114 U	0.00915 U

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Sample Name:			Urban Residential	Construction/ Excavation Worker ^b	SS1-1.0	SS1-1.5	SS2-1.8	HA-5.0-01	HA-3.0-02
Collection Date:					03/07/2018	03/07/2018	03/07/2018	06/28/2018	06/28/2018
Collection Depth (ft bgs):			1.0	1.5	1.8	5.0	3.0		
VOCs (mg/kg)									
1,1,1,2-Tetrachloroethane	NV	0.0156	NV	NV	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,1,1-Trichloroethane	NV	400	110000	470000	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,1,2,2-Tetrachloroethane	NV	0.0024	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
1,1,2-Trichloroethane	NV	0.0046	6.3	54	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,1-Dichloroethane	NV	0.037	190	3200	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,1-Dichloroethene	NV	11	3500	13000	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,1-Dichloropropene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
1,2,3-Trichlorobenzene	NV	20	NV	NV	0.271 U	0.165 U	0.188 U	0.345 U	0.249 U
1,2,3-Trichloropropane	NV	0.005	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
1,2,4-Trichlorobenzene	NV	0.4074	NV	NV	0.271 U	0.165 U	0.188 U	0.345 U	0.249 U
1,2,4-Trimethylbenzene	NV	16	860	2900	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
1,2-Dibromo-3-chloropropane	NV	0.000012	NV	NV	0.271 U	0.165 U	0.188 U	0.345 U	0.249 U
1,2-Dibromoethane	NV	0.00012	0.53	9	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
1,2-Dichlorobenzene	NV	70	4400	20000	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,2-Dichloroethane	NV	0.0014	12	200	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,2-Dichloropropane	NV	0.009	NV	NV	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,3,5-Trimethylbenzene	NV	92	860	2900	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
1,3-Dichlorobenzene	NV	NV	NV	NV	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
1,3-Dichloropropane	NV	7.62	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
1,4-Dichlorobenzene	NV	0.081	62	1300	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
2,2-Dichloropropane	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
2-Butanone	NV	27.48	NV	NV	0.542 U	0.329 U	0.376 U	0.691 U	0.498 U
2-Chlorotoluene	NV	21.66	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
2-Hexanone	NV	0.2982	NV	NV	0.542 U	0.329 U	0.376 U	0.691 U	0.498 U
4-Chlorotoluene	NV	22.5	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
4-Isopropyltoluene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	2.43

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Location:	Oregon Background Metals, Coast Range	DEQ Clean Fill for Uplands ^a	RBC, Soil, Ingestion, Dermal Contact, and Inhalation		SS1		SS2	HA1	HA2
Sample Name:			Urban Residential	Construction/ Excavation Worker ^b	SS1-1.0	SS1-1.5	SS2-1.8	HA-5.0-01	HA-3.0-02
Collection Date:					03/07/2018	03/07/2018	03/07/2018	06/28/2018	06/28/2018
Collection Depth (ft bgs):					1.0	1.5	1.8	5.0	3.0
4-Methyl-2-pentanone	NV	8.04	NV	NV	0.542 U	0.329 U	0.376 U	0.691 U	0.498 U
Acetone	NV	59.52	NV	NV	1.08 U	0.659 U	0.752 U	1.38 U	0.997 U
Acrylonitrile	NV	0.00029	2.5	40	0.108 U	0.0659 U	0.0752 U	0.138 U	0.0997 U
Benzene	NV	0.0093	24	380	0.0108 U	0.00659 U	0.00752 U	0.0138 U	0.00997 U
Bromobenzene	NV	4.068	NV	NV	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
Bromodichloromethane	NV	0.0025	12	230	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Bromoform	NV	0.084	170	2700	0.108 U	0.0659 U	0.0752 U	0.138 U	0.0997 U
Bromomethane	NV	0.098	92	370	1.08 U	0.659 U	0.752 U	0.691 U	0.498 U
Carbon disulfide	NV	11.64	NV	NV	0.542 U	0.329 U	0.376 U	0.691 U	0.498 U
Carbon tetrachloride	NV	0.028	21	320	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Chlorobenzene	NV	6.5	1100	4700	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
Chlorobromomethane	NV	0.936	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Chloroethane	NV	320	320000	NV	0.542 U	0.329 U	0.376 U	0.691 UJ	0.498 UJ
Chloroform	NV	0.0033	22	410	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Chloromethane	NV	2.2	2900	25000	0.271 U	0.165 U	0.188 U	0.345 U	0.249 U
cis-1,2-Dichloroethene	NV	1.2	310	710	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Dibromochloromethane	NV	0.0033	12	210	0.108 U	0.0659 U	0.0752 U	0.138 U	0.0997 U
Dibromomethane	NV	0.0876	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Dichlorodifluoromethane (Freon 12)	NV	94	NV	NV	0.108 U	0.0659 U	0.0752 U	0.138 U	0.0997 U
Ethylbenzene	NV	0.16	110	1700	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
Hexachlorobutadiene	NV	0.0678	NV	NV	0.108 U	0.0659 U	0.0752 U	0.138 U	0.0997 U
Isopropylbenzene	NV	85.2	7000	27000	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
m,p-Xylene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Methyl tert-butyl ether	NV	0.092	730	12000	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Methylene chloride	NV	0.038	170	2100	0.271 U	0.165 U	0.188 U	0.345 U	0.249 U
Naphthalene	NV	0.087	25	580	0.108 U	0.0659 U	0.0752 U	0.138 U	0.0997 U

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Sample Name:			Urban Residential	Construction/ Excavation Worker ^b	SS1-1.0	SS1-1.5	SS2-1.8	HA-5.0-01	HA-3.0-02
Collection Date:					03/07/2018	03/07/2018	03/07/2018	06/28/2018	06/28/2018
Collection Depth (ft bgs):					1.0	1.5	1.8	5.0	3.0
n-Butylbenzene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
n-Propylbenzene	NV	NV	NV	NV	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
o-Xylene	NV	1	NV	NV	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0498 U
sec-Butylbenzene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Styrene	NV	300	16000	56000	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
tert-Butylbenzene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Tetrachloroethene	NV	2.4	540	1800	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
Toluene	NV	200	12000	28000	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
trans-1,2-dichloroethene	NV	2.5	3100	7100	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
Trichloroethene	NV	0.02	17	470	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
Trichlorofluoromethane (Freon 11)	NV	190	15000	69000	0.108 U	0.0659 U	0.0752 U	0.138 U	0.0997 U
Vinyl chloride	NV	0.00051	0.8	34	0.0271 U	0.0165 U	0.0188 U	0.0345 U	0.0249 U
Xylenes, total ^e	NV	25	2900	20000	0.0542 U	0.0329 U	0.0376 U	0.0691 U	0.0498 U
PAHs (mg/kg)									
1-Methylnaphthalene	NV	0.738	NV	NV	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
2-Methylnaphthalene	NV	310	NV	NV	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Acenaphthene	NV	29	9400	21000	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Acenaphthylene	NV	NV	NV	NV	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Anthracene	NV	29	47000	110000	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Benzo(a)anthracene	NV	0.15	2.5	170	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Benzo(a)pyrene	NV	0.015	0.25	17	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Benzo(b)fluoranthene	NV	0.15	2.5	170	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Benzo(ghi)perylene	NV	NV	NV	NV	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Benzo(k)fluoranthene	NV	1.1	25	1700	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Chrysene	NV	14	250	17000	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Dibenzo(a,h)anthracene	NV	0.015	0.25	17	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U

Table 1
Summary of Soil Analytical Results
DeLake Property Assessment
Lincoln City Urban Renewal Agency
Lincoln City, Oregon

Location:	Oregon Background Metals, Coast Range	DEQ Clean Fill for Uplands ^a	RBC, Soil, Ingestion, Dermal Contact, and Inhalation		SS1		SS2	HA1	HA2
Sample Name:			Urban Residential	Construction/ Excavation/ Worker ^b	SS1-1.0	SS1-1.5	SS2-1.8	HA-5.0-01	HA-3.0-02
Collection Date:					03/07/2018	03/07/2018	03/07/2018	06/28/2018	06/28/2018
Collection Depth (ft bgs):			1.0	1.5	1.8	5.0	3.0		
Dibenzofuran	NV	0.002	NV	NV	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Fluoranthene	NV	29	4800	10000	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Fluorene	NV	29	6300	14000	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Indeno(1,2,3-cd)pyrene	NV	0.15	2.5	170	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Naphthalene	NV	0.087	25	580	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Phenanthrene	NV	NV	NV	NV	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
Pyrene	NV	1700	3600	7500	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
cPAH TEQ	NV	NV	0.25	17	0.00732 U	0.00631 U	0.00651 U	0.0115 U	0.0102 U
TPH (mg/kg)									
Gasoline-range Hydrocarbons	NV	NV	2500	9700	5.42 U	3.29 U	3.76 U	6.91 U	33.2
Diesel-range Hydrocarbons	NV	NV	2200	4600	15.2 U	12.3 U	13 U	111	25 U
Lube-oil-range Hydrocarbons	NV	NV	2200 ^f	4600 ^f	30.4 U	24.6 U	26 U	50.1 U	50 U

Table 1
Summary of Soil Analytical Results
DeLake Property Assessment
Lincoln City Urban Renewal Agency
Lincoln City, Oregon

NOTES:

Result values in bold font indicate a detection.

Shaded result values indicate exceedance of DEQ Clean Fill screening levels or RBCs. Non-detect results are not evaluated against Clean Fill or RBC values.

cPAH TEQ = carcinogenic PAH toxic equivalence. When all cPAH constituents are non-detect, the highest non-detect value is shown. 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)

DEQ = Oregon Department of Environmental Quality.

ft bgs = feet below ground surface.

J = result is an estimated value.

mg/kg = milligrams per kilogram.

NV = no value, value exceeds 1,000,000 mg/kg, or RBC exceeds limit of three-phase equilibrium partitioning.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

RBCs = risk-based concentrations for individual chemicals (DEQ, May 2018).

TPH = total petroleum hydrocarbons.

U = result not detected at or above method detection limit or method reporting limit.

USEPA = U.S. Environmental Protection Agency.

VOC = volatile organic compound.

^aClean fill values for metals are provided for Coast Range, except for beryllium and silver, which have statewide values.

^bScreening value is the lower of available direct-contact RBC for construction worker or excavation worker.

^cValue is for trivalent chromium.

^dTotal PCBs are sum of PCB Aroclors. Non-detect results are not included in the sum. When all results are non-detect, the highest value is reported.

^eTotal xylenes are sum of m,p-xylene and o-xylene. Results are summed at one-half the reported value when non-detect. When both results are non-detect, the higher value is reported.

^fValue is for generic diesel/heating oil, since generic residual-range hydrocarbon values are not available.

Table 2
Summary of Groundwater Analytical Results
DeLake Property Assessment
Lincoln City Urban Renewal Agency
Lincoln City, Oregon

Location:	RBC, Groundwater, Urban Residential	RBC, Groundwater in Excavation, Construction and Excavation	HA1
Sample Name:			GW-5.0-01
Collection Date:			06/28/2018
Collection Depth (ft bgs):			5
VOCs (ug/L)			
1,1,1,2-Tetrachloroethane	NV	NV	0.4 UJ
1,1,1-Trichloroethane	30000	1100000	0.4 UJ
1,1,2,2-Tetrachloroethane	NV	NV	0.5 UJ
1,1,2-Trichloroethane	1.3	49	0.5 UJ
1,1-Dichloroethane	13	10000	0.4 UJ
1,1-Dichloroethene	1100	44000	0.4 UJ
1,1-Dichloropropene	NV	NV	1 UJ
1,2,3-Trichlorobenzene	NV	NV	2 UJ
1,2,3-Trichloropropane	NV	NV	1 UJ
1,2,4-Trichlorobenzene	NV	NV	2 UJ
1,2,4-Trimethylbenzene	230	6300	1 UJ
1,2-Dibromo-3-chloropropane	NV	NV	5 UJ
1,2-Dibromoethane	0.034	27	0.5 UJ
1,2-Dichlorobenzene	1200	37000	0.5 UJ
1,2-Dichloroethane	0.78	630	0.4 UJ
1,2-Dichloropropane	NV	NV	0.5 UJ
1,3,5-Trimethylbenzene	240	7500	1 UJ
1,3-Dichlorobenzene	NV	NV	0.5 UJ
1,3-Dichloropropane	NV	NV	1 UJ
1,4-Dichlorobenzene	2.3	1500	0.5 UJ
2,2-Dichloropropane	NV	NV	1 UJ
2-Butanone	NV	NV	10 UJ
2-Chlorotoluene	NV	NV	1 UJ
2-Hexanone	NV	NV	10 UJ
4-Chlorotoluene	NV	NV	1 UJ
4-Isopropyltoluene	NV	NV	1 UJ
4-Methyl-2-pentanone	NV	NV	10 UJ
Acetone	NV	NV	20 UJ
Acrylonitrile	0.23	250	2 UJ
Benzene	2	1800	0.2 UJ
Bromobenzene	NV	NV	0.5 UJ
Bromodichloromethane	0.62	450	1 UJ
Bromoform	15	14000	1 UJ
Bromomethane	28	1200	5 UJ
Carbon disulfide	NV	NV	10 UJ
Carbon tetrachloride	2	1800	1 UJ
Chlorobenzene	290	10000	0.5 UJ
Chlorobromomethane	NV	NV	1 UJ
Chloroethane	76000	2400000	5 UJ
Chloroform	1	720	1 UJ
Chloromethane	690	22000	5 UJ
cis-1,2-Dichloroethene	140	18000	0.4 UJ
cis-1,3-Dichloropropene	NV	NV	1 UJ

Table 2
Summary of Groundwater Analytical Results
DeLake Property Assessment
Lincoln City Urban Renewal Agency
Lincoln City, Oregon

Location:	RBC, Groundwater, Urban Residential	RBC, Groundwater in Excavation, Construction and Excavation	HA1
Sample Name:			GW-5.0-01
Collection Date:			06/28/2018
Collection Depth (ft bgs):			5
Dibromochloromethane	0.77	610	1 UJ
Dibromomethane	NV	NV	1 UJ
Dichlorodifluoromethane (Freon 12)	NV	NV	1 UJ
Ethylbenzene	6.7	4500	0.5 UJ
Hexachlorobutadiene	NV	NV	5 UJ
Isopropylbenzene	1800	51000	1 UJ
m,p-Xylene	NV	NV	1 UJ
Methyl tert-butyl ether	64	63000	1 UJ
Methylene chloride	37	79000	3 UJ
Naphthalene	0.78	500	2 UJ
n-Butylbenzene	NV	NV	1 UJ
n-Propylbenzene	NV	NV	0.5 UJ
o-Xylene	NV	NV	0.5 UJ
sec-Butylbenzene	NV	NV	1 UJ
Styrene	4600	170000	1 UJ
tert-Butylbenzene	NV	NV	1 UJ
Tetrachloroethene	49	5600	0.4 UJ
Toluene	4400	220000	1 UJ
trans-1,2-dichloroethene	1400	180000	0.4 UJ
trans-1,3-Dichloropropene	NV	NV	1 UJ
Trichloroethene	2	430	0.4 UJ
Trichlorofluoromethane (Freon 11)	4200	160000	2 UJ
Vinyl chloride	0.066	960	0.4 UJ
Xylenes, total ^a	710	23000	1 UJ
PAHs (ug/L)			
1-Methylnaphthalene	NV	NV	0.113 U
2-Methylnaphthalene	NV	NV	0.113 U
Acenaphthene	2400	NV	0.0563 U
Acenaphthylene	NV	NV	0.0563 U
Anthracene	NV	NV	0.0563 U
Benzo(a)anthracene	0.11	NV	0.0563 U
Benzo(a)pyrene	0.08	NV	0.0563 U
Benzo(b)fluoranthene	0.8	NV	0.0563 U
Benzo(ghi)perylene	NV	NV	0.0563 U
Benzo(k)fluoranthene	NV	NV	0.0563 U
Chrysene	NV	NV	0.0563 U
Dibenzo(a,h)anthracene	0.08	NV	0.0563 U
Dibenzofuran	NV	NV	0.0563 U
Fluoranthene	NV	NV	0.0563 U
Fluorene	1400	NV	0.0563 U
Indeno(1,2,3-cd)pyrene	NV	NV	0.0563 U
Naphthalene	0.78	500	0.113 U
Phenanthrene	NV	NV	0.0563 U
Pyrene	NV	NV	0.0563 U
cPAH TEQ	0.08	NV	0.0563 U

Table 2
Summary of Groundwater Analytical Results
DeLake Property Assessment
Lincoln City Urban Renewal Agency
Lincoln City, Oregon

Location:	RBC, Groundwater, Urban Residential	RBC, Groundwater in Excavation, Construction and Excavation	HA1
Sample Name:			GW-5.0-01
Collection Date:			06/28/2018
Collection Depth (ft bgs):			5
TPH (ug/L)			
Gasoline-Range Hydrocarbons	110	14000	100 J
Diesel-Range Hydrocarbons	100	NV	229 U
Motor-Oil-Range Hydrocarbons	100 ^b	NV	457 U
<p>NOTES:</p> <p>Result values in bold font indicate a detection.</p> <p>cPAH TEQ = carcinogenic PAH toxic equivalency. When all cPAH constituents are non-detect, the highest non-detect value is shown. cPAH TEQ values are based on toxic equivalency factors from USEPA Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. 1993. (EPA/600/R-93/089)</p> <p>DEQ = Oregon Department of Environmental Quality.</p> <p>ft bgs = feet below ground surface.</p> <p>J = result is an estimated value.</p> <p>NV = no value or value exceeds the solubility limit.</p> <p>PAH = polycyclic aromatic hydrocarbon.</p> <p>RBCs = risk-based concentrations for individual chemicals (DEQ, May 2018).</p> <p>TPH = total petroleum hydrocarbon.</p> <p>U = result not detected at or above method reporting limit.</p> <p>ug/L = micrograms per liter.</p> <p>UJ = result is not detected and an estimated value.</p> <p>USEPA = U.S. Environmental Protection Agency.</p> <p>VOC = volatile organic compound.</p> <p>^aTotal xylenes are sum of m,p-xylene and o-xylene. Results are summed at one-half the reported value when non-detect. When both results are non-detect, the higher value is reported.</p> <p>^bValue is for generic diesel/heating oil, since generic residual-range hydrocarbon values are not available.</p>			

FIGURE



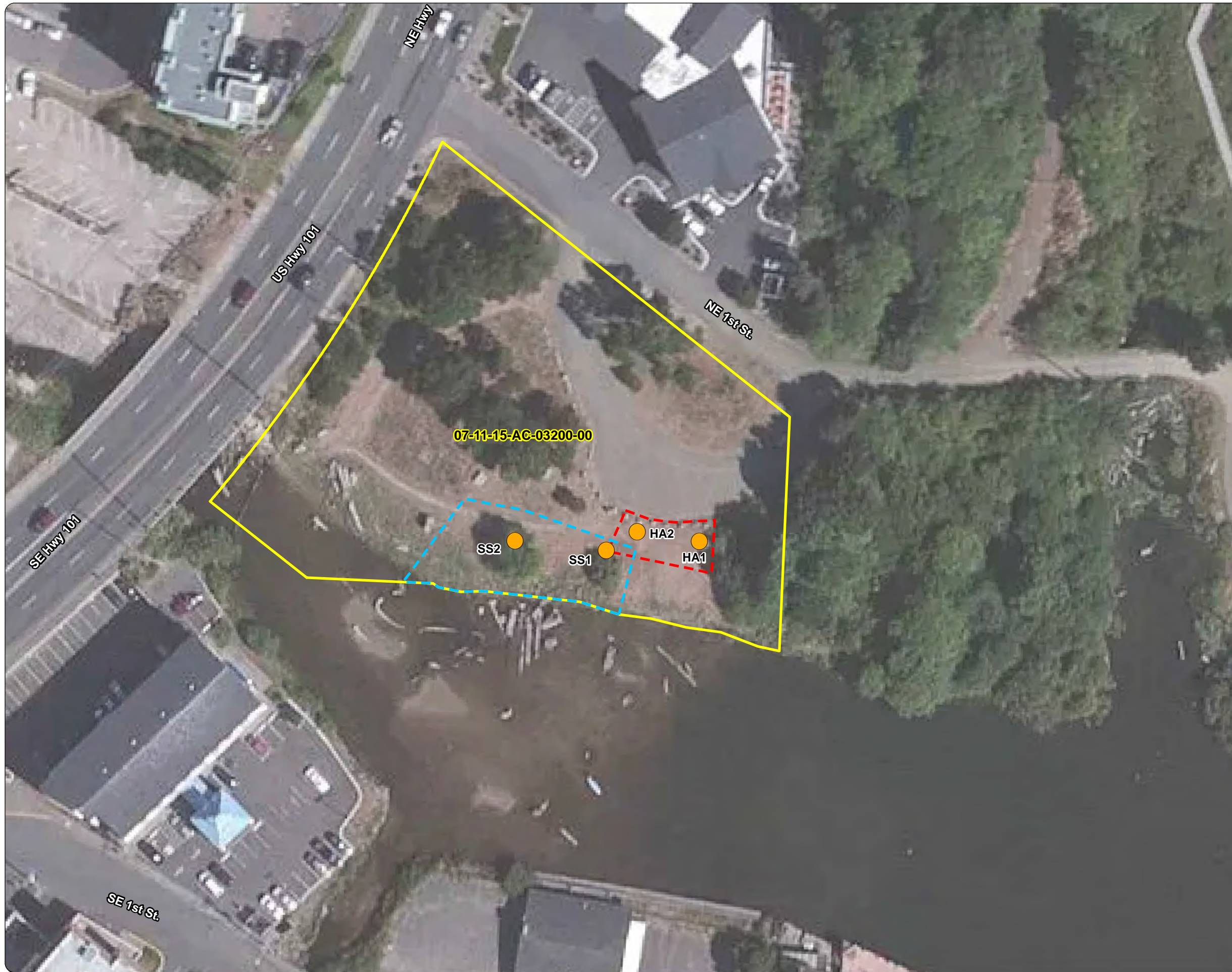






Figure
Property Features DeLake
 NE 1st Street
 Lincoln City, Oregon

Legend

-  Surface Soil Boring
-  Area of Disturbed Soil Layers Identified by GPMR Survey
-  Approximate Area of Former Bulkhead/Retaining Wall
-  Property Parcel

Note:
 GPMR = Ground Penetrating Microwave Radar.



Source: Aerial photograph obtained from Mapbox.



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 A

GEOPHYSICAL SURVEY REPORT
(GPR DATA, INC.)



MAULFOSTER ENGINEERS
UST TANK SEARCH
LINCOLN CITY OREGON
COMPLETED MARCH 7TH 2018
BY GPR DATA INC.

Ground Penetrating Radar Experts
www.GPRDATA.com

2580 Edgewater Drive, Eugene, OR 97401 Tel: 541-345-1075 Fax: 541-684-7865



FINDINGS

GPR was used in a regular grid pattern (30' X 60') to cover the areas shown in the photo's. No UST or evidence there of, was found. In addition a specialty metal detector was used to additionally survey the grid area and no metal UST was found.

PHOTO OF SURVEY AREA



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PHOTO OF SURVEY AREA



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PHOTO'S OF SURVEY AREA



PHOTO'S OF SURVEY AREA

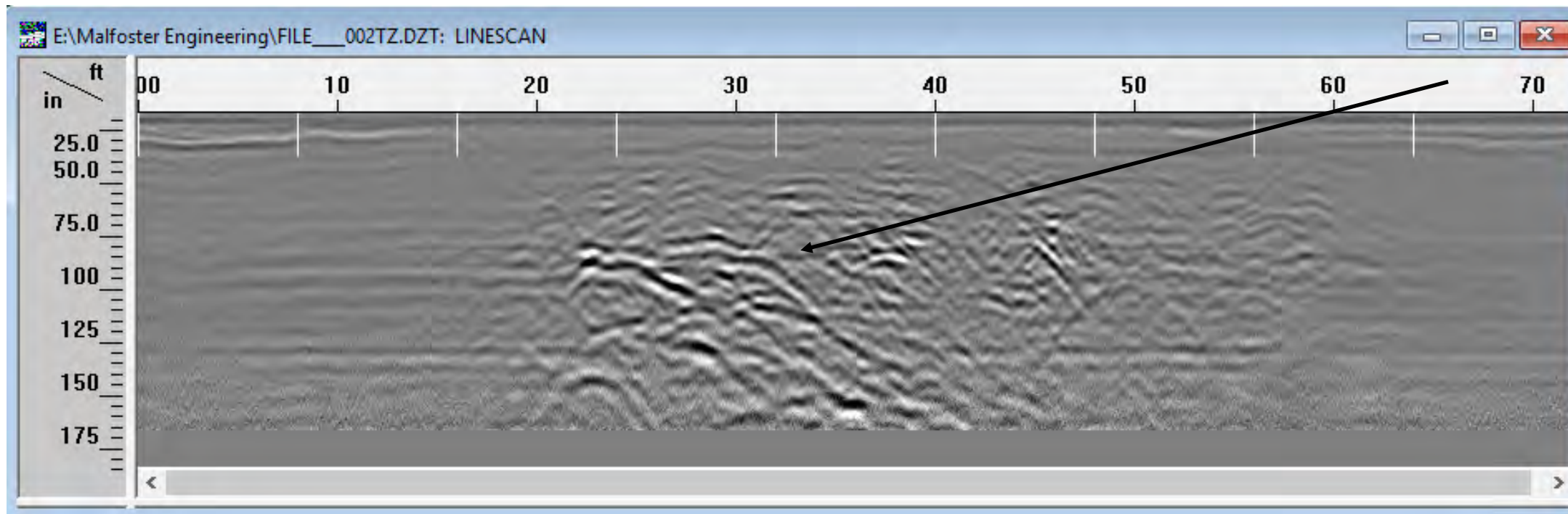
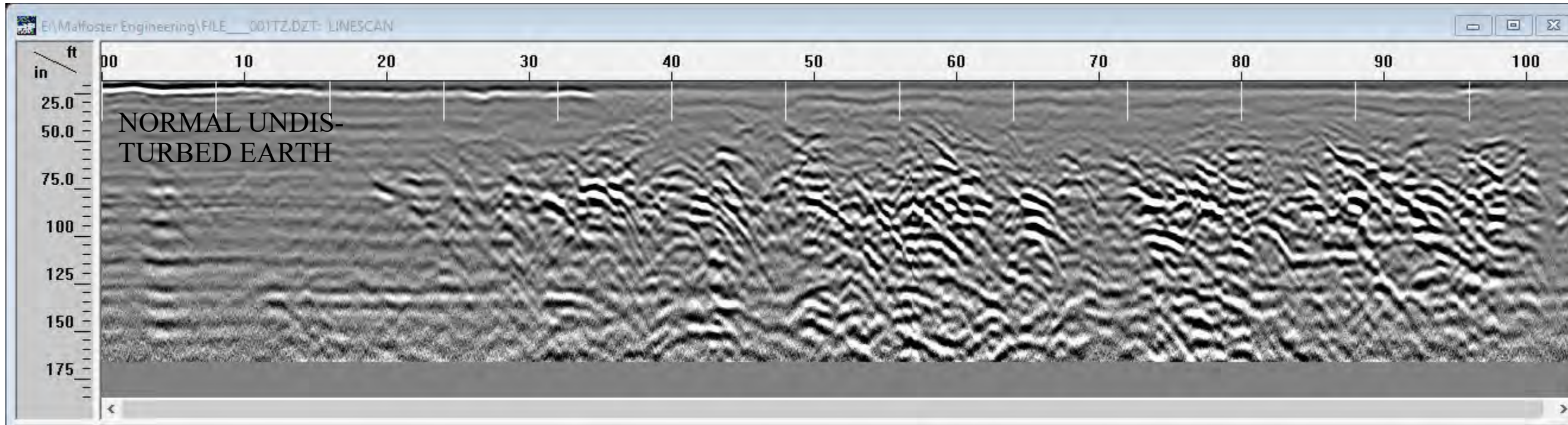


Ground Penetrating Radar Experts
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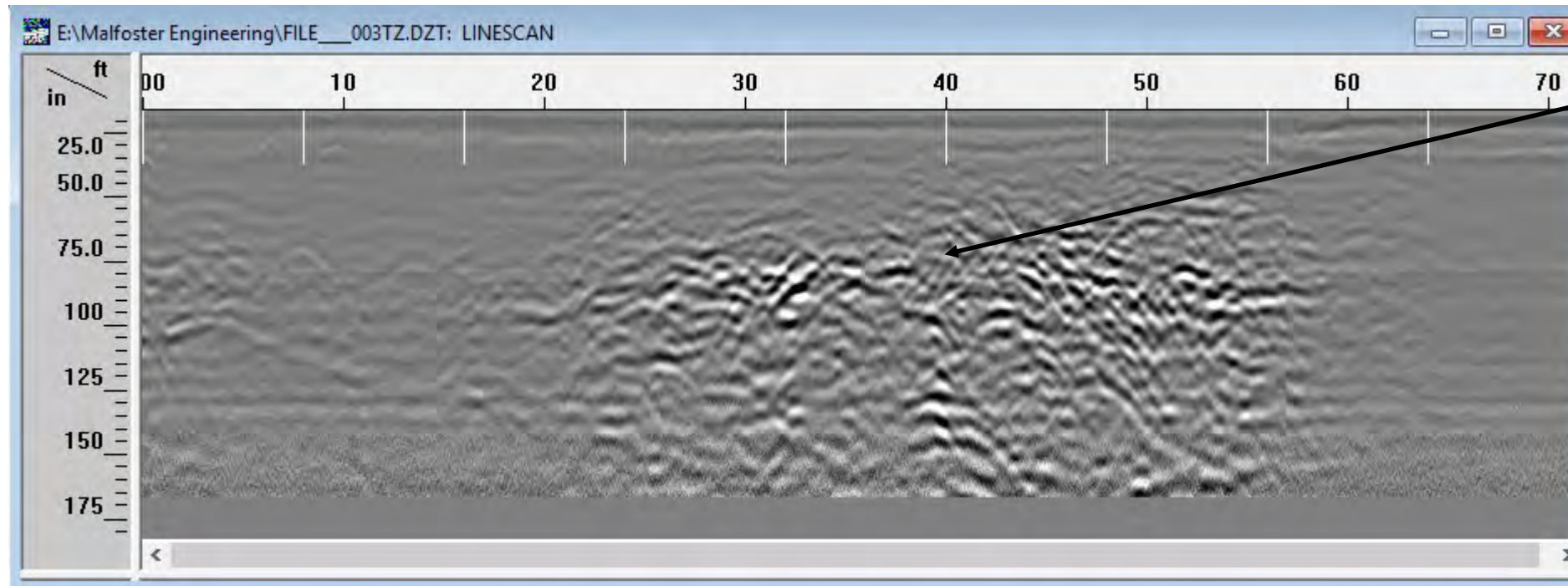
TRANSECTS 1 AND 2 GOING THE LENGTH OF THE GRID



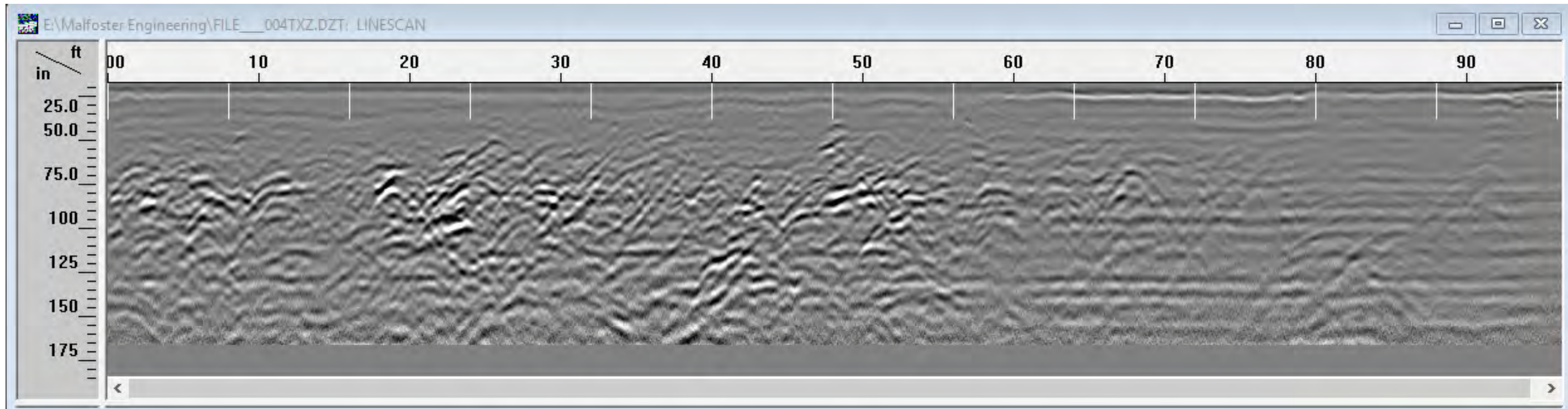
At sometime the ground has been dug in the section to the left.

