Civil & Environmental Consultants, Inc.

July 18, 2024

Dale Woodall
Environmental Professional
Devon Energy Production Company
205 E Bender Road # 150
Hobbs, New Mexico 88240

Subject: Remediation Closure Report
Devon Energy Production Company
Seawolf 1 12 Federal 91H Release
Unit D, Section 1, T26S, R33E
Lea County, New Mexico
Date of Release: 9/7/2023
Incident No.: nAPP2325072650
CEC Project 335-562

Dear Mr. Woodall:

Civil & Environmental Consultants, Inc. (CEC) is submitting this Remediation Closure Report in connection with the September 7, 2023, release at the Seawolf 1 12 Federal 91H well (Site). CEC was contracted by Devon to assess and characterize a release of produced water and crude oil at the subject Site. This Remediation Closure Report is being submitted to document site characterization and remedial actions that were completed in accordance with 19.15.29.12 of the New Mexico Administrative Code (NMAC) and to support Devon's request for Remediation Closure Approval (C-141-v-Remediation).

1.0 BACKGROUND

According to the Release Notification filed with the State of New Mexico Form C-141, a release of produced water and crude oil occurred on September 7, 2023, at the Seawolf 1 12 Federal 91H well pad located in Public Land Survey System (PLSS) Unit Letter D, Section 1, Township 26 South, Range 33 East, in Lea County, New Mexico. The location of the well pad is shown on Figure 1.

The layout of the Site including the approximate release location and area of observed surficial impacts based on visual observation of staining and ponded water is shown on Figure 2. The approximate release point was at coordinates 32.0791865, -103.5335268. According to the initial Form C-141 Release Notification, the flowline developed a pinhole below grade approximately 15 feet from the wellhead. An estimated 51 barrels (bbls) of produced water and 1 bbl of crude oil were released to the well pad. The well was shut in, and pressure was bled off the flowline to stop the leak. Approximately 29 bbls of produced water and 1 bbl of crude oil were recovered as part of the initial response action. The spill was reported on September 11, 2023, and assigned an incident number nAPP2325072650.

The initial Form C-141 Release Notification that includes a description of initial response actions that were taken by Devon, and also OCD's directive in response to the notification, are included in Appendix A.

2.0 DESKTOP REVIEW

A desktop review was performed by CEC to (a) determine the wellhead protection area and distance to the nearest water source as required under 19.15.29.11 NMAC, (b) determine the distance to the nearest watercourse as required under 19.15.29.11 NMAC (c) preliminarily identify distances to sensitive receptors listed under 19.15.29.12 Section C of NMAC, and (d) determine (if possible, based on published information) depth to groundwater in the area.

A map identifying "Sensitive Receptors" in the area is provided as Figure B-1 in Appendix B. The Site is not located within incorporated municipal boundaries or within a defined municipal freshwater well field covered under a municipal ordinance. Similarly, the site is not located within a 100-year floodplain, nor does it overlie a subsurface mine. Further, the Site is not located within the prescribed distances of the various sensitive receptors listed under Section C (4.) of 19.15.29.12 NMAC. The Site is in an area of low karst potential.

According to the New Mexico Office of the State Engineer (NMOSE) water rights reporting system, a temporary well (Temporary Well C-4628) was installed approximately 0.39 miles east of the Site in June 2022. The location of Temporary Well C-4628 is shown on Figure B-1. Temporary Well C-4628 was drilled to a depth of approximately 55 feet below the ground surface (bgs). The well was determined to be dry after 24 hours. Depth to groundwater in the vicinity of the Site is therefore determined to be greater than 51 feet bgs. The well record and log are included in Appendix C.

3.0 REGULATORY LIMITS

Remediation Closure Criteria for soil impacted by produced water and crude oil are established in Table 1, Subsection E of 19.15.29.12 NMAC. Based on the information obtained for the desktop survey and the groundwater depth of >50 feet, the remediation criteria for this Site are as follows:

Constituent	Remediation Closure Criteria
Chloride	10,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
TPH (GRO+DRO)	1,000 mg/kg
Total BTEX	50 mg/kg
Benzene	10 mg/kg

Prior to mobilization, CEC confirmed that no additional constituents of concern were required to be analyzed with the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Oil Conservation Division. CEC also notified OCD via email of their intent to collect site characterization and confirmation soil samples prior to performing field work in accordance with Section D of 19.15.29.12 NMAC. Records documenting the required OCD notifications are included in Appendix D.

4.0 FIELD SITE ASSESSMENT ACTIVITIES

4.1 PHASE 1 SITE CHARACTERIZATION

CEC conducted initial site assessment activities on September 19, 2023, during which thirteen (13) exploratory test pits (SW 91H-1 through SW 91H-13) were installed. The locations of the test pit are shown on Figure 2. In general, excavator refusal was encountered at approximately two to five feet below ground surface (bgs) due to the presence of caliche. While advancing the test pits, samples were collected at one-foot intervals for field screening. Each sample was screened for soil electrical conductivity (EC) using a FieldScout Soil Conductivity Probe with automatic temperature compensation, Total Petroleum Hydrocarbons (TPH) using a Dexsil PetroFLAG hydrocarbon analyzer, and field chloride using Quantab® titration strips. CEC's standard operation procedures for conducting field screening are included in Appendix E. The results of the field screening are summarized on Table 1.

A total of twenty-eight (28) samples were collected from the test pits and submitted for laboratory analytical analysis to Eurofins Environment Testing South Central laboratory (Eurofins) in Midland, Texas. The soil samples were analyzed for BTEX (by Method 8021B), TPH (by Method 8015B), and chloride (by EPA Method 300.0). Analytical results for the samples that were collected during the Phase 1 site characterization are summarized on Table 2. The corresponding laboratory analytical reports are included in Appendix F.

