Advanced
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August 29, 2024

Ms. Nancy Sawka, Project Manager
Oregon Department of Environmental Quality
Cleanup Program
750 Front Street, Suite 120
Salem, OR 97301

Re: Summary Report for Confirmation Soil Sampling for Decision Unit 5/6 and SB-8,
Ko' Kwel Wharf Development, 2375 Tremont Street, North Bend, Oregon
ESCI #4802

Dear Ms. Sawka:

On behalf of the Ko' Kwel Wharf 2, LLC, Advanced Remediation Technologies, (ART) has prepared this summary report for soil confirmation sampling for removal areas that represented occupational risk of the above referenced sites above (see **Figure 1** for the site location).

BACKGROUND

The subject property is located on Tremont Street in North Bend, Coos County, Oregon. The subject site covers an area of 13.7 acres.

The Ko' Kwel Wharf Development portion of the subject site has been in industrial use (industrial timber operations) for the past 100+ years. The Ko' Kwel Wharf Development refers to the northern portion of the Property (Environmental Cleanup Site Information [ECSI] ECSI #4802) and was originally part of the Weyerhaeuser Export Services site (ECSI #527).

In 2007, the northern portion of the property was being proposed for lease to Home Depot, and therefore required a separate ECSI Site ID distinct from the rest of the property. Even though the lease never occurred, the Oregon Department of Environmental Quality (DEQ) created ESCI #4802 for the northern portion of the property. Residual low-level concentrations of contaminants associated with ECSI #4802 consist primarily of petroleum hydrocarbons and are likely related to incidental releases of oils and fuels over the 100+ years as part of the site's industrial use. Contamination above residential screening levels remain at the site associated with ECSI #4802; however, under the commercial/industrial use assumption, the DEQ issued an NFA determination for ECSI #4802 in May 2007. No remedial actions, engineering controls, or institutional controls were determined to be necessary by the DEQ to protect occupational receptors.

Findings of the SANTEC's September 2022 Phase II Environmental Site Assessment (ESA)[1] indicated concentrations of dioxins and furans in soil samples collected from 0 to 3 feet below ground surface (bgs) on Lot 2 collected from DU-5 and DU-6[2]. These concentrations were reported in exceedance of the occupational direct contact DEQ Risk-Based Concentration (RBC) of 16 picograms per gram (pg/g). All other analytical concentrations of constituents of potential concern (COPCs) were reported below applicable DEQ RBCs as indicated in the September and July 2023 Phase II ESAs. Previous sampling locations from the Phase II ESA are included in **Figures 2 and 3**.

Soil Sampling

ART conducted confirmation soil sampling at the site on May 30, 2024. Two areas, DU-5/6 and SB-8, had been excavated to the depths recommended by the SANTEC report. Excavated soil was transported and disposed of at Coffin Butte facility a Subtitle "D" landfill, in Corvallis, Oregon.

Three soil samples were collected from the bottom of the excavation for the SB-8 area (Figure 2). A portion of the three separated discrete samples were placed into decontaminated mixing containers for compositing into a representative sample for that area (053024SB8-COMP). The composite sample material was then homogenized with a decontaminated hand tool, and then placed in appropriately labeled sample containers. Soil samples were labeled with a unique sample identifier, including the sampling location as well as the date and time of collection. Discrete subsamples were archived at the contract laboratory.

SB-8 excavation

[1] *Phase II Environmental Site Assessment Report, Ko' Kwel Wharf Property*, Prepared by Stantec Consulting Services, Inc., Dated September 16, 2022

[2] *Supplemental Phase II Environmental Site Assessment Report, Ko' Kwel Wharf Property – Lot 2*, Prepared by Stantec Consulting Services, Inc., Dated July 14, 2023

Six soil samples were collected from the bottom of the excavation for the DU5-6 area (Figure 3). The area was divided into two sub areas for sampling. Each subarea had three (3) separated discrete samples collected and were placed into decontaminated mixing containers for compositing into a representative sample for that area. The composite samples material was then homogenized with a decontaminated hand tool, and then placed in appropriately labeled sample containers. The compositing scheme is present in Table 1. Soil samples were labeled with a unique sample identifier, including the sampling location as well as the date and time of collection. Discrete subsamples were archived at the contract laboratory.

Table 1, Compositing Scheme

Sample Location	Composite Sample ID
053024DU56-1	053024DU56-COMP-1
053024DU56-2	
053024DU56-3	
053024DU56-4	053024DU56-COMP-2
053024DU56-5	
053024DU56-6	

Excavated area of DU-5 and DU-6 looking west

Excavated area of DU-5 and DU-6 looking south

Excavated area of DU-5 and DU-6 looking north

Sample Analysis and Analytical Results

Three (3) composite samples were analyzed for Dioxins/Furans by USEPA Method 1613B. Table 2 shows a summary of soil sample results.

Subsequent to the results from the composite sample, six (6) discrete archive samples were analyzed for Dioxins/Furans by USEPA Method 1613B. Table 3 shows a summary of soil sample results.

A TEQ was calculated for each analyzed composited soil sample and archived soil sample using published DEQ TEFs to normalize total dioxins to a common toxicity for 2,3,7,8-TCDD to allow for risk screening. Calculated TEQs concentrations were below limits for the occupational direct contact DEQ RBC of 16 pg/g in the composite sample for SB-8 area. Calculated TEQs concentrations were exceeded for the occupational direct contact DEQ RBC of 16 pg/g in the composite and archived samples (with the exception of archived sample 053024DU56-5) for DU5-6 area. Calculated TEQs for dioxins and furans were above clean fill screening values (0.29 pg/g) in the analyzed composite sample for the southern area of DU5-6 area (053024DU56-Comp-1). The TEQ exceeded the Ecological RBC for Non-T&E mammals (0.25 pg/g) in the analyzed samples. The TEQ exceeded the Ecological RBC for Non-T&E Birds (5.2 pg/g) in the analyzed samples.

The samples were submitted, following standard chain-of-custody procedures to ALS Environmental (ALS) in Kelso, Washington. Copies of the laboratory reports, quality control data, and chain-of-custody records are found in Appendix A.

Table 2 Soil Analytical Results

Dioxins and Furans Lab Results (pg/g wet weight)						
Compound	053024SB8-COMP		053024DU56-COMP-1		053024DU56-COMP-2	
2,3,7,8-TCDD	0.657		1.57		0.741	
1,2,3,7,8-PeCDD	5.06		14.4	M	5.25	M
1,2,3,4,7,8-HxCDD	7.56		30.2		9.07	
1,2,3,7,8,9-HxCDD	20.30		147		32.4	
1,2,3,6,7,8-HxCDD	4.09		48.6		10.4	
1,2,3,4,6,7,8-HpCDD	221		2490		430	
1,2,3,4,6,7,8,9-OCDD	1320		12500		2400	
2,3,7,8-TCDF	0.761		5.47		2.45	
1,2,3,7,8-PeCDF	2.27	[J]	6.22	M	2.59	[J]
2,3,4,7,8-PeCDF	2.85		5.36		2.75	
1,2,3,4,7,8-HxCDF	2.26	[J]	9.34		2.43	[J]
1,2,3,7,8,9-HxCDF	1.40	[J]	10.8		2.51	[J]
1,2,3,6,7,8-HxCDF	0.679	M,J	5.70	M	1.91	M,J
2,3,4,6,7,8-HxCDF	1.91	[J]	6.82		1.19	[J]
1,2,3,4,6,7,8-HpCDF	22.60		212		42.1	
1,2,3,4,7,8,9-HpCDF	1.44	[J]	24.0		2.97	
1,2,3,4,6,7,8,9-OCDF	16.9		471		91.2	

NOTES:

D/F = dioxin/furan; EDL = estimated detection limit; pg/kg =picogram per gram; TEQ = toxicity equivalency quotient

DATA QUALIFIERS:

U - Represents non detect at EDL, EDL is represented by blue font.

MJ = A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.

J = Estimated concentration value detected below the method reporting limit.

DF TEQ (U = 1/2 MDL [pg/g wet weight])							
Compound	TEF	053024SB8-COMP		053024DU56-COMP-1		053024DU56-COMP-2	
2,3,7,8-TCDD	1	0.657		1.570		0.741	
1,2,3,7,8-PeCDD	1	5.06		14.400	M	5.25	M
1,2,3,4,7,8-HxCDD	0.1	0.76		3.020		0.907	
1,2,3,7,8,9-HxCDD	0.1	2.03		14.700		3.24	
1,2,3,6,7,8-HxCDD	0.1	0.41		4.860		1.04	
1,2,3,4,6,7,8-HpCDD	0.01	2.21		24.900		4.3	
1,2,3,4,6,7,8,9-OCDD	0.0003	0.40		3.750		0.72	
2,3,7,8-TCDF	0.1	0.08		0.547		0.245	
1,2,3,7,8-PeCDF	0.03	0.07	[J]	0.187	M	0.0777	[J]
2,3,4,7,8-PeCDF	0.3	0.86		1.608		0.825	
1,2,3,4,7,8-HxCDF	0.1	0.23	[J]	0.934		0.243	[J]
1,2,3,7,8,9-HxCDF	0.1	0.14	[J]	1.080		0.251	[J]
1,2,3,6,7,8-HxCDF	0.1	0.07	M,J	0.570	M	0.191	M,J
2,3,4,6,7,8-HxCDF	0.1	0.19	[J]	0.682		0.119	[J]
1,2,3,4,6,7,8-HpCDF	0.01	0.23		2.120		0.421	
1,2,3,4,7,8,9-HpCDF	0.01	0.01	[J]	0.240		0.0297	
1,2,3,4,6,7,8,9-OCDF	0.0003	0.01		0.141		0.02736	
Total D/F TEQ (U = 1/2 MDL)		13.388	0%	**75.309**	0%	**18.63**	0%

NOTES:

D/F = dioxin/furan; EDL = estimated detection limit; pg/kg =picogram per gram; TEQ = toxicity equivalency quotient

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J = Estimated concentration value detected below the method reporting limit.