No tank or other device is present at this time.

TRANSECTS 3 AND 4 GOING THE LENGTH OF THE GRID



At sometime the ground has been dug in the section to the left.



ATTACHMENT B

LABORATORY ANALYTICAL REPORTS
(APEX LABORATORIES LLC)



Wednesday, April 4, 2018

Merideth D'Andrea
Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

RE: Devil's Lake Lincoln City / 1467.01.02

Enclosed are the results of analyses for work order A8C0238, which was received by the laboratory on 3/7/2018 at 5:07:00PM.

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

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

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.

Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS1-1.0	A8C0238-01	Soil	03/07/18 10:55	03/07/18 17:07
SS2-1.8	A8C0238-02	Soil	03/07/18 13:18	03/07/18 17:07
SS1-1.5	A8C0238-03	Soil	03/07/18 11:55	03/07/18 17:07

Apex Laboratories



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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL CASE NARRATIVE

Work Order: A8C0238

Amended Report Revision 1:

Reporting to the Method Detection Limits (MDLs)-

This report supersedes all previous reports.

The final report has been amended to report all samples to the MDLs.

Lisa Domenighini
Client Services Manager
4-4-18



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01)			Matrix: Soil		Batch: 8030724			
Diesel	ND	15.2	30.4	mg/kg dry	1	03/13/18 21:25	NWTPH-Dx	
Oil	ND	30.4	60.8	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 78 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
SS2-1.8 (A8C0238-02)			Matrix: Soil		Batch: 8030724			
Diesel	ND	13.0	26.0	mg/kg dry	1	03/13/18 22:08	NWTPH-Dx	
Oil	ND	26.0	52.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 92 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
SS1-1.5 (A8C0238-03)			Matrix: Soil		Batch: 8030724			
Diesel	ND	12.3	25.0	mg/kg dry	1	03/13/18 22:29	NWTPH-Dx	
Oil	ND	24.6	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 92 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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.

Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01)			Matrix: Soil		Batch: 8030540			
Gasoline Range Organics	ND	5.42	10.8	mg/kg dry	50	03/07/18 19:57	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 107 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>100 %</i>		<i>Limits: 50-150 %</i>		"	"	"
SS2-1.8 (A8C0238-02)			Matrix: Soil		Batch: 8030540			
Gasoline Range Organics	ND	3.76	7.52	mg/kg dry	50	03/07/18 20:23	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 107 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>Limits: 50-150 %</i>		"	"	"
SS1-1.5 (A8C0238-03)			Matrix: Soil		Batch: 8030540			
Gasoline Range Organics	ND	3.29	6.59	mg/kg dry	50	03/07/18 20:50	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 105 %</i>		<i>Limits: 50-150 %</i>		1	"	"
<i>1,4-Difluorobenzene (Sur)</i>		<i>100 %</i>		<i>Limits: 50-150 %</i>		"	"	"

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.

Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
 2001 NW 19th Ave, STE 200
 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: 1467.01.02
 Project Manager: Merideth D'Andrea

Reported:
 04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01)			Matrix: Soil		Batch: 8030540			
Acetone	ND	1080	2170	ug/kg dry	50	03/07/18 19:57	5035A/8260C	
Acrylonitrile	ND	108	217	"	"	"	"	
Benzene	ND	10.8	21.7	"	"	"	"	
Bromobenzene	ND	27.1	54.2	"	"	"	"	
Bromochloromethane	ND	54.2	108	"	"	"	"	
Bromodichloromethane	ND	54.2	108	"	"	"	"	
Bromoform	ND	108	217	"	"	"	"	
Bromomethane	ND	1080	1080	"	"	"	"	
2-Butanone (MEK)	ND	542	1080	"	"	"	"	
n-Butylbenzene	ND	54.2	108	"	"	"	"	
sec-Butylbenzene	ND	54.2	108	"	"	"	"	
tert-Butylbenzene	ND	54.2	108	"	"	"	"	
Carbon disulfide	ND	542	1080	"	"	"	"	
Carbon tetrachloride	ND	54.2	108	"	"	"	"	
Chlorobenzene	ND	27.1	54.2	"	"	"	"	
Chloroethane	ND	542	1080	"	"	"	"	
Chloroform	ND	54.2	108	"	"	"	"	
Chloromethane	ND	271	542	"	"	"	"	
2-Chlorotoluene	ND	54.2	108	"	"	"	"	
4-Chlorotoluene	ND	54.2	108	"	"	"	"	
Dibromochloromethane	ND	108	217	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	271	542	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	54.2	108	"	"	"	"	
Dibromomethane	ND	54.2	108	"	"	"	"	
1,2-Dichlorobenzene	ND	27.1	54.2	"	"	"	"	
1,3-Dichlorobenzene	ND	27.1	54.2	"	"	"	"	
1,4-Dichlorobenzene	ND	27.1	54.2	"	"	"	"	
Dichlorodifluoromethane	ND	108	217	"	"	"	"	
1,1-Dichloroethane	ND	27.1	54.2	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	27.1	54.2	"	"	"	"	
1,1-Dichloroethene	ND	27.1	54.2	"	"	"	"	
cis-1,2-Dichloroethene	ND	27.1	54.2	"	"	"	"	
trans-1,2-Dichloroethene	ND	27.1	54.2	"	"	"	"	
1,2-Dichloropropane	ND	27.1	54.2	"	"	"	"	
1,3-Dichloropropane	ND	54.2	108	"	"	"	"	
2,2-Dichloropropane	ND	54.2	108	"	"	"	"	
1,1-Dichloropropene	ND	54.2	108	"	"	"	"	

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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01)			Matrix: Soil		Batch: 8030540			
cis-1,3-Dichloropropene	ND	54.2	108	ug/kg dry	50	"	5035A/8260C	
trans-1,3-Dichloropropene	ND	54.2	108	"	"	"	"	
Ethylbenzene	ND	27.1	54.2	"	"	"	"	
Hexachlorobutadiene	ND	108	217	"	"	"	"	
2-Hexanone	ND	542	1080	"	"	"	"	
Isopropylbenzene	ND	54.2	108	"	"	"	"	
4-Isopropyltoluene	ND	54.2	108	"	"	"	"	
Methylene chloride	ND	271	542	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	542	1080	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	54.2	108	"	"	"	"	
Naphthalene	ND	108	217	"	"	"	"	
n-Propylbenzene	ND	27.1	54.2	"	"	"	"	
Styrene	ND	54.2	108	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	27.1	54.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	54.2	108	"	"	"	"	
Tetrachloroethene (PCE)	ND	27.1	54.2	"	"	"	"	
Toluene	ND	54.2	108	"	"	"	"	
1,2,3-Trichlorobenzene	ND	271	542	"	"	"	"	
1,2,4-Trichlorobenzene	ND	271	542	"	"	"	"	
1,1,1-Trichloroethane	ND	27.1	54.2	"	"	"	"	
1,1,2-Trichloroethane	ND	27.1	54.2	"	"	"	"	
Trichloroethene (TCE)	ND	27.1	54.2	"	"	"	"	
Trichlorofluoromethane	ND	108	217	"	"	"	"	
1,2,3-Trichloropropane	ND	54.2	108	"	"	"	"	
1,2,4-Trimethylbenzene	ND	54.2	108	"	"	"	"	
1,3,5-Trimethylbenzene	ND	54.2	108	"	"	"	"	
Vinyl chloride	ND	27.1	54.2	"	"	"	"	
m,p-Xylene	ND	54.2	108	"	"	"	"	
o-Xylene	ND	27.1	54.2	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 80-120 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS2-1.8 (A8C0238-02)			Matrix: Soil		Batch: 8030540			
Acetone	ND	752	1500	ug/kg dry	50	03/07/18 20:23	5035A/8260C	
Acrylonitrile	ND	75.2	150	"	"	"	"	
Benzene	ND	7.52	15.0	"	"	"	"	
Bromobenzene	ND	18.8	37.6	"	"	"	"	
Bromochloromethane	ND	37.6	75.2	"	"	"	"	
Bromodichloromethane	ND	37.6	75.2	"	"	"	"	
Bromoform	ND	75.2	150	"	"	"	"	
Bromomethane	ND	752	752	"	"	"	"	
2-Butanone (MEK)	ND	376	752	"	"	"	"	
n-Butylbenzene	ND	37.6	75.2	"	"	"	"	
sec-Butylbenzene	ND	37.6	75.2	"	"	"	"	
tert-Butylbenzene	ND	37.6	75.2	"	"	"	"	
Carbon disulfide	ND	376	752	"	"	"	"	
Carbon tetrachloride	ND	37.6	75.2	"	"	"	"	
Chlorobenzene	ND	18.8	37.6	"	"	"	"	
Chloroethane	ND	376	752	"	"	"	"	
Chloroform	ND	37.6	75.2	"	"	"	"	
Chloromethane	ND	188	376	"	"	"	"	
2-Chlorotoluene	ND	37.6	75.2	"	"	"	"	
4-Chlorotoluene	ND	37.6	75.2	"	"	"	"	
Dibromochloromethane	ND	75.2	150	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	188	376	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	37.6	75.2	"	"	"	"	
Dibromomethane	ND	37.6	75.2	"	"	"	"	
1,2-Dichlorobenzene	ND	18.8	37.6	"	"	"	"	
1,3-Dichlorobenzene	ND	18.8	37.6	"	"	"	"	
1,4-Dichlorobenzene	ND	18.8	37.6	"	"	"	"	
Dichlorodifluoromethane	ND	75.2	150	"	"	"	"	
1,1-Dichloroethane	ND	18.8	37.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	18.8	37.6	"	"	"	"	
1,1-Dichloroethene	ND	18.8	37.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	18.8	37.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	18.8	37.6	"	"	"	"	
1,2-Dichloropropane	ND	18.8	37.6	"	"	"	"	
1,3-Dichloropropane	ND	37.6	75.2	"	"	"	"	
2,2-Dichloropropane	ND	37.6	75.2	"	"	"	"	
1,1-Dichloropropene	ND	37.6	75.2	"	"	"	"	

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 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: 1467.01.02
 Project Manager: Merideth D'Andrea

Reported:
 04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
			Matrix: Soil					
			Batch: 8030540					
cis-1,3-Dichloropropene	ND	37.6	75.2	ug/kg dry	50	"	5035A/8260C	
trans-1,3-Dichloropropene	ND	37.6	75.2	"	"	"	"	
Ethylbenzene	ND	18.8	37.6	"	"	"	"	
Hexachlorobutadiene	ND	75.2	150	"	"	"	"	
2-Hexanone	ND	376	752	"	"	"	"	
Isopropylbenzene	ND	37.6	75.2	"	"	"	"	
4-Isopropyltoluene	ND	37.6	75.2	"	"	"	"	
Methylene chloride	ND	188	376	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	376	752	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	37.6	75.2	"	"	"	"	
Naphthalene	ND	75.2	150	"	"	"	"	
n-Propylbenzene	ND	18.8	37.6	"	"	"	"	
Styrene	ND	37.6	75.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	18.8	37.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	37.6	75.2	"	"	"	"	
Tetrachloroethene (PCE)	ND	18.8	37.6	"	"	"	"	
Toluene	ND	37.6	75.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	188	376	"	"	"	"	
1,2,4-Trichlorobenzene	ND	188	376	"	"	"	"	
1,1,1-Trichloroethane	ND	18.8	37.6	"	"	"	"	
1,1,2-Trichloroethane	ND	18.8	37.6	"	"	"	"	
Trichloroethene (TCE)	ND	18.8	37.6	"	"	"	"	
Trichlorofluoromethane	ND	75.2	150	"	"	"	"	
1,2,3-Trichloropropane	ND	37.6	75.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	37.6	75.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	37.6	75.2	"	"	"	"	
Vinyl chloride	ND	18.8	37.6	"	"	"	"	
m,p-Xylene	ND	37.6	75.2	"	"	"	"	
o-Xylene	ND	18.8	37.6	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 80-120 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>Limits: 80-120 %</i>	"	"	"	

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 Project Number: 1467.01.02
 Project Manager: Merideth D'Andrea

Reported:
 04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.5 (A8C0238-03)			Matrix: Soil		Batch: 8030540			
Acetone	ND	659	1320	ug/kg dry	50	03/07/18 20:50	5035A/8260C	
Acrylonitrile	ND	65.9	132	"	"	"	"	
Benzene	ND	6.59	13.2	"	"	"	"	
Bromobenzene	ND	16.5	32.9	"	"	"	"	
Bromochloromethane	ND	32.9	65.9	"	"	"	"	
Bromodichloromethane	ND	32.9	65.9	"	"	"	"	
Bromoform	ND	65.9	132	"	"	"	"	
Bromomethane	ND	659	659	"	"	"	"	
2-Butanone (MEK)	ND	329	659	"	"	"	"	
n-Butylbenzene	ND	32.9	65.9	"	"	"	"	
sec-Butylbenzene	ND	32.9	65.9	"	"	"	"	
tert-Butylbenzene	ND	32.9	65.9	"	"	"	"	
Carbon disulfide	ND	329	659	"	"	"	"	
Carbon tetrachloride	ND	32.9	65.9	"	"	"	"	
Chlorobenzene	ND	16.5	32.9	"	"	"	"	
Chloroethane	ND	329	659	"	"	"	"	
Chloroform	ND	32.9	65.9	"	"	"	"	
Chloromethane	ND	165	329	"	"	"	"	
2-Chlorotoluene	ND	32.9	65.9	"	"	"	"	
4-Chlorotoluene	ND	32.9	65.9	"	"	"	"	
Dibromochloromethane	ND	65.9	132	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	165	329	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	32.9	65.9	"	"	"	"	
Dibromomethane	ND	32.9	65.9	"	"	"	"	
1,2-Dichlorobenzene	ND	16.5	32.9	"	"	"	"	
1,3-Dichlorobenzene	ND	16.5	32.9	"	"	"	"	
1,4-Dichlorobenzene	ND	16.5	32.9	"	"	"	"	
Dichlorodifluoromethane	ND	65.9	132	"	"	"	"	
1,1-Dichloroethane	ND	16.5	32.9	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	16.5	32.9	"	"	"	"	
1,1-Dichloroethene	ND	16.5	32.9	"	"	"	"	
cis-1,2-Dichloroethene	ND	16.5	32.9	"	"	"	"	
trans-1,2-Dichloroethene	ND	16.5	32.9	"	"	"	"	
1,2-Dichloropropane	ND	16.5	32.9	"	"	"	"	
1,3-Dichloropropane	ND	32.9	65.9	"	"	"	"	
2,2-Dichloropropane	ND	32.9	65.9	"	"	"	"	
1,1-Dichloropropene	ND	32.9	65.9	"	"	"	"	

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Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.5 (A8C0238-03)			Matrix: Soil		Batch: 8030540			
cis-1,3-Dichloropropene	ND	32.9	65.9	ug/kg dry	50	"	5035A/8260C	
trans-1,3-Dichloropropene	ND	32.9	65.9	"	"	"	"	
Ethylbenzene	ND	16.5	32.9	"	"	"	"	
Hexachlorobutadiene	ND	65.9	132	"	"	"	"	
2-Hexanone	ND	329	659	"	"	"	"	
Isopropylbenzene	ND	32.9	65.9	"	"	"	"	
4-Isopropyltoluene	ND	32.9	65.9	"	"	"	"	
Methylene chloride	ND	165	329	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	329	659	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	32.9	65.9	"	"	"	"	
Naphthalene	ND	65.9	132	"	"	"	"	
n-Propylbenzene	ND	16.5	32.9	"	"	"	"	
Styrene	ND	32.9	65.9	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	16.5	32.9	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	32.9	65.9	"	"	"	"	
Tetrachloroethene (PCE)	ND	16.5	32.9	"	"	"	"	
Toluene	ND	32.9	65.9	"	"	"	"	
1,2,3-Trichlorobenzene	ND	165	329	"	"	"	"	
1,2,4-Trichlorobenzene	ND	165	329	"	"	"	"	
1,1,1-Trichloroethane	ND	16.5	32.9	"	"	"	"	
1,1,2-Trichloroethane	ND	16.5	32.9	"	"	"	"	
Trichloroethene (TCE)	ND	16.5	32.9	"	"	"	"	
Trichlorofluoromethane	ND	65.9	132	"	"	"	"	
1,2,3-Trichloropropane	ND	32.9	65.9	"	"	"	"	
1,2,4-Trimethylbenzene	ND	32.9	65.9	"	"	"	"	
1,3,5-Trimethylbenzene	ND	32.9	65.9	"	"	"	"	
Vinyl chloride	ND	16.5	32.9	"	"	"	"	
m,p-Xylene	ND	32.9	65.9	"	"	"	"	
o-Xylene	ND	16.5	32.9	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 80-120 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>Limits: 80-120 %</i>	"	"	"	

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Project: **Devil's Lake Lincoln City**
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Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01)			Matrix: Soil		Batch: 8030727			C-07
Aroclor 1016	ND	7.95	15.9	ug/kg dry	1	03/15/18 10:01	EPA 8082A	
Aroclor 1221	ND	7.95	15.9	"	"	"	"	
Aroclor 1232	ND	7.95	15.9	"	"	"	"	
Aroclor 1242	ND	7.95	15.9	"	"	"	"	
Aroclor 1248	ND	7.95	15.9	"	"	"	"	
Aroclor 1254	ND	7.95	15.9	"	"	"	"	
Aroclor 1260	ND	7.95	15.9	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 87 %</i>	<i>Limits: 53-120 %</i>	"	"	"	
SS2-1.8 (A8C0238-02)			Matrix: Soil		Batch: 8030727			C-07
Aroclor 1016	ND	6.48	13.0	ug/kg dry	1	03/15/18 10:38	EPA 8082A	
Aroclor 1221	ND	6.48	13.0	"	"	"	"	
Aroclor 1232	ND	6.48	13.0	"	"	"	"	
Aroclor 1242	ND	6.48	13.0	"	"	"	"	
Aroclor 1248	ND	6.48	13.0	"	"	"	"	
Aroclor 1254	ND	6.48	13.0	"	"	"	"	
Aroclor 1260	ND	6.48	13.0	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 53-120 %</i>	"	"	"	
SS1-1.5 (A8C0238-03)			Matrix: Soil		Batch: 8030727			C-07
Aroclor 1016	ND	6.27	12.5	ug/kg dry	1	03/15/18 11:14	EPA 8082A	
Aroclor 1221	ND	6.27	12.5	"	"	"	"	
Aroclor 1232	ND	6.27	12.5	"	"	"	"	
Aroclor 1242	ND	6.27	12.5	"	"	"	"	
Aroclor 1248	ND	6.27	12.5	"	"	"	"	
Aroclor 1254	ND	6.27	12.5	"	"	"	"	
Aroclor 1260	ND	6.27	12.5	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>			<i>Recovery: 85 %</i>	<i>Limits: 53-120 %</i>	"	"	"	

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Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01)			Matrix: Soil		Batch: 8030759			
Acenaphthene	ND	7.32	14.6	ug/kg dry	1	03/14/18 19:50	EPA 8270D (SIM)	
Acenaphthylene	ND	7.32	14.6	"	"	"	"	
Anthracene	ND	7.32	14.6	"	"	"	"	
Benz(a)anthracene	ND	7.32	14.6	"	"	"	"	
Benzo(a)pyrene	ND	7.32	14.6	"	"	"	"	
Benzo(b)fluoranthene	ND	7.32	14.6	"	"	"	"	
Benzo(k)fluoranthene	ND	7.32	14.6	"	"	"	"	
Benzo(g,h,i)perylene	ND	7.32	14.6	"	"	"	"	
Chrysene	ND	7.32	14.6	"	"	"	"	
Dibenz(a,h)anthracene	ND	7.32	14.6	"	"	"	"	
Dibenzofuran	ND	7.32	14.6	"	"	"	"	
Fluoranthene	ND	7.32	14.6	"	"	"	"	
Fluorene	ND	7.32	14.6	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	7.32	14.6	"	"	"	"	
1-Methylnaphthalene	ND	7.32	14.6	"	"	"	"	
2-Methylnaphthalene	ND	7.32	14.6	"	"	"	"	
Naphthalene	ND	7.32	14.6	"	"	"	"	
Phenanthrene	ND	7.32	14.6	"	"	"	"	
Pyrene	ND	7.32	14.6	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 70 %</i>	<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>89 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS2-1.8 (A8C0238-02)			Matrix: Soil		Batch: 8030759			
Acenaphthene	ND	6.51	13.0	ug/kg dry	1	03/14/18 20:17	EPA 8270D (SIM)	
Acenaphthylene	ND	6.51	13.0	"	"	"	"	
Anthracene	ND	6.51	13.0	"	"	"	"	
Benz(a)anthracene	ND	6.51	13.0	"	"	"	"	
Benzo(a)pyrene	ND	6.51	13.0	"	"	"	"	
Benzo(b)fluoranthene	ND	6.51	13.0	"	"	"	"	
Benzo(k)fluoranthene	ND	6.51	13.0	"	"	"	"	
Benzo(g,h,i)perylene	ND	6.51	13.0	"	"	"	"	
Chrysene	ND	6.51	13.0	"	"	"	"	
Dibenz(a,h)anthracene	ND	6.51	13.0	"	"	"	"	
Dibenzofuran	ND	6.51	13.0	"	"	"	"	
Fluoranthene	ND	6.51	13.0	"	"	"	"	
Fluorene	ND	6.51	13.0	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	6.51	13.0	"	"	"	"	
1-Methylnaphthalene	ND	6.51	13.0	"	"	"	"	
2-Methylnaphthalene	ND	6.51	13.0	"	"	"	"	
Naphthalene	ND	6.51	13.0	"	"	"	"	
Phenanthrene	ND	6.51	13.0	"	"	"	"	
Pyrene	ND	6.51	13.0	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>		<i>100 %</i>		<i>Limits: 54-127 %</i>	"	"	"	

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Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.5 (A8C0238-03)			Matrix: Soil		Batch: 8030759			
Acenaphthene	ND	6.31	12.6	ug/kg dry	1	03/14/18 20:43	EPA 8270D (SIM)	
Acenaphthylene	ND	6.31	12.6	"	"	"	"	
Anthracene	ND	6.31	12.6	"	"	"	"	
Benz(a)anthracene	ND	6.31	12.6	"	"	"	"	
Benzo(a)pyrene	ND	6.31	12.6	"	"	"	"	
Benzo(b)fluoranthene	ND	6.31	12.6	"	"	"	"	
Benzo(k)fluoranthene	ND	6.31	12.6	"	"	"	"	
Benzo(g,h,i)perylene	ND	6.31	12.6	"	"	"	"	
Chrysene	ND	6.31	12.6	"	"	"	"	
Dibenz(a,h)anthracene	ND	6.31	12.6	"	"	"	"	
Dibenzofuran	ND	6.31	12.6	"	"	"	"	
Fluoranthene	ND	6.31	12.6	"	"	"	"	
Fluorene	ND	6.31	12.6	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	6.31	12.6	"	"	"	"	
1-Methylnaphthalene	ND	6.31	12.6	"	"	"	"	
2-Methylnaphthalene	ND	6.31	12.6	"	"	"	"	
Naphthalene	ND	6.31	12.6	"	"	"	"	
Phenanthrene	ND	6.31	12.6	"	"	"	"	
Pyrene	ND	6.31	12.6	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 44-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>		<i>105 %</i>		<i>Limits: 54-127 %</i>	"	"	"	

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Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01) Matrix: Soil								
Batch: 8031106								
Antimony	ND	0.828	1.66	mg/kg dry	10	03/24/18 19:27	EPA 6020A	
Arsenic	11.1	0.828	1.66	"	"	"	"	
Beryllium	1.04	0.166	0.331	"	"	"	"	
Cadmium	0.580	0.166	0.331	"	"	"	"	
Chromium	28.3	0.828	1.66	"	"	"	"	
Copper	69.3	0.828	1.66	"	"	"	"	
Lead	10.7	0.166	0.331	"	"	"	"	
Nickel	8.81	0.828	1.66	"	"	"	"	
Selenium	1.64	0.828	1.66	"	"	"	"	J
Silver	ND	0.166	0.331	"	"	"	"	
Thallium	ND	0.166	0.331	"	"	"	"	
Zinc	60.4	3.31	6.63	"	"	"	"	
SS1-1.0 (A8C0238-01RE1) Matrix: Soil								
Batch: 8031224								
Mercury	ND	0.0709	0.142	mg/kg dry	10	03/27/18 18:43	EPA 6020A	
SS2-1.8 (A8C0238-02) Matrix: Soil								
Batch: 8031106								
Antimony	ND	0.720	1.44	mg/kg dry	10	03/24/18 19:31	EPA 6020A	
Arsenic	2.20	0.720	1.44	"	"	"	"	
Beryllium	ND	0.144	0.288	"	"	"	"	
Cadmium	ND	0.144	0.288	"	"	"	"	
Chromium	14.1	0.720	1.44	"	"	"	"	
Copper	3.76	0.720	1.44	"	"	"	"	
Lead	8.11	0.144	0.288	"	"	"	"	
Mercury	ND	0.0576	0.115	"	"	"	"	
Nickel	4.55	0.720	1.44	"	"	"	"	
Selenium	ND	0.720	1.44	"	"	"	"	
Silver	ND	0.144	0.288	"	"	"	"	
Thallium	ND	0.144	0.288	"	"	"	"	
Zinc	10.8	2.88	5.76	"	"	"	"	
SS1-1.5 (A8C0238-03) Matrix: Soil								
Batch: 8031106								
Antimony	ND	0.681	1.36	mg/kg dry	10	03/24/18 19:35	EPA 6020A	
Arsenic	2.78	0.681	1.36	"	"	"	"	
Beryllium	ND	0.136	0.272	"	"	"	"	

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 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: 1467.01.02
 Project Manager: Merideth D'Andrea