Referring to Table 2, three (3) of the samples that were collected (SW 91H-3 (0-1'), SW 91H-5 (0-1'), and SW 91H-9 (2-3')) were found to contain TPH (GRO+DRO) at concentrations in excess of the Remediation Closure Criteria. Sample SW 91H-3 (0-1') was also found to contain TPH (GRO+DRO+MRO) at a concentration in excess of the Remediation Closure Criteria.

Following review of the results of the initial site characterization sampling, it was determined that additional delineation was warranted to meet the delineation requirements of 19.15.29.13 NMAC.

4.2 PHASE 2 SITE CHARACTERIZATION

Phase 2 of the site characterization was conducted on October 30, 2023. During Phase 2, seven (7) exploratory test pits (SW 91H-14 through SW 91H-20) were installed to further delineate the extent of soil contamination. The locations of the test pits are shown on Figure 2.

Six of the seven test pits encountered refusal on hard caliche at depths between 2 and 4 feet bgs. Field screening was conducted following the procedures outlined in Section 4.1, and the results are summarized on Table 1.

Based on the field screening results, fourteen (14) soil samples were submitted to Eurofins for laboratory analysis. Analytical results for the soil samples that were collected during the Phase 2 site characterization are summarized on Table 2. Analytical reports are included in Appendix F.

As shown on Table 2, none of the fourteen (14) soil samples collected from the Phase 2 test pits contained constituents of concern at concentrations in excess of the Remediation Closure Criteria. Further, the twenty (20) test pits installed during the Phase 1 and Phase 2 site characterization allowed for successful horizontal and vertical delineation of contamination as required under 19.15.29.12.

5.0 SITE CHARACTERIZATION FINDINGS AND DEVELOPMENT OF REMEDIATION PLAN

Site characterization investigations identified an approximately 2,980-square-foot area over which Remediation Closure Criteria were exceeded in the soil. Within this area, the contaminated soil that exceeded Remediation Closure Criteria was found to extend to depths ranging from 1 to 3 feet. A map showing areas targeted for remediation and projected remediation depths is shown on Figure 3. Based on results of site characterization, the total volume of soil to be removed was estimated at 400 cubic yards.

6.0 REMEDIATION ACTIVITIES

Initial remediation activities were completed between January 29 and February 1, 2024. In accordance with NMOCD regulatory guidelines, impacted soil affected above the Remediation Closure Criteria was excavated and stockpiled on-site, pending transfer to an NMOCD-permitted surface waste facility for disposal (R360 Antelope Ridge). While undertaking the excavation, a FieldScout Soil Conductivity Probe with automatic temperature compensation and Dexsil PetroFLAG hydrocarbon analyzer were utilized to field-screen the horizontal extent of impacted soil and to guide the excavation. The sidewalls and floors of the excavation were expanded until field tests and field observations indicated that constituents of concern were less than the applicable remediation criteria. The results of the field screening that was conducted to support remedial actions are presented on Table 3. Soil screening locations are shown on Figure 4. Photographs documenting the soil remedial efforts are included in the photographic log in Appendix G. Approximately 290 cubic yards of soil were removed over this period.

Upon making a determination based on field observations and field screening that there was a high likelihood that remediation goals had been achieved, CEC collected representative five-point composite post-excavation confirmation soil samples representative of each 200 square-feet of the sidewalls and floor of the excavated area pursuant to Subsection C of 19.15.29.12 NMAC.

A total of twenty-one (21) post-excavation confirmation soil samples were collected. Four composite samples were collected from the sidewalls (SW 91H-Sidewall 1 through SW 91H-Sidewall 4). Seventeen samples were collected from the floor of the excavation (SW 91H-Bottom 1 through SW 91H-Bottom 17). No wet or discolored areas were encountered, and discrete grab samples were not required. The area represented by each confirmation sample is shown on Figure 4. Confirmation samples were submitted for laboratory analytical analysis to Eurofins Environment Testing South Central laboratory (Eurofins) in Midland, Texas. The soil samples were analyzed for BTEX (by Method 8021B), TPH (by Method 8015B), and chloride (by EPA Method 300.0).

The results of the confirmation soil sampling are summarized on Table 4. Analytical reports are included in Appendix F. As shown on Table 4, one floor sample (SW 91H-Bottom 8) was found to contain TPH (GRO+DRO) and TPH (GRO+DRO+MRO) at concentrations in excess of the respective Remediation Closure Criteria.

On February 21, 2024, additional remediation activities were conducted in the area of SW 91H-Bottom 8. Impacted soil affected above the Remediation Closure Criteria was excavated and stockpiled on-site, pending transfer to an NMOCD-permitted surface waste disposal facility (R360 Antelope Ridge). The floor of the excavation was deepened until field observations and field screening indicated a high likelihood that remediation goals had been achieved (to approximately 6 feet bgs). Approximately 21 additional cubic yards of soil were excavated from this area. CEC collected one composite sample (SW 91H-Bottom 8-2)

from the floor of the excavated area. The results of the additional confirmation soil sampling are presented on Table 4 (the sample dated February 21, 2024), and the analytical report is included in Appendix F. As shown on Table 4, none of the constituents of concern were detected at concentrations in excess of the Remediation Closure Criteria. Photographs documenting the additional remediation activities are included in Appendix G.

7.0 RESTORATION ACTIVITIES

As the spill area is actively used for oil and gas production, the areas where excavation was performed to remediate the Site were restored by backfilling with clean fill to stabilize the disturbed areas and return them to the existing grade, and provide a soil cover that prevents ponding of water and minimizes dust and erosion in accordance with Sections A., B. and C of 19.15.29.13 NMAC. Restoration activities were conducted on March 1, 2024. Photographs showing the disturbed areas upon completing restoration are included in the photographic log in Appendix G.