DF TEQ (U = 0 MDL, [pg/g wet weight])							
Compound	TEF	053024SB8-COMP		053024DU56-COMP-1		053024DU56-COMP-2	
2,3,7,8-TCDD	1	0.657		1.57		0.741	
1,2,3,7,8-PeCDD	1	5.06		14.4	M	5.25	M
1,2,3,4,7,8-HxCDD	0.1	0.756		3.02		0.907	
1,2,3,7,8,9-HxCDD	0.1	2.03		14.7		3.24	
1,2,3,6,7,8-HxCDD	0.1	0.409		4.86		1.04	
1,2,3,4,6,7,8-HpCDD	0.01	2.21		24.9		4.3	
1,2,3,4,6,7,8,9-OCDD	0.0003	0.396		3.75		0.72	
2,3,7,8-TCDF	0.1	0.0761		0.547		0.245	
1,2,3,7,8-PeCDF	0.03	0.0681	[J]	0.1866	M	0.0777	[J]
2,3,4,7,8-PeCDF	0.3	0.855		1.608		0.825	
1,2,3,4,7,8-HxCDF	0.1	0.226	[J]	0.934		0.243	[J]
1,2,3,7,8,9-HxCDF	0.1	0.14	[J]	1.08		0.251	[J]
1,2,3,6,7,8-HxCDF	0.1	0.0679	M,J	0.57	M	0.191	M,J
2,3,4,6,7,8-HxCDF	0.1	0.191	[J]	0.682		0.119	[J]
1,2,3,4,6,7,8-HpCDF	0.01	0.226		2.12		0.421	
1,2,3,6,7,8,9-HpCDF	0.01	0.0144	[J]	0.24		0.0297	
1,2,3,4,6,7,8,9-OCDF	0.0003	0.00507		0.1413		0.02736	
Total D/F TEQ (U = 0 MDL)		13.388	0%	75.309	0%	18.6278	0%

NOTES:

D/F = dioxin/furan; EDL = estimated detection limit; pg/kg =picogram per gram; TEQ = toxicity equivalency quotient

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Table 3 Soil Analytical Archive Results

Dioxins and Furans Lab Results (pg/g wet weight)												
Compound	053024DU56-1		053024DU56-2		053024DU56-3		053024DU56-4		053024DU56-5		053024DU56-6	
2,3,7,8-TCDD	1.700	R	1.67		0.89	R	1.3	M,R	0.521	[J]	0.732	
1,2,3,7,8-PeCDD	11.80	M	11.1	M	4.42	M	11.2	M	2.44	M,J	5.42	M
1,2,3,4,7,8-HxCDD	33.00		28.5		7.93		25		3.75		7.56	
1,2,3,7,8,9-HxCDD	82.30		135		33.2		76.1		9.32		50.8	
1,2,3,6,7,8-HxCDD	30.10		44		15.3		23.7		6.73		12.4	
1,2,3,4,6,7,8-HpCDD	1460		2150		686		1020		136		516	
1,2,3,4,6,7,8,9-OCDD	10100		9680		3910		5060		598		3340	
2,3,7,8-TCDF	4.250		3.88		5.77		2.4	R	3		3.25	
1,2,3,7,8-PeCDF	4.94		3.37		3.91		2.86	[J]	3.69		2.33	[J]
2,3,4,7,8-PeCDF	4.61		3.95		4.1		5.2		2.37	[J]	2.39	[J]
1,2,3,4,7,8-HxCDF	8.17		6.71		3.51		5.43		5.29		2.5	[J]
1,2,3,7,8,9-HxCDF	7.95		7.66		3.27		5.85		2.48	[J]	2.42	[J]
1,2,3,6,7,8-HxCDF	5.030	M	4.86		3.45		5.27	M	1.64	[J]	1.18	M,J
2,3,4,6,7,8-HxCDF	3.77	M	4.48		1.83	[J]	2.73	[J]	0.42	J,R	1.79	[J]
1,2,3,4,6,7,8-HpCDF	203.00		152		52.4		120		12.1		47.3	
1,2,3,4,7,8,9-HpCDF	17.50		17.3		6.43		6.3		1.14	M,J	5.25	
1,2,3,4,6,7,8,9-OCDF	332.0		211		113		110		30.2		87.3	

NOTES:

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J,R - The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.

M,J = A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.

M,R = A peak has been manually integrated, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.

[J] = The analyte was detected below the calibrated range but above the EDL.

DF TEQ (U = 1/2 MDL [pg/g wet weight])													
Compound	TEF	053024DU56-1		053024DU56-2		053024DU56-3		053024DU56-4		053024DU56-5		053024DU56-6	
2,3,7,8-TCDD	1	1.700	R	1.670		0.89	R	1.3	M,R	0.521	[J]	0.732	
1,2,3,7,8-PeCDD	1	11.80	M	11.100	M	4.42	M	11.2	M	2.44	M,J	5.42	M
1,2,3,4,7,8-HxCDD	0.1	3.30		2.850		0.793		2.5		0.375		0.756	
1,2,3,7,8,9-HxCDD	0.1	8.23		13.500		3.32		7.61		0.932		5.08	
1,2,3,6,7,8-HxCDD	0.1	3.01		4.400		1.53		2.37		0.673		1.24	
1,2,3,4,6,7,8-HpCDD	0.01	14.60		21.500		6.86		10.2		1.36		5.16	
1,2,3,4,6,7,8,9-OCDD	0.0003	3.03		2.904		1.173		1.518		0.1794		1.002	
2,3,7,8-TCDF	0.1	0.43		0.388		0.577		0.24	R	0.3		0.325	
1,2,3,7,8-PeCDF	0.03	0.15		0.101		0.1173		0.0858	[J]	0.1107		0.0699	[J]
2,3,4,7,8-PeCDF	0.3	1.38		1.185		1.23		1.56		0.711	[J]	0.717	[J]
1,2,3,4,7,8-HxCDF	0.1	0.82		0.671		0.351		0.543		0.529		0.25	[J]
1,2,3,7,8,9-HxCDF	0.1	0.80		0.766		0.327		0.585		0.248	[J]	0.242	[J]
1,2,3,6,7,8-HxCDF	0.1	0.50	M	0.486		0.345		0.527	M	0.164	[J]	0.118	M,J
2,3,4,6,7,8-HxCDF	0.1	0.38	M	0.448		0.183		0.273	[J]	0.042	J,R	0.179	[J]
1,2,3,4,6,7,8-HpCDF	0.01	2.03		1.520		0.524		1.2		0.121		0.473	
1,2,3,4,7,8,9-HpCDF	0.01	0.18		0.173		0.0643		0.063		0.0114	M,J	0.0525	
1,2,3,4,6,7,8,9-OCDF	0.0003	0.10		0.063		0.0339		0.033		0.00906		0.02619	
Total D/F TEQ (U = 1/2 MDL)		**52.423**	0%	**63.725**	0%	**22.74**	0%	**41.81**	0%	8.73	0%	**21.84**	0%

NOTES:

D/F = dioxin/furan; EDL = estimated detection limit; pg/kg =picogram per gram; TEQ = toxicity equivalency quotient

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M - A peak has been manually integrated.

J,R - The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.

M,J = A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.

M,R = A peak has been manually integrated, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.

[J] = The analyte was detected below the calibrated range but above the EDL.

DF TEQ (U = 0 MDL, [pg/g wet weight])													
Compound	TEF	053024DU56-1		053024DU56-2		053024DU56-3		053024DU56-4		053024DU56-5		053024DU56-6	
2,3,7,8-TCDD	1	1.7	R	1.67		0.89	R	1.3	M,R	0.521	[J]	0.732	[J]
1,2,3,7,8-PeCDD	1	11.8	M	11.1	M	4.42	M	11.2	M	2.44	M,J	5.42	M,J
1,2,3,4,7,8-HxCDD	0.1	3.3		2.85		0.793		2.5		0.375		0.756	
1,2,3,7,8,9-HxCDD	0.1	8.23		13.5		3.32		7.61		0.932		5.08	
1,2,3,6,7,8-HxCDD	0.1	3.01		4.4		1.53		2.37		0.673		1.24	
1,2,3,4,6,7,8-HpCDD	0.01	14.6		21.5		6.86		10.2		1.36		5.16	
1,2,3,4,6,7,8,9-OCDD	0.0003	3.03		2.904		1.173		1.518		0.1794		1.002	
2,3,7,8-TCDF	0.1	0.425		0.388		0.577		0.24	R	0.3		0.325	
1,2,3,7,8-PeCDF	0.03	0.1482		0.1011		0.1173		0.0858	[J]	0.1107		0.0699	
2,3,4,7,8-PeCDF	0.3	1.383		1.185		1.23		1.56		0.711	[J]	0.717	[J]
1,2,3,4,7,8-HxCDF	0.1	0.817		0.671		0.351		0.543		0.529		0.25	
1,2,3,7,8,9-HxCDF	0.1	0.795		0.766		0.327		0.585		0.248	[J]	0.242	[J]
1,2,3,6,7,8-HxCDF	0.1	0.503	M	0.486		0.345		0.527	M	0.164	[J]	0.118	[J]
2,3,4,6,7,8-HxCDF	0.1	0.377	M	0.448		0.183		0.273	[J]	0.042	J,R	0.179	J,R
1,2,3,4,6,7,8-HpCDF	0.01	2.03		1.52		0.524		1.2		0.121		0.473	
1,2,3,6,7,8,9-HpCDF	0.01	0.175		0.173		0.0643		0.063		0.0114	M,J	0.0525	M,J
1,2,3,4,6,7,8,9-OCDF	0.0003	0.0996		0.0633		0.0339		0.033		0.00906		0.02619	
Total D/F TEQ (U = 0 MDL)		**52.423**	0%	**63.725**	0%	**22.7385**	0%	**41.8078**	0%	8.7266	0%	**21.8426**	0%

NOTES:

D/F = dioxin/furan; EDL = estimated detection limit; pg/kg =picogram per gram; TEQ = toxicity equivalency quotient

DATA QUALIFIERS:

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J,R - The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.

M,J = A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.

M,R = A peak has been manually integrated, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.

[J] = The analyte was detected below the calibrated range but above the EDL.

The site was backfilled with sand and topped with gravel and graded to existing site elevations. Below are pictures of the DU-5, -6 area.