Reported:
 04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
SS1-1.5 (A8C0238-03) Matrix: Soil								
Cadmium	0.136	0.136	0.272	mg/kg dry	10	"	EPA 6020A	J
Chromium	19.0	0.681	1.36	"	"	"	"	
Copper	5.58	0.681	1.36	"	"	"	"	
Lead	2.34	0.136	0.272	"	"	"	"	
Mercury	ND	0.0545	0.109	"	"	"	"	
Nickel	7.31	0.681	1.36	"	"	"	"	
Selenium	ND	0.681	1.36	"	"	"	"	
Silver	ND	0.136	0.272	"	"	"	"	
Thallium	ND	0.136	0.272	"	"	"	"	
Zinc	16.8	2.72	5.45	"	"	"	"	

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 04/04/18 10:20

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
SS1-1.0 (A8C0238-01)			Matrix: Soil		Batch: 8030584			
% Solids	61.1	1.00	1.00	% by Weight	1	03/09/18 08:20	EPA 8000C	
SS2-1.8 (A8C0238-02)			Matrix: Soil		Batch: 8030584			
% Solids	75.0	1.00	1.00	% by Weight	1	03/09/18 08:20	EPA 8000C	
SS1-1.5 (A8C0238-03)			Matrix: Soil		Batch: 8030584			
% Solids	76.2	1.00	1.00	% by Weight	1	03/09/18 08:20	EPA 8000C	

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Project: **Devil's Lake Lincoln City**
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Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030724 - EPA 3546 (Fuels)						Soil						
Blank (8030724-BLK1)						Prepared: 03/13/18 13:21 Analyzed: 03/13/18 20:43						
NWTPH-Dx												
Diesel	ND	9.09	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	18.2	50.0	"	"	---	---	---	---	---	---	
Mineral Oil	ND	18.2	36.4	"	"	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (8030724-BS1)						Prepared: 03/13/18 13:21 Analyzed: 03/13/18 21:04						
NWTPH-Dx												
Diesel	119	10.0	25.0	mg/kg wet	1	125	---	95	76-115	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (8030724-DUP1)						Prepared: 03/13/18 13:21 Analyzed: 03/13/18 21:46						
QC Source Sample: SS1-1.0 (A8C0238-01)												
NWTPH-Dx												
Diesel	ND	15.2	30.5	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	30.5	60.9	"	"	---	ND	---	---	---	30%	
Mineral Oil	ND	30.5	60.9	"	"	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (8030724-DUP2)						Prepared: 03/13/18 18:42 Analyzed: 03/14/18 06:13						
QC Source Sample: Other (A8C0482-02)												
NWTPH-Dx												
Diesel	276	11.6	25.0	mg/kg dry	1	---	117	---	---	81	30%	F-11, Q-17
Oil	ND	23.1	50.0	"	"	---	ND	---	---	---	30%	
Mineral Oil	ND	23.1	46.3	"	"	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Blank (8030540-BLK1)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 15:03						
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	1.67	3.33	mg/kg wet	50	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>99 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (8030540-BS2)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 14:36						
NWTPH-Gx (MS)												
Gasoline Range Organics	27.1	2.50	5.00	mg/kg wet	50	25.0	---	108	80-120	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 104 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (8030540-DUP1)						Prepared: 03/05/18 19:30 Analyzed: 03/07/18 16:23						
QC Source Sample: Other (A8C0160-06)												
NWTPH-Gx (MS)												
Gasoline Range Organics	9230	1170	2330	mg/kg dry	20000	---	9360	---	---	1	30%	F-03
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 105 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>100 %</i>		<i>50-150 %</i>		<i>"</i>						



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Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Blank (8030540-BLK1)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 15:03						
5035A/8260C												
Acetone	ND	333	667	ug/kg wet	50	---	---	---	---	---	---	---
Acrylonitrile	ND	33.3	66.7	"	"	---	---	---	---	---	---	---
Benzene	ND	3.33	6.67	"	"	---	---	---	---	---	---	---
Bromobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
Bromochloromethane	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
Bromodichloromethane	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
Bromoform	ND	33.3	66.7	"	"	---	---	---	---	---	---	---
Bromomethane	ND	333	333	"	"	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	167	333	"	"	---	---	---	---	---	---	---
n-Butylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
sec-Butylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
tert-Butylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
Carbon disulfide	ND	167	333	"	"	---	---	---	---	---	---	---
Carbon tetrachloride	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
Chlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
Chloroethane	ND	167	333	"	"	---	---	---	---	---	---	---
Chloroform	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
Chloromethane	ND	83.3	167	"	"	---	---	---	---	---	---	---
2-Chlorotoluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
4-Chlorotoluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
Dibromochloromethane	ND	33.3	66.7	"	"	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	83.3	167	"	"	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
Dibromomethane	ND	16.7	33.3	"	"	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	33.3	66.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	8.33	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloropropane	ND	8.33	16.7	"	"	---	---	---	---	---	---	---

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Project: **Devil's Lake Lincoln City**
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Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Blank (8030540-BLK1)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 15:03						
5035A/8260C												
1,3-Dichloropropane	ND	16.7	33.3	ug/kg wet	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	33.3	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	167	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	83.3	167	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	167	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Naphthalene	ND	33.3	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	83.3	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	83.3	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	8.33	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	33.3	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	8.33	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	16.7	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	8.33	16.7	"	"	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 105 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr) 101 % 80-120 % "

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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Blank (8030540-BLK1)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 15:03						
5035A/8260C												
<i>Surr: 4-Bromofluorobenzene (Surr)</i>						<i>Recovery: 97 % Limits: 80-120 % Dilution: 1x</i>						
LCS (8030540-BS1)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 13:46						
5035A/8260C												
Acetone	1770	500	1000	ug/kg wet	50	2000	---	88	80-120	---	---	
Acrylonitrile	996	50.0	100	"	"	1000	---	100	"	---	---	
Benzene	1010	5.00	10.0	"	"	"	---	101	"	---	---	
Bromobenzene	970	12.5	25.0	"	"	"	---	97	"	---	---	
Bromochloromethane	1060	25.0	50.0	"	"	"	---	106	"	---	---	
Bromodichloromethane	966	25.0	50.0	"	"	"	---	97	"	---	---	
Bromoform	970	50.0	100	"	"	"	---	97	"	---	---	
Bromomethane	1070	500	500	"	"	"	---	107	"	---	---	
2-Butanone (MEK)	1790	250	500	"	"	2000	---	90	"	---	---	
n-Butylbenzene	970	25.0	50.0	"	"	1000	---	97	"	---	---	
sec-Butylbenzene	1000	25.0	50.0	"	"	"	---	100	"	---	---	
tert-Butylbenzene	962	25.0	50.0	"	"	"	---	96	"	---	---	
Carbon disulfide	858	250	500	"	"	"	---	86	"	---	---	
Carbon tetrachloride	982	25.0	50.0	"	"	"	---	98	"	---	---	
Chlorobenzene	1000	12.5	25.0	"	"	"	---	100	"	---	---	
Chloroethane	878	250	500	"	"	"	---	88	"	---	---	
Chloroform	958	25.0	50.0	"	"	"	---	96	"	---	---	
Chloromethane	915	125	250	"	"	"	---	92	"	---	---	
2-Chlorotoluene	976	25.0	50.0	"	"	"	---	98	"	---	---	
4-Chlorotoluene	986	25.0	50.0	"	"	"	---	99	"	---	---	
Dibromochloromethane	1130	50.0	100	"	"	"	---	113	"	---	---	
1,2-Dibromo-3-chloropropane	1080	125	250	"	"	"	---	108	"	---	---	
1,2-Dibromoethane (EDB)	1010	25.0	50.0	"	"	"	---	101	"	---	---	
Dibromomethane	965	25.0	50.0	"	"	"	---	96	"	---	---	
1,2-Dichlorobenzene	952	12.5	25.0	"	"	"	---	95	"	---	---	
1,3-Dichlorobenzene	980	12.5	25.0	"	"	"	---	98	"	---	---	
1,4-Dichlorobenzene	951	12.5	25.0	"	"	"	---	95	"	---	---	
Dichlorodifluoromethane	938	50.0	100	"	"	"	---	94	"	---	---	
1,1-Dichloroethane	1020	12.5	25.0	"	"	"	---	102	"	---	---	
1,2-Dichloroethane (EDC)	1020	12.5	25.0	"	"	"	---	102	"	---	---	
1,1-Dichloroethene	984	12.5	25.0	"	"	"	---	98	"	---	---	

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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
LCS (8030540-BS1)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 13:46						
5035A/8260C												
cis-1,2-Dichloroethene	1040	12.5	25.0	ug/kg wet	"	"	---	104	"	---	---	
trans-1,2-Dichloroethene	996	12.5	25.0	"	"	"	---	100	"	---	---	
1,2-Dichloropropane	1030	12.5	25.0	"	"	"	---	103	"	---	---	
1,3-Dichloropropane	1000	25.0	50.0	"	"	"	---	100	"	---	---	
2,2-Dichloropropane	1030	25.0	50.0	"	"	"	---	103	"	---	---	
1,1-Dichloropropene	1010	25.0	50.0	"	"	"	---	101	"	---	---	
cis-1,3-Dichloropropene	1030	25.0	50.0	"	"	"	---	103	"	---	---	
trans-1,3-Dichloropropene	996	25.0	50.0	"	"	"	---	100	"	---	---	
Ethylbenzene	976	12.5	25.0	"	"	"	---	98	"	---	---	
Hexachlorobutadiene	849	50.0	100	"	"	"	---	85	"	---	---	
2-Hexanone	1890	250	500	"	"	2000	---	95	"	---	---	
Isopropylbenzene	970	25.0	50.0	"	"	1000	---	97	"	---	---	
4-Isopropyltoluene	978	25.0	50.0	"	"	"	---	98	"	---	---	
Methylene chloride	933	125	250	"	"	"	---	93	"	---	---	
4-Methyl-2-pentanone (MiBK)	1850	250	500	"	"	2000	---	92	"	---	---	
Methyl tert-butyl ether (MTBE)	974	25.0	50.0	"	"	1000	---	97	"	---	---	
Naphthalene	1030	50.0	100	"	"	"	---	103	"	---	---	
n-Propylbenzene	1030	12.5	25.0	"	"	"	---	103	"	---	---	
Styrene	970	25.0	50.0	"	"	"	---	97	"	---	---	
1,1,1,2-Tetrachloroethane	968	12.5	25.0	"	"	"	---	97	"	---	---	
1,1,2,2-Tetrachloroethane	1060	25.0	50.0	"	"	"	---	106	"	---	---	
Tetrachloroethene (PCE)	969	12.5	25.0	"	"	"	---	97	"	---	---	
Toluene	1010	25.0	50.0	"	"	"	---	101	"	---	---	
1,2,3-Trichlorobenzene	948	125	250	"	"	"	---	95	"	---	---	
1,2,4-Trichlorobenzene	956	125	250	"	"	"	---	96	"	---	---	
1,1,1-Trichloroethane	988	12.5	25.0	"	"	"	---	99	"	---	---	
1,1,2-Trichloroethane	999	12.5	25.0	"	"	"	---	100	"	---	---	
Trichloroethene (TCE)	1020	12.5	25.0	"	"	"	---	102	"	---	---	
Trichlorofluoromethane	842	50.0	100	"	"	"	---	84	"	---	---	
1,2,3-Trichloropropane	996	25.0	50.0	"	"	"	---	100	"	---	---	
1,2,4-Trimethylbenzene	946	25.0	50.0	"	"	"	---	95	"	---	---	
1,3,5-Trimethylbenzene	982	25.0	50.0	"	"	"	---	98	"	---	---	
Vinyl chloride	940	12.5	25.0	"	"	"	---	94	"	---	---	
m,p-Xylene	1970	25.0	50.0	"	"	2000	---	98	"	---	---	

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Lisa Domenighini For Philip Nerenberg, Lab Director

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Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
LCS (8030540-BS1)						Prepared: 03/07/18 10:30 Analyzed: 03/07/18 13:46						
5035A/8260C												
o-Xylene	969	12.5	25.0	ug/kg wet	"	1000	---	97	"	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 105 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>					
<i>Toluene-d8 (Surr)</i>			<i>102 %</i>		<i>80-120 %</i>		<i>"</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>		<i>80-120 %</i>		<i>"</i>					

Duplicate (8030540-DUP1) Prepared: 03/05/18 19:30 Analyzed: 03/07/18 16:23 V-15

QC Source Sample: Other (A8C0160-06)

5035A/8260C												
Acetone	ND	233000	467000	ug/kg dry	20000	---	ND	---	---	---	30%	
Acrylonitrile	ND	23300	46700	"	"	---	ND	---	---	---	30%	
Benzene	ND	2330	4670	"	"	---	ND	---	---	---	30%	
Bromobenzene	ND	5840	11700	"	"	---	ND	---	---	---	30%	
Bromochloromethane	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Bromodichloromethane	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Bromoform	ND	23300	46700	"	"	---	ND	---	---	---	30%	
Bromomethane	ND	233000	233000	"	"	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	117000	233000	"	"	---	ND	---	---	---	30%	
n-Butylbenzene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Carbon disulfide	ND	117000	233000	"	"	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Chlorobenzene	ND	5840	11700	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	117000	233000	"	"	---	ND	---	---	---	30%	
Chloroform	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	58400	117000	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	23300	46700	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	58400	117000	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	11700	23300	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	5840	11700	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	5840	11700	"	"	---	ND	---	---	---	30%	

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Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Duplicate (8030540-DUP1)						Prepared: 03/05/18 19:30 Analyzed: 03/07/18 16:23				V-15		
QC Source Sample: Other (A8C0160-06)												
5035A/8260C												
1,4-Dichlorobenzene	ND	5840	11700	ug/kg dry	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	23300	46700	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	5840	11700	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	5840	11700	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	5840	11700	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	5840	11700	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	5840	11700	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	5840	11700	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	11700	23300	"	"	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	11700	23300	"	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Ethylbenzene	11700	5840	11700	"	"	---	11900	---	---	2	30%	
Hexachlorobutadiene	ND	23300	46700	"	"	---	ND	---	---	---	30%	
2-Hexanone	ND	117000	233000	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	58400	117000	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	117000	233000	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Naphthalene	2800000	23300	46700	"	"	---	2820000	---	---	0.5	30%	
n-Propylbenzene	ND	5840	11700	"	"	---	ND	---	---	---	30%	
Styrene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	5840	11700	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	11700	23300	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	5840	11700	"	"	---	ND	---	---	---	30%	
Toluene	ND	11700	23300	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	58400	117000	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	58400	117000	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	5840	11700	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	5840	11700	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	5840	11700	"	"	---	ND	---	---	---	30%	

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Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Duplicate (8030540-DUP1)						Prepared: 03/05/18 19:30 Analyzed: 03/07/18 16:23					V-15	
QC Source Sample: Other (A8C0160-06)												
5035A/8260C												
Trichlorofluoromethane	ND	23300	46700	ug/kg dry	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	11700	23300	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	34100	11700	23300	"	"	---	36400	---	---	7	30%	
1,3,5-Trimethylbenzene	16600	11700	23300	"	"	---	18000	---	---	8	30%	J
Vinyl chloride	ND	5840	11700	"	"	---	ND	---	---	---	30%	
m,p-Xylene	19100	11700	23300	"	"	---	19100	---	---	0	30%	J
o-Xylene	8640	5840	11700	"	"	---	8400	---	---	3	30%	J

Surr: 1,4-Difluorobenzene (Surr) Recovery: 105 % Limits: 80-120 % Dilution: 1x
 Toluene-d8 (Surr) 100 % 80-120 % "
 4-Bromofluorobenzene (Surr) 97 % 80-120 % "

Matrix Spike (8030540-MS1) Prepared: 03/07/18 13:30 Analyzed: 03/07/18 18:10 V-16

QC Source Sample: Other (A8C0160-07)												
5035A/8260C												
Acetone	103000002660000	5320000	ug/kg wet	50000	10600000	ND	97	36-164	---	---		
Acrylonitrile	5840000 266000	532000	"	"	5320000	ND	110	65-134	---	---		
Benzene	5680000 26600	53200	"	"	"	ND	107	77-121	---	---		
Bromobenzene	5480000 66500	133000	"	"	"	ND	103	78-121	---	---		
Bromochloromethane	6050000 133000	266000	"	"	"	ND	114	78-125	---	---		
Bromodichloromethane	5330000 133000	266000	"	"	"	ND	100	75-127	---	---		
Bromoform	5300000 266000	532000	"	"	"	ND	100	67-132	---	---		
Bromomethane	62500002660000	2660000	"	"	"	ND	118	53-143	---	---		
2-Butanone (MEK)	105000001330000	2660000	"	"	10600000	ND	98	51-148	---	---		
n-Butylbenzene	5560000 133000	266000	"	"	5320000	ND	105	70-128	---	---		
sec-Butylbenzene	5660000 133000	266000	"	"	"	ND	106	73-126	---	---		
tert-Butylbenzene	5420000 133000	266000	"	"	"	ND	102	73-125	---	---		
Carbon disulfide	4850000 1330000	2660000	"	"	"	ND	91	63-132	---	---		
Carbon tetrachloride	5280000 133000	266000	"	"	"	ND	99	70-135	---	---		
Chlorobenzene	5560000 66500	133000	"	"	"	ND	105	79-120	---	---		
Chloroethane	5080000 1330000	2660000	"	"	"	ND	95	59-139	---	---		
Chloroform	5560000 133000	266000	"	"	"	ND	104	78-123	---	---		
Chloromethane	5280000 665000	1330000	"	"	"	ND	99	50-136	---	---		
2-Chlorotoluene	5530000 133000	266000	"	"	"	ND	104	75-122	---	---		

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Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Matrix Spike (8030540-MS1)						Prepared: 03/07/18 13:30 Analyzed: 03/07/18 18:10				V-16		
QC Source Sample: Other (A8C0160-07)												
5035A/8260C												
4-Chlorotoluene	5570000	133000	266000	ug/kg wet	"	"	ND	105	72-124	---	---	
Dibromochloromethane	6050000	266000	532000	"	"	"	ND	114	74-126	---	---	
1,2-Dibromo-3-chloropropane	5620000	665000	1330000	"	"	"	ND	106	61-132	---	---	
1,2-Dibromoethane (EDB)	5760000	133000	266000	"	"	"	ND	108	78-122	---	---	
Dibromomethane	5480000	133000	266000	"	"	"	ND	103	78-125	---	---	
1,2-Dichlorobenzene	5210000	66500	133000	"	"	"	ND	98	78-121	---	---	
1,3-Dichlorobenzene	5470000	66500	133000	"	"	"	ND	103	77-121	---	---	
1,4-Dichlorobenzene	5310000	66500	133000	"	"	"	ND	100	75-120	---	---	
Dichlorodifluoromethane	5450000	266000	532000	"	"	"	ND	102	29-149	---	---	
1,1-Dichloroethane	5800000	66500	133000	"	"	"	ND	109	76-125	---	---	
1,2-Dichloroethane (EDC)	5800000	66500	133000	"	"	"	ND	109	73-128	---	---	
1,1-Dichloroethene	5580000	66500	133000	"	"	"	ND	105	70-131	---	---	
cis-1,2-Dichloroethene	5820000	66500	133000	"	"	"	ND	109	77-123	---	---	
trans-1,2-Dichloroethene	5550000	66500	133000	"	"	"	ND	104	74-125	---	---	
1,2-Dichloropropane	5770000	66500	133000	"	"	"	ND	108	76-123	---	---	
1,3-Dichloropropane	5650000	133000	266000	"	"	"	ND	106	77-121	---	---	
2,2-Dichloropropane	5500000	133000	266000	"	"	"	ND	103	67-133	---	---	
1,1-Dichloropropene	5700000	133000	266000	"	"	"	ND	107	76-125	---	---	
cis-1,3-Dichloropropene	5440000	133000	266000	"	"	"	ND	102	74-126	---	---	
trans-1,3-Dichloropropene	5440000	133000	266000	"	"	"	ND	102	71-130	---	---	
Ethylbenzene	6310000	66500	133000	"	"	"	957000	101	76-122	---	---	
Hexachlorobutadiene	4660000	266000	532000	"	"	"	ND	88	61-135	---	---	
2-Hexanone	10400000	1330000	2660000	"	"	10600000	ND	98	53-145	---	---	
Isopropylbenzene	5480000	133000	266000	"	"	5320000	ND	103	68-134	---	---	
4-Isopropyltoluene	5620000	133000	266000	"	"	"	ND	106	73-127	---	---	
Methylene chloride	5400000	665000	1330000	"	"	"	ND	101	70-128	---	---	
4-Methyl-2-pentanone (MiBK)	10300000	1330000	2660000	"	"	10600000	ND	97	65-135	---	---	
Methyl tert-butyl ether (MTBE)	5340000	133000	266000	"	"	5320000	ND	100	73-125	---	---	
Naphthalene	8950000	266000	532000	"	"	"	9120000	-33	62-129	---	---	E, Q-03
n-Propylbenzene	5840000	66500	133000	"	"	"	95700	108	73-125	---	---	
Styrene	5560000	133000	266000	"	"	"	ND	105	76-124	---	---	
1,1,1,2-Tetrachloroethane	5330000	66500	133000	"	"	"	ND	100	78-125	---	---	
1,1,2,2-Tetrachloroethane	5880000	133000	266000	"	"	"	ND	110	70-124	---	---	

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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
 2001 NW 19th Ave, STE 200
 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: 1467.01.02
 Project Manager: Merideth D'Andrea

Reported:
 04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030540 - EPA 5035A						Soil						
Matrix Spike (8030540-MS1)						Prepared: 03/07/18 13:30 Analyzed: 03/07/18 18:10					V-16	
QC Source Sample: Other (A8C0160-07)												
5035A/8260C												
Tetrachloroethene (PCE)	5240000	66500	133000	ug/kg wet	"	"	ND	98	73-128	---	---	
Toluene	5600000	133000	266000	"	"	"	218000	101	77-121	---	---	
1,2,3-Trichlorobenzene	4750000	665000	1330000	"	"	"	ND	89	66-130	---	---	
1,2,4-Trichlorobenzene	4660000	665000	1330000	"	"	"	ND	88	67-129	---	---	
1,1,1-Trichloroethane	5450000	66500	133000	"	"	"	ND	102	73-130	---	---	
1,1,2-Trichloroethane	5670000	66500	133000	"	"	"	ND	107	78-121	---	---	
Trichloroethene (TCE)	5640000	66500	133000	"	"	"	ND	106	77-123	---	---	
Trichlorofluoromethane	5100000	266000	532000	"	"	"	ND	96	62-140	---	---	
1,2,3-Trichloropropane	5410000	133000	266000	"	"	"	ND	102	73-125	---	---	
1,2,4-Trimethylbenzene	6920000	133000	266000	"	"	"	1880000	95	75-123	---	---	
1,3,5-Trimethylbenzene	6220000	133000	266000	"	"	"	915000	100	73-124	---	---	
Vinyl chloride	5630000	66500	133000	"	"	"	ND	106	56-135	---	---	
m,p-Xylene	12300000	133000	266000	"	"	10600000	1430000	102	77-124	---	---	
o-Xylene	6000000	66500	133000	"	"	5320000	566000	102	77-123	---	---	

Surr: 1,4-Difluorobenzene (Surr)	Recovery: 105 %	Limits: 80-120 %	Dilution: 1x
Toluene-d8 (Surr)	100 %	80-120 %	"
4-Bromofluorobenzene (Surr)	97 %	80-120 %	"

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Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030727 - EPA 3546						Soil						
Blank (8030727-BLK1)						Prepared: 03/13/18 13:43 Analyzed: 03/14/18 17:03						C-07
EPA 8082A												
Aroclor 1016	ND	0.645	1.29	ug/kg wet	1	---	---	---	---	---	---	---
Aroclor 1221	ND	0.645	1.29	"	"	---	---	---	---	---	---	---
Aroclor 1232	ND	0.645	1.29	"	"	---	---	---	---	---	---	---
Aroclor 1242	ND	0.645	1.29	"	"	---	---	---	---	---	---	---
Aroclor 1248	ND	0.645	1.29	"	"	---	---	---	---	---	---	---
Aroclor 1254	ND	0.645	1.29	"	"	---	---	---	---	---	---	---
Aroclor 1260	ND	0.645	1.29	"	"	---	---	---	---	---	---	---
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 89 %</i>		<i>Limits: 53-120 %</i>		<i>Dilution: 1x</i>						
LCS (8030727-BS1)						Prepared: 03/13/18 13:43 Analyzed: 03/14/18 17:22						C-07
EPA 8082A												
Aroclor 1016	50.2	0.667	1.33	ug/kg wet	1	83.3	---	60	47-134	---	---	---
Aroclor 1260	61.7	0.667	1.33	"	"	"	---	74	53-140	---	---	---
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 53-120 %</i>		<i>Dilution: 1x</i>						
Duplicate (8030727-DUP1)						Prepared: 03/13/18 13:43 Analyzed: 03/14/18 17:40						C-07
QC Source Sample: Other (A8C0114-01)												
EPA 8082A												
Aroclor 1016	ND	0.941	1.88	ug/kg dry	1	---	ND	---	---	---	---	30%
Aroclor 1221	ND	0.941	1.88	"	"	---	ND	---	---	---	---	30%
Aroclor 1232	ND	0.941	1.88	"	"	---	ND	---	---	---	---	30%
Aroclor 1242	ND	0.941	1.88	"	"	---	ND	---	---	---	---	30%
Aroclor 1248	ND	0.941	1.88	"	"	---	ND	---	---	---	---	30%
Aroclor 1254	ND	0.941	1.88	"	"	---	ND	---	---	---	---	30%
Aroclor 1260	ND	0.941	1.88	"	"	---	ND	---	---	---	---	30%
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 53-120 %</i>		<i>Dilution: 1x</i>						
Matrix Spike (8030727-MS1)						Prepared: 03/13/18 13:43 Analyzed: 03/15/18 10:38						C-07
QC Source Sample: Other (A8C0114-07)												
EPA 8082A												
Aroclor 1016	47.8	0.755	1.51	ug/kg dry	1	94.4	ND	51	47-134	---	---	---
Aroclor 1260	59.8	0.755	1.51	"	"	"	10.1	53	53-140	---	---	---
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 60 %</i>		<i>Limits: 53-120 %</i>		<i>Dilution: 1x</i>						

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Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030759 - EPA 3546						Soil						
Blank (8030759-BLK1)						Prepared: 03/14/18 10:56 Analyzed: 03/14/18 14:59						
EPA 8270D (SIM)												
Acenaphthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	---
Acenaphthylene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Anthracene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Benz(a)anthracene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Chrysene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Dibenzofuran	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Fluoranthene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Fluorene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Naphthalene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Phenanthrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---
Pyrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	---

Surr: 2-Fluorobiphenyl (Surr) Recovery: 72 % Limits: 44-120 % Dilution: 1x
 p-Terphenyl-d14 (Surr) 93 % 54-127 % "

LCS (8030759-BS1)

Prepared: 03/14/18 10:56 Analyzed: 03/14/18 15:25

EPA 8270D (SIM)												
Acenaphthene	390	1.33	2.67	ug/kg wet	1	533	---	73	40-122	---	---	---
Acenaphthylene	374	1.33	2.67	"	"	"	---	70	32-132	---	---	---
Anthracene	438	1.33	2.67	"	"	"	---	82	47-123	---	---	---
Benz(a)anthracene	463	1.33	2.67	"	"	"	---	87	49-126	---	---	---
Benzo(a)pyrene	495	1.33	2.67	"	"	"	---	93	45-129	---	---	---
Benzo(b)fluoranthene	525	1.33	2.67	"	"	"	---	99	45-132	---	---	---
Benzo(k)fluoranthene	477	1.33	2.67	"	"	"	---	89	47-132	---	---	---
Benzo(g,h,i)perylene	445	1.33	2.67	"	"	"	---	83	43-134	---	---	---
Chrysene	478	1.33	2.67	"	"	"	---	90	50-124	---	---	---
Dibenz(a,h)anthracene	496	1.33	2.67	"	"	"	---	93	45-134	---	---	---
Dibenzofuran	388	1.33	2.67	"	"	"	---	73	44-120	---	---	---

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Project: **Devil's Lake Lincoln City**
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Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030759 - EPA 3546												
Soil												
LCS (8030759-BS1) Prepared: 03/14/18 10:56 Analyzed: 03/14/18 15:25												
EPA 8270D (SIM)												
Fluoranthene	446	1.33	2.67	ug/kg wet	"	"	---	84	50-127	---	---	
Fluorene	409	1.33	2.67	"	"	"	---	77	43-125	---	---	
Indeno(1,2,3-cd)pyrene	467	1.33	2.67	"	"	"	---	88	45-133	---	---	
1-Methylnaphthalene	360	1.33	2.67	"	"	"	---	68	40-120	---	---	
2-Methylnaphthalene	366	1.33	2.67	"	"	"	---	69	38-122	---	---	
Naphthalene	347	1.33	2.67	"	"	"	---	65	35-123	---	---	
Phenanthrene	435	1.33	2.67	"	"	"	---	82	50-121	---	---	
Pyrene	451	1.33	2.67	"	"	"	---	85	47-127	---	---	

Surr: 2-Fluorobiphenyl (Surr) Recovery: 65 % Limits: 44-120 % Dilution: 1x
 p-Terphenyl-d14 (Surr) 96 % 54-127 % "