A representative five-point composite soil sample (BF-SW91H-090723) was collected from the surface of the backfilled excavation on June 26, 2024, to document that the materials that were used to backfill the site were non-waste-containing. A sketch showing the grab locations for the composite backfill sample is included in Appendix H. The analytical report for the composite backfill sample is included in Appendix F. No constituents of concern were detected in the composite backfill sample at concentrations in excess of the Reclamation Closure Criteria.

8.0 DISCUSSION AND CONCLUSIONS

Site characterization investigations conducted in September and October, 2023, identified an approximately 2,980-square-foot area over which Remediation Closure Criteria were exceeded in the soil. Exceedances of the Remediation Closure Criteria were confined to within the footprint of the well pad. Within this area, the contaminated soil that exceeded the Remediation Closure Criteria was found to extend to depths ranging from 1 to 3 feet. Site characterization activities also successfully delineated affected soil as required under 19.15.29.13 NMAC.

In late January and February 2024, the affected area was remediated by excavating the impacted soil in accordance with requirements of 19.15.29.12 NMAC. Approximately 310 cubic yards of contaminated soil were excavated from this area and disposed at a NMOCD-permitted surface waste disposal facility.

Confirmation soil samples collected pursuant to Subsection C of 19.15.29.12 NMAC demonstrated that the soil remediation efforts were successful in meeting Remediation Closure Criteria. The disturbed area was restored by backfilling with clean fill to stabilize the disturbed areas and return them to existing grade and provide a soil cover that prevents ponding of water and minimizes dust and erosion in March 2024. In accordance with 19.15.29.12 and 19.15.29.13 NMAC, final reclamation of remaining impacted soil within the well pad area will take place once the Site is no longer used for oil and gas operations.

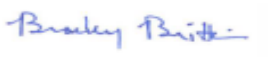
Based on the results of the site investigations discussed above and the remedial actions completed, Incident nAPP2325072650 qualifies for remediation closure approval.

9.0 CLOSING

CEC appreciates the opportunity to assist Devon on this project. Please contact us if you need additional information.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Laura D. Campbell
Project Manager

Bradley N. Brittain
Senior Project Manager

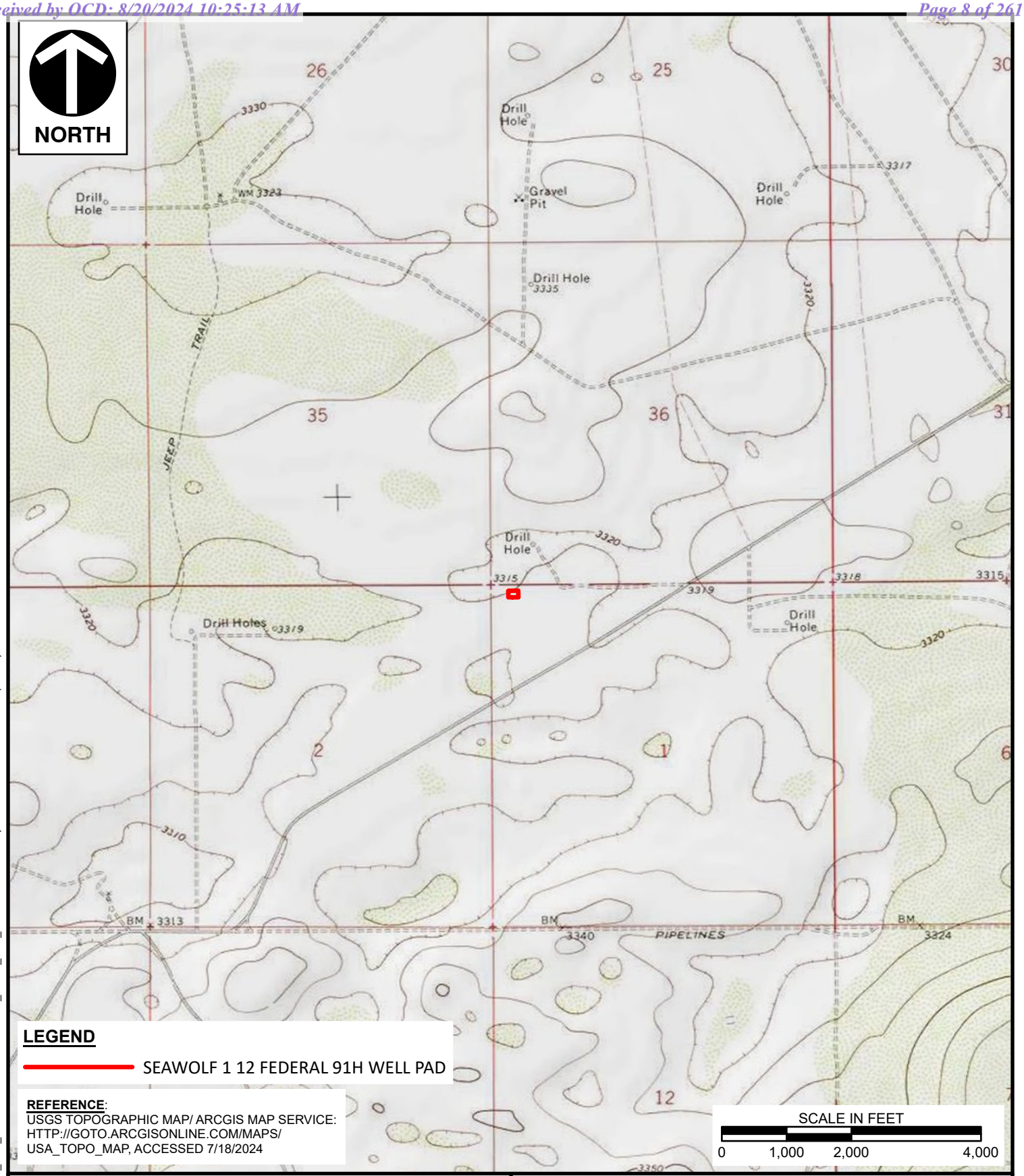
Enclosures:

FIGURES:
- Figure 1: Site Location Map
- Figure 2: Release Characterization Sample Locations
- Figure 3: Areas Targeted for Soil Remediation
- Figure 4: Final Soil Excavation Limits and Confirmation Sample Locations

TABLES:
- Table 1: Summary of Field Screening Results – Release Characterization
- Table 2: Summary of Laboratory Analytical Results – Release Characterization
- Table 3: Summary of Field Screening Results – Remedial Actions
- Table 4: Summary of Laboratory Analytical Results – Soil Confirmation Sampling

APPENDICES:
- Appendix A: Initial Release Notification and OCD Response
- Appendix B: Sensitive Receptors Map
- Appendix C: Temporary Well C-4626 Records
- Appendix D: NMOCD Correspondence
- Appendix E: SOPs for Field Screening
- Appendix F: Laboratory Analytical Reports
- Appendix G: Photographic Log
- Appendix H: Sketch Showing Grab Locations for Composite Backfill Sample

FIGURES



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DEVON ENERGY CORPORATION
REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPT 7, 2023 RELEASE
LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

DRAWN BY:	JLR	CHECKED BY:	LDC	APPROVED BY:	RJV*	FIGURE NO:	1
DATE:	7/18/2024	SCALE:	1"=2,000'	PROJECT NO:	335-562		

*Hand Signature on file

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SITE CHARACTERIZATION SAMPLE LOCATIONS

DRAWN BY:	CBL/JLR	CHECKED BY:	LDC	APPROVED BY:	* Hand signature on file RJV*	FIGURE NO:	2
DATE:	6/25/2024	SCALE:	1"=40'	PROJECT NO:	335-562		

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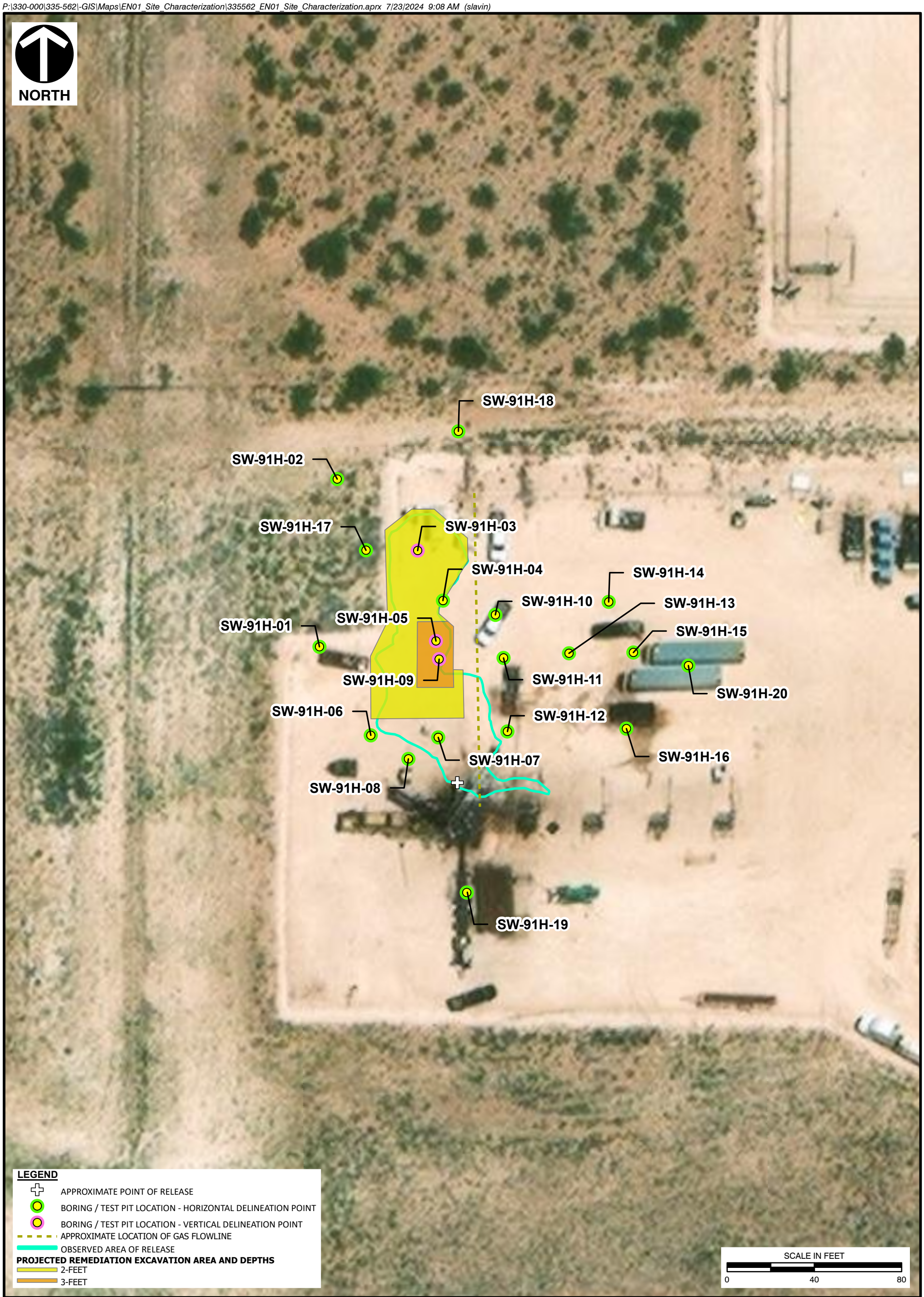

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REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPT 7, 2023 RELEASE
LEA COUNTY, NEW MEXICO

AREAS TARGETED FOR SOIL REMEDIATION

DRAWN BY:	SML	CHECKED BY:	LDC	APPROVED BY:	* Hand signature on file RJV*	FIGURE NO:	3
DATE:	7/23/2024	SCALE:	1"=40'	PROJECT NO:	335-562		