CONCLUSION AND RECOMMENDATIONS

Sampling and remediation of the SB-8 area and DU-5/6 area followed the Soil Management Plan dated May 2009 (the SMP) applicable to the property. Dioxins and furans were detected below occupational receptor RBCs in confirmation composited sample collected from the SB-8 area. Dioxins and furans were detected above occupational receptor RBCs in confirmation composited in five discrete samples collected from the DU-5 and -6 area depicted in Figure 4. A total of 967.24 tons of soil was removed from the DU-5 and -6 area and 126.92 tons from the SB-8 area, and disposed of at Coffin Butte Landfill in accordance with the SMP.

Soil samples collected from the DU-5/6 area indicate that concentrations of dioxins and furans exceed ecological RBCs in select areas. However, there is no current suitable habitat or a plan to create habitat for ecological receptors within the DU 5/6 area. Therefore, these exceedances are presented for informational purposes only and no cleanup or further investigation is warranted to protect ecological receptors within the area. If habitat is to be created on the Property a more robust ecological risk assessment may be necessary.

The SMP will continue to apply and be utilized for any subsurface work or development conducted in the DU-5/6 area and throughout Lot 2.

We appreciate the opportunity to assist you with this project. Please call if you have questions or if we can be of further assistance.

Sincerely,

Renewal: 12/31/2025

Lance Downs P.E., G.E.
Sr. Principal Geotechnical Engineer

Attachments: Limitations
Appendix A –Laboratory Reports and Chain-of-Custody
Figure 1 – Site Location
Figure 2 – Sample Locations SB-8
Figure 3 - Sample Locations DU-5/6
Figure 4 – Stormwater DU-5/6

Cc: Ko' Kwel Wharf Development, LCC

LIMITATIONS

The services described in 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 clients 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.

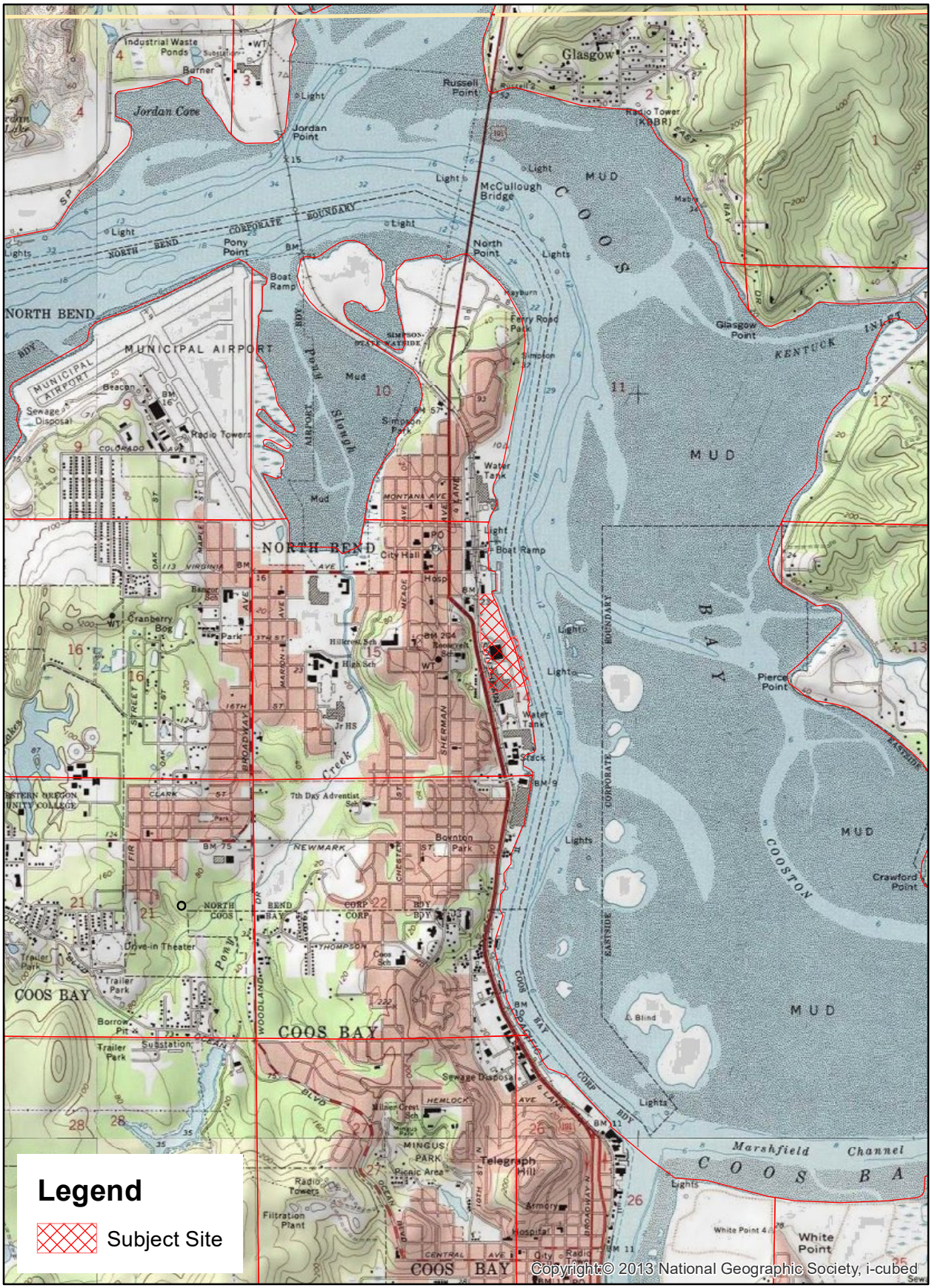
The purpose of an environmental assessment is to reasonably evaluate the potential for or actual impact of past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to exclude the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Environmental conditions may exist at the site that cannot be identified by visual observations or field methods utilized under the scope of work. Where subsurface work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at sampled locations.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported by others, naturally occurring toxic substances, potential environmental contaminants inside buildings, or contaminant concentrations that are not of current environmental concern may not be reflected in this document.

Ko' Kwel Wharf Development, Site Location



0 0.2 0.4 0.8 1.2 1.6 Miles

Advanced Remediation Technologies, Inc

FIGURE 1

0 40 80 Feet

LEGEND

ACTUAL SAMPLE LOCATION 5-30-24

ACTUAL SAMPLE LOCATION POSITIVE

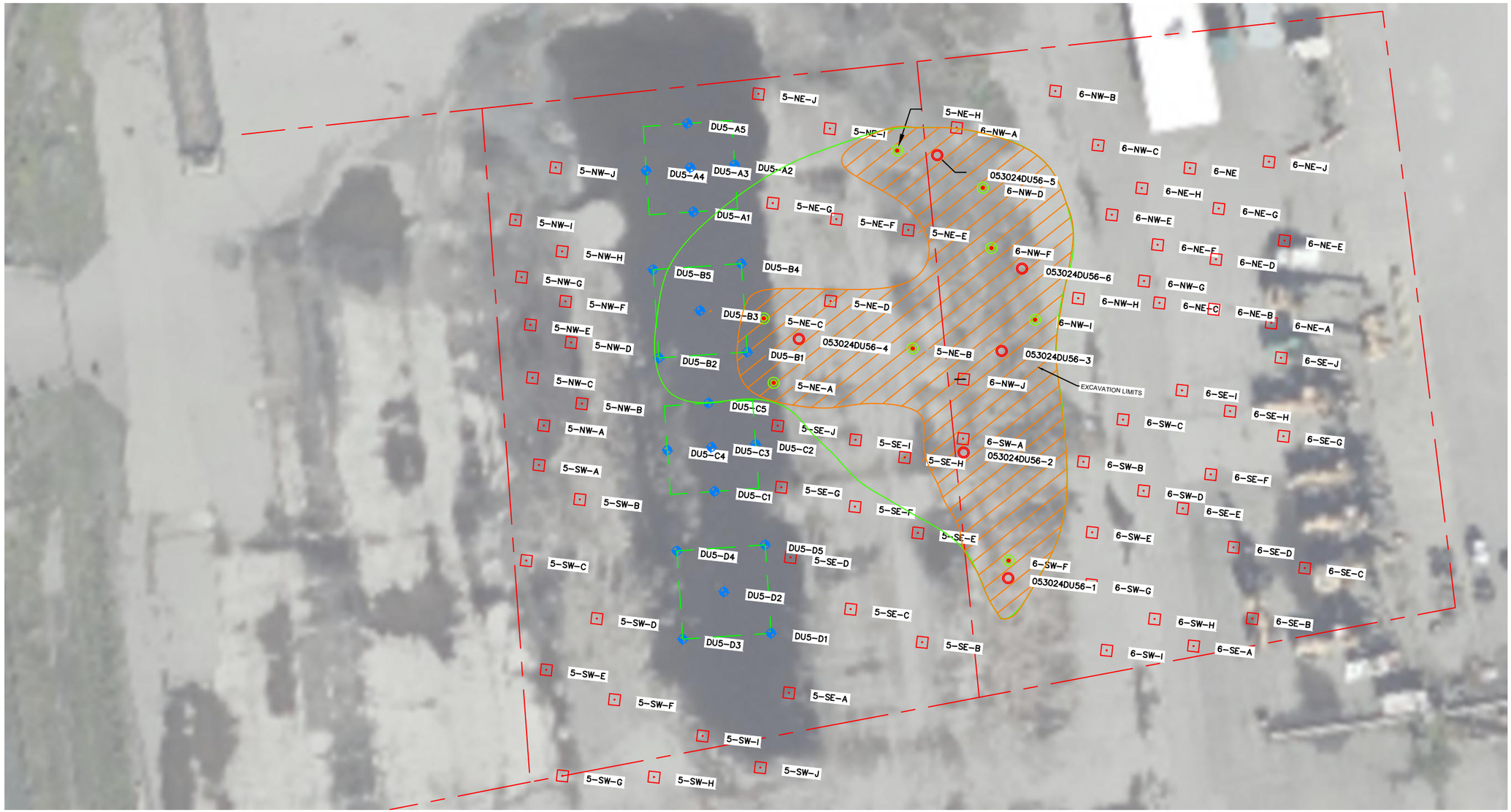
TRIBAL 1
Ko' KWEL WHARF
NORTH BEND, OREGON

SAMPLE LOCATION SB-8, FIGURE 2

"PARTNERS IN SERVICE"