Duplicate (8030759-DUP1) Prepared: 03/14/18 10:56 Analyzed: 03/14/18 23:21

QC Source Sample: Other (A8C0318-01)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8270D (SIM)												
Acenaphthene	ND	7.46	14.9	ug/kg dry	5	---	ND	---	---	---	30%	
Acenaphthylene	25.6	7.46	14.9	"	"	---	25.6	---	---	0.03	30%	
Anthracene	ND	7.46	14.9	"	"	---	ND	---	---	---	30%	
Benz(a)anthracene	51.6	7.46	14.9	"	"	---	61.3	---	---	17	30%	M-05
Benzo(a)pyrene	120	7.46	14.9	"	"	---	136	---	---	12	30%	
Benzo(b)fluoranthene	137	7.46	14.9	"	"	---	162	---	---	17	30%	M-05
Benzo(k)fluoranthene	35.5	7.46	14.9	"	"	---	38.7	---	---	9	30%	M-05
Benzo(g,h,i)perylene	131	7.46	14.9	"	"	---	156	---	---	17	30%	
Chrysene	79.0	7.46	14.9	"	"	---	94.2	---	---	18	30%	M-05
Dibenz(a,h)anthracene	12.9	7.46	14.9	"	"	---	14.4	---	---	11	30%	J
Dibenzofuran	ND	7.46	14.9	"	"	---	ND	---	---	---	30%	
Fluoranthene	94.3	7.46	14.9	"	"	---	108	---	---	13	30%	
Fluorene	ND	7.46	14.9	"	"	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	108	7.46	14.9	"	"	---	128	---	---	17	30%	
1-Methylnaphthalene	ND	7.46	14.9	"	"	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	7.46	14.9	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	7.46	14.9	"	"	---	ND	---	---	---	30%	
Phenanthrene	31.7	7.46	14.9	"	"	---	32.1	---	---	1	30%	
Pyrene	140	7.46	14.9	"	"	---	167	---	---	17	30%	

Surr: 2-Fluorobiphenyl (Surr) Recovery: 77 % Limits: 44-120 % Dilution: 5x

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Project: **Devil's Lake Lincoln City**
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Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030759 - EPA 3546						Soil						
Duplicate (8030759-DUP1)						Prepared: 03/14/18 10:56 Analyzed: 03/14/18 23:21						
QC Source Sample: Other (A8C0318-01)												
EPA 8270D (SIM)												
Surr: <i>p-Terphenyl-d14 (Surr)</i> Recovery: 99 % Limits: 54-127 % Dilution: 5x												
Matrix Spike (8030759-MS1)						Prepared: 03/14/18 10:56 Analyzed: 03/14/18 23:47						
QC Source Sample: Other (A8C0318-01)												
EPA 8270D (SIM)												
Acenaphthene	512	7.45	14.9	ug/kg dry	5	596	ND	86	40-122	---	---	
Acenaphthylene	517	7.45	14.9	"	"	"	25.6	82	32-132	---	---	
Anthracene	525	7.45	14.9	"	"	"	ND	88	47-123	---	---	
Benz(a)anthracene	544	7.45	14.9	"	"	"	61.3	81	49-126	---	---	
Benzo(a)pyrene	651	7.45	14.9	"	"	"	136	87	45-129	---	---	
Benzo(b)fluoranthene	703	7.45	14.9	"	"	"	162	91	45-132	---	---	
Benzo(k)fluoranthene	571	7.45	14.9	"	"	"	38.7	89	47-132	---	---	
Benzo(g,h,i)perylene	553	7.45	14.9	"	"	"	156	67	43-134	---	---	
Chrysene	585	7.45	14.9	"	"	"	94.2	82	50-124	---	---	
Dibenz(a,h)anthracene	537	7.45	14.9	"	"	"	14.4	88	45-134	---	---	
Dibenzofuran	502	7.45	14.9	"	"	"	ND	84	44-120	---	---	
Fluoranthene	607	7.45	14.9	"	"	"	108	84	50-127	---	---	
Fluorene	532	7.45	14.9	"	"	"	ND	89	43-125	---	---	
Indeno(1,2,3-cd)pyrene	571	7.45	14.9	"	"	"	128	74	45-133	---	---	
1-Methylnaphthalene	471	7.45	14.9	"	"	"	ND	79	40-120	---	---	
2-Methylnaphthalene	470	7.45	14.9	"	"	"	ND	79	38-122	---	---	
Naphthalene	432	7.45	14.9	"	"	"	ND	73	35-123	---	---	
Phenanthrene	554	7.45	14.9	"	"	"	32.1	88	50-121	---	---	
Pyrene	658	7.45	14.9	"	"	"	167	82	47-127	---	---	
Surr: <i>2-Fluorobiphenyl (Surr)</i> Recovery: 78 % Limits: 44-120 % Dilution: 5x												
<i>p-Terphenyl-d14 (Surr)</i> 99 % 54-127 % "												

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Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8031106 - EPA 3051A						Soil						
Blank (8031106-BLK1)						Prepared: 03/23/18 11:42 Analyzed: 03/24/18 19:17						
EPA 6020A												
Antimony	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	---
Arsenic	ND	0.500	1.00	"	"	---	---	---	---	---	---	---
Beryllium	ND	0.100	0.200	"	"	---	---	---	---	---	---	---
Cadmium	ND	0.100	0.200	"	"	---	---	---	---	---	---	---
Chromium	ND	0.500	1.00	"	"	---	---	---	---	---	---	---
Copper	ND	0.500	1.00	"	"	---	---	---	---	---	---	---
Lead	ND	0.100	0.200	"	"	---	---	---	---	---	---	---
Mercury	ND	0.0400	0.0800	"	"	---	---	---	---	---	---	---
Nickel	ND	0.500	1.00	"	"	---	---	---	---	---	---	---
Selenium	ND	0.500	1.00	"	"	---	---	---	---	---	---	---
Silver	ND	0.100	0.200	"	"	---	---	---	---	---	---	---
Thallium	ND	0.100	0.200	"	"	---	---	---	---	---	---	---
Zinc	ND	2.00	4.00	"	"	---	---	---	---	---	---	---
LCS (8031106-BS1)						Prepared: 03/23/18 11:42 Analyzed: 03/24/18 19:20						
EPA 6020A												
Antimony	25.1	0.500	1.00	mg/kg wet	10	25.0	---	100	80-120	---	---	---
Arsenic	50.7	0.500	1.00	"	"	50.0	---	101	"	---	---	---
Beryllium	25.4	0.100	0.200	"	"	25.0	---	102	"	---	---	---
Cadmium	49.2	0.100	0.200	"	"	50.0	---	98	"	---	---	---
Chromium	50.7	0.500	1.00	"	"	"	---	101	"	---	---	---
Copper	52.9	0.500	1.00	"	"	"	---	106	"	---	---	---
Lead	50.0	0.100	0.200	"	"	"	---	100	"	---	---	---
Mercury	1.02	0.0400	0.0800	"	"	1.00	---	102	"	---	---	---
Nickel	51.1	0.500	1.00	"	"	50.0	---	102	"	---	---	---
Selenium	27.1	0.500	1.00	"	"	25.0	---	109	"	---	---	---
Silver	24.2	0.100	0.200	"	"	"	---	97	"	---	---	---
Thallium	25.2	0.100	0.200	"	"	"	---	101	"	---	---	---
Zinc	50.0	2.00	4.00	"	"	50.0	---	100	"	---	---	---
Duplicate (8031106-DUP1)						Prepared: 03/23/18 11:42 Analyzed: 03/24/18 19:52						
QC Source Sample: Other (A8C0316-01)												
EPA 6020A												
Antimony	ND	0.577	1.15	mg/kg dry	10	---	ND	---	---	---	40%	---
Arsenic	2.71	0.577	1.15	"	"	---	2.99	---	---	10	40%	---

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Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8031106 - EPA 3051A												
Soil												
Duplicate (8031106-DUP1)						Prepared: 03/23/18 11:42 Analyzed: 03/24/18 19:52						
QC Source Sample: Other (A8C0316-01)												
EPA 6020A												
Beryllium	0.266	0.115	0.231	mg/kg dry	"	---	0.329	---	---	21	40%	
Cadmium	0.404	0.115	0.231	"	"	---	0.442	---	---	9	40%	
Chromium	11.2	0.577	1.15	"	"	---	18.1	---	---	46	40%	Q-04
Copper	16.7	0.577	1.15	"	"	---	20.6	---	---	21	40%	
Lead	13.6	0.115	0.231	"	"	---	13.4	---	---	2	40%	
Mercury	0.0649	0.0462	0.0924	"	"	---	0.0702	---	---	8	40%	J
Nickel	15.3	0.577	1.15	"	"	---	18.9	---	---	21	40%	
Selenium	ND	0.577	1.15	"	"	---	ND	---	---	---	40%	
Silver	ND	0.115	0.231	"	"	---	ND	---	---	---	40%	
Thallium	ND	0.115	0.231	"	"	---	ND	---	---	---	40%	
Zinc	66.9	2.31	4.62	"	"	---	69.3	---	---	4	40%	

Matrix Spike (8031106-MS1)						Prepared: 03/23/18 11:42 Analyzed: 03/26/18 18:32						
QC Source Sample: Other (A8C0316-01)												
EPA 6020A												
Antimony	23.5	0.565	1.13	mg/kg dry	10	28.2	ND	83	75-125	---	---	
Arsenic	58.0	0.565	1.13	"	"	56.6	2.99	97	"	---	---	
Beryllium	29.8	0.113	0.226	"	"	28.2	0.329	104	"	---	---	
Cadmium	57.7	0.113	0.226	"	"	56.6	0.442	101	"	---	---	
Chromium	74.1	0.565	1.13	"	"	"	18.1	99	"	---	---	
Copper	78.7	0.565	1.13	"	"	"	20.6	103	"	---	---	
Lead	75.0	0.113	0.226	"	"	"	13.4	109	"	---	---	
Mercury	1.19	0.0452	0.0905	"	"	1.13	0.0702	99	"	---	---	
Nickel	82.5	0.565	1.13	"	"	56.6	18.9	112	"	---	---	
Selenium	28.9	0.565	1.13	"	"	28.2	ND	102	"	---	---	
Silver	28.5	0.113	0.226	"	"	"	ND	101	"	---	---	
Thallium	28.5	0.113	0.226	"	"	"	ND	101	"	---	---	
Zinc	144	2.26	4.52	"	"	56.6	69.3	132	"	---	---	Q-03

Matrix Spike (8031106-MS2)						Prepared: 03/23/18 11:42 Analyzed: 03/24/18 20:49						
QC Source Sample: Other (A8C0804-03)												
EPA 6020A												
Antimony	24.6	0.537	1.07	mg/kg dry	10	26.8	ND	92	75-125	---	---	

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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Reported: 04/04/18 10:20
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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8031106 - EPA 3051A						Soil						
Matrix Spike (8031106-MS2)						Prepared: 03/23/18 11:42 Analyzed: 03/24/18 20:49						
QC Source Sample: Other (A8C0804-03)												
EPA 6020A												
Arsenic	56.8	0.537	1.07	mg/kg dry	"	53.8	2.37	101	"	---	---	
Beryllium	28.8	0.107	0.215	"	"	26.8	0.231	106	"	---	---	
Cadmium	55.5	0.107	0.215	"	"	53.8	0.535	102	"	---	---	
Chromium	65.6	0.537	1.07	"	"	"	10.3	103	"	---	---	
Copper	72.9	0.537	1.07	"	"	"	19.3	100	"	---	---	
Lead	57.1	0.107	0.215	"	"	"	4.37	98	"	---	---	
Mercury	1.61	0.0430	0.0860	"	"	1.07	ND	150	"	---	---	Q-04
Nickel	65.4	0.537	1.07	"	"	53.8	11.1	101	"	---	---	
Selenium	29.8	0.537	1.07	"	"	26.8	ND	111	"	---	---	
Silver	27.5	0.107	0.215	"	"	"	ND	102	"	---	---	
Thallium	26.9	0.107	0.215	"	"	"	ND	100	"	---	---	
Zinc	99.2	2.15	4.30	"	"	53.8	55.6	81	"	---	---	



Maul Foster & Alongi, INC.
 2001 NW 19th Ave, STE 200
 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: 1467.01.02
 Project Manager: Merideth D'Andrea

Reported:
 04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8031224 - EPA 3051A						Soil						
Blank (8031224-BLK1)						Prepared: 03/27/18 13:14 Analyzed: 03/27/18 18:32						
EPA 6020A												
Mercury	ND	0.0385	0.0769	mg/kg wet	10	---	---	---	---	---	---	---
LCS (8031224-BS1)						Prepared: 03/27/18 13:14 Analyzed: 03/27/18 18:38						
EPA 6020A												
Mercury	0.886	0.0400	0.0800	mg/kg wet	10	1.00	---	89	80-120	---	---	---
Duplicate (8031224-DUP1)						Prepared: 03/27/18 13:14 Analyzed: 03/27/18 19:02						
QC Source Sample: Other (A8C0988-01)												
EPA 6020A												
Mercury	ND	0.0547	0.109	mg/kg dry	10	---	ND	---	---	---	---	40%
Matrix Spike (8031224-MS1)						Prepared: 03/27/18 13:14 Analyzed: 03/27/18 19:06						
QC Source Sample: Other (A8C0988-01)												
EPA 6020A												
Mercury	1.29	0.0577	0.115	mg/kg dry	10	1.44	ND	90	75-125	---	---	---

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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8030584 - Total Solids (Dry Weight)						Soil						
Duplicate (8030584-DUP1)						Prepared: 03/08/18 12:45 Analyzed: 03/09/18 08:20						
QC Source Sample: Other (A8B0608-06)												
EPA 8000C												
% Solids	66.1	1.00	1.00	% by Weight	1	---	66.6	---	---	0.8	10%	
Duplicate (8030584-DUP2)						Prepared: 03/08/18 12:45 Analyzed: 03/09/18 08:20						
QC Source Sample: Other (A8C0168-01)												
EPA 8000C												
% Solids	72.7	1.00	1.00	% by Weight	1	---	73.2	---	---	0.7	10%	
Duplicate (8030584-DUP3)						Prepared: 03/08/18 12:45 Analyzed: 03/09/18 08:20						
QC Source Sample: Other (A8C0173-10)												
EPA 8000C												
% Solids	74.1	1.00	1.00	% by Weight	1	---	74.9	---	---	1	10%	
Duplicate (8030584-DUP4)						Prepared: 03/08/18 12:45 Analyzed: 03/09/18 08:20						
QC Source Sample: Other (A8C0262-01)												
EPA 8000C												
% Solids	82.2	1.00	1.00	% by Weight	1	---	83.7	---	---	2	10%	
Duplicate (8030584-DUP5)						Prepared: 03/08/18 19:46 Analyzed: 03/09/18 08:20						
QC Source Sample: Other (A8C0289-01)												
EPA 8000C												
% Solids	75.9	1.00	1.00	% by Weight	1	---	75.1	---	---	1	10%	
Duplicate (8030584-DUP6)						Prepared: 03/08/18 19:46 Analyzed: 03/09/18 08:20						
QC Source Sample: Other (A8C0305-01)												
EPA 8000C												
% Solids	72.3	1.00	1.00	% by Weight	1	---	71.8	---	---	0.7	10%	

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Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8030724							
A8C0238-01	Soil	NWTPH-Dx	03/07/18 10:55	03/13/18 13:21	10.77g/5mL	10g/5mL	0.93
A8C0238-02	Soil	NWTPH-Dx	03/07/18 13:18	03/13/18 13:21	10.25g/5mL	10g/5mL	0.98
A8C0238-03	Soil	NWTPH-Dx	03/07/18 11:55	03/13/18 13:21	10.68g/5mL	10g/5mL	0.94

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

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8030540							
A8C0238-01	Soil	NWTPH-Gx (MS)	03/07/18 10:55	03/07/18 10:55	5.34g/5mL	5g/5mL	0.94
A8C0238-02	Soil	NWTPH-Gx (MS)	03/07/18 13:18	03/07/18 13:18	5.69g/5mL	5g/5mL	0.88
A8C0238-03	Soil	NWTPH-Gx (MS)	03/07/18 11:55	03/07/18 11:55	6.54g/5mL	5g/5mL	0.77

Volatile Organic Compounds by EPA 5035A/8260C

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8030540							
A8C0238-01	Soil	5035A/8260C	03/07/18 10:55	03/07/18 10:55	5.34g/5mL	5g/5mL	0.94
A8C0238-02	Soil	5035A/8260C	03/07/18 13:18	03/07/18 13:18	5.69g/5mL	5g/5mL	0.88
A8C0238-03	Soil	5035A/8260C	03/07/18 11:55	03/07/18 11:55	6.54g/5mL	5g/5mL	0.77

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8030727							
A8C0238-01	Soil	EPA 8082A	03/07/18 10:55	03/13/18 13:43	10.29g/5mL	10g/5mL	0.97
A8C0238-02	Soil	EPA 8082A	03/07/18 13:18	03/13/18 13:43	10.28g/5mL	10g/5mL	0.97
A8C0238-03	Soil	EPA 8082A	03/07/18 11:55	03/13/18 13:43	10.47g/5mL	10g/5mL	0.96

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
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Lisa Domenighini For Philip Nerenberg, Lab Director

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8030759							
A8C0238-01	Soil	EPA 8270D (SIM)	03/07/18 10:55	03/14/18 10:56	11.18g/5mL	10g/5mL	0.89
A8C0238-02	Soil	EPA 8270D (SIM)	03/07/18 13:18	03/14/18 10:56	10.24g/5mL	10g/5mL	0.98
A8C0238-03	Soil	EPA 8270D (SIM)	03/07/18 11:55	03/14/18 10:56	10.4g/5mL	10g/5mL	0.96

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8031106							
A8C0238-01	Soil	EPA 6020A	03/07/18 10:55	03/23/18 11:42	0.494g/50mL	0.5g/50mL	1.01
A8C0238-02	Soil	EPA 6020A	03/07/18 13:18	03/23/18 11:42	0.463g/50mL	0.5g/50mL	1.08
A8C0238-03	Soil	EPA 6020A	03/07/18 11:55	03/23/18 11:42	0.482g/50mL	0.5g/50mL	1.04
Batch: 8031224							
A8C0238-01RE	Soil	EPA 6020A	03/07/18 10:55	03/27/18 13:14	0.462g/50mL	0.5g/50mL	1.08

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8030584							
A8C0238-01	Soil	EPA 8000C	03/07/18 10:55	03/08/18 12:45	1N/A/1N/A	1N/A/1N/A	NA
A8C0238-02	Soil	EPA 8000C	03/07/18 13:18	03/08/18 12:45	1N/A/1N/A	1N/A/1N/A	NA
A8C0238-03	Soil	EPA 8000C	03/07/18 11:55	03/08/18 12:45	1N/A/1N/A	1N/A/1N/A	NA

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Project: **Devil's Lake Lincoln City**
 Project Number: 1467.01.02
 Project Manager: Merideth D'Andrea

Reported:
 04/04/18 10:20

Notes and Definitions

Qualifiers:

- 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.
- E Estimated Value. The result is above the calibration range of the instrument.
- 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-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- 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-03 Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
- Q-04 Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-17 RPD between original and duplicate sample is outside of established control limits.
- V-15 Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.
- V-16 Sample aliquot was subsampled from the sample container in the laboratory. The subsampled aliquot was not preserved within 48 hours of sampling.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they 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.

 For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

 Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

Apex Laboratories

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Reported:

04/04/18 10:20

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).



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Project: **Devil's Lake Lincoln City**
Project Number: 1467.01.02
Project Manager: Merideth D'Andrea

Reported:
04/04/18 10:20

APEX LABS COOLER RECEIPT FORM

Client: MFA Element WO#: A8 20238

Project/Project #: Devil's Lake

Delivery info:

Date/Time Received: 3/7/18 @ 1707 By: KAL

Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Inspected by: KAL : 3/7/18 @ 1707

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 (deg. C)							
Received on Ice? (Y/N)							
Temp. Blanks? (Y/N)	<u>1.0</u>						
Ice Type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>good</u>						

Temperature (deg. C) _____

Received on Ice? (Y/N) _____

Temp. Blanks? (Y/N) _____

Ice Type: (Gel/Real/Other) _____

Condition: _____

Cooler out of temp? (Y/N) Possible reason why: _____

If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA

Samples Inspection: Inspected by: DUC : 3/7/18 @ 1715

All Samples Intact? Yes No Comments: _____

Bottle Labels/COCs agree? Yes No Comments: _____

Containers/Volumes Received Appropriate for Analysis? Yes No Comments: _____

Do VOA Vials have Visible Headpace? Yes No NA

Comments: _____

Water Samples: pH Checked and Appropriate (except VOAs): Yes No NA

Comments: _____

Additional Information: _____

Labeled by: _____ Witness: _____ Cooler Inspected by: _____ See Project Contact Form: Y

KAL

CFH

KAL

Lisa Domenighini



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Thursday, July 12, 2018

Merideth D'Andrea
Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

RE: A8F0979 - Devil's Lake Lincoln City - 1467.01.02

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 A8F0979, which was received by the laboratory on 6/29/2018 at 11:01:00AM.

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.

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

A handwritten signature in black ink that reads "Philip Nerenberg".

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**

Project Number: **1467.01.02**

Project Manager: **Merideth D'Andrea**

Report ID:

A8F0979 - 07 12 18 1843

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-5.0-01	A8F0979-01	Soil	06/28/18 13:00	06/29/18 11:01
GW-5.0-01	A8F0979-02	Water	06/28/18 14:30	06/29/18 11:01
HA-3.0-02	A8F0979-03	Soil	06/28/18 15:00	06/29/18 11:01

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
HA-5.0-01 (A8F0979-01)			Matrix: Soil			Batch: 8070435		
Diesel	111	---	25.1	mg/kg dry	1	07/07/18	NWTPH-Dx	F-17
Oil	ND	---	50.1	mg/kg dry	1	07/07/18	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/07/18</i>	<i>NWTPH-Dx</i>
GW-5.0-01 (A8F0979-02)			Matrix: Water			Batch: 8070299		
Diesel	ND	---	0.229	mg/L	1	07/02/18	NWTPH-Dx	
Oil	ND	---	0.457	mg/L	1	07/02/18	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/02/18</i>	<i>NWTPH-Dx</i>
HA-3.0-02 (A8F0979-03)			Matrix: Soil			Batch: 8070435		
Diesel	ND	---	25.0	mg/kg dry	1	07/07/18	NWTPH-Dx	
Oil	ND	---	50.0	mg/kg dry	1	07/07/18	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/07/18</i>	<i>NWTPH-Dx</i>



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

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	
HA-5.0-01 (A8F0979-01)			Matrix: Soil		Batch: 8070323				
Gasoline Range Organics	ND	---	6.91	mg/kg dry	50	07/02/18	NWTPH-Gx (MS)		
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery: 103 %	Limits: 50-150 %	1	07/02/18	NWTPH-Gx (MS)			
1,4-Difluorobenzene (Sur)		95 %	50-150 %	1	07/02/18	NWTPH-Gx (MS)			
GW-5.0-01 (A8F0979-02RE1)			Matrix: Water		Batch: 8070304				V-01, V-04
Gasoline Range Organics	ND	---	0.100	mg/L	1	07/02/18	NWTPH-Gx (MS)		
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery: 97 %	Limits: 50-150 %	1	07/02/18	NWTPH-Gx (MS)			
1,4-Difluorobenzene (Sur)		102 %	50-150 %	1	07/02/18	NWTPH-Gx (MS)			
HA-3.0-02 (A8F0979-03)			Matrix: Soil		Batch: 8070323				
Gasoline Range Organics	33.2	---	4.98	mg/kg dry	50	07/02/18	NWTPH-Gx (MS)		
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery: 106 %	Limits: 50-150 %	1	07/02/18	NWTPH-Gx (MS)			
1,4-Difluorobenzene (Sur)		95 %	50-150 %	1	07/02/18	NWTPH-Gx (MS)			



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GW-5.0-01 (A8F0979-02RE1)			Matrix: Water		Batch: 8070304		V-01, V-04	
Acetone	ND	---	20.0	ug/L	1	07/02/18	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	07/02/18	EPA 8260C	
Benzene	ND	---	0.200	ug/L	1	07/02/18	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Bromoform	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	07/02/18	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	07/02/18	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	07/02/18	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	07/02/18	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	07/02/18	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	07/02/18	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GW-5.0-01 (A8F0979-02RE1)			Matrix: Water		Batch: 8070304		V-01, V-04	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	07/02/18	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	07/02/18	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	07/02/18	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	07/02/18	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	07/02/18	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	07/02/18	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	07/02/18	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	07/02/18	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	07/02/18	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	07/02/18	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	07/02/18	EPA 8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>EPA 8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>EPA 8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>EPA 8260C</i>



Maul Foster & Alongi, INC.
 2001 NW 19th Ave, STE 200
 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: **1467.01.02**
 Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
HA-5.0-01 (A8F0979-01)			Matrix: Soil			Batch: 8070323		
Acetone	ND	---	1380	ug/kg dry	50	07/02/18	5035A/8260C	
Acrylonitrile	ND	---	138	ug/kg dry	50	07/02/18	5035A/8260C	
Benzene	ND	---	13.8	ug/kg dry	50	07/02/18	5035A/8260C	
Bromobenzene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Bromochloromethane	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Bromodichloromethane	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Bromoform	ND	---	138	ug/kg dry	50	07/02/18	5035A/8260C	
Bromomethane	ND	---	691	ug/kg dry	50	07/02/18	5035A/8260C	
2-Butanone (MEK)	ND	---	691	ug/kg dry	50	07/02/18	5035A/8260C	
n-Butylbenzene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
sec-Butylbenzene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
tert-Butylbenzene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Carbon disulfide	ND	---	691	ug/kg dry	50	07/02/18	5035A/8260C	
Carbon tetrachloride	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Chlorobenzene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Chloroethane	ND	---	691	ug/kg dry	50	07/02/18	5035A/8260C	
Chloroform	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Chloromethane	ND	---	345	ug/kg dry	50	07/02/18	5035A/8260C	
2-Chlorotoluene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
4-Chlorotoluene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Dibromochloromethane	ND	---	138	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dibromo-3-chloropropane	ND	---	345	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dibromoethane (EDB)	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Dibromomethane	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dichlorobenzene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,3-Dichlorobenzene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,4-Dichlorobenzene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Dichlorodifluoromethane	ND	---	138	ug/kg dry	50	07/02/18	5035A/8260C	
1,1-Dichloroethane	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dichloroethane (EDC)	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,1-Dichloroethene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
cis-1,2-Dichloroethene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
trans-1,2-Dichloroethene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dichloropropane	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,3-Dichloropropane	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
2,2-Dichloropropane	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
 2001 NW 19th Ave, STE 200
 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: **1467.01.02**
 Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
HA-5.0-01 (A8F0979-01)			Matrix: Soil		Batch: 8070323			
1,1-Dichloropropene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
cis-1,3-Dichloropropene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
trans-1,3-Dichloropropene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Ethylbenzene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Hexachlorobutadiene	ND	---	138	ug/kg dry	50	07/02/18	5035A/8260C	
2-Hexanone	ND	---	691	ug/kg dry	50	07/02/18	5035A/8260C	
Isopropylbenzene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
4-Isopropyltoluene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Methylene chloride	ND	---	345	ug/kg dry	50	07/02/18	5035A/8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	691	ug/kg dry	50	07/02/18	5035A/8260C	
Methyl tert-butyl ether (MTBE)	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Naphthalene	ND	---	138	ug/kg dry	50	07/02/18	5035A/8260C	
n-Propylbenzene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Styrene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,1,2-Tetrachloroethane	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,2,2-Tetrachloroethane	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Tetrachloroethene (PCE)	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Toluene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,3-Trichlorobenzene	ND	---	345	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,4-Trichlorobenzene	ND	---	345	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,1-Trichloroethane	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,2-Trichloroethane	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Trichloroethene (TCE)	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
Trichlorofluoromethane	ND	---	138	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,3-Trichloropropane	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,4-Trimethylbenzene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
1,3,5-Trimethylbenzene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
Vinyl chloride	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
m,p-Xylene	ND	---	69.1	ug/kg dry	50	07/02/18	5035A/8260C	
o-Xylene	ND	---	34.5	ug/kg dry	50	07/02/18	5035A/8260C	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>5035A/8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>5035A/8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>5035A/8260C</i>