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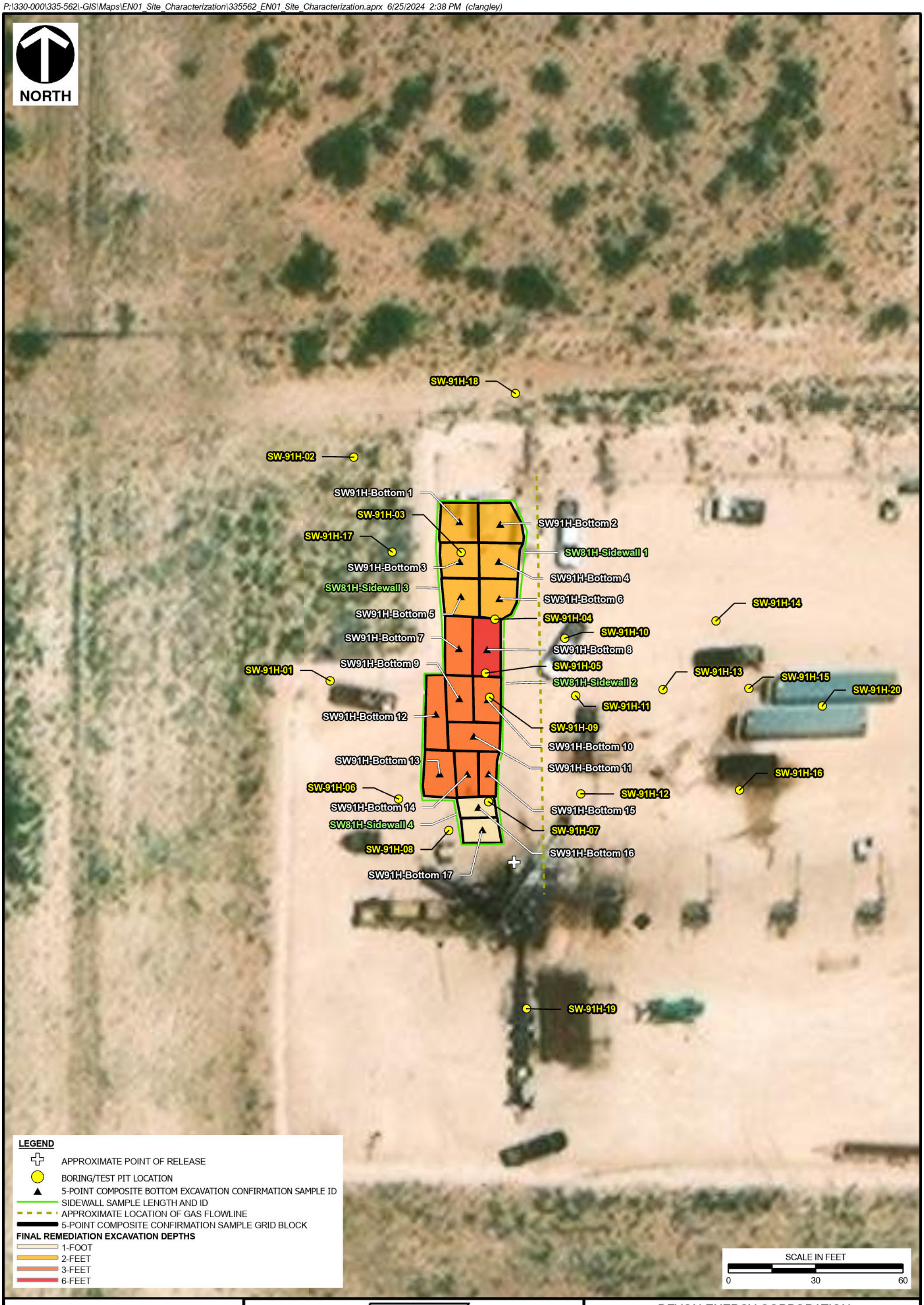

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REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPT 7, 2023 RELEASE
LEA COUNTY, NEW MEXICO

FINAL SOIL REMEDIATION EXCAVATION LIMITS AND CONFIRMATION SAMPLE LOCATIONS

DRAWN BY:	CBL/NTP	CHECKED BY:	LDC	APPROVED BY: * Hand signature on file	RJV*	FIGURE NO:	4
DATE:	6/25/2024	SCALE:	1"=30'	PROJECT NO:	335-562		

TABLES

TABLE 1
SUMMARY OF FIELD SCREENING RESULTS - RELEASE CHARACTERIZATION
REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPTEMBER 7, 2023 RELEASE
DEVON ENERGY CORPORATION
CEC PROJECT NUMBER: 335-562