Advanced Remediation Technologies, Inc
690 NW 1ST AVENUE, SUITE 109
CANBY, OREGON 97013
(503)-266-2122

DATE	06/28/24
DRAWN	LAD
DESIGN	LAD
CHECK	KAD
SCALE	1"=40'
SHEET	1 OF 1



LEGEND

- ACTUAL SAMPLE LOCATION 5-30-24
- ACTUAL SAMPLE LOCATION 11-29-23
- ACTUAL SAMPLE LOCATION POSITIVE
- ACTUAL SAMPLE LOCATION NEGATIVE
- 5-PT COMPOSITE LOCATION
- SOIL MANAGEMENT AREA SURFACE TO 1.5 BGS (17,536 FT^2 – APPROX. 974 YD^3)

0 100.0002 200.0004 Feet

REVISION INFORMATION			
MILESTONE	DATE	REVIEWING AGENCY	

"PARTNERS IN SERVICE"

Advanced Remediation Technologies, Inc
6910 W 1ST AVENUE, SUITE 109
CANBY, OREGON 97013
(503)-266-2122

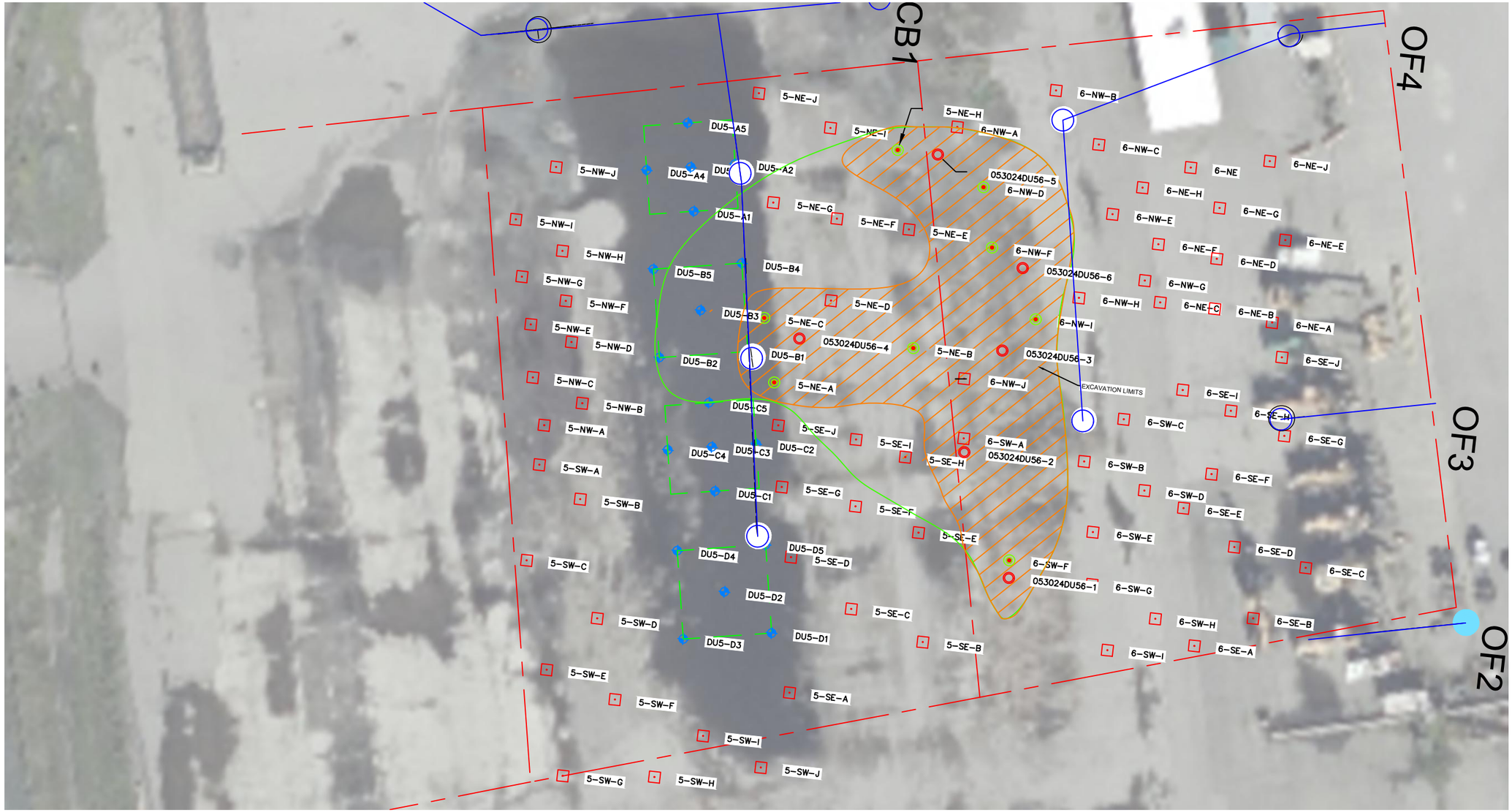
TRIBAL ONE
Ko' KWEL WHARF
NORTH BEND, OREGON

SAMPLE LOCATIONS DU-5/6, FIGURE 3

DATE	10/30/23
DRAWN	LAD
DESIGN	LAD
CHECK	KAD
SCALE	1"=20'

SITE PLAN

SHEET 1 OF 1



LEGEND

- ACTUAL SAMPLE LOCATION 5-30-24
- ACTUAL SAMPLE LOCATION 11-29-23
- ACTUAL SAMPLE LOCATION POSITIVE
- ACTUAL SAMPLE LOCATION NEGATIVE
- 5-PT COMPOSITE LOCATION
- SOIL MANAGEMENT AREA SURFACE TO 1.5 BGS (17,536 FT^2 – APPROX. 974 YD^3)
- APPROX LOCATION STORMWATER CONVEYANCE

0 100.0002 200.0004 Feet

REVISION INFORMATION			
MILESTONE	DATE	REVIEWING AGENCY	

"PARTNERS IN SERVICE"

Advanced Remediation Technologies, Inc
6910 W 1ST AVENUE, SUITE 109
CANBY, OREGON 97013
(503)-266-2122

TRIBAL ONE
Ko' KWEL WHARF
NORTH BEND, OREGON
STORMWATER DU-5/6, FIGURE 4

DATE	10/30/23
DRAWN	LAD
DESIGN	LAD
CHECK	KAD
SCALE	1"=20'

SITE PLAN

SHEET 1 OF 1

APPENDIX A

LABORATORY REPORTS AND CHAIN OF CUSTODY

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

June 24, 2024

Analytical Report for Service Request No: K2405607

Lance Downs
Advanced Remediation Technology
690 NW 1st Ave.
Suite 109
Canby, OR 97013

RE: Ko Kwel Wharf, DU5/6

Dear Lance,

Enclosed are the results of the sample(s) submitted to our laboratory May 31, 2024
For your reference, these analyses have been assigned our service request number **K2405607.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
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www.alsglobal.com

Table of Contents

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Advanced Remediation Technology (ART)
Project: Ko Kwel Wharf, DU5/6
Sample Matrix: Soil

Service Request: K2405607
Date Received: 05/31/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Eight soil samples were received for analysis at ALS Environmental on 05/31/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Subcontracted Analytical Parameters:

Dioxins and Furans by EPA Method 1613B
The analysis for Dioxins and Furans was performed at ALS Burlington, Ontario Laboratory. The data for this analysis is included in the corresponding section of this report.

Approved by  Date 06/24/2024

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

CHAIN OF CUSTODY

ALS Environmental

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# K2405607

PAGE 1 OF 1 COC#

PROJECT NAME: KO KUEL WHARF, DU5/6
PROJECT NUMBER:
PROJECT MANAGER: LANCE DOWNS, PE, GE
COMPANY NAME: Advanced Remediation Technologies, Inc.
ADDRESS: 690 NW 1st AVE, SUITE 109
CITY/STATE/ZIP: Canby, OREGON 97013
E-MAIL ADDRESS: Advremtech@canby.com
PHONE #: 503 266-2127 FAX #: 503 266-4724
SAMPLER'S SIGNATURE: Lance Down

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☒ 8290☐	Dissolved Gases RSK 175☐ CO_2☐ Methane☐ Ethane☐ Ethene☐	ARCHIVE			REMARKS
053024DU56-1	5/30	11:35		S	1																X				
053024DU56-2		11:40			1																X				
053024DU56-3		11:44			1																X				
053024DU56-COMP-1		11:50			1														X						
053024DU56-4		12:01			1																X				
053024DU56-5		12:06			1																X				
053024DU56-6		12:12			1																X				
053024DU56-COMP-2		12:20			1														X						

REPORT REQUIREMENTS

- ___ I. Routine Report: Method Blank, Surrogate, as required
- X II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To: Adv Rem Tech

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
X Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Container Supply Number

137374

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Lance Down	Signature: Hayleigh Smith	Signature:	Signature:
Date/Time: 5/31/24 9:15	Date/Time: 5/31/24 0915	Date/Time:	Date/Time:
Printed Name: LANCE DOWNS	Printed Name: Hayleigh Smith	Printed Name:	Printed Name:
Firm: Adv Rem Tech	Firm: ALS	Firm:	Firm:

PM HH

Cooler Receipt and Preservation Form

Client Advanced Remediation Technologies Service Request K24 05607

Received: 5/31/24 Opened: 5/31/24 By: HS Unloaded: 5/31/24 By: HS

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
4.6		IR01	1of2				
3.8		↓	2of2				

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM NA Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Subcontract Lab Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Environmental - Kelso
ATTN: Howard Holmes
1317 South 13th Avenue
KELSO WA 98626

Date Received: 05-JUN-24
Report Date: 24-JUN-24 11:22 (MT)
Version: FINAL

Client Phone: 360-577-7222

Certificate of Analysis

Lab Work Order #: L2756071
Project P.O. #: 51K2405607
Job Reference: K2405607
C of C Numbers:
Legal Site Desc:

Michael Challis
Project Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756071-1 053024DU56-COMP-1							
Sampled By: Client on 30-MAY-24 @ 11:50							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	12.8		0.10	%	12-JUN-24	13-JUN-24	R5982917
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	1.57		0.018	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8-PeCDD	14.4	M	0.024	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,7,8-HxCDD	30.2		0.017	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,6,7,8-HxCDD	147		0.017	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8,9-HxCDD	48.6		0.017	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,6,7,8-HpCDD	2490		1.4	pg/g	12-JUN-24	19-JUN-24	R5983221
OCDD	12500		1.5	pg/g	12-JUN-24	19-JUN-24	R5983221
2,3,7,8-TCDF	5.47		0.030	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8-PeCDF	6.22	M	0.030	pg/g	12-JUN-24	15-JUN-24	R5983221
2,3,4,7,8-PeCDF	5.36		0.023	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,7,8-HxCDF	9.34		0.13	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,6,7,8-HxCDF	10.8		0.14	pg/g	12-JUN-24	15-JUN-24	R5983221
2,3,4,6,7,8-HxCDF	5.70	M	0.14	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8,9-HxCDF	6.82		0.17	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,6,7,8-HpCDF	212		0.19	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,7,8,9-HpCDF	24.0		0.27	pg/g	12-JUN-24	15-JUN-24	R5983221
OCDF	471		0.20	pg/g	12-JUN-24	15-JUN-24	R5983221
Total-TCDD	196		0.018	pg/g	12-JUN-24	15-JUN-24	R5983221
Total TCDD # Homologues	16				12-JUN-24	15-JUN-24	R5983221
Total-PeCDD	184		0.024	pg/g	12-JUN-24	15-JUN-24	R5983221
Total PeCDD # Homologues	12				12-JUN-24	15-JUN-24	R5983221
Total-HxCDD	638		0.017	pg/g	12-JUN-24	15-JUN-24	R5983221
Total HxCDD # Homologues	11				12-JUN-24	15-JUN-24	R5983221
Total-HpCDD	3730		1.4	pg/g	12-JUN-24	19-JUN-24	R5983221
Total HpCDD # Homologues	2				12-JUN-24	19-JUN-24	R5983221
Total-TCDF	116		0.030	pg/g	12-JUN-24	15-JUN-24	R5983221
Total TCDF # Homologues	26				12-JUN-24	15-JUN-24	R5983221
Total-PeCDF	97.2		0.030	pg/g	12-JUN-24	15-JUN-24	R5983221
Total PeCDF # Homologues	14				12-JUN-24	15-JUN-24	R5983221
Total-HxCDF	263		0.17	pg/g	12-JUN-24	15-JUN-24	R5983221
Total HxCDF # Homologues	10				12-JUN-24	15-JUN-24	R5983221
Total-HpCDF	707		0.27	pg/g	12-JUN-24	15-JUN-24	R5983221
Total HpCDF # Homologues	4				12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	75.0		32-141	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	71.0		28-130	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	77.0		23-140	%	12-JUN-24	19-JUN-24	R5983221
Surrogate: 13C12-OCDD	65.0		17-157	%	12-JUN-24	19-JUN-24	R5983221
Surrogate: 13C12-2,3,7,8-TCDF	82.0		24-169	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		24-185	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-2,3,4,7,8-PeCDF	89.0		21-178	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	84.0		26-152	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	80.0		26-123	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	83.0		29-147	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	83.0		28-136	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	74.0		28-143	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	69.0		26-138	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	72.0		31-197	%	12-JUN-24	15-JUN-24	R5983221

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756071-1 053024DU56-COMP-1							
Sampled By: Client on 30-MAY-24 @ 11:50							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Lower Bound PCDD/F TEQ (WHO 2005)	75.3		0	pg/g	12-JUN-24	15-JUN-24	R5983221
Mid Point PCDD/F TEQ (WHO 2005)	75.3		0	pg/g	12-JUN-24	15-JUN-24	R5983221
Upper Bound PCDD/F TEQ (WHO 2005)	75.3		0	pg/g	12-JUN-24	15-JUN-24	R5983221
L2756071-2 053024DU56-COMP-2							
Sampled By: Client on 30-MAY-24 @ 12:20							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	6.50		0.10	%	12-JUN-24	13-JUN-24	R5982917
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.741		0.020	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8-PeCDD	5.25	M	0.027	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,7,8-HxCDD	9.07		0.044	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,6,7,8-HxCDD	32.4		0.042	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8,9-HxCDD	10.4		0.042	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,6,7,8-HpCDD	430		0.30	pg/g	12-JUN-24	15-JUN-24	R5983221
OCDD	2400		0.17	pg/g	12-JUN-24	15-JUN-24	R5983221
2,3,7,8-TCDF	2.45		0.10	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8-PeCDF	2.59	[J]	0.030	pg/g	12-JUN-24	15-JUN-24	R5983221
2,3,4,7,8-PeCDF	2.75		0.024	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,7,8-HxCDF	2.43	[J]	0.042	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,6,7,8-HxCDF	2.51	[J]	0.040	pg/g	12-JUN-24	15-JUN-24	R5983221
2,3,4,6,7,8-HxCDF	1.91	M,J	0.039	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,7,8,9-HxCDF	1.19	[J]	0.051	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,6,7,8-HpCDF	42.1		0.083	pg/g	12-JUN-24	15-JUN-24	R5983221
1,2,3,4,7,8,9-HpCDF	2.97		0.11	pg/g	12-JUN-24	15-JUN-24	R5983221
OCDF	91.2		0.10	pg/g	12-JUN-24	15-JUN-24	R5983221
Total-TCDD	127		0.020	pg/g	12-JUN-24	15-JUN-24	R5983221
Total TCDD # Homologues	13				12-JUN-24	15-JUN-24	R5983221
Total-PeCDD	138		0.027	pg/g	12-JUN-24	15-JUN-24	R5983221
Total PeCDD # Homologues	10				12-JUN-24	15-JUN-24	R5983221
Total-HxCDD	264		0.044	pg/g	12-JUN-24	15-JUN-24	R5983221
Total HxCDD # Homologues	10				12-JUN-24	15-JUN-24	R5983221
Total-HpCDD	804		0.30	pg/g	12-JUN-24	15-JUN-24	R5983221
Total HpCDD # Homologues	2				12-JUN-24	15-JUN-24	R5983221
Total-TCDF	43.4		0.10	pg/g	12-JUN-24	15-JUN-24	R5983221
Total TCDF # Homologues	21				12-JUN-24	15-JUN-24	R5983221
Total-PeCDF	36.7		0.030	pg/g	12-JUN-24	15-JUN-24	R5983221
Total PeCDF # Homologues	15				12-JUN-24	15-JUN-24	R5983221
Total-HxCDF	68.3		0.051	pg/g	12-JUN-24	15-JUN-24	R5983221
Total HxCDF # Homologues	12				12-JUN-24	15-JUN-24	R5983221
Total-HpCDF	129		0.11	pg/g	12-JUN-24	15-JUN-24	R5983221
Total HpCDF # Homologues	4				12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,7,8-PeCDD	82.0		25-181	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	71.0		28-130	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	74.0		23-140	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-OCDD	55.0		17-157	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		24-185	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-2,3,4,7,8-PeCDF	88.0		21-178	%	12-JUN-24	15-JUN-24	R5983221

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756071-2 053024DU56-COMP-2							
Sampled By: Client on 30-MAY-24 @ 12:20							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	79.0		26-152	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	80.0		29-147	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	80.0		28-136	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	71.0		28-143	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	68.0		26-138	%	12-JUN-24	15-JUN-24	R5983221
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	68.0		31-197	%	12-JUN-24	15-JUN-24	R5983221
Lower Bound PCDD/F TEQ (WHO 2005)	18.6		0	pg/g	12-JUN-24	15-JUN-24	R5983221
Mid Point PCDD/F TEQ (WHO 2005)	18.6		0	pg/g	12-JUN-24	15-JUN-24	R5983221
Upper Bound PCDD/F TEQ (WHO 2005)	18.6		0	pg/g	12-JUN-24	15-JUN-24	R5983221

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
M	A peak has been manually integrated.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
DX-1613B-HRMS-BU	Solid	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS.			
MOISTURE-BU	Soil	% Moisture	CCME 2001 Publication 1310
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105 C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2756071 Report Date: 24-JUN-24

Client: ALS Environmental - Kelso
1317 South 13th Avenue
KELSO WA 98626
Contact: Howard Holmes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-BU	Soil							
Batch R5982917								
WG3789494-2 LCS								
% Moisture			98.9		%		90-110	13-JUN-24
WG3789494-1 MB								
% Moisture			<0.10		%		0.3	13-JUN-24
DX-1613B-HRMS-BU	Solid							
Batch R5983221								
WG3789492-2 LCS								
2,3,7,8-TCDD			93.0		%		67-158	15-JUN-24
1,2,3,7,8-PeCDD			112.0		%		70-142	15-JUN-24
1,2,3,4,7,8-HxCDD			99.0		%		70-164	15-JUN-24
1,2,3,6,7,8-HxCDD			98.0		%		76-134	15-JUN-24
1,2,3,7,8,9-HxCDD			99.0		%		64-162	15-JUN-24
1,2,3,4,6,7,8-HpCDD			104.0		%		70-140	15-JUN-24
OCDD			96.0		%		78-144	15-JUN-24
2,3,7,8-TCDF			103.0		%		75-158	15-JUN-24
1,2,3,7,8-PeCDF			118.0		%		80-134	15-JUN-24
2,3,4,7,8-PeCDF			97.0		%		68-160	15-JUN-24
1,2,3,4,7,8-HxCDF			98.0		%		72-134	15-JUN-24
1,2,3,6,7,8-HxCDF			103.0		%		84-130	15-JUN-24
2,3,4,6,7,8-HxCDF			94.0		%		70-156	15-JUN-24
1,2,3,7,8,9-HxCDF			101.0		%		78-130	15-JUN-24
1,2,3,4,6,7,8-HpCDF			104.0		%		82-122	15-JUN-24
1,2,3,4,7,8,9-HpCDF			117.0		%		78-138	15-JUN-24
OCDF			124.0		%		63-170	15-JUN-24
WG3789492-1 MB								
2,3,7,8-TCDD			<0.014	[U]	pg/g		0.5	15-JUN-24
1,2,3,7,8-PeCDD			<0.012	[U]	pg/g		2.5	15-JUN-24
1,2,3,4,7,8-HxCDD			<0.014	[U]	pg/g		2.5	15-JUN-24
1,2,3,6,7,8-HxCDD			<0.014	[U]	pg/g		2.5	15-JUN-24
1,2,3,7,8,9-HxCDD			<0.014	[U]	pg/g		2.5	15-JUN-24
1,2,3,4,6,7,8-HpCDD			0.025	M,J,R	pg/g		2.5	15-JUN-24
OCDD			0.209	[J]	pg/g		5	15-JUN-24
2,3,7,8-TCDF			<0.015	M,U	pg/g		0.5	15-JUN-24
1,2,3,7,8-PeCDF			0.014	M,J,R	pg/g		2.5	15-JUN-24
2,3,4,7,8-PeCDF			<0.010	[U]	pg/g		2.5	15-JUN-24

COMMENTS: Method Blank was found to have levels of select analytes, but was within method acceptance criteria for laboratory background.