HA-3.0-02 (A8F0979-03)			Matrix: Soil		Batch: 8070323			
Acetone	ND	---	997	ug/kg dry	50	07/02/18	5035A/8260C	
Acrylonitrile	ND	---	99.7	ug/kg dry	50	07/02/18	5035A/8260C	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
HA-3.0-02 (A8F0979-03)			Matrix: Soil			Batch: 8070323		
Benzene	ND	---	9.97	ug/kg dry	50	07/02/18	5035A/8260C	
Bromobenzene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Bromochloromethane	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Bromodichloromethane	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Bromoform	ND	---	99.7	ug/kg dry	50	07/02/18	5035A/8260C	
Bromomethane	ND	---	498	ug/kg dry	50	07/02/18	5035A/8260C	
2-Butanone (MEK)	ND	---	498	ug/kg dry	50	07/02/18	5035A/8260C	
n-Butylbenzene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
sec-Butylbenzene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
tert-Butylbenzene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Carbon disulfide	ND	---	498	ug/kg dry	50	07/02/18	5035A/8260C	
Carbon tetrachloride	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Chlorobenzene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Chloroethane	ND	---	498	ug/kg dry	50	07/02/18	5035A/8260C	
Chloroform	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Chloromethane	ND	---	249	ug/kg dry	50	07/02/18	5035A/8260C	
2-Chlorotoluene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
4-Chlorotoluene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Dibromochloromethane	ND	---	99.7	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dibromo-3-chloropropane	ND	---	249	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dibromoethane (EDB)	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Dibromomethane	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dichlorobenzene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,3-Dichlorobenzene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,4-Dichlorobenzene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Dichlorodifluoromethane	ND	---	99.7	ug/kg dry	50	07/02/18	5035A/8260C	
1,1-Dichloroethane	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dichloroethane (EDC)	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,1-Dichloroethene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
cis-1,2-Dichloroethene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
trans-1,2-Dichloroethene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,2-Dichloropropane	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,3-Dichloropropane	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
2,2-Dichloropropane	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
1,1-Dichloropropene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
cis-1,3-Dichloropropene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
HA-3.0-02 (A8F0979-03)			Matrix: Soil			Batch: 8070323		
trans-1,3-Dichloropropene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Ethylbenzene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Hexachlorobutadiene	ND	---	99.7	ug/kg dry	50	07/02/18	5035A/8260C	
2-Hexanone	ND	---	498	ug/kg dry	50	07/02/18	5035A/8260C	
Isopropylbenzene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
4-Isopropyltoluene	2430	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Methylene chloride	ND	---	249	ug/kg dry	50	07/02/18	5035A/8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	498	ug/kg dry	50	07/02/18	5035A/8260C	
Methyl tert-butyl ether (MTBE)	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Naphthalene	ND	---	99.7	ug/kg dry	50	07/02/18	5035A/8260C	
n-Propylbenzene	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Styrene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,1,2-Tetrachloroethane	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,2,2-Tetrachloroethane	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Tetrachloroethene (PCE)	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Toluene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,3-Trichlorobenzene	ND	---	249	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,4-Trichlorobenzene	ND	---	249	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,1-Trichloroethane	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
1,1,2-Trichloroethane	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Trichloroethene (TCE)	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
Trichlorofluoromethane	ND	---	99.7	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,3-Trichloropropane	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
1,2,4-Trimethylbenzene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
1,3,5-Trimethylbenzene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
Vinyl chloride	ND	---	24.9	ug/kg dry	50	07/02/18	5035A/8260C	
m,p-Xylene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	
o-Xylene	ND	---	49.8	ug/kg dry	50	07/02/18	5035A/8260C	R-02
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>5035A/8260C</i>
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>5035A/8260C</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>5035A/8260C</i>



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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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
HA-5.0-01 (A8F0979-01)		Matrix: Soil			Batch: 8070302		C-07	
Aroclor 1016	ND	---	11.4	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1221	ND	---	11.4	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1232	ND	---	11.4	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1242	ND	---	11.4	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1248	ND	---	11.4	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1254	ND	---	11.4	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1260	ND	---	11.4	ug/kg dry	1	07/03/18	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 53-120 %</i>		<i>1</i>	<i>07/03/18</i>	<i>EPA 8082A</i>
HA-3.0-02 (A8F0979-03)		Matrix: Soil			Batch: 8070302		C-07	
Aroclor 1016	ND	---	9.15	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1221	ND	---	9.15	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1232	ND	---	9.15	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1242	ND	---	9.15	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1248	ND	---	9.15	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1254	ND	---	9.15	ug/kg dry	1	07/03/18	EPA 8082A	
Aroclor 1260	ND	---	9.15	ug/kg dry	1	07/03/18	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 53-120 %</i>		<i>1</i>	<i>07/03/18</i>	<i>EPA 8082A</i>



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
HA-5.0-01 (A8F0979-01)			Matrix: Soil			Batch: 8070317		
Acenaphthene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Acenaphthylene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Anthracene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benz(a)anthracene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(a)pyrene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(b)fluoranthene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(k)fluoranthene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(g,h,i)perylene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Chrysene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Dibenz(a,h)anthracene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Dibenzofuran	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Fluoranthene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Fluorene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
1-Methylnaphthalene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
2-Methylnaphthalene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Naphthalene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Phenanthrene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Pyrene	ND	---	11.5	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>EPA 8270D (SIM)</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>87 %</i>		<i>54-127 %</i>		<i>1</i>	<i>07/02/18</i>	<i>EPA 8270D (SIM)</i>

GW-5.0-01 (A8F0979-02RE1)			Matrix: Water			Batch: 8070319		
Acenaphthene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Anthracene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Benz(a)anthracene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Benzo(a)pyrene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Benzo(b)fluoranthene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Benzo(k)fluoranthene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Benzo(g,h,i)perylene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Chrysene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Dibenz(a,h)anthracene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Dibenzofuran	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Fluoranthene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Fluorene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GW-5.0-01 (A8F0979-02RE1)			Matrix: Water			Batch: 8070319		
1-Methylnaphthalene	ND	---	0.113	ug/L	1	07/03/18	EPA 8270D (SIM)	
2-Methylnaphthalene	ND	---	0.113	ug/L	1	07/03/18	EPA 8270D (SIM)	
Naphthalene	ND	---	0.113	ug/L	1	07/03/18	EPA 8270D (SIM)	
Phenanthrene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
Pyrene	ND	---	0.0563	ug/L	1	07/03/18	EPA 8270D (SIM)	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 53 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>07/03/18</i>	<i>EPA 8270D (SIM)</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>42 %</i>		<i>50-133 %</i>		<i>1</i>	<i>07/03/18</i>	<i>EPA 8270D (SIM)</i>
<hr/>								
HA-3.0-02 (A8F0979-03)			Matrix: Soil			Batch: 8070317		
Acenaphthene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Acenaphthylene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Anthracene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benz(a)anthracene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(a)pyrene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(b)fluoranthene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(k)fluoranthene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Benzo(g,h,i)perylene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Chrysene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Dibenz(a,h)anthracene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Dibenzofuran	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Fluoranthene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Fluorene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
1-Methylnaphthalene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
2-Methylnaphthalene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Naphthalene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Phenanthrene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
Pyrene	ND	---	10.2	ug/kg dry	1	07/02/18	EPA 8270D (SIM)	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>07/02/18</i>	<i>EPA 8270D (SIM)</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>92 %</i>		<i>54-127 %</i>		<i>1</i>	<i>07/02/18</i>	<i>EPA 8270D (SIM)</i>



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
HA-5.0-01 (A8F0979-01)		Matrix: Soil							
<u>Batch: 8070328</u>									
Antimony	ND	---	1.31	mg/kg dry	10	07/03/18	EPA 6020A		
Arsenic	2.34	---	1.31	mg/kg dry	10	07/03/18	EPA 6020A		
Beryllium	ND	---	0.263	mg/kg dry	10	07/03/18	EPA 6020A		
Cadmium	ND	---	0.263	mg/kg dry	10	07/03/18	EPA 6020A		
Chromium	11.2	---	1.31	mg/kg dry	10	07/03/18	EPA 6020A		
Copper	7.35	---	1.31	mg/kg dry	10	07/03/18	EPA 6020A		
Lead	1.21	---	0.263	mg/kg dry	10	07/03/18	EPA 6020A		
Mercury	ND	---	0.105	mg/kg dry	10	07/03/18	EPA 6020A		
Nickel	7.57	---	1.31	mg/kg dry	10	07/03/18	EPA 6020A		
Selenium	ND	---	1.31	mg/kg dry	10	07/03/18	EPA 6020A		
Silver	ND	---	0.263	mg/kg dry	10	07/03/18	EPA 6020A		
Thallium	ND	---	0.263	mg/kg dry	10	07/03/18	EPA 6020A		
Zinc	10.6	---	5.25	mg/kg dry	10	07/03/18	EPA 6020A		
HA-3.0-02 (A8F0979-03)		Matrix: Soil							
<u>Batch: 8070328</u>									
Antimony	ND	---	1.08	mg/kg dry	10	07/03/18	EPA 6020A		
Arsenic	1.89	---	1.08	mg/kg dry	10	07/03/18	EPA 6020A		
Beryllium	ND	---	0.216	mg/kg dry	10	07/03/18	EPA 6020A		
Cadmium	ND	---	0.216	mg/kg dry	10	07/03/18	EPA 6020A		
Chromium	7.95	---	1.08	mg/kg dry	10	07/03/18	EPA 6020A		
Copper	2.04	---	1.08	mg/kg dry	10	07/03/18	EPA 6020A		
Lead	2.01	---	0.216	mg/kg dry	10	07/03/18	EPA 6020A		
Mercury	ND	---	0.0863	mg/kg dry	10	07/03/18	EPA 6020A		
Nickel	3.32	---	1.08	mg/kg dry	10	07/03/18	EPA 6020A		
Selenium	ND	---	1.08	mg/kg dry	10	07/03/18	EPA 6020A		
Silver	ND	---	0.216	mg/kg dry	10	07/03/18	EPA 6020A		
Thallium	ND	---	0.216	mg/kg dry	10	07/03/18	EPA 6020A		
Zinc	8.70	---	4.31	mg/kg dry	10	07/03/18	EPA 6020A		



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Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
HA-5.0-01 (A8F0979-01)			Matrix: Soil			Batch: 8070355		
% Solids	74.7	---	1.00	% by Weight	1	07/05/18	EPA 8000C	
HA-3.0-02 (A8F0979-03)			Matrix: Soil			Batch: 8070355		
% Solids	92.7	---	1.00	% by Weight	1	07/05/18	EPA 8000C	

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Philip Nerenberg, Lab Director

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2001 NW 19th Ave, STE 200
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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

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 8070299 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (8070299-BLK1)			Prepared: 07/02/18 07:01 Analyzed: 07/02/18 22:01									
<u>NWTPH-Dx</u>												
Diesel	ND	---	0.0727	mg/L	1	---	---	---	---	---	---	B-02
Oil	ND	---	0.145	mg/L	1	---	---	---	---	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 94 %		Limits: 50-150 %		Dilution: 1x						
LCS (8070299-BS1)			Prepared: 07/02/18 07:01 Analyzed: 07/02/18 22:20									
<u>NWTPH-Dx</u>												
Diesel	0.509	---	0.0800	mg/L	1	0.500	---	102	52-120%	---	---	B-02
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 87 %		Limits: 50-150 %		Dilution: 1x						
LCS Dup (8070299-BSD1)			Prepared: 07/02/18 07:01 Analyzed: 07/02/18 22:40									
<u>NWTPH-Dx</u>												
Diesel	0.494	---	0.0800	mg/L	1	0.500	---	99	52-120%	3	20%	B-02
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 82 %		Limits: 50-150 %		Dilution: 1x						
Batch 8070435 - EPA 3546 (Fuels)						Soil						
Blank (8070435-BLK1)			Prepared: 07/06/18 09:53 Analyzed: 07/06/18 21:53									
<u>NWTPH-Dx</u>												
Diesel	ND	---	16.7	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	33.3	mg/kg wet	1	---	---	---	---	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 96 %		Limits: 50-150 %		Dilution: 1x						
LCS (8070435-BS1)			Prepared: 07/06/18 09:53 Analyzed: 07/06/18 22:15									
<u>NWTPH-Dx</u>												
Diesel	110	---	20.0	mg/kg wet	1	125	---	88	76-115%	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 96 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (8070435-DUP1)			Prepared: 07/06/18 09:53 Analyzed: 07/07/18 01:29									
QC Source Sample: HA-5.0-01 (A8F0979-01)												
<u>NWTPH-Dx</u>												
Diesel	ND	---	24.9	mg/kg dry	1	---	111	---	---	***	30%	Q-05
Oil	ND	---	49.8	mg/kg dry	1	---	ND	---	---	---	30%	

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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

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 8070435 - EPA 3546 (Fuels)						Soil						
Duplicate (8070435-DUP1)						Prepared: 07/06/18 09:53 Analyzed: 07/07/18 01:29						
QC Source Sample: HA-5.0-01 (A8F0979-01)												
Surr: <i>o-Terphenyl (Surr)</i> Recovery: 92 % Limits: 50-150 % Dilution: 1x												
Duplicate (8070435-DUP2)						Prepared: 07/06/18 13:35 Analyzed: 07/07/18 07:54						
QC Source Sample: Non-SDG (A8G0127-02)												
Diesel	ND	---	22.0	mg/kg dry	1	---	13.3	---	---	***	30%	
Oil	ND	---	44.1	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: <i>o-Terphenyl (Surr)</i> Recovery: 91 % Limits: 50-150 % Dilution: 1x												



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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 8061220 - EPA 5030B						Water						
Blank (8061220-BLK1)			Prepared: 06/29/18 09:35 Analyzed: 06/29/18 10:56									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 95 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		100 %		50-150 %		"						
LCS (8061220-BS2)			Prepared: 06/29/18 09:35 Analyzed: 06/29/18 10:29									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.512	---	0.100	mg/L	1	0.500	---	102	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 100 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		100 %		50-150 %		"						
Duplicate (8061220-DUP1)			Prepared: 06/29/18 14:30 Analyzed: 06/29/18 17:40									
<u>QC Source Sample: GW-5.0-01 (A8F0979-02)</u>												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	1.00	mg/L	10	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 96 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		102 %		50-150 %		"						



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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 8070304 - EPA 5030B						Water						
Blank (8070304-BLK1)						Prepared: 07/02/18 08:46 Analyzed: 07/02/18 10:06						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 96 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			102 %	50-150 %		"						
LCS (8070304-BS2)						Prepared: 07/02/18 08:46 Analyzed: 07/02/18 09:39						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.487	---	0.100	mg/L	1	0.500	---	97	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 99 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			101 %	50-150 %		"						
Duplicate (8070304-DUP1)						Prepared: 07/02/18 09:33 Analyzed: 07/02/18 14:38						
<u>QC Source Sample: Non-SDG (A8F0805-14RE1)</u>												
Gasoline Range Organics	6.53	---	1.00	mg/L	10	---	6.53	---	---	0.03	30%	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 96 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			102 %	50-150 %		"						



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
--	---	---

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 8070323 - EPA 5035A												
Soil												
Blank (8070323-BLK1) Prepared: 07/02/18 08:00 Analyzed: 07/02/18 14:07												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 99 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			94 %	50-150 %		"						
LCS (8070323-BS2) Prepared: 07/02/18 08:00 Analyzed: 07/02/18 13:40												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	26.9	---	5.00	mg/kg wet	50	25.0	---	108	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 97 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			96 %	50-150 %		"						
Duplicate (8070323-DUP1) Prepared: 07/02/18 08:00 Analyzed: 07/02/18 15:01												
<u>QC Source Sample: Non-SDG (A8G0010-01)</u>												
Gasoline Range Organics	ND	---	5.73	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 102 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			95 %	50-150 %		"						
Duplicate (8070323-DUP2) Prepared: 07/02/18 16:58 Analyzed: 07/02/18 21:45 V-15												
<u>QC Source Sample: Non-SDG (A8G0019-01)</u>												
Gasoline Range Organics	466	---	32.1	mg/kg dry	200	---	413	---	---	12	30%	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 95 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			98 %	50-150 %		"						



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Project: **Devil's Lake Lincoln City**
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Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B												
Water												
Blank (8061220-BLK1)												
Prepared: 06/29/18 09:35 Analyzed: 06/29/18 10:56												
<u>EPA 8260C</u>												
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	---	1.00	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	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---

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Philip Nerenberg, Lab Director



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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B												
Water												
Blank (8061220-BLK1)												
Prepared: 06/29/18 09:35 Analyzed: 06/29/18 10:56												
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	---	3.00	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	---	---	---	---	---	---	---



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Report ID:
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B												
Water												
Blank (8061220-BLK1)												
Prepared: 06/29/18 09:35 Analyzed: 06/29/18 10:56												
<i>Surr: 1,4-Difluorobenzene (Surr)</i>												
		<i>Recovery:</i>	<i>102 %</i>	<i>Limits:</i>	<i>80-120 %</i>	<i>Dilution:</i>	<i>1x</i>					
<i>Toluene-d8 (Surr)</i>												
			<i>100 %</i>		<i>80-120 %</i>							
<i>4-Bromofluorobenzene (Surr)</i>												
			<i>98 %</i>		<i>80-120 %</i>							
LCS (8061220-BS1)												
Prepared: 06/29/18 09:35 Analyzed: 06/29/18 10:02												
EPA 8260C												
Acetone	36.0	---	20.0	ug/L	1	40.0	---	90	80-120%	---	---	
Acrylonitrile	19.1	---	2.00	ug/L	1	20.0	---	95	80-120%	---	---	
Benzene	19.7	---	0.200	ug/L	1	20.0	---	98	80-120%	---	---	
Bromobenzene	19.9	---	0.500	ug/L	1	20.0	---	100	80-120%	---	---	
Bromochloromethane	21.1	---	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
Bromodichloromethane	18.9	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Bromoform	15.2	---	1.00	ug/L	1	20.0	---	76	80-120%	---	---	Q-55
Bromomethane	27.1	---	5.00	ug/L	1	20.0	---	136	80-120%	---	---	E-05, Q-56
2-Butanone (MEK)	36.2	---	10.0	ug/L	1	40.0	---	91	80-120%	---	---	
n-Butylbenzene	19.4	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
sec-Butylbenzene	18.6	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
tert-Butylbenzene	17.7	---	1.00	ug/L	1	20.0	---	89	80-120%	---	---	
Carbon disulfide	20.1	---	10.0	ug/L	1	20.0	---	101	80-120%	---	---	
Carbon tetrachloride	15.4	---	1.00	ug/L	1	20.0	---	77	80-120%	---	---	Q-55
Chlorobenzene	19.8	---	0.500	ug/L	1	20.0	---	99	80-120%	---	---	
Chloroethane	20.8	---	5.00	ug/L	1	20.0	---	104	80-120%	---	---	
Chloroform	19.5	---	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
Chloromethane	19.6	---	5.00	ug/L	1	20.0	---	98	80-120%	---	---	
2-Chlorotoluene	19.5	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
4-Chlorotoluene	18.2	---	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
Dibromochloromethane	16.8	---	1.00	ug/L	1	20.0	---	84	80-120%	---	---	
1,2-Dibromo-3-chloropropane	16.3	---	5.00	ug/L	1	20.0	---	82	80-120%	---	---	
1,2-Dibromoethane (EDB)	19.8	---	0.500	ug/L	1	20.0	---	99	80-120%	---	---	
Dibromomethane	21.2	---	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
1,2-Dichlorobenzene	19.5	---	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
1,3-Dichlorobenzene	19.3	---	0.500	ug/L	1	20.0	---	96	80-120%	---	---	
1,4-Dichlorobenzene	18.5	---	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Dichlorodifluoromethane	19.3	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B						Water						
LCS (8061220-BS1)			Prepared: 06/29/18 09:35 Analyzed: 06/29/18 10:02									
1,1-Dichloroethane	21.0	---	0.400	ug/L	1	20.0	---	105	80-120%	---	---	
1,2-Dichloroethane (EDC)	19.9	---	0.400	ug/L	1	20.0	---	100	80-120%	---	---	
1,1-Dichloroethene	20.8	---	0.400	ug/L	1	20.0	---	104	80-120%	---	---	
cis-1,2-Dichloroethene	20.1	---	0.400	ug/L	1	20.0	---	101	80-120%	---	---	
trans-1,2-Dichloroethene	20.2	---	0.400	ug/L	1	20.0	---	101	80-120%	---	---	
1,2-Dichloropropane	20.4	---	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
1,3-Dichloropropane	20.2	---	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
2,2-Dichloropropane	19.4	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
1,1-Dichloropropene	20.1	---	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
cis-1,3-Dichloropropene	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
trans-1,3-Dichloropropene	17.2	---	1.00	ug/L	1	20.0	---	86	80-120%	---	---	
Ethylbenzene	18.6	---	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Hexachlorobutadiene	19.8	---	5.00	ug/L	1	20.0	---	99	80-120%	---	---	
2-Hexanone	35.0	---	10.0	ug/L	1	40.0	---	88	80-120%	---	---	
Isopropylbenzene	19.5	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
4-Isopropyltoluene	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Methylene chloride	20.0	---	3.00	ug/L	1	20.0	---	100	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	35.2	---	10.0	ug/L	1	40.0	---	88	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	18.2	---	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
Naphthalene	18.1	---	2.00	ug/L	1	20.0	---	91	80-120%	---	---	
n-Propylbenzene	18.9	---	0.500	ug/L	1	20.0	---	95	80-120%	---	---	
Styrene	19.8	---	1.00	ug/L	1	20.0	---	99	80-120%	---	---	
1,1,1,2-Tetrachloroethane	16.9	---	0.400	ug/L	1	20.0	---	85	80-120%	---	---	
1,1,2,2-Tetrachloroethane	19.7	---	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Tetrachloroethene (PCE)	20.6	---	0.400	ug/L	1	20.0	---	103	80-120%	---	---	
Toluene	19.0	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,2,3-Trichlorobenzene	18.5	---	2.00	ug/L	1	20.0	---	93	80-120%	---	---	
1,2,4-Trichlorobenzene	19.5	---	2.00	ug/L	1	20.0	---	97	80-120%	---	---	
1,1,1-Trichloroethane	18.4	---	0.400	ug/L	1	20.0	---	92	80-120%	---	---	
1,1,2-Trichloroethane	19.9	---	0.500	ug/L	1	20.0	---	100	80-120%	---	---	
Trichloroethene (TCE)	20.3	---	0.400	ug/L	1	20.0	---	102	80-120%	---	---	
Trichlorofluoromethane	25.1	---	2.00	ug/L	1	20.0	---	125	80-120%	---	---	Q-56
1,2,3-Trichloropropane	20.6	---	1.00	ug/L	1	20.0	---	103	80-120%	---	---	
1,2,4-Trimethylbenzene	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B												
Water												
LCS (8061220-BS1)												
Prepared: 06/29/18 09:35						Analyzed: 06/29/18 10:02						
1,3,5-Trimethylbenzene	18.7	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Vinyl chloride	21.8	---	0.400	ug/L	1	20.0	---	109	80-120%	---	---	
m,p-Xylene	38.5	---	1.00	ug/L	1	40.0	---	96	80-120%	---	---	
o-Xylene	19.2	---	0.500	ug/L	1	20.0	---	96	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 104 %</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>98 %</i>		<i>80-120 %</i>		<i>"</i>						

Duplicate (8061220-DUP1) Prepared: 06/29/18 14:30 Analyzed: 06/29/18 17:40

QC Source Sample: GW-5.0-01 (A8F0979-02)

EPA 8260C

Acetone	ND	---	200	ug/L	10	---	ND	---	---	---	30%
Acrylonitrile	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%
Benzene	ND	---	2.00	ug/L	10	---	ND	---	---	---	30%
Bromobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%
Bromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
Bromodichloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
Bromoform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
Bromomethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%
2-Butanone (MEK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%
n-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
sec-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
tert-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
Carbon disulfide	ND	---	100	ug/L	10	---	ND	---	---	---	30%
Carbon tetrachloride	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
Chlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%
Chloroethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%
Chloroform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
Chloromethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%
2-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
4-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
Dibromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%
1,2-Dibromo-3-chloropropane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%
1,2-Dibromoethane (EDB)	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B												
Water												
Duplicate (8061220-DUP1)			Prepared: 06/29/18 14:30 Analyzed: 06/29/18 17:40									
QC Source Sample: GW-5.0-01 (A8F0979-02)												
Dibromomethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Hexanone	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Methylene chloride	ND	---	30.0	ug/L	10	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Naphthalene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Styrene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Toluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B												
Water												
Duplicate (8061220-DUP1)			Prepared: 06/29/18 14:30 Analyzed: 06/29/18 17:40									
QC Source Sample: GW-5.0-01 (A8F0979-02)												
1,2,4-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
o-Xylene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr) Recovery: 104 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr) 100 % 80-120 % "												
4-Bromofluorobenzene (Surr) 97 % 80-120 % "												

Matrix Spike (8061220-MS1)			Prepared: 06/29/18 12:00 Analyzed: 06/29/18 13:37									
QC Source Sample: Non-SDG (A8F0963-04)												
EPA 8260C												
Acetone	40.6	---	20.0	ug/L	1	40.0	ND	102	39-160%	---	---	
Acrylonitrile	19.9	---	2.00	ug/L	1	20.0	ND	99	63-135%	---	---	
Benzene	21.0	---	0.200	ug/L	1	20.0	ND	105	79-120%	---	---	
Bromobenzene	20.0	---	0.500	ug/L	1	20.0	ND	100	80-120%	---	---	
Bromochloromethane	22.3	---	1.00	ug/L	1	20.0	ND	111	78-123%	---	---	
Bromodichloromethane	19.8	---	1.00	ug/L	1	20.0	ND	99	79-125%	---	---	
Bromoform	16.9	---	1.00	ug/L	1	20.0	ND	84	66-130%	---	---	Q-54h
Bromomethane	23.2	---	5.00	ug/L	1	20.0	ND	116	53-141%	---	---	E-05, Q-54b
2-Butanone (MEK)	38.2	---	10.0	ug/L	1	40.0	ND	96	56-143%	---	---	
n-Butylbenzene	18.4	---	1.00	ug/L	1	20.0	ND	92	75-128%	---	---	
sec-Butylbenzene	18.7	---	1.00	ug/L	1	20.0	ND	94	77-126%	---	---	
tert-Butylbenzene	17.5	---	1.00	ug/L	1	20.0	ND	87	78-124%	---	---	
Carbon disulfide	21.6	---	10.0	ug/L	1	20.0	ND	108	64-133%	---	---	
Carbon tetrachloride	17.3	---	1.00	ug/L	1	20.0	ND	87	72-136%	---	---	Q-54g
Chlorobenzene	20.5	---	0.500	ug/L	1	20.0	ND	102	80-120%	---	---	

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Philip Nerenberg, Lab Director



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Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B												
Water												
Matrix Spike (8061220-MS1)												
Prepared: 06/29/18 12:00 Analyzed: 06/29/18 13:37												
QC Source Sample: Non-SDG (A8F0963-04)												
Chloroethane	21.8	---	5.00	ug/L	1	20.0	ND	109	60-138%	---	---	
Chloroform	20.7	---	1.00	ug/L	1	20.0	ND	103	79-124%	---	---	
Chloromethane	20.5	---	5.00	ug/L	1	20.0	ND	103	50-139%	---	---	
2-Chlorotoluene	20.7	---	1.00	ug/L	1	20.0	ND	103	79-122%	---	---	
4-Chlorotoluene	18.3	---	1.00	ug/L	1	20.0	ND	92	78-122%	---	---	
Dibromochloromethane	18.9	---	1.00	ug/L	1	20.0	ND	94	74-126%	---	---	
1,2-Dibromo-3-chloropropane	17.6	---	5.00	ug/L	1	20.0	ND	88	62-128%	---	---	
1,2-Dibromoethane (EDB)	20.5	---	0.500	ug/L	1	20.0	ND	102	77-121%	---	---	
Dibromomethane	22.0	---	1.00	ug/L	1	20.0	ND	110	79-123%	---	---	
1,2-Dichlorobenzene	19.8	---	0.500	ug/L	1	20.0	ND	99	80-120%	---	---	
1,3-Dichlorobenzene	19.7	---	0.500	ug/L	1	20.0	ND	98	80-120%	---	---	
1,4-Dichlorobenzene	18.9	---	0.500	ug/L	1	20.0	ND	94	79-120%	---	---	
Dichlorodifluoromethane	20.6	---	1.00	ug/L	1	20.0	ND	103	32-152%	---	---	
1,1-Dichloroethane	21.8	---	0.400	ug/L	1	20.0	ND	109	77-125%	---	---	
1,2-Dichloroethane (EDC)	20.1	---	0.400	ug/L	1	20.0	ND	101	73-128%	---	---	
1,1-Dichloroethene	21.9	---	0.400	ug/L	1	20.0	ND	109	71-131%	---	---	
cis-1,2-Dichloroethene	20.9	---	0.400	ug/L	1	20.0	ND	104	78-123%	---	---	
trans-1,2-Dichloroethene	21.6	---	0.400	ug/L	1	20.0	ND	108	75-124%	---	---	
1,2-Dichloropropane	21.6	---	0.500	ug/L	1	20.0	ND	108	78-122%	---	---	
1,3-Dichloropropane	20.7	---	1.00	ug/L	1	20.0	ND	104	80-120%	---	---	
2,2-Dichloropropane	20.0	---	1.00	ug/L	1	20.0	ND	100	60-139%	---	---	
1,1-Dichloropropene	21.7	---	1.00	ug/L	1	20.0	ND	109	79-125%	---	---	
cis-1,3-Dichloropropene	18.6	---	1.00	ug/L	1	20.0	ND	93	75-124%	---	---	
trans-1,3-Dichloropropene	17.8	---	1.00	ug/L	1	20.0	ND	89	73-127%	---	---	
Ethylbenzene	19.6	---	0.500	ug/L	1	20.0	ND	98	79-121%	---	---	
Hexachlorobutadiene	16.4	---	5.00	ug/L	1	20.0	ND	82	66-134%	---	---	
2-Hexanone	36.5	---	10.0	ug/L	1	40.0	ND	91	57-139%	---	---	
Isopropylbenzene	20.0	---	1.00	ug/L	1	20.0	ND	100	72-131%	---	---	
4-Isopropyltoluene	18.5	---	1.00	ug/L	1	20.0	ND	92	77-127%	---	---	
Methylene chloride	21.7	---	3.00	ug/L	1	20.0	ND	108	74-124%	---	---	
4-Methyl-2-pentanone (MiBK)	36.7	---	10.0	ug/L	1	40.0	ND	92	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	18.8	---	1.00	ug/L	1	20.0	ND	94	71-124%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8061220 - EPA 5030B						Water						
Matrix Spike (8061220-MS1)			Prepared: 06/29/18 12:00 Analyzed: 06/29/18 13:37									
QC Source Sample: Non-SDG (A8F0963-04)												
Naphthalene	18.3	---	2.00	ug/L	1	20.0	ND	91	61-128%	---	---	
n-Propylbenzene	19.2	---	0.500	ug/L	1	20.0	ND	96	76-126%	---	---	
Styrene	19.9	---	1.00	ug/L	1	20.0	ND	99	78-123%	---	---	
1,1,1,2-Tetrachloroethane	17.9	---	0.400	ug/L	1	20.0	ND	90	78-124%	---	---	
1,1,2,2-Tetrachloroethane	20.6	---	0.500	ug/L	1	20.0	ND	103	71-121%	---	---	
Tetrachloroethene (PCE)	21.5	---	0.400	ug/L	1	20.0	ND	108	74-129%	---	---	
Toluene	19.9	---	1.00	ug/L	1	20.0	ND	99	80-121%	---	---	
1,2,3-Trichlorobenzene	18.4	---	2.00	ug/L	1	20.0	ND	92	69-129%	---	---	
1,2,4-Trichlorobenzene	18.7	---	2.00	ug/L	1	20.0	ND	93	69-130%	---	---	
1,1,1-Trichloroethane	19.9	---	0.400	ug/L	1	20.0	ND	100	74-131%	---	---	
1,1,2-Trichloroethane	21.0	---	0.500	ug/L	1	20.0	ND	105	80-120%	---	---	
Trichloroethene (TCE)	21.6	---	0.400	ug/L	1	20.0	ND	108	79-123%	---	---	
Trichlorofluoromethane	29.4	---	2.00	ug/L	1	20.0	ND	147	65-141%	---	---	Q-54c
1,2,3-Trichloropropane	20.8	---	1.00	ug/L	1	20.0	ND	104	73-122%	---	---	
1,2,4-Trimethylbenzene	19.1	---	1.00	ug/L	1	20.0	ND	96	76-124%	---	---	
1,3,5-Trimethylbenzene	18.9	---	1.00	ug/L	1	20.0	ND	95	75-124%	---	---	
Vinyl chloride	23.8	---	0.400	ug/L	1	20.0	ND	119	58-137%	---	---	
m,p-Xylene	39.8	---	1.00	ug/L	1	40.0	ND	99	80-121%	---	---	
o-Xylene	19.9	---	0.500	ug/L	1	20.0	ND	100	78-122%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
Blank (8070304-BLK1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 10:06												
<u>EPA 8260C</u>												
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	---	1.00	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	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
Blank (8070304-BLK1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 10:06												
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	---	3.00	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	---	---	---	---	---	---	