Sample ID	Sample Date	Depth	Field Site Assessment Phase	Field Screening Parameter			
				Electrical Conductivity (mS)[1]	Chloride (mg/kg)[2]	Volatile Organic Compounds (ppm)[3]	Total Petroleum Hydrocarbons (ppm)[4]
SW 91H-BG	9/19/2023	0-1	Phase 1	0.54	<62	0.1	72
		1-2		0.3	--	0.0	--
		2-3		0.28	--	0.0	--
		3-4		0.29	--	0.0	--
		4-5		0.28	--	0.0	--
SW 91H-2	9/19/2023	0-1		1.12	54	0.0	--
		1-2		0.88	--	0.6	--
		2-3		1.61	54	0.1	78
		3-4		1.81	276	0.5	68
		4-5		0.46	--	0.5	--
SW 91H-3	9/19/2023	0-1		7.52	828	37.2	1,085
		1-2		7.45	1,758	7.0	--
		2-3		5.7	1,126	1.7	57
		3-4		1.83	--	8.8	48
		4-5		4.16	452	7.5	42
SW 91H-4	9/19/2023	0-1		1.53	562	19.3	--
		1-2		1.9	276	2.1	41
		2-3		1.56	168	25.7	108
		3-4		0.33	--	3.0	--
		4-5		0.45	--	2.5	--
SW 91H-5	9/19/2023	0-1		4.35	206	76.2	672
		1-2		2.52	114	6.6	--
		2-3		2.18	--	4.3	--
		3-4		4.07	742	23.4	109
		4-5		0.93	--	5.2	--
SW 91H-6	9/19/2023	0-1		3.69	452	0.0	--
		1-2		1.86	176	0.1	72
		2-3		1.75	186	0.1	48
		3-4		0.31	<62	0.1	35
		4-5		0.26	--	0.1	--
SW 91H-7	9/19/2023	0-1		14.53	3,328	1.1	--
		1-2		3.59	--	0.0	--
		2-3		2.16	--	0.2	--
		3-4		5.92	358	2.3	63
		4-5		6.01	750	0.5	52
SW 91H-8	9/19/2023	0-1		1.04	--	0.0	--
		1-2		1.18	86	0.2	43
		2-3		1.22	100	0.0	68
		3-4		0.76	--	0.1	--
		4-5		0.36	--	0.1	--
SW 91H-9	9/19/2023	0-1		2.36	276	20.9	1,018
		1-2		1.85	86	5.7	588
		2-3		1.95	276	3.1	--
		3-4		2.19	456	1.9	61
SW 91H-10	9/19/2023	0-1		1.37	100	0.0	40
		1-2		0.89	--	0.2	--
		2-3		1.15	100	0.0	51
		3-4		0.96	146	0.1	--
SW 91H-11	9/19/2023	0-1		4.51	1,758	0.0	60
		1-2		2.52	492	0.1	57
		2-3		1.05	100	0.1	--
		3-4		0.5	--	0.2	--
SW 91H-12	9/19/2023	0-1		0.77	--	0.0	--
		1-2		1.43	228	0.1	--
		2-3		1.84	250	0.2	79
		3-4		2.12	184	0.0	66
SW 91H-13	9/19/2023	0-1		2.94	716	0.1	--
		1-2		3.4	356	0.3	--
SW 91H-14	10/30/2023	0-1	Phase 2	1.35	228	0.0	--
		1-2		1.47	250	0.0	24
		2-3		0.53	78	0.0	26
SW 91H-15	10/30/2023	0-1		3.49	1,124	0.1	--
		1-2		2.95	1,236	0.0	--
		2-3		3.68	740	0.1	--
		3-4		6.86	1,758	0.0	--
SW 91H-16	10/30/2023	0-1		0.17	<54	0.0	38
		1-2		0.16	104	0.1	--
		2-3		0.31	<54	0.1	--
		3-4		0.22	--	0.0	234
		4-5		0.28	--	0.0	--
SW 91H-17	10/30/2023	0-1		0.17	--	0.1	0
		1-2		0.16	--	0.1	--
		2-3		0.12	--	0.1	--
		3-4		0.13	--	0.1	54
SW 91H-18	10/30/2023	0-1		0.14	--	0.0	16
		1-2		0.42	--	0.1	0
SW 91H-19	10/30/2023	0-1		0.66	104	0.1	34
		1-2		0.3	--	0.1	--
		2-3		0.32	--	0.1	--
		3-4		0.95	118	0.1	89
SW 91H-20	10/30/2023	0-1		1.83	250	0.0	50
		1-2		1.22	186	0.0	28

Notes:
1. Soil electrical conductivity collected using a Field Scout Soil Conductivity Probe with automatic temperature compensation.
2. Chloride readings collected from Quantab ® titrator strips by creating an aqueous solution of 50 grams of soil to 100 mL of distilled water. For readings collected from 1:2 aqueous solution, actual titrator readings were doubled to calculate the actual chloride concentration.
3. Volatile Organic Compounds (VOCs) were measured in the headspace using a photoionization detector.
4. Total Petroleum Hydrocarbons (TPH) were measured using a Dexsil PetroFLAG meter with a response setting of 10 for samples collected on 9/19/2023 and a response setting of 5 for samples collected on 10/30/2023.

-- Denotes parameter not analyzed.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS - RELEASE CHARACTERIZATION
REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPTEMBER 7, 2023 RELEASE
DEVON ENERGY CORPORATION
CEC PRO JECT NUMBER: 335-562