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Solid							
Batch R5983221								
WG3789492-1 MB								
1,2,3,4,7,8-HxCDF			<0.0093	[U]	pg/g		2.5	15-JUN-24
1,2,3,6,7,8-HxCDF			<0.0090	[U]	pg/g		2.5	15-JUN-24
2,3,4,6,7,8-HxCDF			<0.0091	[U]	pg/g		2.5	15-JUN-24
1,2,3,7,8,9-HxCDF			<0.012	[U]	pg/g		2.5	15-JUN-24
1,2,3,4,6,7,8-HpCDF			0.019	M,J	pg/g		2.5	15-JUN-24
1,2,3,4,7,8,9-HpCDF			<0.019	[U]	pg/g		2.5	15-JUN-24
OCDF			0.100	M,J	pg/g		5	15-JUN-24
Total-TCDD			<0.014	[U]	pg/g		0.014	15-JUN-24
Total-PeCDD			<0.012	[U]	pg/g		0.012	15-JUN-24
Total-HxCDD			<0.014	[U]	pg/g		0.014	15-JUN-24
Total-HpCDD			<0.017	[U]	pg/g		0.017	15-JUN-24
Total-TCDF			<0.015	[U]	pg/g		0.015	15-JUN-24
Total-PeCDF			<0.013	[U]	pg/g		0.013	15-JUN-24
Total-HxCDF			<0.012	[U]	pg/g		0.012	15-JUN-24
Total-HpCDF			0.019	A	pg/g		0.019	15-JUN-24
Surrogate: 13C12-2,3,7,8-TCDD			73.0		%		25-164	15-JUN-24
Surrogate: 13C12-1,2,3,7,8-PeCDD			73.0		%		25-181	15-JUN-24
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			80.0		%		32-141	15-JUN-24
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			80.0		%		28-130	15-JUN-24
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			78.0		%		23-140	15-JUN-24
Surrogate: 13C12-OCDD			58.0		%		17-157	15-JUN-24
Surrogate: 13C12-2,3,7,8-TCDF			75.0		%		24-169	15-JUN-24
Surrogate: 13C12-1,2,3,7,8-PeCDF			66.0		%		24-185	15-JUN-24
Surrogate: 13C12-2,3,4,7,8-PeCDF			76.0		%		21-178	15-JUN-24
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			83.0		%		26-152	15-JUN-24
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			82.0		%		26-123	15-JUN-24
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			84.0		%		29-147	15-JUN-24
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			82.0		%		28-136	15-JUN-24
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			72.0		%		28-143	15-JUN-24
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			70.0		%		26-138	15-JUN-24
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			67.0		%		31-197	15-JUN-24

COMMENTS: Method Blank was found to have levels of select analytes, but was within method acceptance criteria for laboratory background.

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

ALS Environmental Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Howard Holmes

Project Number: K2405607
Project Manager: Howard Holmes
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Dioxins Furans 1613B
K2405607-004	053024DU56-Comp-1 ✓	1	Soil	5/30/24	1150	Burlington ALS	X
K2405607-008	053024DU56-Comp-2 ✓	1	Soil	5/30/24	1220	Burlington ALS	X

L2756071-COFC

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS
1 2 3 4 5

____ **STANDARD**

Requested FAX Date: ________

Requested Report Date: ~~06/13/24~~ 6/21

Report Requirements

____ I. Results Only

X II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

PQL/MDL/J N
EDD Y

Invoice Information

PO#
51K2405607

Bill to

Relinquished By: [signature] 6/13/24 Received By: Aaron Burton 5-June-2024 13:00 6.0°C Airbill Number:

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
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www.alsglobal.com

July 31, 2024

Analytical Report for Service Request No: K2406991

Lance Downs
Advanced Remediation Technology
690 NW 1st Ave.
Suite 109
Canby, OR 97013

RE: Ko Kwel Wharf, DU5/6

Dear Lance,

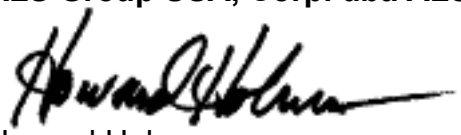
Enclosed are the results of the sample(s) submitted to our laboratory May 31, 2024
For your reference, these analyses have been assigned our service request number **K2406991.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental



Howard Holmes
Project Manager

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Table of Contents

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Advanced Remediation Technology (ART)
Project: Ko Kwel Wharf, DU5/6
Sample Matrix: Soil

Service Request: K2406991
Date Received: 05/31/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Six soil samples were received for analysis at ALS Environmental on 05/31/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Subcontracted Analytical Parameters:

Dioxins and Furans by EPA Method 1613B
The analysis for Dioxins and Furans was performed at ALS Burlington, Ontario Laboratory. The data for this analysis is included in the corresponding section of this report.

Approved by  Date 07/31/2024

Chain of Custody

ALS Environmental—Kelso Laboratory
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CHAIN OF CUSTODY

ALS Environmental

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SR# K2405607 K24066991

PAGE 1 OF 1 COC#

PROJECT NAME: KO KUEL WHARF, DU5/6
PROJECT NUMBER:
PROJECT MANAGER: LANCE DOWNS, PE, GE
COMPANY NAME: Advanced Remediation Technologies, Inc
ADDRESS: 690 NW 1st AVE, SUITE 109
CITY/STATE/ZIP: Canby, OREGON 97013
E-MAIL ADDRESS: Adv@remtechcanby.com
PHONE #: 503 266-2127 FAX #: 503 266-4724
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb.	(circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO3 ☐ HCO3 ☐	Dioxins/Furans 1613 X 8290☐	Dissolved Gases RSK 175☐ Methane☐ Ethane☐ Ethene☐ CO2☐	ARCHIVE			REMARKS
053024DU56-1	5/30	11:35		S	1																X				
053024DU56-2		11:40			1																X				
053024DU56-3		11:44			1																X				
053024DU56-COMP-1		11:50			1														X						
053024DU56-4		12:01			1																X				
053024DU56-5		12:06			1																X				
053024DU56-6		12:12			1																X				
053024DU56-COMP-2		12:20			1														X						

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
X II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To: Adv RemTech

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
X Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Container Supply Number 137374

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Date/Time: 5/31/24 9:15	Date/Time: 5/31/24 0915	Date/Time:	Date/Time:
Printed Name: LANCE DOWNS	Printed Name: Hayleigh Smith	Printed Name:	Printed Name:
Firm: ADV RemTech	Firm: ALS	Firm:	Firm:

PM HH

Cooler Receipt and Preservation Form

Client Advanced Remediation Technologies Service Request K24 05607 06991

Received: 5/31/24 Opened: 5/31/24 By: HS Unloaded: 5/31/24 By: HS

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
4.6		IR01	1of2				
3.8		↓	2of2				

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM NA Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Subcontract Lab Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Environmental - Kelso
ATTN: Howard Holmes
1317 South 13th Avenue
KELSO WA 98626

Date Received: 10-JUL-24
Report Date: 31-JUL-24 15:43 (MT)
Version: FINAL

Client Phone: 360-577-7222

Certificate of Analysis

Lab Work Order #: L2756585
Project P.O. #: 51K2406991
Job Reference: K2406991
C of C Numbers:
Legal Site Desc:

Michael Challis
Project Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756585-1 053024DU56-1							
Sampled By: Client on 30-MAY-24 @ 11:35							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	14.7		0.10	%	22-JUL-24	23-JUL-24	R5984877
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	1.70	R	0.36	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDD	11.8	M	0.099	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDD	33.0		0.32	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDD	82.3		0.32	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDD	30.1		0.31	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDD	1460		1.3	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDD	10100		0.93	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,7,8-TCDF	4.25		0.48	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDF	4.94		0.16	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,7,8-PeCDF	4.61		0.12	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDF	8.17		0.30	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDF	7.95		0.29	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,6,7,8-HxCDF	5.03	M	0.29	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDF	3.77	M	0.43	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDF	203		0.35	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8,9-HpCDF	17.5		0.59	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDF	332		0.15	pg/g	22-JUL-24	26-JUL-24	R5985336
Total-TCDD	161		0.36	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDD # Homologues	12				22-JUL-24	26-JUL-24	R5985336
Total-PeCDD	148		0.099	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDD # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-HxCDD	486		0.32	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDD # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-HpCDD	2510		1.3	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDD # Homologues	2				22-JUL-24	26-JUL-24	R5985336
Total-TCDF	82.5		0.48	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDF # Homologues	14				22-JUL-24	26-JUL-24	R5985336
Total-PeCDF	88.6		0.16	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDF # Homologues	12				22-JUL-24	26-JUL-24	R5985336
Total-HxCDF	225		0.43	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDF # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-HpCDF	665		0.59	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDF # Homologues	4				22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDD	43.0		25-164	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDD	77.0		25-181	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	75.0		32-141	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	96.0		23-140	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-OCDD	137.0		17-157	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDF	38.0		24-169	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDF	59.0		24-185	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,7,8-PeCDF	73.0		21-178	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	78.0		26-152	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	80.0		29-147	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	79.0		28-136	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	82.0		28-143	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	67.0		26-138	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	44.0		31-197	%	22-JUL-24	26-JUL-24	R5985336