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Report ID:
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
Blank (8070304-BLK1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 10:06												
<i>Surr: 1,4-Difluorobenzene (Surr)</i>												
		Recovery: 104 %		Limits: 80-120 %		Dilution: 1x						
<i>Toluene-d8 (Surr)</i>												
		100 %		80-120 %		"						
<i>4-Bromofluorobenzene (Surr)</i>												
		98 %		80-120 %		"						
LCS (8070304-BS1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 09:13												
EPA 8260C												
Acetone	33.0	---	20.0	ug/L	1	40.0	---	82	80-120%	---	---	
Acrylonitrile	17.6	---	2.00	ug/L	1	20.0	---	88	80-120%	---	---	
Benzene	18.9	---	0.200	ug/L	1	20.0	---	95	80-120%	---	---	
Bromobenzene	19.8	---	0.500	ug/L	1	20.0	---	99	80-120%	---	---	
Bromochloromethane	21.4	---	1.00	ug/L	1	20.0	---	107	80-120%	---	---	
Bromodichloromethane	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Bromoform	18.1	---	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
Bromomethane	22.1	---	5.00	ug/L	1	20.0	---	110	80-120%	---	---	E-05
2-Butanone (MEK)	32.6	---	10.0	ug/L	1	40.0	---	82	80-120%	---	---	
n-Butylbenzene	19.4	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
sec-Butylbenzene	18.5	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
tert-Butylbenzene	17.2	---	1.00	ug/L	1	20.0	---	86	80-120%	---	---	
Carbon disulfide	19.2	---	10.0	ug/L	1	20.0	---	96	80-120%	---	---	
Carbon tetrachloride	15.6	---	1.00	ug/L	1	20.0	---	78	80-120%	---	---	Q-55
Chlorobenzene	19.6	---	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Chloroethane	21.0	---	5.00	ug/L	1	20.0	---	105	80-120%	---	---	
Chloroform	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Chloromethane	17.7	---	5.00	ug/L	1	20.0	---	89	80-120%	---	---	
2-Chlorotoluene	20.3	---	1.00	ug/L	1	20.0	---	102	80-120%	---	---	
4-Chlorotoluene	18.0	---	1.00	ug/L	1	20.0	---	90	80-120%	---	---	
Dibromochloromethane	19.1	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,2-Dibromo-3-chloropropane	18.1	---	5.00	ug/L	1	20.0	---	91	80-120%	---	---	
1,2-Dibromoethane (EDB)	20.3	---	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Dibromomethane	20.9	---	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
1,2-Dichlorobenzene	19.7	---	0.500	ug/L	1	20.0	---	99	80-120%	---	---	
1,3-Dichlorobenzene	19.4	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
1,4-Dichlorobenzene	18.9	---	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
Dichlorodifluoromethane	17.5	---	1.00	ug/L	1	20.0	---	88	80-120%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
						Water						
LCS (8070304-BS1)			Prepared: 07/02/18 08:46 Analyzed: 07/02/18 09:13									
1,1-Dichloroethane	19.9	---	0.400	ug/L	1	20.0	---	99	80-120%	---	---	
1,2-Dichloroethane (EDC)	18.9	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
1,1-Dichloroethene	18.9	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
cis-1,2-Dichloroethene	18.8	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
trans-1,2-Dichloroethene	18.9	---	0.400	ug/L	1	20.0	---	95	80-120%	---	---	
1,2-Dichloropropane	19.5	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
1,3-Dichloropropane	19.4	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
2,2-Dichloropropane	18.6	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
1,1-Dichloropropene	18.9	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
cis-1,3-Dichloropropene	18.6	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
trans-1,3-Dichloropropene	17.4	---	1.00	ug/L	1	20.0	---	87	80-120%	---	---	
Ethylbenzene	18.5	---	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Hexachlorobutadiene	20.5	---	5.00	ug/L	1	20.0	---	103	80-120%	---	---	
2-Hexanone	33.0	---	10.0	ug/L	1	40.0	---	82	80-120%	---	---	
Isopropylbenzene	18.9	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
4-Isopropyltoluene	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Methylene chloride	20.3	---	3.00	ug/L	1	20.0	---	101	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	33.4	---	10.0	ug/L	1	40.0	---	84	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	17.7	---	1.00	ug/L	1	20.0	---	89	80-120%	---	---	
Naphthalene	18.8	---	2.00	ug/L	1	20.0	---	94	80-120%	---	---	
n-Propylbenzene	18.7	---	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Styrene	19.9	---	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
1,1,1,2-Tetrachloroethane	17.7	---	0.400	ug/L	1	20.0	---	89	80-120%	---	---	
1,1,2,2-Tetrachloroethane	20.5	---	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
Tetrachloroethene (PCE)	20.5	---	0.400	ug/L	1	20.0	---	102	80-120%	---	---	
Toluene	18.3	---	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
1,2,3-Trichlorobenzene	19.7	---	2.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,2,4-Trichlorobenzene	20.0	---	2.00	ug/L	1	20.0	---	100	80-120%	---	---	
1,1,1-Trichloroethane	17.7	---	0.400	ug/L	1	20.0	---	89	80-120%	---	---	
1,1,2-Trichloroethane	20.1	---	0.500	ug/L	1	20.0	---	101	80-120%	---	---	
Trichloroethene (TCE)	20.3	---	0.400	ug/L	1	20.0	---	101	80-120%	---	---	
Trichlorofluoromethane	25.1	---	2.00	ug/L	1	20.0	---	126	80-120%	---	---	Q-56
1,2,3-Trichloropropane	20.2	---	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
1,2,4-Trimethylbenzene	19.1	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
LCS (8070304-BS1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 09:13												
1,3,5-Trimethylbenzene	18.7	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
Vinyl chloride	20.0	---	0.400	ug/L	1	20.0	---	100	80-120%	---	---	
m,p-Xylene	37.4	---	1.00	ug/L	1	40.0	---	93	80-120%	---	---	
o-Xylene	18.7	---	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr) Recovery: 102 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr) 99 % 80-120 % "												
4-Bromofluorobenzene (Surr) 99 % 80-120 % "												
LCS Dup (8070304-BSD1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 13:44												
EPA 8260C												
Acetone	34.9	---	20.0	ug/L	1	40.0	---	87	80-120%	6	30%	
Acrylonitrile	19.3	---	2.00	ug/L	1	20.0	---	97	80-120%	9	30%	
Benzene	20.5	---	0.200	ug/L	1	20.0	---	103	80-120%	8	30%	
Bromobenzene	20.5	---	0.500	ug/L	1	20.0	---	102	80-120%	3	30%	
Bromochloromethane	22.1	---	1.00	ug/L	1	20.0	---	110	80-120%	3	30%	
Bromodichloromethane	19.5	---	1.00	ug/L	1	20.0	---	97	80-120%	4	30%	
Bromoform	18.1	---	1.00	ug/L	1	20.0	---	91	80-120%	0.01	30%	
Bromomethane	26.5	---	5.00	ug/L	1	20.0	---	132	80-120%	18	30%	E-05, Q-56
2-Butanone (MEK)	35.6	---	10.0	ug/L	1	40.0	---	89	80-120%	9	30%	
n-Butylbenzene	21.1	---	1.00	ug/L	1	20.0	---	105	80-120%	8	30%	
sec-Butylbenzene	20.3	---	1.00	ug/L	1	20.0	---	101	80-120%	9	30%	
tert-Butylbenzene	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	9	30%	
Carbon disulfide	20.8	---	10.0	ug/L	1	20.0	---	104	80-120%	8	30%	
Carbon tetrachloride	17.3	---	1.00	ug/L	1	20.0	---	86	80-120%	10	30%	
Chlorobenzene	20.5	---	0.500	ug/L	1	20.0	---	103	80-120%	5	30%	
Chloroethane	21.7	---	5.00	ug/L	1	20.0	---	109	80-120%	3	30%	
Chloroform	20.3	---	1.00	ug/L	1	20.0	---	102	80-120%	8	30%	
Chloromethane	19.5	---	5.00	ug/L	1	20.0	---	97	80-120%	9	30%	
2-Chlorotoluene	21.3	---	1.00	ug/L	1	20.0	---	107	80-120%	5	30%	
4-Chlorotoluene	19.3	---	1.00	ug/L	1	20.0	---	96	80-120%	7	30%	
Dibromochloromethane	19.5	---	1.00	ug/L	1	20.0	---	97	80-120%	2	30%	
1,2-Dibromo-3-chloropropane	18.0	---	5.00	ug/L	1	20.0	---	90	80-120%	0.6	30%	
1,2-Dibromoethane (EDB)	20.5	---	0.500	ug/L	1	20.0	---	102	80-120%	0.8	30%	
Dibromomethane	22.2	---	1.00	ug/L	1	20.0	---	111	80-120%	6	30%	

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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
LCS Dup (8070304-BSD1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 13:44												
1,2-Dichlorobenzene	20.5	---	0.500	ug/L	1	20.0	---	103	80-120%	4	30%	
1,3-Dichlorobenzene	20.2	---	0.500	ug/L	1	20.0	---	101	80-120%	4	30%	
1,4-Dichlorobenzene	19.6	---	0.500	ug/L	1	20.0	---	98	80-120%	4	30%	
Dichlorodifluoromethane	19.8	---	1.00	ug/L	1	20.0	---	99	80-120%	12	30%	
1,1-Dichloroethane	21.6	---	0.400	ug/L	1	20.0	---	108	80-120%	8	30%	
1,2-Dichloroethane (EDC)	19.7	---	0.400	ug/L	1	20.0	---	98	80-120%	4	30%	
1,1-Dichloroethene	21.4	---	0.400	ug/L	1	20.0	---	107	80-120%	13	30%	
cis-1,2-Dichloroethene	20.2	---	0.400	ug/L	1	20.0	---	101	80-120%	7	30%	
trans-1,2-Dichloroethene	20.9	---	0.400	ug/L	1	20.0	---	105	80-120%	10	30%	
1,2-Dichloropropane	20.8	---	0.500	ug/L	1	20.0	---	104	80-120%	7	30%	
1,3-Dichloropropane	20.2	---	1.00	ug/L	1	20.0	---	101	80-120%	4	30%	
2,2-Dichloropropane	20.0	---	1.00	ug/L	1	20.0	---	100	80-120%	7	30%	
1,1-Dichloropropene	21.3	---	1.00	ug/L	1	20.0	---	107	80-120%	12	30%	
cis-1,3-Dichloropropene	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	3	30%	
trans-1,3-Dichloropropene	17.2	---	1.00	ug/L	1	20.0	---	86	80-120%	1	30%	
Ethylbenzene	19.7	---	0.500	ug/L	1	20.0	---	98	80-120%	6	30%	
Hexachlorobutadiene	22.0	---	5.00	ug/L	1	20.0	---	110	80-120%	7	30%	
2-Hexanone	34.6	---	10.0	ug/L	1	40.0	---	87	80-120%	5	30%	
Isopropylbenzene	20.4	---	1.00	ug/L	1	20.0	---	102	80-120%	8	30%	
4-Isopropyltoluene	20.4	---	1.00	ug/L	1	20.0	---	102	80-120%	6	30%	
Methylene chloride	21.5	---	3.00	ug/L	1	20.0	---	108	80-120%	6	30%	
4-Methyl-2-pentanone (MiBK)	34.6	---	10.0	ug/L	1	40.0	---	87	80-120%	4	30%	
Methyl tert-butyl ether (MTBE)	18.0	---	1.00	ug/L	1	20.0	---	90	80-120%	1	30%	
Naphthalene	19.0	---	2.00	ug/L	1	20.0	---	95	80-120%	1	30%	
n-Propylbenzene	20.1	---	0.500	ug/L	1	20.0	---	101	80-120%	8	30%	
Styrene	20.9	---	1.00	ug/L	1	20.0	---	104	80-120%	5	30%	
1,1,1,2-Tetrachloroethane	18.9	---	0.400	ug/L	1	20.0	---	94	80-120%	6	30%	
1,1,2,2-Tetrachloroethane	21.0	---	0.500	ug/L	1	20.0	---	105	80-120%	2	30%	
Tetrachloroethene (PCE)	21.9	---	0.400	ug/L	1	20.0	---	110	80-120%	7	30%	
Toluene	19.6	---	1.00	ug/L	1	20.0	---	98	80-120%	7	30%	
1,2,3-Trichlorobenzene	20.1	---	2.00	ug/L	1	20.0	---	101	80-120%	2	30%	
1,2,4-Trichlorobenzene	20.4	---	2.00	ug/L	1	20.0	---	102	80-120%	2	30%	
1,1,1-Trichloroethane	19.3	---	0.400	ug/L	1	20.0	---	96	80-120%	8	30%	
1,1,2-Trichloroethane	20.6	---	0.500	ug/L	1	20.0	---	103	80-120%	2	30%	

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Report ID:
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
LCS Dup (8070304-BSD1)												
Prepared: 07/02/18 08:46 Analyzed: 07/02/18 13:44												
Trichloroethene (TCE)	21.5	---	0.400	ug/L	1	20.0	---	107	80-120%	6	30%	
Trichlorofluoromethane	29.4	---	2.00	ug/L	1	20.0	---	147	80-120%	16	30%	Q-56
1,2,3-Trichloropropane	21.2	---	1.00	ug/L	1	20.0	---	106	80-120%	5	30%	
1,2,4-Trimethylbenzene	20.3	---	1.00	ug/L	1	20.0	---	102	80-120%	6	30%	
1,3,5-Trimethylbenzene	20.1	---	1.00	ug/L	1	20.0	---	100	80-120%	7	30%	
Vinyl chloride	23.0	---	0.400	ug/L	1	20.0	---	115	80-120%	14	30%	
m,p-Xylene	40.1	---	1.00	ug/L	1	40.0	---	100	80-120%	7	30%	
o-Xylene	19.5	---	0.500	ug/L	1	20.0	---	97	80-120%	4	30%	
Surr: 1,4-Difluorobenzene (Surr) Recovery: 104 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr) 101 % 80-120 % "												
4-Bromofluorobenzene (Surr) 98 % 80-120 % "												
Duplicate (8070304-DUP1)												
Prepared: 07/02/18 09:33 Analyzed: 07/02/18 14:38												
QC Source Sample: Non-SDG (A8F0805-14RE1)												
Acetone	ND	---	200	ug/L	10	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
Benzene	12.5	---	2.00	ug/L	10	---	12.7	---	---	2	30%	
Bromobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromoform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromomethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	Q-05
sec-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Chloroethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
Chloroform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Chloromethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	

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Report ID:
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
Duplicate (8070304-DUP1)												
Prepared: 07/02/18 09:33 Analyzed: 07/02/18 14:38												
QC Source Sample: Non-SDG (A8F0805-14RE1)												
Dibromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Dibromomethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Ethylbenzene	150	---	5.00	ug/L	10	---	147	---	---	3	30%	
Hexachlorobutadiene	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Hexanone	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Isopropylbenzene	13.2	---	10.0	ug/L	10	---	13.4	---	---	1	30%	
4-Isopropyltoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Methylene chloride	ND	---	30.0	ug/L	10	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Naphthalene	43.4	---	20.0	ug/L	10	---	43.6	---	---	0.6	30%	
n-Propylbenzene	39.6	---	5.00	ug/L	10	---	38.0	---	---	4	30%	
Styrene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	



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Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
Duplicate (8070304-DUP1)			Prepared: 07/02/18 09:33 Analyzed: 07/02/18 14:38									
QC Source Sample: Non-SDG (A8F0805-14RE1)												
Tetrachloroethene (PCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Toluene	ND	---	10.0	ug/L	10	---	6.78	---	---	***	30%	
1,2,3-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	306	---	10.0	ug/L	10	---	299	---	---	2	30%	
1,3,5-Trimethylbenzene	88.3	---	10.0	ug/L	10	---	88.0	---	---	0.3	30%	
Vinyl chloride	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
m,p-Xylene	491	---	10.0	ug/L	10	---	487	---	---	0.8	30%	
o-Xylene	121	---	5.00	ug/L	10	---	121	---	---	0.6	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>95 %</i>		<i>80-120 %</i>		<i>"</i>						

Matrix Spike (8070304-MS1)

Prepared: 07/02/18 09:33 Analyzed: 07/02/18 15:05

QC Source Sample: Non-SDG (A8F0805-14RE1)

EPA 8260C

Acetone	312	---	200	ug/L	10	400	ND	78	39-160%	---	---	
Acrylonitrile	183	---	20.0	ug/L	10	200	ND	92	63-135%	---	---	
Benzene	218	---	2.00	ug/L	10	200	12.7	103	79-120%	---	---	
Bromobenzene	199	---	5.00	ug/L	10	200	ND	99	80-120%	---	---	
Bromochloromethane	215	---	10.0	ug/L	10	200	ND	108	78-123%	---	---	
Bromodichloromethane	199	---	10.0	ug/L	10	200	ND	100	79-125%	---	---	
Bromoform	177	---	10.0	ug/L	10	200	ND	89	66-130%	---	---	
Bromomethane	310	---	50.0	ug/L	10	200	ND	155	53-141%	---	---	E-05, Q-54a
2-Butanone (MEK)	330	---	100	ug/L	10	400	ND	83	56-143%	---	---	
n-Butylbenzene	205	---	10.0	ug/L	10	200	ND	103	75-128%	---	---	
sec-Butylbenzene	196	---	10.0	ug/L	10	200	ND	98	77-126%	---	---	
tert-Butylbenzene	182	---	10.0	ug/L	10	200	ND	91	78-124%	---	---	

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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. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
Matrix Spike (8070304-MS1)												
Prepared: 07/02/18 09:33 Analyzed: 07/02/18 15:05												
QC Source Sample: Non-SDG (A8F0805-14RE1)												
Carbon disulfide	209	---	100	ug/L	10	200	ND	105	64-133%	---	---	
Carbon tetrachloride	177	---	10.0	ug/L	10	200	ND	88	72-136%	---	---	Q-54f
Chlorobenzene	201	---	5.00	ug/L	10	200	ND	100	80-120%	---	---	
Chloroethane	186	---	50.0	ug/L	10	200	ND	93	60-138%	---	---	
Chloroform	202	---	10.0	ug/L	10	200	ND	101	79-124%	---	---	
Chloromethane	188	---	50.0	ug/L	10	200	ND	94	50-139%	---	---	
2-Chlorotoluene	205	---	10.0	ug/L	10	200	ND	102	79-122%	---	---	
4-Chlorotoluene	183	---	10.0	ug/L	10	200	ND	91	78-122%	---	---	
Dibromochloromethane	191	---	10.0	ug/L	10	200	ND	96	74-126%	---	---	
1,2-Dibromo-3-chloropropane	173	---	50.0	ug/L	10	200	ND	86	62-128%	---	---	
1,2-Dibromoethane (EDB)	203	---	5.00	ug/L	10	200	ND	101	77-121%	---	---	
Dibromomethane	219	---	10.0	ug/L	10	200	ND	110	79-123%	---	---	
1,2-Dichlorobenzene	198	---	5.00	ug/L	10	200	ND	99	80-120%	---	---	
1,3-Dichlorobenzene	199	---	5.00	ug/L	10	200	ND	99	80-120%	---	---	
1,4-Dichlorobenzene	190	---	5.00	ug/L	10	200	ND	95	79-120%	---	---	
Dichlorodifluoromethane	195	---	10.0	ug/L	10	200	ND	98	32-152%	---	---	
1,1-Dichloroethane	219	---	4.00	ug/L	10	200	ND	109	77-125%	---	---	
1,2-Dichloroethane (EDC)	198	---	4.00	ug/L	10	200	2.01	98	73-128%	---	---	
1,1-Dichloroethene	216	---	4.00	ug/L	10	200	ND	108	71-131%	---	---	
cis-1,2-Dichloroethene	203	---	4.00	ug/L	10	200	ND	101	78-123%	---	---	
trans-1,2-Dichloroethene	209	---	4.00	ug/L	10	200	ND	104	75-124%	---	---	
1,2-Dichloropropane	209	---	5.00	ug/L	10	200	ND	105	78-122%	---	---	
1,3-Dichloropropane	197	---	10.0	ug/L	10	200	ND	98	80-120%	---	---	
2,2-Dichloropropane	195	---	10.0	ug/L	10	200	ND	98	60-139%	---	---	
1,1-Dichloropropene	214	---	10.0	ug/L	10	200	ND	107	79-125%	---	---	
cis-1,3-Dichloropropene	184	---	10.0	ug/L	10	200	ND	92	75-124%	---	---	
trans-1,3-Dichloropropene	171	---	10.0	ug/L	10	200	ND	86	73-127%	---	---	
Ethylbenzene	336	---	5.00	ug/L	10	200	147	95	79-121%	---	---	
Hexachlorobutadiene	201	---	50.0	ug/L	10	200	ND	100	66-134%	---	---	
2-Hexanone	324	---	100	ug/L	10	400	ND	81	57-139%	---	---	
Isopropylbenzene	217	---	10.0	ug/L	10	200	13.4	102	72-131%	---	---	
4-Isopropyltoluene	205	---	10.0	ug/L	10	200	ND	103	77-127%	---	---	
Methylene chloride	211	---	30.0	ug/L	10	200	ND	105	74-124%	---	---	



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070304 - EPA 5030B												
Water												
Matrix Spike (8070304-MS1)												
Prepared: 07/02/18 09:33 Analyzed: 07/02/18 15:05												
QC Source Sample: Non-SDG (A8F0805-14RE1)												
4-Methyl-2-pentanone (MiBK)	335	---	100	ug/L	10	400	ND	84	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	181	---	10.0	ug/L	10	200	ND	90	71-124%	---	---	
Naphthalene	235	---	20.0	ug/L	10	200	43.6	96	61-128%	---	---	
n-Propylbenzene	230	---	5.00	ug/L	10	200	38.0	96	76-126%	---	---	
Styrene	200	---	10.0	ug/L	10	200	ND	100	78-123%	---	---	
1,1,1,2-Tetrachloroethane	182	---	4.00	ug/L	10	200	ND	91	78-124%	---	---	
1,1,2,2-Tetrachloroethane	194	---	5.00	ug/L	10	200	ND	97	71-121%	---	---	
Tetrachloroethene (PCE)	219	---	4.00	ug/L	10	200	ND	109	74-129%	---	---	
Toluene	199	---	10.0	ug/L	10	200	6.78	96	80-121%	---	---	
1,2,3-Trichlorobenzene	190	---	20.0	ug/L	10	200	ND	95	69-129%	---	---	
1,2,4-Trichlorobenzene	194	---	20.0	ug/L	10	200	ND	97	69-130%	---	---	
1,1,1-Trichloroethane	194	---	4.00	ug/L	10	200	ND	97	74-131%	---	---	
1,1,2-Trichloroethane	199	---	5.00	ug/L	10	200	ND	100	80-120%	---	---	
Trichloroethene (TCE)	212	---	4.00	ug/L	10	200	ND	106	79-123%	---	---	
Trichlorofluoromethane	283	---	20.0	ug/L	10	200	ND	141	65-141%	---	---	Q-54d
1,2,3-Trichloropropane	196	---	10.0	ug/L	10	200	ND	98	73-122%	---	---	
1,2,4-Trimethylbenzene	476	---	10.0	ug/L	10	200	299	89	76-124%	---	---	
1,3,5-Trimethylbenzene	281	---	10.0	ug/L	10	200	88.0	97	75-124%	---	---	
Vinyl chloride	256	---	4.00	ug/L	10	200	ND	128	58-137%	---	---	
m,p-Xylene	845	---	10.0	ug/L	10	400	487	90	80-121%	---	---	
o-Xylene	320	---	5.00	ug/L	10	200	121	100	78-122%	---	---	
Surr: 1,4-Difluorobenzene (Surr)												
		Recovery:		106 %		Limits:		80-120 %		Dilution:		1x
Toluene-d8 (Surr)				100 %				80-120 %				"
4-Bromofluorobenzene (Surr)				96 %				80-120 %				"



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Report ID:
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A						Soil						
Blank (8070323-BLK1)			Prepared: 07/02/18 08:00 Analyzed: 07/02/18 14:07									
<u>5035A/8260C</u>												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	
Acrylonitrile	ND	---	66.7	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	6.67	ug/kg wet	50	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Bromochloromethane	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Bromodichloromethane	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Bromoform	ND	---	66.7	ug/kg wet	50	---	---	---	---	---	---	
Bromomethane	ND	---	333	ug/kg wet	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	333	ug/kg wet	50	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Carbon disulfide	ND	---	333	ug/kg wet	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Chloroethane	ND	---	333	ug/kg wet	50	---	---	---	---	---	---	
Chloroform	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Chloromethane	ND	---	167	ug/kg wet	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director



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Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A						Soil						
Blank (8070323-BLK1)			Prepared: 07/02/18 08:00 Analyzed: 07/02/18 14:07									
1,2-Dichloropropane	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	ug/kg wet	50	---	---	---	---	---	---	
2-Hexanone	ND	---	333	ug/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Methylene chloride	ND	---	167	ug/kg wet	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	ug/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	ug/kg wet	50	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Styrene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	ug/kg wet	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	ug/kg wet	50	---	---	---	---	---	---	



Maul Foster & Alongi, INC.
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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A												
Soil												
Blank (8070323-BLK1)												
Prepared: 07/02/18 08:00 Analyzed: 07/02/18 14:07												
<i>Surr: 1,4-Difluorobenzene (Surr)</i>												
			Recovery: 99 %	Limits: 80-120 %		Dilution: 1x						
<i>Toluene-d8 (Surr)</i>												
			100 %	80-120 %		"						
<i>4-Bromofluorobenzene (Surr)</i>												
			103 %	80-120 %		"						
LCS (8070323-BS1)												
Prepared: 07/02/18 08:00 Analyzed: 07/02/18 13:13												
5035A/8260C												
Acetone	1710	---	1000	ug/kg wet	50	2000	---	85	80-120%	---	---	
Acrylonitrile	973	---	100	ug/kg wet	50	1000	---	97	80-120%	---	---	
Benzene	966	---	10.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
Bromobenzene	1030	---	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Bromochloromethane	979	---	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Bromodichloromethane	936	---	50.0	ug/kg wet	50	1000	---	94	80-120%	---	---	
Bromoform	1110	---	100	ug/kg wet	50	1000	---	111	80-120%	---	---	
Bromomethane	959	---	500	ug/kg wet	50	1000	---	96	80-120%	---	---	
2-Butanone (MEK)	1870	---	500	ug/kg wet	50	2000	---	94	80-120%	---	---	
n-Butylbenzene	1020	---	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
sec-Butylbenzene	1030	---	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
tert-Butylbenzene	1060	---	50.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
Carbon disulfide	991	---	500	ug/kg wet	50	1000	---	99	80-120%	---	---	
Carbon tetrachloride	1020	---	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Chlorobenzene	960	---	25.0	ug/kg wet	50	1000	---	96	80-120%	---	---	
Chloroethane	783	---	500	ug/kg wet	50	1000	---	78	80-120%	---	---	Q-55
Chloroform	996	---	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Chloromethane	905	---	250	ug/kg wet	50	1000	---	91	80-120%	---	---	
2-Chlorotoluene	1010	---	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
4-Chlorotoluene	1030	---	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Dibromochloromethane	962	---	100	ug/kg wet	50	1000	---	96	80-120%	---	---	
1,2-Dibromo-3-chloropropane	1060	---	250	ug/kg wet	50	1000	---	106	80-120%	---	---	
1,2-Dibromoethane (EDB)	1070	---	50.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
Dibromomethane	981	---	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
1,2-Dichlorobenzene	1040	---	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
1,3-Dichlorobenzene	1020	---	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,4-Dichlorobenzene	972	---	25.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
Dichlorodifluoromethane	900	---	100	ug/kg wet	50	1000	---	90	80-120%	---	---	