Sample ID	Sample Date	Depth (feet below ground surface)	Field Assessment Phase	Volatile Organic Compounds (mg/kg)		Total Petroleum Hydrocarbons (mg/kg)		Anions (mg/kg)
				Benzene	Total BTEX[1]	TPH (GRO + DRO)[2]	Total (GRO+ DRO+MRO)[3]	Chloride
SW 91H-1	9/18/2023	0-1	Phase 1	<0.00039	<0.00102	24.5 J,F1	24.5 J,F1	117
SW 91H-2	9/19/2023	2-3		<0.000402	<0.00105	26.8 J	26.8 J	403
		3-4		<0.000406	<0.00106	26.4 J	26.4 J	487
SW 91H-3	9/19/2023	0-1		<0.000452	<0.00119	**3,007.3 J**	**3,007.3 J**	3,470
		2-3		<0.000421	<0.0011	**85.7 J**	**85.7 J**	2,320
		3-4		<0.000421	<0.0011	48 J	48 J	648
		4-5		<0.000479	<0.00126	**325.9 J**	**325.9 J**	1,090
SW 91H-4	9/19/2023	1-2		<0.0004	<0.00105	27.3 J	27.3 J	587
		2-3		<0.000396	<0.00104	**24.5 J**	**24.5 J**	412 F1
SW 91H-5	9/19/2023	0-1		<0.000451	<0.00118	**1,541.1 J**	**1,541.1 J**	2,390
		3-4		<0.000481	<0.00126	71 J	71 J	1,430
SW 91H-6	9/19/2023	1-2		<0.000398	<0.00104	28 J	28 J	607
		2-3		0.000546 J	<0.00107	<15.9	<15.9	487
		3-4		0.000436 J	<0.00105	44.9 J	44.9 J	131
SW 91H-7	9/19/2023	3-4		<0.000426	<0.00112	28.8 J	28.8 J	1,830
		4-5		0.000579 J	0.000579 J	29.3 J	29.3 J	1,960
SW 91H-8	9/19/2023	2-3		<0.000405	<0.00106	28 J	28 J	453
		3-4		<0.000485	<0.00127	33.6 J	33.6 J	236
SW 91H-9	9/19/2023	2-3		<0.00041	<0.00107	**1,596.4 J**	**1,596.4 J**	2,000
		3-4		<0.000415	<0.00109	67.7 J	67.7 J	715
SW 91H-10	9/19/2023	0-1		<0.000424	<0.00111	37.4 J,F1	37.4 J,F1	589
		2-3		<0.000402	<0.000515 J,B	24 J	24 J	329
SW 91H-11	9/19/2023	0-1		<0.000407	<0.00107	25.4 J	25.4 J	2,010
		1-2		<0.000402	<0.00106	18.7 J	18.7 J	1,170
SW 91H-12	9/19/2023	2-3		<0.00041	<0.00107	28.1 J	28.1 J	825
		3-4		<0.000404	0.000599 J	28.6 J	28.6 J	578
SW 91H-13	9/19/2023	0-1		<0.000409	<0.00062	**61.9**	**61.9**	2,050
		1-2		<0.000407	0.0005 J	23.5 J	23.5 J	1,070
SW 91H-14	10/30/2023	1-2	Phase 2	<0.000413	<0.00108	18.1 J,F1,B	18.1 J,F1,B	424
		2-3		<0.000418	<0.0011	21.6 J,B	21.6 J,B	223
SW 91H-15	10/30/2023	0-1		<0.000406	<0.00107	**56.5B**	**56.5B**	1,860
		3-4		<0.000428	0.00086 J	**97.4 J B**	**97.4 J B**	3,580
SW 91H-16	10/30/2023	0-1		<0.000433	0.000704 J	52.5 J,B	52.5 J,B	82.3
		3-4		<0.000433	<0.00114	**120.1 J,B**	**140.2 J,B**	84.5
SW 91H-17	10/30/2023	0-1		<0.000401	<0.00105	41 J,B	41 J,B	86.2
		3-4		<0.000414	**0.000718**	18.3 J,B	18.3 J,B	101
SW 91H-18	10/30/2023	0-1		<0.000411	0.000643 J	18.6 J,B	18.6 J,B	107 F1
		1-2		<0.000405	0.001486 J	31.9 J,B	31.9 J,B	137
SW 91H-19	10/30/2023	0-1		<0.000399	<0.00105	<15.7	<15.7	156
		2-3		<0.000404	<0.00106	**66.1B**	**92.3B**	300
SW 91H-20	10/30/2023	0-1		<0.000398	<0.00104	21.9 J,B	21.9 J,B	310
		1-2		<0.000406	<0.00107	25.4 J,B	25.4 J,B	364
Remediation Closure Criteria[4]				**10**	**50**	**1,000**	**2,500**	**10,000**

Notes:
1. Value is the sum of detected benzene, ethylbenzene, toluene, and total xylenes (BTEX). If no BTEX constituent was detected above the laboratory Method Detection Limit (MDL), the maximum MDL is reported.
2. Value is the sum of detected TPH (GRO) and TPH (DRO). If no TPH (GRO) and TPH (DRO) was detected above the laboratory Method Detection Limit (MDL), the maximum MDL is reported.
3. Value is the sum of detected TPH (GRO), TPH (DRO) and TPH (MRO). If no TPH (GRO), TPH (DRO) or TPH (MRO) was detected above the laboratory Method Detection Limit (MDL), the maximum MDL is reported.
4. Remediation Closure Criteria for soils impacted by a release from Table I of 19.15.29 NMAC. Criteria are based on minimum depth to groundwater between 51 and 100 ft-bgs.

ft-bgs - Feet below ground surface.
NSE - Denotes no standard established.
mg/kg - Denotes milligram per kilogram.
Bolded values were detected above the laboratory Reporting Limit (RL).
Denotes analyte exceeded the Remediation Closure Criteria.
Qualifier Definitions
< Denotes analyte not detected above laboratory Method Detection Limit (MDL).
*+ LCS and/or LCSD is outside acceptance limits, high biased.
B Compound was found in the blank and sample.
F1 MS and/or MSD recovery exceeds control limits.
J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 3
SUMMARY OF FIELD SCREENING RESULTS - REMEDIAL ACTIONS
REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPTEMBER 7, 2023 RELEASE
DEVON ENERGY CORPORATION
CEC PROJECT NUMBER: 335-562