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756585-1 053024DU56-1							
Sampled By: Client on 30-MAY-24 @ 11:35							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Lower Bound PCDD/F TEQ (WHO 2005)	50.7		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Mid Point PCDD/F TEQ (WHO 2005)	52.4		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Upper Bound PCDD/F TEQ (WHO 2005)	52.4		0	pg/g	22-JUL-24	26-JUL-24	R5985336
L2756585-2 053024DU56-2							
Sampled By: Client on 30-MAY-24 @ 11:40							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	12.5		0.10	%	22-JUL-24	23-JUL-24	R5984877
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	1.67		0.12	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDD	11.1	M	0.22	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDD	28.5		0.66	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDD	135		0.63	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDD	44.0		0.63	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDD	2150		1.3	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDD	9680		0.94	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,7,8-TCDF	3.88		0.19	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDF	3.37		0.087	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,7,8-PeCDF	3.94		0.074	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDF	6.71		0.27	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDF	7.66		0.26	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,6,7,8-HxCDF	4.86		0.28	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDF	4.48		0.35	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDF	152		0.24	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8,9-HpCDF	17.3		0.40	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDF	211		0.18	pg/g	22-JUL-24	26-JUL-24	R5985336
Total-TCDD	190		0.12	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDD # Homologues	12				22-JUL-24	26-JUL-24	R5985336
Total-PeCDD	150		0.22	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDD # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-HxCDD	577		0.66	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDD # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-HpCDD	3040		1.3	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDD # Homologues	2				22-JUL-24	26-JUL-24	R5985336
Total-TCDF	78.0		0.19	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDF # Homologues	17				22-JUL-24	26-JUL-24	R5985336
Total-PeCDF	81.7		0.087	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDF # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-HxCDF	186		0.35	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDF # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-HpCDF	482		0.40	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDF # Homologues	4				22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDD	49.0		25-164	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	84.0		32-141	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	85.0		28-130	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	101.0		23-140	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-OCDD	132.0		17-157	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDF	46.0		24-169	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDF	69.0		24-185	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,7,8-PeCDF	76.0		21-178	%	22-JUL-24	26-JUL-24	R5985336

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756585-2 053024DU56-2							
Sampled By: Client on 30-MAY-24 @ 11:40							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	89.0		26-152	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	88.0		26-123	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	88.0		29-147	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	85.0		28-136	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	83.0		28-143	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	50.0		31-197	%	22-JUL-24	26-JUL-24	R5985336
Lower Bound PCDD/F TEQ (WHO 2005)	63.7		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Mid Point PCDD/F TEQ (WHO 2005)	63.7		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Upper Bound PCDD/F TEQ (WHO 2005)	63.7		0	pg/g	22-JUL-24	26-JUL-24	R5985336
L2756585-3 053024DU56-3							
Sampled By: Client on 30-MAY-24 @ 11:44							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	15.9		0.10	%	22-JUL-24	23-JUL-24	R5984877
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.89	R	0.17	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDD	4.42	M	0.13	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDD	7.93		0.56	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDD	33.2		0.54	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDD	15.3		0.54	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDD	686		1.0	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDD	3910		0.52	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,7,8-TCDF	5.77		0.32	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDF	3.91		0.068	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,7,8-PeCDF	4.10		0.058	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDF	3.51		0.075	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDF	3.27		0.081	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,6,7,8-HxCDF	3.45		0.080	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDF	1.83	[J]	0.10	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDF	52.4		0.17	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8,9-HpCDF	6.43		0.25	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDF	113		0.11	pg/g	22-JUL-24	26-JUL-24	R5985336
Total-TCDD	278		0.17	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDD # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-PeCDD	212		0.13	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDD # Homologues	8				22-JUL-24	26-JUL-24	R5985336
Total-HxCDD	367		0.56	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDD # Homologues	8				22-JUL-24	26-JUL-24	R5985336
Total-HpCDD	1520		1.0	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDD # Homologues	2				22-JUL-24	26-JUL-24	R5985336
Total-TCDF	115		0.32	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDF # Homologues	20				22-JUL-24	26-JUL-24	R5985336
Total-PeCDF	55.0		0.068	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDF # Homologues	13				22-JUL-24	26-JUL-24	R5985336
Total-HxCDF	60.7		0.10	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDF # Homologues	8				22-JUL-24	26-JUL-24	R5985336
Total-HpCDF	181		0.25	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDF # Homologues	4				22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDD	49.0		25-164	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDD	75.0		25-181	%	22-JUL-24	26-JUL-24	R5985336

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756585-3 053024DU56-3							
Sampled By: Client on 30-MAY-24 @ 11:44							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	79.0		28-130	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	91.0		23-140	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-OCDD	104.0		17-157	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDF	46.0		24-169	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDF	75.0		24-185	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,7,8-PeCDF	79.0		21-178	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	83.0		26-152	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	83.0		26-123	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	83.0		29-147	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	83.0		28-136	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	76.0		28-143	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	52.0		31-197	%	22-JUL-24	26-JUL-24	R5985336
Lower Bound PCDD/F TEQ (WHO 2005)	21.8		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Mid Point PCDD/F TEQ (WHO 2005)	22.7		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Upper Bound PCDD/F TEQ (WHO 2005)	22.7		0	pg/g	22-JUL-24	26-JUL-24	R5985336
L2756585-4 053024DU56-4							
Sampled By: Client on 30-MAY-24 @ 12:01							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	14.6		0.10	%	22-JUL-24	23-JUL-24	R5984877
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	1.30	M,R	0.13	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDD	11.2	M	0.10	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDD	25.0		0.45	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDD	76.1		0.46	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDD	23.7		0.44	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDD	1020		0.83	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDD	5060		0.94	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,7,8-TCDF	2.40	R	0.17	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDF	2.86	[J]	0.14	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,7,8-PeCDF	5.20		0.11	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDF	5.43		0.12	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDF	5.85		0.12	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,6,7,8-HxCDF	5.27	M	0.12	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDF	2.73	[J]	0.17	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDF	120		0.21	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8,9-HpCDF	6.30		0.35	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDF	110		0.18	pg/g	22-JUL-24	26-JUL-24	R5985336
Total-TCDD	78.5		0.13	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDD # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-PeCDD	99.7		0.10	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDD # Homologues	9				22-JUL-24	26-JUL-24	R5985336
Total-HxCDD	419		0.46	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDD # Homologues	13				22-JUL-24	26-JUL-24	R5985336
Total-HpCDD	1670		0.83	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDD # Homologues	2				22-JUL-24	26-JUL-24	R5985336
Total-TCDF	44.4		0.17	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDF # Homologues	16				22-JUL-24	26-JUL-24	R5985336
Total-PeCDF	118		0.14	pg/g	22-JUL-24	26-JUL-24	R5985336

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756585-4 053024DU56-4							
Sampled By: Client on 30-MAY-24 @ 12:01							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total PeCDF # Homologues	9				22-JUL-24	26-JUL-24	R5985336
Total-HxCDF	222		0.17	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDF # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-HpCDF	319		0.35	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDF # Homologues	3				22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDD	37.0		25-164	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDD	65.0		25-181	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	74.0		28-130	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	97.0		23-140	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-OCDD	124.0		17-157	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDF	34.0		24-169	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDF	54.0		24-185	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,7,8-PeCDF	64.0		21-178	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	78.0		26-152	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	80.0		29-147	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	77.0		28-136	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	81.0		28-143	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	68.0		26-138	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	36.0		31-197	%	22-JUL-24	26-JUL-24	R5985336
Lower Bound PCDD/F TEQ (WHO 2005)	40.3		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Mid Point PCDD/F TEQ (WHO 2005)	41.8		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Upper Bound PCDD/F TEQ (WHO 2005)	41.8		0	pg/g	22-JUL-24	26-JUL-24	R5985336
L2756585-5 053024DU56-5							
Sampled By: Client on 30-MAY-24 @ 12:06							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	6.98		0.10	%	22-JUL-24	23-JUL-24	R5984877
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.521	[J]	0.087	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDD	2.44	M,J	0.087	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDD	3.75		0.087	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDD	9.32		0.093	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDD	6.73		0.088	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDD	136		0.34	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDD	598		0.27	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,7,8-TCDF	3.00		0.18	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDF	3.69		0.049	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,7,8-PeCDF	2.37	[J]	0.043	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDF	5.29		0.052	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDF	2.48	[J]	0.052	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,6,7,8-HxCDF	1.64	[J]	0.052	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDF	0.420	J,R	0.068	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDF	12.1		0.086	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8,9-HpCDF	1.14	M,J	0.14	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDF	30.2		0.058	pg/g	22-JUL-24	26-JUL-24	R5985336
Total-TCDD	256		0.087	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDD # Homologues	12				22-JUL-24	26-JUL-24	R5985336
Total-PeCDD	230		0.087	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDD # Homologues	8				22-JUL-24	26-JUL-24	R5985336

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756585-5 053024DU56-5							
Sampled By: Client on 30-MAY-24 @ 12:06							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-HxCDD	276		0.093	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDD # Homologues	8				22-JUL-24	26-JUL-24	R5985336
Total-HpCDD	427		0.34	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDD # Homologues	2				22-JUL-24	26-JUL-24	R5985336
Total-TCDF	59.8		0.18	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDF # Homologues	22				22-JUL-24	26-JUL-24	R5985336
Total-PeCDF	31.2		0.049	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDF # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-HxCDF	25.0		0.068	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDF # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-HpCDF	36.8		0.14	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDF # Homologues	4				22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDD	51.0		25-164	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDD	73.0		25-181	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	82.0		32-141	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	80.0		28-130	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-OCDD	83.0		17-157	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDF	43.0		24-169	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDF	62.0		24-185	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,7,8-PeCDF	67.0		21-178	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	79.0		26-152	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	74.0		26-123	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	76.0		29-147	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	72.0		28-143	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	64.0		26-138	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	50.0		31-197	%	22-JUL-24	26-JUL-24	R5985336
Lower Bound PCDD/F TEQ (WHO 2005)	8.68		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Mid Point PCDD/F TEQ (WHO 2005)	8.73		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Upper Bound PCDD/F TEQ (WHO 2005)	8.73		0	pg/g	22-JUL-24	26-JUL-24	R5985336
L2756585-6 053024DU56-6							
Sampled By: Client on 30-MAY-24 @ 12:12							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	4.85		0.10	%	22-JUL-24	23-JUL-24	R5984877
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.732		0.076	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDD	5.42	M	0.16	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDD	7.56		0.29	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDD	50.8		0.30	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDD	12.4		0.29	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,6,7,8-HpCDD	516		0.68	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDD	3340		0.47	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,7,8-TCDF	3.25		0.13	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8-PeCDF	2.33	[J]	0.070	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,7,8-PeCDF	2.39	[J]	0.060	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8-HxCDF	2.50	[J]	0.073	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,6,7,8-HxCDF	2.42	[J]	0.071	pg/g	22-JUL-24	26-JUL-24	R5985336
2,3,4,6,7,8-HxCDF	1.18	M,J	0.081	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,7,8,9-HxCDF	1.79	[J]	0.098	pg/g	22-JUL-24	26-JUL-24	R5985336