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Project: **Devil's Lake Lincoln City**
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Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A						Soil						
LCS (8070323-BS1)			Prepared: 07/02/18 08:00 Analyzed: 07/02/18 13:13									
1,1-Dichloroethane	961	---	25.0	ug/kg wet	50	1000	---	96	80-120%	---	---	
1,2-Dichloroethane (EDC)	989	---	25.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
1,1-Dichloroethene	927	---	25.0	ug/kg wet	50	1000	---	93	80-120%	---	---	
cis-1,2-Dichloroethene	986	---	25.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
trans-1,2-Dichloroethene	992	---	25.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
1,2-Dichloropropane	971	---	25.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
1,3-Dichloropropane	994	---	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
2,2-Dichloropropane	1220	---	50.0	ug/kg wet	50	1000	---	122	80-120%	---	---	Q-56
1,1-Dichloropropene	976	---	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
cis-1,3-Dichloropropene	996	---	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
trans-1,3-Dichloropropene	1090	---	50.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
Ethylbenzene	984	---	25.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Hexachlorobutadiene	1080	---	100	ug/kg wet	50	1000	---	108	80-120%	---	---	
2-Hexanone	1960	---	500	ug/kg wet	50	2000	---	98	80-120%	---	---	
Isopropylbenzene	1060	---	50.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
4-Isopropyltoluene	1070	---	50.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
Methylene chloride	879	---	250	ug/kg wet	50	1000	---	88	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	2100	---	500	ug/kg wet	50	2000	---	105	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	975	---	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Naphthalene	1080	---	100	ug/kg wet	50	1000	---	108	80-120%	---	---	
n-Propylbenzene	1020	---	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Styrene	1050	---	50.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
1,1,1,2-Tetrachloroethane	998	---	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,1,2,2-Tetrachloroethane	1110	---	50.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
Tetrachloroethene (PCE)	1030	---	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Toluene	968	---	50.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
1,2,3-Trichlorobenzene	1110	---	250	ug/kg wet	50	1000	---	111	80-120%	---	---	
1,2,4-Trichlorobenzene	1090	---	250	ug/kg wet	50	1000	---	109	80-120%	---	---	
1,1,1-Trichloroethane	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
1,1,2-Trichloroethane	1010	---	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Trichloroethene (TCE)	977	---	25.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Trichlorofluoromethane	918	---	100	ug/kg wet	50	1000	---	92	80-120%	---	---	
1,2,3-Trichloropropane	1080	---	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
1,2,4-Trimethylbenzene	1040	---	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A												
Soil												
LCS (8070323-BS1)												
				Prepared: 07/02/18 08:00 Analyzed: 07/02/18 13:13								
1,3,5-Trimethylbenzene	1040	---	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Vinyl chloride	926	---	25.0	ug/kg wet	50	1000	---	93	80-120%	---	---	
m,p-Xylene	1970	---	50.0	ug/kg wet	50	2000	---	99	80-120%	---	---	
o-Xylene	990	---	25.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</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>102 %</i>		<i>80-120 %</i>		<i>"</i>						

Duplicate (8070323-DUP1)												
				Prepared: 07/02/18 08:00 Analyzed: 07/02/18 15:01								
QC Source Sample: Non-SDG (A8G0010-01)												
Acetone	ND	---	1150	ug/kg dry	50	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	115	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	---	11.5	ug/kg dry	50	---	ND	---	---	---	30%	
Bromobenzene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Bromoform	ND	---	115	ug/kg dry	50	---	ND	---	---	---	30%	
Bromomethane	ND	---	573	ug/kg dry	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	573	ug/kg dry	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	573	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroethane	ND	---	573	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroform	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Chloromethane	ND	---	286	ug/kg dry	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	115	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	286	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromomethane	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A						Soil						
Duplicate (8070323-DUP1)			Prepared: 07/02/18 08:00 Analyzed: 07/02/18 15:01									
QC Source Sample: Non-SDG (A8G0010-01)												
1,2-Dichlorobenzene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	115	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	115	ug/kg dry	50	---	ND	---	---	---	30%	
2-Hexanone	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Methylene chloride	ND	---	286	ug/kg dry	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Naphthalene	ND	---	115	ug/kg dry	50	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Styrene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	286	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	286	ug/kg dry	50	---	ND	---	---	---	30%	



Maul Foster & Alongi, INC.
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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A												
Soil												
Duplicate (8070323-DUP1)			Prepared: 07/02/18 08:00 Analyzed: 07/02/18 15:01									
QC Source Sample: Non-SDG (A8G0010-01)												
1,1,1-Trichloroethane	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	115	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	57.3	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	---	28.6	ug/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>"</i>						

Duplicate (8070323-DUP2)												
V-15												
Prepared: 07/02/18 16:58 Analyzed: 07/02/18 21:45												
QC Source Sample: Non-SDG (A8G0019-01)												
Acetone	ND	---	6420	ug/kg dry	200	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	642	ug/kg dry	200	---	ND	---	---	---	30%	
Benzene	ND	---	64.2	ug/kg dry	200	---	ND	---	---	---	30%	
Bromobenzene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Bromoform	ND	---	642	ug/kg dry	200	---	ND	---	---	---	30%	
Bromomethane	ND	---	3210	ug/kg dry	200	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	3210	ug/kg dry	200	---	ND	---	---	---	30%	
n-Butylbenzene	1790	---	321	ug/kg dry	200	---	1780	---	---	0.3	30%	
sec-Butylbenzene	892	---	321	ug/kg dry	200	---	799	---	---	11	30%	
tert-Butylbenzene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	3210	ug/kg dry	200	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
Chloroethane	ND	---	3210	ug/kg dry	200	---	ND	---	---	---	30%	
Chloroform	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director



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2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A						Soil						
Duplicate (8070323-DUP2)						Prepared: 07/02/18 16:58 Analyzed: 07/02/18 21:45						V-15
QC Source Sample: Non-SDG (A8G0019-01)												
Chloromethane	ND	---	1610	ug/kg dry	200	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	642	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	1610	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Dibromomethane	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	642	ug/kg dry	200	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Ethylbenzene	260	---	161	ug/kg dry	200	---	202	---	---	25	30%	
Hexachlorobutadiene	ND	---	642	ug/kg dry	200	---	ND	---	---	---	30%	
2-Hexanone	ND	---	3210	ug/kg dry	200	---	ND	---	---	---	30%	
Isopropylbenzene	702	---	321	ug/kg dry	200	---	586	---	---	18	30%	
4-Isopropyltoluene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Methylene chloride	ND	---	1610	ug/kg dry	200	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	3210	ug/kg dry	200	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Naphthalene	ND	---	642	ug/kg dry	200	---	ND	---	---	---	30%	
n-Propylbenzene	3210	---	161	ug/kg dry	200	---	2770	---	---	15	30%	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A												
Soil												
Duplicate (8070323-DUP2)												
Prepared: 07/02/18 16:58						Analyzed: 07/02/18 21:45						
QC Source Sample: Non-SDG (A8G0019-01)												
Styrene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
Toluene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	1610	ug/kg dry	200	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	1610	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	642	ug/kg dry	200	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	321	ug/kg dry	200	---	ND	---	---	---	30%	
o-Xylene	ND	---	161	ug/kg dry	200	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr) Recovery: 98 % Limits: 80-120 % Dilution: 1x</i>												
<i>Toluene-d8 (Surr) 99 % 80-120 % "</i>												
<i>4-Bromofluorobenzene (Surr) 103 % 80-120 % "</i>												

Matrix Spike (8070323-MS1)												
Prepared: 07/02/18 12:24						Analyzed: 07/02/18 16:22						
QC Source Sample: Non-SDG (A8G0008-02)												
5035A/8260C												
Acetone	2090	---	1130	ug/kg dry	50	2270	ND	92	36-164%	---	---	
Acrylonitrile	1150	---	113	ug/kg dry	50	1140	ND	101	65-134%	---	---	
Benzene	1100	---	11.3	ug/kg dry	50	1140	ND	97	77-121%	---	---	
Bromobenzene	1150	---	28.4	ug/kg dry	50	1140	ND	101	78-121%	---	---	
Bromochloromethane	1150	---	56.7	ug/kg dry	50	1140	ND	102	78-125%	---	---	
Bromodichloromethane	1050	---	56.7	ug/kg dry	50	1140	ND	93	75-127%	---	---	
Bromoform	1160	---	113	ug/kg dry	50	1140	ND	102	67-132%	---	---	
Bromomethane	1160	---	567	ug/kg dry	50	1140	ND	103	53-143%	---	---	
2-Butanone (MEK)	2210	---	567	ug/kg dry	50	2270	ND	97	51-148%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A						Soil						
Matrix Spike (8070323-MS1)						Prepared: 07/02/18 12:24 Analyzed: 07/02/18 16:22						V-15
QC Source Sample: Non-SDG (A8G0008-02)												
n-Butylbenzene	1110	---	56.7	ug/kg dry	50	1140	ND	98	70-128%	---	---	
sec-Butylbenzene	1150	---	56.7	ug/kg dry	50	1140	ND	102	73-126%	---	---	
tert-Butylbenzene	1180	---	56.7	ug/kg dry	50	1140	ND	104	73-125%	---	---	
Carbon disulfide	1100	---	56.7	ug/kg dry	50	1140	ND	97	63-132%	---	---	
Carbon tetrachloride	1160	---	56.7	ug/kg dry	50	1140	ND	102	70-135%	---	---	
Chlorobenzene	1060	---	28.4	ug/kg dry	50	1140	ND	93	79-120%	---	---	
Chloroethane	1210	---	56.7	ug/kg dry	50	1140	ND	106	59-139%	---	---	Q-54e
Chloroform	1150	---	56.7	ug/kg dry	50	1140	ND	101	78-123%	---	---	
Chloromethane	1040	---	28.4	ug/kg dry	50	1140	ND	91	50-136%	---	---	
2-Chlorotoluene	1110	---	56.7	ug/kg dry	50	1140	ND	98	75-122%	---	---	
4-Chlorotoluene	1130	---	56.7	ug/kg dry	50	1140	ND	99	72-124%	---	---	
Dibromochloromethane	1040	---	113	ug/kg dry	50	1140	ND	91	74-126%	---	---	
1,2-Dibromo-3-chloropropane	1070	---	28.4	ug/kg dry	50	1140	ND	94	61-132%	---	---	
1,2-Dibromoethane (EDB)	1170	---	56.7	ug/kg dry	50	1140	ND	103	78-122%	---	---	
Dibromomethane	1130	---	56.7	ug/kg dry	50	1140	ND	99	78-125%	---	---	
1,2-Dichlorobenzene	1130	---	28.4	ug/kg dry	50	1140	ND	100	78-121%	---	---	
1,3-Dichlorobenzene	1110	---	28.4	ug/kg dry	50	1140	ND	97	77-121%	---	---	
1,4-Dichlorobenzene	1060	---	28.4	ug/kg dry	50	1140	ND	93	75-120%	---	---	
Dichlorodifluoromethane	1140	---	113	ug/kg dry	50	1140	ND	100	29-149%	---	---	
1,1-Dichloroethane	1100	---	28.4	ug/kg dry	50	1140	ND	97	76-125%	---	---	
1,2-Dichloroethane (EDC)	1140	---	28.4	ug/kg dry	50	1140	ND	100	73-128%	---	---	
1,1-Dichloroethene	1110	---	28.4	ug/kg dry	50	1140	ND	97	70-131%	---	---	
cis-1,2-Dichloroethene	1110	---	28.4	ug/kg dry	50	1140	ND	98	77-123%	---	---	
trans-1,2-Dichloroethene	1100	---	28.4	ug/kg dry	50	1140	ND	97	74-125%	---	---	
1,2-Dichloropropane	1110	---	28.4	ug/kg dry	50	1140	ND	98	76-123%	---	---	
1,3-Dichloropropane	1100	---	56.7	ug/kg dry	50	1140	ND	97	77-121%	---	---	
2,2-Dichloropropane	1280	---	56.7	ug/kg dry	50	1140	ND	112	67-133%	---	---	Q-54
1,1-Dichloropropene	1100	---	56.7	ug/kg dry	50	1140	ND	96	76-125%	---	---	
cis-1,3-Dichloropropene	1040	---	56.7	ug/kg dry	50	1140	ND	92	74-126%	---	---	
trans-1,3-Dichloropropene	1130	---	56.7	ug/kg dry	50	1140	ND	100	71-130%	---	---	
Ethylbenzene	1090	---	28.4	ug/kg dry	50	1140	ND	96	76-122%	---	---	
Hexachlorobutadiene	1280	---	113	ug/kg dry	50	1140	ND	113	61-135%	---	---	
2-Hexanone	2290	---	56.7	ug/kg dry	50	2270	ND	101	53-145%	---	---	

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070323 - EPA 5035A						Soil						
Matrix Spike (8070323-MS1)						Prepared: 07/02/18 12:24 Analyzed: 07/02/18 16:22						V-15
QC Source Sample: Non-SDG (A8G0008-02)												
Isopropylbenzene	1170	---	56.7	ug/kg dry	50	1140	ND	103	68-134%	---	---	
4-Isopropyltoluene	1170	---	56.7	ug/kg dry	50	1140	ND	103	73-127%	---	---	
Methylene chloride	1070	---	284	ug/kg dry	50	1140	ND	94	70-128%	---	---	
4-Methyl-2-pentanone (MiBK)	2340	---	567	ug/kg dry	50	2270	ND	103	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1110	---	56.7	ug/kg dry	50	1140	ND	98	73-125%	---	---	
Naphthalene	1150	---	113	ug/kg dry	50	1140	ND	101	62-129%	---	---	
n-Propylbenzene	1120	---	28.4	ug/kg dry	50	1140	ND	99	73-125%	---	---	
Styrene	1160	---	56.7	ug/kg dry	50	1140	ND	102	76-124%	---	---	
1,1,1,2-Tetrachloroethane	1060	---	28.4	ug/kg dry	50	1140	ND	93	78-125%	---	---	
1,1,2,2-Tetrachloroethane	1190	---	56.7	ug/kg dry	50	1140	ND	105	70-124%	---	---	
Tetrachloroethene (PCE)	1130	---	28.4	ug/kg dry	50	1140	ND	100	73-128%	---	---	
Toluene	1060	---	56.7	ug/kg dry	50	1140	ND	93	77-121%	---	---	
1,2,3-Trichlorobenzene	1170	---	284	ug/kg dry	50	1140	ND	103	66-130%	---	---	
1,2,4-Trichlorobenzene	1160	---	284	ug/kg dry	50	1140	ND	102	67-129%	---	---	
1,1,1-Trichloroethane	1130	---	28.4	ug/kg dry	50	1140	ND	100	73-130%	---	---	
1,1,2-Trichloroethane	1100	---	28.4	ug/kg dry	50	1140	ND	97	78-121%	---	---	
Trichloroethene (TCE)	1090	---	28.4	ug/kg dry	50	1140	ND	96	77-123%	---	---	
Trichlorofluoromethane	1260	---	113	ug/kg dry	50	1140	ND	111	62-140%	---	---	
1,2,3-Trichloropropane	1180	---	56.7	ug/kg dry	50	1140	ND	104	73-125%	---	---	
1,2,4-Trimethylbenzene	1150	---	56.7	ug/kg dry	50	1140	ND	101	75-123%	---	---	
1,3,5-Trimethylbenzene	1150	---	56.7	ug/kg dry	50	1140	ND	101	73-124%	---	---	
Vinyl chloride	1130	---	28.4	ug/kg dry	50	1140	ND	100	56-135%	---	---	
m,p-Xylene	2200	---	56.7	ug/kg dry	50	2270	ND	97	77-124%	---	---	
o-Xylene	1110	---	28.4	ug/kg dry	50	1140	ND	98	77-123%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						



Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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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 8070302 - EPA 3546												
Soil												
Blank (8070302-BLK1)			Prepared: 07/02/18 07:13 Analyzed: 07/03/18 08:53						C-07			
<u>EPA 8082A</u>												
Aroclor 1016	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 53-120 %</i>		<i>Dilution: 1x</i>						
LCS (8070302-BS1)			Prepared: 07/02/18 07:13 Analyzed: 07/03/18 09:11						C-07			
<u>EPA 8082A</u>												
Aroclor 1016	190	---	10.0	ug/kg wet	1	250	---	76	47-134%	---	---	
Aroclor 1260	219	---	10.0	ug/kg wet	1	250	---	88	53-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 53-120 %</i>		<i>Dilution: 1x</i>						
Duplicate (8070302-DUP1)			Prepared: 07/02/18 07:14 Analyzed: 07/03/18 10:43						C-07			
<u>QC Source Sample: HA-5.0-01 (A8F0979-01)</u>												
<u>EPA 8082A</u>												
Aroclor 1016	ND	---	12.0	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	12.0	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	12.0	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	12.0	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1248	ND	---	12.0	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1254	ND	---	12.0	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1260	ND	---	12.0	ug/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 53-120 %</i>		<i>Dilution: 1x</i>						
Matrix Spike (8070302-MS1)			Prepared: 07/02/18 07:13 Analyzed: 07/03/18 11:56						C-07			
<u>QC Source Sample: HA-3.0-02 (A8F0979-03)</u>												
<u>EPA 8082A</u>												
Aroclor 1016	174	---	9.48	ug/kg dry	1	237	ND	73	47-134%	---	---	
Aroclor 1260	208	---	9.48	ug/kg dry	1	237	ND	88	53-140%	---	---	

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Philip Nerenberg, Lab Director



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Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

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 8070302 - EPA 3546						Soil							
Matrix Spike (8070302-MS1)			Prepared: 07/02/18 07:13 Analyzed: 07/03/18 11:56						C-07				
QC Source Sample: HA-3.0-02 (A8F0979-03)													
Surr: Decachlorobiphenyl (Surr)		Recovery: 91 %		Limits: 53-120 %		Dilution: 1x							

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Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
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Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070317 - EPA 3546												
Soil												
Blank (8070317-BLK1)												
Prepared: 07/02/18 10:09 Analyzed: 07/02/18 15:28												
EPA 8270D (SIM)												
Acenaphthene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	---	2.50	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	---	2.50	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>95 %</i>		<i>54-127 %</i>		<i>"</i>						

LCS (8070317-BS1)												
Prepared: 07/02/18 10:09 Analyzed: 07/02/18 15:54												
EPA 8270D (SIM)												
Acenaphthene	724	---	4.00	ug/kg wet	1	800	---	90	40-122%	---	---	
Acenaphthylene	763	---	4.00	ug/kg wet	1	800	---	95	32-132%	---	---	
Anthracene	755	---	4.00	ug/kg wet	1	800	---	94	47-123%	---	---	
Benz(a)anthracene	763	---	4.00	ug/kg wet	1	800	---	95	49-126%	---	---	
Benzo(a)pyrene	798	---	4.00	ug/kg wet	1	800	---	100	45-129%	---	---	
Benzo(b)fluoranthene	808	---	4.00	ug/kg wet	1	800	---	101	45-132%	---	---	
Benzo(k)fluoranthene	793	---	4.00	ug/kg wet	1	800	---	99	47-132%	---	---	
Benzo(g,h,i)perylene	736	---	4.00	ug/kg wet	1	800	---	92	43-134%	---	---	
Chrysene	754	---	4.00	ug/kg wet	1	800	---	94	50-124%	---	---	

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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070317 - EPA 3546												
Soil												
LCS (8070317-BS1)												
Prepared: 07/02/18 10:09 Analyzed: 07/02/18 15:54												
Dibenz(a,h)anthracene	788	---	4.00	ug/kg wet	1	800	---	99	45-134%	---	---	
Dibenzofuran	726	---	4.00	ug/kg wet	1	800	---	91	44-120%	---	---	
Fluoranthene	811	---	4.00	ug/kg wet	1	800	---	101	50-127%	---	---	
Fluorene	731	---	4.00	ug/kg wet	1	800	---	91	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	722	---	4.00	ug/kg wet	1	800	---	90	45-133%	---	---	
1-Methylnaphthalene	700	---	4.00	ug/kg wet	1	800	---	87	40-120%	---	---	
2-Methylnaphthalene	715	---	4.00	ug/kg wet	1	800	---	89	38-122%	---	---	
Naphthalene	678	---	4.00	ug/kg wet	1	800	---	85	35-123%	---	---	
Phenanthrene	728	---	4.00	ug/kg wet	1	800	---	91	50-121%	---	---	
Pyrene	806	---	4.00	ug/kg wet	1	800	---	101	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr) Recovery: 80 % Limits: 44-120 % Dilution: 1x												
p-Terphenyl-d14 (Surr) 88 % 54-127 % "												
Duplicate (8070317-DUP1)												
Prepared: 07/02/18 10:09 Analyzed: 07/02/18 22:03												
QC Source Sample: Non-SDG (A8F0914-01)												
Acenaphthene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Anthracene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Benz(a)anthracene	353	---	238	ug/kg dry	20	---	241	---	---	38	30%	M-05, Q-04
Benzo(a)pyrene	316	---	238	ug/kg dry	20	---	235	---	---	30	30%	
Benzo(b)fluoranthene	452	---	238	ug/kg dry	20	---	341	---	---	28	30%	M-05
Benzo(k)fluoranthene	ND	---	238	ug/kg dry	20	---	125	---	---	***	30%	Q-04
Benzo(g,h,i)perylene	276	---	238	ug/kg dry	20	---	233	---	---	17	30%	
Chrysene	395	---	238	ug/kg dry	20	---	290	---	---	31	30%	M-05, Q-04
Dibenz(a,h)anthracene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Dibenzofuran	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Fluoranthene	748	---	238	ug/kg dry	20	---	477	---	---	44	30%	Q-04
Fluorene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	238	---	238	ug/kg dry	20	---	183	---	---	26	30%	
1-Methylnaphthalene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Naphthalene	ND	---	238	ug/kg dry	20	---	ND	---	---	---	30%	
Phenanthrene	327	---	238	ug/kg dry	20	---	189	---	---	53	30%	Q-04
Pyrene	678	---	238	ug/kg dry	20	---	476	---	---	35	30%	Q-04



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2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070317 - EPA 3546												
Soil												
Duplicate (8070317-DUP1)												
Prepared: 07/02/18 10:09 Analyzed: 07/02/18 22:03												
QC Source Sample: Non-SDG (A8F0914-01)												
Surr: 2-Fluorobiphenyl (Surr) Recovery: 85 % Limits: 44-120 % Dilution: 20x												
p-Terphenyl-d14 (Surr) 93 % 54-127 % "												
Matrix Spike (8070317-MS1)												
Prepared: 07/02/18 10:09 Analyzed: 07/02/18 22:29												
QC Source Sample: Non-SDG (A8F0914-01)												
EPA 8270D (SIM)												
Acenaphthene	903	---	236	ug/kg dry	20	942	ND	96	40-122%	---	---	
Acenaphthylene	962	---	236	ug/kg dry	20	942	ND	102	32-132%	---	---	
Anthracene	1010	---	236	ug/kg dry	20	942	ND	107	47-123%	---	---	
Benz(a)anthracene	1190	---	236	ug/kg dry	20	942	241	101	49-126%	---	---	
Benzo(a)pyrene	1200	---	236	ug/kg dry	20	942	235	103	45-129%	---	---	
Benzo(b)fluoranthene	1280	---	236	ug/kg dry	20	942	341	99	45-132%	---	---	
Benzo(k)fluoranthene	1060	---	236	ug/kg dry	20	942	125	99	47-132%	---	---	
Benzo(g,h,i)perylene	1040	---	236	ug/kg dry	20	942	233	86	43-134%	---	---	
Chrysene	1200	---	236	ug/kg dry	20	942	290	96	50-124%	---	---	
Dibenz(a,h)anthracene	863	---	236	ug/kg dry	20	942	ND	92	45-134%	---	---	
Dibenzofuran	936	---	236	ug/kg dry	20	942	ND	99	44-120%	---	---	
Fluoranthene	1560	---	236	ug/kg dry	20	942	477	115	50-127%	---	---	
Fluorene	1010	---	236	ug/kg dry	20	942	ND	107	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	980	---	236	ug/kg dry	20	942	183	85	45-133%	---	---	
1-Methylnaphthalene	933	---	236	ug/kg dry	20	942	ND	99	40-120%	---	---	
2-Methylnaphthalene	950	---	236	ug/kg dry	20	942	ND	101	38-122%	---	---	
Naphthalene	837	---	236	ug/kg dry	20	942	ND	89	35-123%	---	---	
Phenanthrene	1130	---	236	ug/kg dry	20	942	189	99	50-121%	---	---	
Pyrene	1530	---	236	ug/kg dry	20	942	476	112	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr) Recovery: 85 % Limits: 44-120 % Dilution: 20x												
p-Terphenyl-d14 (Surr) 91 % 54-127 % "												



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A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070319 - EPA 3510C (Acid Extraction)						Water						
Blank (8070319-BLK1)			Prepared: 07/02/18 10:53 Analyzed: 07/02/18 14:59									
EPA 8270D (SIM)												
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	---	---	---	---	---	---	---
Dibenzofuran	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	---	---	---	---	---	---	---
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 62 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		90 %		50-133 %		"						

LCS (8070319-BS1)						Prepared: 07/02/18 10:53 Analyzed: 07/02/18 15:25						
EPA 8270D (SIM)												
Acenaphthene	3.14	---	0.0200	ug/L	1	4.00	---	79	47-122%	---	---	---
Acenaphthylene	3.28	---	0.0200	ug/L	1	4.00	---	82	41-130%	---	---	---
Anthracene	3.57	---	0.0200	ug/L	1	4.00	---	89	57-123%	---	---	---
Benz(a)anthracene	3.95	---	0.0200	ug/L	1	4.00	---	99	58-125%	---	---	---
Benzo(a)pyrene	3.97	---	0.0200	ug/L	1	4.00	---	99	54-128%	---	---	---
Benzo(b)fluoranthene	4.01	---	0.0200	ug/L	1	4.00	---	100	53-131%	---	---	---
Benzo(k)fluoranthene	3.84	---	0.0200	ug/L	1	4.00	---	96	57-129%	---	---	---
Benzo(g,h,i)perylene	3.66	---	0.0200	ug/L	1	4.00	---	92	50-134%	---	---	---
Chrysene	3.97	---	0.0200	ug/L	1	4.00	---	99	59-123%	---	---	---

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070319 - EPA 3510C (Acid Extraction)						Water						
LCS (8070319-BS1)			Prepared: 07/02/18 10:53 Analyzed: 07/02/18 15:25									
Dibenz(a,h)anthracene	4.19	---	0.0200	ug/L	1	4.00	---	105	51-134%	---	---	
Dibenzofuran	3.19	---	0.0200	ug/L	1	4.00	---	80	53-120%	---	---	
Fluoranthene	3.57	---	0.0200	ug/L	1	4.00	---	89	57-128%	---	---	
Fluorene	3.28	---	0.0200	ug/L	1	4.00	---	82	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.86	---	0.0200	ug/L	1	4.00	---	96	52-133%	---	---	
1-Methylnaphthalene	2.66	---	0.0400	ug/L	1	4.00	---	67	41-120%	---	---	
2-Methylnaphthalene	2.64	---	0.0400	ug/L	1	4.00	---	66	40-121%	---	---	
Naphthalene	2.74	---	0.0400	ug/L	1	4.00	---	68	40-121%	---	---	
Phenanthrene	3.66	---	0.0200	ug/L	1	4.00	---	91	59-120%	---	---	
Pyrene	3.62	---	0.0200	ug/L	1	4.00	---	91	57-126%	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 70 %		Limits: 44-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		90 %		50-133 %		"						

LCS Dup (8070319-BSD1)			Prepared: 07/02/18 10:53 Analyzed: 07/02/18 15:52									Q-19
EPA 8270D (SIM)												
Acenaphthene	2.68	---	0.0200	ug/L	1	4.00	---	67	47-122%	16	30%	
Acenaphthylene	2.79	---	0.0200	ug/L	1	4.00	---	70	41-130%	16	30%	
Anthracene	3.19	---	0.0200	ug/L	1	4.00	---	80	57-123%	11	30%	
Benz(a)anthracene	3.87	---	0.0200	ug/L	1	4.00	---	97	58-125%	2	30%	
Benzo(a)pyrene	3.87	---	0.0200	ug/L	1	4.00	---	97	54-128%	2	30%	
Benzo(b)fluoranthene	4.07	---	0.0200	ug/L	1	4.00	---	102	53-131%	1	30%	
Benzo(k)fluoranthene	3.86	---	0.0200	ug/L	1	4.00	---	96	57-129%	0.3	30%	
Benzo(g,h,i)perylene	3.56	---	0.0200	ug/L	1	4.00	---	89	50-134%	3	30%	
Chrysene	3.86	---	0.0200	ug/L	1	4.00	---	97	59-123%	3	30%	
Dibenz(a,h)anthracene	3.94	---	0.0200	ug/L	1	4.00	---	98	51-134%	6	30%	
Dibenzofuran	2.73	---	0.0200	ug/L	1	4.00	---	68	53-120%	15	30%	
Fluoranthene	3.44	---	0.0200	ug/L	1	4.00	---	86	57-128%	4	30%	
Fluorene	2.86	---	0.0200	ug/L	1	4.00	---	72	52-124%	14	30%	
Indeno(1,2,3-cd)pyrene	3.72	---	0.0200	ug/L	1	4.00	---	93	52-133%	4	30%	
1-Methylnaphthalene	2.26	---	0.0400	ug/L	1	4.00	---	57	41-120%	16	30%	
2-Methylnaphthalene	2.24	---	0.0400	ug/L	1	4.00	---	56	40-121%	16	30%	
Naphthalene	2.35	---	0.0400	ug/L	1	4.00	---	59	40-121%	15	30%	
Phenanthrene	3.25	---	0.0200	ug/L	1	4.00	---	81	59-120%	12	30%	
Pyrene	3.45	---	0.0200	ug/L	1	4.00	---	86	57-126%	5	30%	

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Philip Nerenberg, Lab Director



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12232 S.W. Garden Place
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 503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 8070319 - EPA 3510C (Acid Extraction)						Water							
LCS Dup (8070319-BSD1)			Prepared: 07/02/18 10:53 Analyzed: 07/02/18 15:52						Q-19				
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 62 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>							
<i>p-Terphenyl-d14 (Surr)</i>		<i>94 %</i>		<i>50-133 %</i>		<i>"</i>							

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**

Project Number: **1467.01.02**

Project Manager: **Merideth D'Andrea**

Report ID:

A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070328 - EPA 3051A												
Soil												
Blank (8070328-BLK1)												
Prepared: 07/02/18 13:57 Analyzed: 07/03/18 12:17												
<u>EPA 6020A</u>												
Antimony	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Arsenic	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Beryllium	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
Chromium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Copper	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Lead	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
Mercury	ND	---	0.0769	mg/kg wet	10	---	---	---	---	---	---	
Nickel	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Selenium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	
Silver	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
Thallium	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	
Zinc	ND	---	3.85	mg/kg wet	10	---	---	---	---	---	---	
LCS (8070328-BS1)												
Prepared: 07/02/18 13:57 Analyzed: 07/03/18 12:22												
<u>EPA 6020A</u>												
Antimony	24.3	---	1.00	mg/kg wet	10	25.0	---	97	80-120%	---	---	
Arsenic	45.1	---	1.00	mg/kg wet	10	50.0	---	90	80-120%	---	---	
Beryllium	22.3	---	0.200	mg/kg wet	10	25.0	---	89	80-120%	---	---	
Cadmium	48.8	---	0.200	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Chromium	47.8	---	1.00	mg/kg wet	10	50.0	---	95	80-120%	---	---	
Copper	49.3	---	1.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	
Lead	50.1	---	0.200	mg/kg wet	10	50.0	---	100	80-120%	---	---	
Mercury	0.974	---	0.0800	mg/kg wet	10	1.00	---	97	80-120%	---	---	
Nickel	49.4	---	1.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	
Selenium	24.4	---	1.00	mg/kg wet	10	25.0	---	98	80-120%	---	---	
Silver	24.8	---	0.200	mg/kg wet	10	25.0	---	99	80-120%	---	---	
Thallium	23.5	---	0.200	mg/kg wet	10	25.0	---	94	80-120%	---	---	
Zinc	48.7	---	4.00	mg/kg wet	10	50.0	---	97	80-120%	---	---	
Duplicate (8070328-DUP1)												
Prepared: 07/02/18 13:57 Analyzed: 07/03/18 12:35												
<u>QC Source Sample: Non-SDG (A8F0987-01)</u>												
Antimony	ND	---	1.16	mg/kg dry	10	---	ND	---	---	---	40%	

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070328 - EPA 3051A												
Soil												
Duplicate (8070328-DUP1) Prepared: 07/02/18 13:57 Analyzed: 07/03/18 12:35												
QC Source Sample: Non-SDG (A8F0987-01)												
Arsenic	2.86	---	1.16	mg/kg dry	10	---	3.33	---	---	15	40%	
Beryllium	0.353	---	0.232	mg/kg dry	10	---	0.415	---	---	16	40%	
Cadmium	0.356	---	0.232	mg/kg dry	10	---	0.417	---	---	16	40%	
Chromium	22.9	---	1.16	mg/kg dry	10	---	22.6	---	---	1	40%	
Copper	32.6	---	1.16	mg/kg dry	10	---	39.2	---	---	18	40%	
Lead	11.5	---	0.232	mg/kg dry	10	---	13.9	---	---	19	40%	
Mercury	ND	---	0.0928	mg/kg dry	10	---	ND	---	---	---	40%	
Nickel	18.1	---	1.16	mg/kg dry	10	---	17.8	---	---	2	40%	
Selenium	ND	---	1.16	mg/kg dry	10	---	ND	---	---	---	40%	
Silver	ND	---	0.232	mg/kg dry	10	---	ND	---	---	---	40%	
Thallium	ND	---	0.232	mg/kg dry	10	---	0.117	---	---	***	40%	Q-05
Zinc	99.5	---	4.64	mg/kg dry	10	---	126	---	---	23	40%	

Matrix Spike (8070328-MS1) Prepared: 07/02/18 13:57 Analyzed: 07/03/18 12:40												
QC Source Sample: Non-SDG (A8F0987-01)												
EPA 6020A												
Antimony	21.5	---	1.21	mg/kg dry	10	30.3	ND	71	75-125%	---	---	Q-01
Arsenic	55.8	---	1.21	mg/kg dry	10	60.6	3.33	87	75-125%	---	---	
Beryllium	23.7	---	0.242	mg/kg dry	10	30.3	0.415	77	75-125%	---	---	
Cadmium	48.3	---	0.242	mg/kg dry	10	60.6	0.417	79	75-125%	---	---	
Chromium	76.6	---	1.21	mg/kg dry	10	60.6	22.6	89	75-125%	---	---	
Copper	88.9	---	1.21	mg/kg dry	10	60.6	39.2	82	75-125%	---	---	
Lead	62.0	---	0.242	mg/kg dry	10	60.6	13.9	79	75-125%	---	---	
Mercury	0.994	---	0.0969	mg/kg dry	10	1.21	ND	82	75-125%	---	---	
Nickel	75.8	---	1.21	mg/kg dry	10	60.6	17.8	96	75-125%	---	---	
Selenium	22.3	---	1.21	mg/kg dry	10	30.3	ND	74	75-125%	---	---	Q-01
Silver	24.5	---	0.242	mg/kg dry	10	30.3	ND	81	75-125%	---	---	
Thallium	23.6	---	0.242	mg/kg dry	10	30.3	ND	78	75-125%	---	---	
Zinc	147	---	4.85	mg/kg dry	10	60.6	126	34	75-125%	---	---	Q-04

Post Spike (8070328-PS1) Prepared: 07/02/18 13:57 Analyzed: 07/05/18 13:48											
QC Source Sample: Post Spike (A8F0987-01)											

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Philip Nerenberg, Lab Director

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12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Maul Foster & Alongi, INC.
 2001 NW 19th Ave, STE 200
 Portland, OR 97209

Project: **Devil's Lake Lincoln City**
 Project Number: **1467.01.02**
 Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8070328 - EPA 3051A						Soil						
Post Spike (8070328-PS1)						Prepared: 07/02/18 13:57 Analyzed: 07/05/18 13:48						
QC Source Sample: Post Spike (A8F0987-01)												
EPA 6020A												
Antimony	201	---		ug/L	10	244	4.33	81	80-120%		---	
Selenium	195	---		ug/L	10	244	2.55	79	80-120%		---	Q-01

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Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

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 8070355 - Total Solids (Dry Weight)						Soil						
Duplicate (8070355-DUP1)			Prepared: 07/03/18 09:22 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8F0799-60)												
% Solids	71.9	---	1.00	% by Weight	1	---	71.3	---	---	0.8	10%	
Duplicate (8070355-DUP2)			Prepared: 07/03/18 09:22 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8F0805-25)												
% Solids	88.2	---	1.00	% by Weight	1	---	88.1	---	---	0.2	10%	
Duplicate (8070355-DUP3)			Prepared: 07/03/18 09:22 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8F0980-01)												
% Solids	83.3	---	1.00	% by Weight	1	---	82.5	---	---	1	10%	
Duplicate (8070355-DUP4)			Prepared: 07/03/18 09:22 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8F0988-04)												
% Solids	84.0	---	1.00	% by Weight	1	---	85.7	---	---	2	10%	
Duplicate (8070355-DUP5)			Prepared: 07/03/18 09:22 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8G0006-20)												
% Solids	75.2	---	1.00	% by Weight	1	---	78.5	---	---	4	10%	
Duplicate (8070355-DUP6)			Prepared: 07/03/18 09:22 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8G0031-04)												
% Solids	81.6	---	1.00	% by Weight	1	---	81.8	---	---	0.2	10%	
Duplicate (8070355-DUP7)			Prepared: 07/03/18 19:10 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8G0076-02)												
% Solids	78.5	---	1.00	% by Weight	1	---	78.5	---	---	0.07	10%	
Duplicate (8070355-DUP8)			Prepared: 07/03/18 19:10 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8G0080-02)												
% Solids	80.6	---	1.00	% by Weight	1	---	80.9	---	---	0.4	10%	

Apex Laboratories

Philip Nerenberg, Lab Director

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 Tigard, OR 97223
 503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
--	---	---

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 8070355 - Total Solids (Dry Weight)							Soil					
Duplicate (8070355-DUP9)			Prepared: 07/03/18 19:32 Analyzed: 07/05/18 08:47									
QC Source Sample: Non-SDG (A8G0086-01)												
% Solids	73.8	---	1.00	% by Weight	1	---	74.1	---	---	0.3	10%	

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

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Maul Foster & Alongi, INC. 2001 NW 19th Ave, STE 200 Portland, OR 97209	Project: Devil's Lake Lincoln City Project Number: 1467.01.02 Project Manager: Merideth D'Andrea	Report ID: A8F0979 - 07 12 18 1843
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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

<u>Prep: EPA 3510C (Fuels/Acid Ext.)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8070299</u>							
A8F0979-02	Water	NWTPH-Dx	06/28/18 14:30	07/02/18 07:01	350mL/2mL	1000mL/2mL	2.86

<u>Prep: EPA 3546 (Fuels)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8070435</u>							
A8F0979-01	Soil	NWTPH-Dx	06/28/18 13:00	07/06/18 09:53	10.68g/5mL	10g/5mL	0.94
A8F0979-03	Soil	NWTPH-Dx	06/28/18 15:00	07/06/18 09:53	10.49g/5mL	10g/5mL	0.95

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

<u>Prep: EPA 5030B</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8070304</u>							
A8F0979-02RE1	Water	NWTPH-Gx (MS)	06/28/18 14:30	07/02/18 09:33	5mL/5mL	5mL/5mL	1.00

<u>Prep: EPA 5035A</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8070323</u>							
A8F0979-01	Soil	NWTPH-Gx (MS)	06/28/18 13:00	06/28/18 13:00	6.42g/5mL	5g/5mL	0.78
A8F0979-03	Soil	NWTPH-Gx (MS)	06/28/18 15:00	06/28/18 15:00	5.87g/5mL	5g/5mL	0.85

Percent Dry Weight

<u>Prep: Total Solids (Dry Weight)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8070355</u>							
A8F0979-01	Soil	EPA 8000C	06/28/18 13:00	07/03/18 09:22			NA
A8F0979-03	Soil	EPA 8000C	06/28/18 15:00	07/03/18 09:22			NA

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

<u>Prep: EPA 3510C (Acid Extraction)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8070319</u>							
A8F0979-02RE1	Water	EPA 8270D (SIM)	06/28/18 14:30	07/02/18 10:53	710mL/2mL	1000mL/2mL	1.41

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2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8070317							
A8F0979-01	Soil	EPA 8270D (SIM)	06/28/18 13:00	07/02/18 10:09	11.65g/5mL	10g/5mL	0.86
A8F0979-03	Soil	EPA 8270D (SIM)	06/28/18 15:00	07/02/18 10:09	10.61g/5mL	10g/5mL	0.94

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8070302							
A8F0979-01	Soil	EPA 8082A	06/28/18 13:00	07/02/18 07:13	11.79g/5mL	10g/5mL	0.85
A8F0979-03	Soil	EPA 8082A	06/28/18 15:00	07/02/18 07:13	11.78g/5mL	10g/5mL	0.85

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8070328							
A8F0979-01	Soil	EPA 6020A	06/28/18 13:00	07/02/18 13:57	0.51g/50mL	0.5g/50mL	0.98
A8F0979-03	Soil	EPA 6020A	06/28/18 15:00	07/02/18 13:57	0.5g/50mL	0.5g/50mL	1.00

Volatile Organic Compounds by EPA 5035A/8260C

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8070323							
A8F0979-01	Soil	5035A/8260C	06/28/18 13:00	06/28/18 13:00	6.42g/5mL	5g/5mL	0.78
A8F0979-03	Soil	5035A/8260C	06/28/18 15:00	06/28/18 15:00	5.87g/5mL	5g/5mL	0.85

Volatile Organic Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8070304							
A8F0979-02RE1	Water	EPA 8260C	06/28/18 14:30	07/02/18 09:33	5mL/5mL	5mL/5mL	1.00



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QUALIFIER DEFINITIONS

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

Apex Laboratories

- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- 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.
- E-05** Estimated Result. Initial Calibration Verification (ICV) failed high. No affect on non-detect results.
- F-17** No fuel pattern detected. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
- 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-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-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-54** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +1.7%. 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 8260C/8270D by +12%. 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 8260C/8270D by +16%. 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 8260C/8270D by +5%. 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 8260C/8270D by +6%. The results are reported as Estimated Values.
- Q-54e** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -1.7%. The results are reported as Estimated Values.
- Q-54f** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -2%. The results are reported as Estimated Values.
- Q-54g** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -3%. The results are reported as Estimated Values.
- Q-54h** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -4%. The results are reported as Estimated Values.
- Q-55** Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA 8260C, however there is adequate sensitivity to ensure detection at the reporting level.
- Q-56** Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260C

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Philip Nerenberg, Lab Director



Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
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Project: **Devil's Lake Lincoln City**

Project Number: **1467.01.02**

Project Manager: **Merideth D'Andrea**

Report ID:

A8F0979 - 07 12 18 1843

- R-02** The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-06** Surrogate recovery is outside of established control limits.
- V-01** Sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
- V-04** Composite of VOA vials analyzed due to sediment in vials.
- V-15** Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.



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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

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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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank 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.



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Project Number: **1467.01.02**

Project Manager: **Merideth D'Andrea**

Report ID:

A8F0979 - 07 12 18 1843

LABORATORY ACCREDITATION INFORMATION

TNI 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	Cert?
--------	----------	--------	---------	--------	-------

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

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A8F0979 - 07 12 18 1843

CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Lab # **A8F0979** coc 1 of 1

PO# **1467.01.02**

Company: Maul Foster & Alongi	Project Mgr: Merideth D'Andrea	Project Name: DeLuxe
Address: 2001 NW 19th Ave Suite 200 PDX, OR 97209	Phone: 503-501-5216	Fac: _____
Email: mcdandrea@mfaulforster.com		

Sampled by: **E. Curtis**

ANALYSIS REQUEST	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-DX	NWTPH-GX	8260 VOCs Full List	8260 RBDM VOCs	8260 HVOCs	8260 BTEX VOCs	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCCA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Pt, Se, Si, Mn, Mo, Ni, Zn, Ag, Na, TL, V, Zn	8200-1200-Z
	HA-5.0-01	08/21/18	1300	S	3	X	X	X	X						X					X
	GW-5.0-01	08/21/18	1430	W	5	X	X	X	X						X					X
	HA-3.0-02	08/21/18	1500	S	3	X	X	X	X						X					X

Normal Turn Around Time (TAT) = 10 Business Days

YES (circled) NO

TAT Requested (circle): **1 Day** 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

RECEIVED BY: _____

Signature: *Philip Nerenberg* Date: 07/21/18

Printed Name: **Philip Nerenberg** Time: 1000

Company: **MTA**

RELINQUISHED BY: _____

Signature: _____ Date: _____

Printed Name: _____ Time: _____

Company: _____

Philip Nerenberg



Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Devil's Lake Lincoln City**
Project Number: **1467.01.02**
Project Manager: **Merideth D'Andrea**

Report ID:
A8F0979 - 07 12 18 1843

APEX LABS COOLER RECEIPT FORM

Client: Maul Foster Element WO#: A8 F0979

Project/Project #: DeLake/1467.01.02

Delivery info:

Date/Time Received: 6/29/18 @ 11:00 By: BLP

Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Inspected by: BLP : 6/29/18 @ 11:57

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 (deg. C)							
Received on Ice? (Y/N)							
Temp. Blanks? (Y/N)	<u>1.8</u>						
Ice Type: (Gel/Real/Other)							
Condition:	<u>melted</u>						

Cooler out of temp? (Y/N) Possible reason why: _____

If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA

Samples Inspection: Inspected by: JS : 6/29/18 @ 1330

All Samples Intact? Yes No Comments: _____

Bottle Labels/COCs agree? Yes No Comments: _____

Containers/Volumes Received Appropriate for Analysis? Yes No Comments: _____

Do VOA Vials have Visible Headspace? Yes No NA ack 6/29/18
Comments: 2/3 sed.

Water Samples: pH Checked and Appropriate (except VOAs): Yes No NA

Additional Information: _____

Labeled by: AKK Witness: [Signature] Cooler Inspected by: JS See Project Contact Form: Y

Philip Nerenberg

ATTACHMENT C

DATA VALIDATION MEMORANDA
(APEX LABORATORIES LLC)



DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 1467.01.02 | AUGUST 1, 2018 | LINCOLN CITY

Maul Foster & Alongi, Inc., (MFA) conducted an independent review of the quality of analytical results for soil samples collected at the site located at Northeast 1st Street, Lincoln City, Oregon. The samples were collected on March 7, 2018.

Apex Laboratories (AL) performed the analyses. AL report number A8C0238 was reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
Diesel- and Motor Oil-Range Hydrocarbons	NWTPH-Dx
Gasoline-Range Hydrocarbons	NWTPH-Gx
Polychlorinated Biphenyls as Aroclors	USEPA 8082A
Polycyclic Aromatic Hydrocarbons	USEPA 8270D SIM
Total Metals	USEPA 6020A
Percent Dry Weight	USEPA 8000C
Volatile Organic Compounds	USEPA 8260C

NWTPH = Northwest Total Petroleum Hydrocarbon.

SIM = Selected Ion Monitoring.

USEPA = U.S. Environmental Protection Agency.

Samples Analyzed
Report A8C0238
SS1-1.0
SS2-1.8
SS1-1.5

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2017a,b) and appropriate laboratory and method-specific guidelines (Apex, 2016; USEPA, 1986).

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

AL noted that USEPA Method 8082A samples and associated batch quality control samples were processed with sulfuric acid cleanup by USEPA Method 3665A, sulfur cleanup by USEPA Method 3660B, and florisil cleanup by USEPA 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.

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 method blanks were non-detect for all target analytes.

Trip Blanks

Trip blanks were not submitted for this sampling event.

Equipment Rinsate Blanks

Equipment rinsate blanks were not required for this sampling event.

SURROGATE RECOVERY RESULTS

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

In report A8C0238, the USEPA Method 6020A total metals MS (8031106-MS2) result for mercury was above the upper percent recovery acceptance limit of 125 percent, at 150 percent, due to non-homogenous sample matrix. The MS was prepared with a sample from an unrelated project; thus, the sample matrix likely does not represent those reported in A8C0238. A second MS (8031106-MS1) met acceptance limits for mercury. Qualification was not required.

All remaining recoveries were within acceptance limits for percent recovery.

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 MRL were not evaluated for precision.

In report A8C0238, the NWTPH-Dx laboratory duplicate (8030724-DUP2) had an RPD result above the control limit of 30 percent, at 81 percent, due to a hydrocarbon pattern indicating possible weathered diesel or a contribution from a related component. The laboratory duplicate was prepared with a sample from an unrelated project; thus, the sample matrix likely does not represent those reported in A8C0238. The remaining batch quality control results met acceptance criteria. No results were qualified by the reviewer.

In report A9C0238, the USEPA Method 6020A total metals laboratory duplicate result for chromium was above the RPD control limit of 40 percent at 46 percent, due to non-homogenous sample matrix. The laboratory duplicate was prepared with a sample from an unrelated project; thus, the sample matrix likely does not represent those reported in A8C0238. The remaining batch quality control results met acceptance criteria. Qualification was not required.

All remaining laboratory duplicate RPDs were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample (LCS) is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS samples were extracted and analyzed at the required frequency. All LCS analytes were within acceptance limits for percent recovery.

FIELD DUPLICATE RESULTS

Field duplicate samples measure field precision. A field duplicate was not submitted for lab report A8C0238.

REPORTING LIMITS

AL reported non-detect results to method detection limits. Samples requiring dilutions because of high analyte concentrations and/or matrix interferences were reported with raised method detection limits and reporting limits. Results between the method detection limit and the reporting limit were qualified by AL with "J" as estimated.

The reviewer confirmed that NWTPH-Gx and USEPA Method 8260C soil results were reported with a base dilution factor of 1:50, due to a dilution required for analysis.

DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies. None were found.

REFERENCES

- Apex. 2016. Quality systems manual. Revision 5. Apex Laboratories, LLC., Tigard, Oregon. April 1.
- USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. Update V. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 1, July 2014).
- USEPA. 2017a. USEPA 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.
- USEPA. 2017b. USEPA contract laboratory program, national functional guidelines for Superfund organic methods data review. EPA 540-R-2017-002. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. January.

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 1467.01.02 | AUGUST 1, 2018 | LINCOLN CITY

Maul Foster & Alongi, Inc., conducted an independent review of the quality of analytical results for groundwater and soil samples collected at the Hosteteler Park property located at Northeast First Street, Lincoln City, Oregon. The samples were collected on June 28, 2018.

Apex Laboratories, LLC (Apex) performed the analyses. Apex report number A8F0979 was reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
Diesel- and Motor-Oil-Range Hydrocarbons	NWTPH-Dx
Gasoline-Range Hydrocarbons	NWTPH-Gx
Polychlorinated Biphenyls as Aroclors	USEPA 8082A
Polycyclic Aromatic Hydrocarbons	USEPA 8270D SIM
Total Metals	USEPA 6020A
Percent Dry Weight	USEPA 8000C
VOCs	USEPA 8260C

NWTPH = Northwest Total Petroleum Hydrocarbons.

SIM = selective ion monitoring.

USEPA = U.S. Environmental Protection Agency.

VOC =volatile organic compound.

Samples Analyzed
Report A8F0979
HA-5.0-01
GW-5.0-01
HA-3.0-02

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2017a,b) and appropriate laboratory and method-specific guidelines (Apex, 2016; USEPA, 1986).

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

The NWTPH-Dx diesel-range hydrocarbon result for sample HA-5.0-01 was flagged by Apex because of a chromatographic pattern that did not resemble a fuel. Results were reported as diesel-range hydrocarbons; thus, qualification was not required.

Apex noted that USEPA Method 8082A samples and associated batch quality control samples had been processed with sulfuric acid cleanup by USEPA Method 3665A, sulfur cleanup by USEPA Method 3660B, and florasil cleanup by USEPA 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.

Preservation and Sample Storage

The NWTPH-Gx and USEPA Method 8260C results for sample GW-5.0-01 were flagged by Apex, since a composited sample had been analyzed because of the presence of sediment in the sample containers. The results were also flagged because of the presence of an air bubble more than 6 millimeters in diameter in one or more containers used for analysis. The reviewer confirmed that the air bubbles had not been observed immediately after sampling and so likely formed while cooling in storage. The volatile organic analysis (VOA) containers used were amber glass, and Apex did not observe air bubbles on receipt; the air bubbles were observed during preparation for analysis and the exact size of the air bubbles was not recorded. The reviewer confirmed that all VOAs contained approximately 0.75 inch of sediment when received, and that the samples were composited by manually decanting to a fresh VOA. Because of the presence of significantly sized air bubbles in the VOAs and the process of compositing, the associated non-detect sample results have been qualified by the reviewer with “UJ” as estimated. There were no detected results.

Report	Sample	Analysis	Original Results	Qualification
A8F0979	GW-5.0-01	VOCs	Non-detect	UJ

UJ = Result is non-detect and estimated.

The remaining 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.

The NWTPH-Dx batch 8070299 method blank was flagged because of a detection of diesel-range hydrocarbons greater than one-half the method reporting limit (MRL). The associated sample was non-detect at the MRL; thus, no results were qualified.

All remaining method blanks were non-detect for all target analytes.

Trip Blanks

Trip blanks were not submitted for this sampling event.

Equipment Rinsate Blanks

Equipment rinsate blanks were not submitted for this sampling event.

SURROGATE RECOVERY RESULTS

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

The USEPA Method 8270D-SIM p-terphenyl-d14 surrogate result for sample GW-5.0-01 was below the lower percent recovery acceptance limit of 50 percent, at 42 percent. The remaining surrogate, 2-fluorobiphenyl, had acceptable percent recovery; thus, no results were qualified.

All remaining surrogate recoveries were within acceptance limits.

MATRIX SPIKE RESULTS

Matrix spike (MS) results are used to evaluate laboratory precision. All MS samples were extracted and analyzed at the required frequency. Where insufficient sample volume was provided to prepare an MS, batch precision was evaluated with a laboratory control sample (LCS).

The USEPA Method 8260C batch 8061220 MS exceeded the upper percent recovery acceptance limit for trichlorofluoromethane. The associated sample, GW-5.0-01, was re-extracted and reported with quality control samples from batch 8070304; thus, no results were qualified.

The USEPA Method 8260C batch 8070304 MS exceeded the upper percent recovery acceptance limit of 141 percent for bromomethane, at 155 percent. The associated sample result was non-detect; thus, qualification was not required.

The USEPA Method 6020A batch 8070328 MS results for antimony, selenium, and zinc were below the lower percent recovery acceptance limit of 75 percent, at 71 percent, 74 percent, and 34 percent, respectively. The post-digestion MS prepared with the same sample used for the MS had a result for selenium below the lower percent recovery acceptance limit of 80 percent, at 79 percent. The associated batch LCS had acceptable percent recoveries and the MS was prepared with a sample from an unrelated project; thus, the MS sample matrix likely does not represent those reported in A8F0979. No results were qualified.

All remaining recoveries were within acceptance limits for percent recovery.

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 MRL were not evaluated for precision. All remaining laboratory duplicate relative percent differences were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

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

The USEPA Method 8260C batch 8061220 LCS exceeded the upper percent recovery acceptance limit for bromomethane and trichlorofluoromethane, and exceeded the lower percent recovery acceptance limit for bromoform and carbon tetrachloride. The associated sample, GW-5.0-01, was re-extracted and reported with quality control samples from batch 8070304; thus, no results were qualified.

The USEPA Method 8260C batch 8070304 LCS result for carbon tetrachloride was below the lower percent recovery acceptance limit of 80 percent, at 78 percent. The associated laboratory control sample duplicate (LCSD) result was within acceptance limits; thus, no results were qualified. The LCSD result for bromomethane was above the upper percent recovery acceptance limit of 120 percent, at 132 percent; and the LCS/LCSD results for trichlorofluoromethane were above the upper percent recovery acceptance limit of 120 percent, at 126 percent and 147 percent, respectively. The associated sample results were non-detect; thus, qualification was not required.

The USEPA Method 8260C batch 8070323 LCS result for chloroethane was below the lower percent recovery acceptance limit of 80 percent, at 78 percent, and the result for 2,2-dichloropropane was above the upper percent recovery acceptance limit of 120 percent, at 122 percent. Upper percent recovery acceptance limit exceedances associated with non-detect sample results were not qualified by the reviewer. Sample results associated with lower percent recovery acceptance limit exceedances were qualified as follows:

Report	Sample	Component	Original Result (ug/kg)	Qualified Result (ug/kg)
A8F0979	HA-5.0-01	Chloroethane	691 U	691 UJ
A8F0979	HA-3.0-02	Chloroethane	498 U	498 UJ

NOTES:

U = Result is non-detect.

ug/kg = micrograms per kilogram.

UJ = Result is non-detect and estimated.

All remaining LCS analytes were within acceptance limits for percent recovery.

FIELD DUPLICATE RESULTS

Field duplicate samples measure field precision. A field duplicate was not submitted for lab report A8F0979.

CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. CCV results were not reported. If quality control results met acceptance criteria, quality control flags for CCV exceedances required no action from the reviewer.

Apex noted initial calibration verification exceedances of bromomethane for some USEPA Method 8260C batch 8061220 and 8070304 quality control sample results. The quality control results met percent recovery acceptance criteria; thus, no results were qualified.

REPORTING LIMITS

Apex reported non-detect results to MRLs. Samples requiring dilutions because of high analyte concentrations and/or matrix interferences were reported with raised MRLs.

The reviewer confirmed that NWTPH-Gx and USEPA Method 8260C soil results had been reported with a base dilution factor of 1:50 because of a dilution required for analysis.

The USEPA Method 8260C o-xylene result for sample HA-3.0-02 was reported with a raised reporting limit because of interference from coeluting organic compounds. No action was required.

DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies. None were found.

REFERENCES

- Apex. 2016. Quality systems manual. Rev. 5. Apex Laboratories, LLC, Tigard, Oregon. April 1.
- USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. Update V. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 1, July 2014).
- USEPA. 2017a. USEPA 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.
- USEPA. 2017b. USEPA contract laboratory program, national functional guidelines for Superfund organic methods data review. EPA 540-R-2017-002. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. January.