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756585-6 053024DU56-6							
Sampled By: Client on 30-MAY-24 @ 12:12							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDF	47.3		0.24	pg/g	22-JUL-24	26-JUL-24	R5985336
1,2,3,4,7,8,9-HpCDF	5.25		0.36	pg/g	22-JUL-24	26-JUL-24	R5985336
OCDF	87.3		0.080	pg/g	22-JUL-24	26-JUL-24	R5985336
Total-TCDD	154		0.076	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDD # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-PeCDD	152		0.16	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDD # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-HxCDD	301		0.30	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDD # Homologues	11				22-JUL-24	26-JUL-24	R5985336
Total-HpCDD	1140		0.68	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDD # Homologues	2				22-JUL-24	26-JUL-24	R5985336
Total-TCDF	66.4		0.13	pg/g	22-JUL-24	26-JUL-24	R5985336
Total TCDF # Homologues	21				22-JUL-24	26-JUL-24	R5985336
Total-PeCDF	32.9		0.070	pg/g	22-JUL-24	26-JUL-24	R5985336
Total PeCDF # Homologues	9				22-JUL-24	26-JUL-24	R5985336
Total-HxCDF	49.5		0.098	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HxCDF # Homologues	10				22-JUL-24	26-JUL-24	R5985336
Total-HpCDF	157		0.36	pg/g	22-JUL-24	26-JUL-24	R5985336
Total HpCDF # Homologues	4				22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDD	53.0		25-164	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDD	75.0		25-181	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	86.0		32-141	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	85.0		28-130	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	99.0		23-140	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-OCDD	125.0		17-157	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,7,8-TCDF	48.0		24-169	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		24-185	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,7,8-PeCDF	79.0		21-178	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	92.0		26-152	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	88.0		26-123	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	86.0		29-147	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	86.0		28-136	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	83.0		28-143	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	22-JUL-24	26-JUL-24	R5985336
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	55.0		31-197	%	22-JUL-24	26-JUL-24	R5985336
Lower Bound PCDD/F TEQ (WHO 2005)	21.8		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Mid Point PCDD/F TEQ (WHO 2005)	21.8		0	pg/g	22-JUL-24	26-JUL-24	R5985336
Upper Bound PCDD/F TEQ (WHO 2005)	21.8		0	pg/g	22-JUL-24	26-JUL-24	R5985336

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M	A peak has been manually integrated.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,R	A peak has been manually integrated, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
DX-1613B-HRMS-BU	Solid	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS.			
MOISTURE-BU	Soil	% Moisture	CCME 2001 Publication 1310
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105 C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2756585 Report Date: 31-JUL-24

Client: ALS Environmental - Kelso
1317 South 13th Avenue
KELSO WA 98626
Contact: Howard Holmes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-BU	Soil							
Batch R5984877								
WG3789877-2 LCS								
% Moisture			98.4		%		90-110	23-JUL-24
WG3789877-1 MB								
% Moisture			<0.10		%		0.3	23-JUL-24
DX-1613B-HRMS-BU	Solid							
Batch R5985336								
WG3789874-2 LCS								
2,3,7,8-TCDD			91.0		%		67-158	25-JUL-24
1,2,3,7,8-PeCDD			109.0		%		70-142	25-JUL-24
1,2,3,4,7,8-HxCDD			95.0		%		70-164	25-JUL-24
1,2,3,6,7,8-HxCDD			96.0		%		76-134	25-JUL-24
1,2,3,7,8,9-HxCDD			99.0		%		64-162	25-JUL-24
1,2,3,4,6,7,8-HpCDD			94.0		%		70-140	25-JUL-24
OCDD			90.0		%		78-144	25-JUL-24
2,3,7,8-TCDF			100.0		%		75-158	25-JUL-24
1,2,3,7,8-PeCDF			111.0		%		80-134	25-JUL-24
2,3,4,7,8-PeCDF			95.0		%		68-160	25-JUL-24
1,2,3,4,7,8-HxCDF			95.0		%		72-134	25-JUL-24
1,2,3,6,7,8-HxCDF			97.0		%		84-130	25-JUL-24
2,3,4,6,7,8-HxCDF			96.0		%		70-156	25-JUL-24
1,2,3,7,8,9-HxCDF			98.0		%		78-130	25-JUL-24
1,2,3,4,6,7,8-HpCDF			105.0		%		82-122	25-JUL-24
1,2,3,4,7,8,9-HpCDF			114.0		%		78-138	25-JUL-24
OCDF			90.0		%		63-170	25-JUL-24
WG3789874-1 MB								
2,3,7,8-TCDD			<0.056	[U]	pg/g		0.67	25-JUL-24
1,2,3,7,8-PeCDD			<0.058	[U]	pg/g		3.3	25-JUL-24
1,2,3,4,7,8-HxCDD			<0.040	[U]	pg/g		3.3	25-JUL-24
1,2,3,6,7,8-HxCDD			<0.040	[U]	pg/g		3.3	25-JUL-24
1,2,3,7,8,9-HxCDD			<0.039	[U]	pg/g		3.3	25-JUL-24
1,2,3,4,6,7,8-HpCDD			<0.050	[U]	pg/g		3.3	25-JUL-24
OCDD			<0.076	[U]	pg/g		6.7	25-JUL-24
2,3,7,8-TCDF			<0.048	[U]	pg/g		0.67	25-JUL-24
1,2,3,7,8-PeCDF			<0.027	[U]	pg/g		3.3	25-JUL-24
2,3,4,7,8-PeCDF			<0.021	[U]	pg/g		3.3	25-JUL-24

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Solid							
Batch R5985336								
WG3789874-1 MB								
1,2,3,4,7,8-HxCDF			<0.025	[U]	pg/g		3.3	25-JUL-24
1,2,3,6,7,8-HxCDF			<0.025	[U]	pg/g		3.3	25-JUL-24
2,3,4,6,7,8-HxCDF			<0.025	[U]	pg/g		3.3	25-JUL-24
1,2,3,7,8,9-HxCDF			<0.035	[U]	pg/g		3.3	25-JUL-24
1,2,3,4,6,7,8-HpCDF			<0.033	[U]	pg/g		3.3	25-JUL-24
1,2,3,4,7,8,9-HpCDF			<0.051	[U]	pg/g		3.3	25-JUL-24
OCDF			0.080	M,J	pg/g		6.7	25-JUL-24
Total-TCDD			<0.056	[U]	pg/g		0.056	25-JUL-24
Total-PeCDD			<0.058	[U]	pg/g		0.058	25-JUL-24
Total-HxCDD			<0.040	[U]	pg/g		0.04	25-JUL-24
Total-HpCDD			<0.050	[U]	pg/g		0.05	25-JUL-24
Total-TCDF			<0.048	[U]	pg/g		0.048	25-JUL-24
Total-PeCDF			<0.027	[U]	pg/g		0.027	25-JUL-24
Total-HxCDF			<0.035	[U]	pg/g		0.035	25-JUL-24
Total-HpCDF			<0.051	[U]	pg/g		0.051	25-JUL-24
Surrogate: 13C12-2,3,7,8-TCDD			54.0		%		25-164	25-JUL-24
Surrogate: 13C12-1,2,3,7,8-PeCDD			72.0		%		25-181	25-JUL-24
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			83.0		%		32-141	25-JUL-24
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			82.0		%		28-130	25-JUL-24
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			86.0		%		23-140	25-JUL-24
Surrogate: 13C12-OCDD			93.0		%		17-157	25-JUL-24
Surrogate: 13C12-2,3,7,8-TCDF			53.0		%		24-169	25-JUL-24
Surrogate: 13C12-1,2,3,7,8-PeCDF			58.0		%		24-185	25-JUL-24
Surrogate: 13C12-2,3,4,7,8-PeCDF			68.0		%		21-178	25-JUL-24
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			83.0		%		26-152	25-JUL-24
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			82.0		%		26-123	25-JUL-24
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			82.0		%		29-147	25-JUL-24
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			81.0		%		28-136	25-JUL-24
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			77.0		%		28-143	25-JUL-24
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			68.0		%		26-138	25-JUL-24
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			54.0		%		31-197	25-JUL-24

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

ALS Environmental Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Howard Holmes

Project Number: K2406991
Project Manager: Howard Holmes
QAP: LAB QAP

Full list

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Dioxins Furans 1613B
K2406991-001	053024DU56-1	1	Soil	5/30/24	1135	Burlington ALS	X
K2406991-002	053024DU56-2	1	Soil	5/30/24	1140	Burlington ALS	X
K2406991-003	053024DU56-3		Soil	5/30/24	1144	Burlington ALS	X
K2406991-004	053024DU56-4		Soil	5/30/24	1201	Burlington ALS	X
K2406991-005	053024DU56-5		Soil	5/30/24	1206	Burlington ALS	X
K2406991-006	053024DU56-6		Soil	5/30/24	1212	Burlington ALS	X

L2756585-COFC

Folder Comments:
Reissued from K2405607
Pulled from frozen archive on 7/8/24

All samples were stored in a freezer after receipt in Kelso on 5/31/24

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements
____ **RUSH** (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
____ **STANDARD**
Requested FAX Date: _____
Requested Report Date: 08/02/24

Report Requirements
___ I. Results Only
X II. Results + QC Summaries
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
PQL/MDL/J N
EDD Y

Invoice Information
PO# 51K2406991
Bill to

Relinquished By: [signature] 7/9/24 Received By: AARON BURTON Airbill Number:

24-July-2024 11:10 3.6°C