Sample ID	Sample Date	Depth	Field Site Assessment Phase	Field Screening Parameter			
				Electrical Conductivity (mS)[1]	Chloride (mg/kg)[2]	Volatile Organic Compounds (ppm)[3]	Total Petroleum Hydrocarbons (ppm)[4]
SW91H-Bottom 1	1/31/2024	1	Confirmation	458	--	22.6	1,960
		2	Confirmation	371	--	0.1	105
SW91H-Bottom 2	1/31/2024	2	Confirmation	425	--	1.2	34
SW91H-Bottom 3	1/31/2024	2	Confirmation	1,570	--	0.8	165
SW91H-Bottom 4	1/31/2024	2	Confirmation	1,470	--	0.3	45
SW91H-Bottom 5	1/31/2024	2	Confirmation	1,500	--	0.8	128
SW91H-Bottom 6	1/31/2024	2	Confirmation	1,470	--	0.6	0
SW91H-Bottom 7	1/31/2024	3	Confirmation	1,490	--	1.2	0
SW91H-Bottom 8	1/31/2024	3	Confirmation	1,460	--	0.2	86
SW91H-Bottom 8-2	2/21/2024	4	Confirmation	--	--	0.8	355
	2/21/2024	5	Confirmation	--	--	4.2	222
	2/21/2024	6	Confirmation	--	--	0.7	75
SW91H-Bottom 9	1/31/2024	3	Confirmation	1,270	--	0.1	0
SW91H-Bottom 10	1/31/2024	3	Confirmation	1,100	--	0.1	5
SW91H-Bottom 11	1/31/2024	3	Confirmation	1,230	--	0.5	8
SW91H-Bottom 12	1/31/2024	3	Confirmation	562	--	0.1	5
SW91H-Bottom 13	1/31/2024	3	Confirmation	560	--	0.1	2
SW91H-Bottom 14	1/31/2024	3	Confirmation	671	--	0.2	23
SW91H-Bottom 15	1/31/2024	3	Confirmation	870	--	0.2	16
SW91H-Bottom 16	1/31/2024	1	Confirmation	707	--	0.3	12
SW91H-Bottom 17	1/31/2024	1	Confirmation	532	--	0.1	18
SW91H-Sidewall 1	2/1/2024	0-2	Confirmation	658	--	0.0	277
SW91H-Sidewall 2	2/1/2024	0-3	Confirmation	3,080	--	0.0	82
SW91H-Sidewall 3	2/1/2024	0-2	Confirmation	2,650	--	8.3	1,925
	2/1/2024	0-3	Confirmation	659	--	0.1	95
SW91H-Sidewall 4	2/1/2024	0-3	Confirmation	1,050	--	4.3	634

Notes:
1. Soil electrical conductivity collected using a Field Scout Soil Conductivity Probe with automatic temperature compensation.
2. Chloride readings collected from Quantab ® titrator strips by creating an aqueous solution of 50 grams of soil to 100 mL of distilled water. For readings collected from 1:2 aqueous solution, actual titrator readings were doubled to calculate the actual chloride concentration.
3. Volatile Organic Compounds (VOCs) were measured in the headspace using a photoionization detector.
4. Total Petroleum Hydrocarbons (TPH) were measured using a Dexsil PetroFLAG meter with a response setting of 10.
-- Denotes parameter not analyzed.

TABLE 4
SUMMARY OF LABORATORY ANALYTICAL RESULTS - SOIL CONFIRMATION SAMPLING
REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPTEMBER 7, 2023 RELEASE
DEVON ENERGY CORPORATION
CEC PROJECT NUMBER: 335-562

Sample ID	Sample Date	Depth (feet below ground surface)	Volatile Organic Compounds (mg/kg)		Total Petroleum Hydrocarbons (mg/kg)		Anions (mg/kg)
			Benzene	Total BTEX [1]	TPH (GRO + DRO)[2]	Total (GRO+ DRO+MRO)[3]	Chloride
SW 91H-Sidewall 1	**1/31/2024**	**0-2**	<0.000538	<0.00141	**253 B**	**253 B**	**959**
SW 91H-Sidewall 2	**1/31/2024**	**0-3**	<0.000469	<0.00123	76.1 J B	76.1 J B	**1,050**
SW 91H-Sidewall 3	**2/1/2024**	**0-3**	<0.000469	<0.00123	153.3 J B	153.3 J B	**360**
SW 91H-Sidewall 4	**1/31/2024**	**0-3**	<0.000607	<0.00159	**290 B**	**290 B**	**1,840**
SW 91H- Bottom 1	**2/1/2024**	**2**	<0.000498	<0.00131	**470 B**	**470 B**	**550**
SW 91H- Bottom 2	**1/31/2024**	**2**	<0.000583	<0.00153	82.5 J B	82.5 J B	**127**
SW 91H- Bottom 3	**1/31/2024**	**2**	<0.000518	<0.00136	84.3 J B	84.3 J B	**566**
SW 91H- Bottom 4	**1/31/2024**	**2**	<0.000468	<0.00123	94.9 J B	94.9 J B	**882**
SW 91H- Bottom 5	**1/31/2024**	**2**	<0.00055	<0.00144	92.3 J B	92.3 J B	**669**
SW 91H- Bottom 6	**1/31/2024**	**2**	<0.000539	<0.00141	78.5 J B	78.5 J B	**1,170**
SW 91H- Bottom 7	**1/31/2024**	**3**	<0.000573	0.000729 J	73.1 J B	73.1 J B	**511**
SW 91H- Bottom 8	**1/31/2024**	**3**	<0.000574	<0.00151	**4,197 B**	**4197 B**	**205**
SW 91H- Bottom 8-2	**2/21/2024**	**6**	<0.000396	<0.00104	47.8 J	47.8 J	**90**
SW 91H- Bottom 9	**1/31/2024**	**3**	<0.000513	<0.00134	103.8 J B	103.8 J B	**823**
SW 91H- Bottom 10	**1/31/2024**	**3**	<0.000522	<0.00137	69.8 J B	69.8 J B	**1,020**
SW 91H- Bottom 11	**1/31/2024**	**3**	<0.000531	<0.00139	89.2 J B	89.2 J B	**1,230**
SW 91H- Bottom 12	**1/31/2024**	**3**	<0.000526	<0.00138	97.5 J B	97.5 J B	**695**
SW 91H- Bottom 13	**1/31/2024**	**3**	<0.000453	<0.00119	**506 B**	**506 B**	**2,570**
SW 91H- Bottom 14	**1/31/2024**	**3**	<0.000589	<0.00155	273 J B	273 J B	**2,760**
SW 91H- Bottom 15	**1/31/2024**	**3**	<0.000438	<0.00115	222.6 J B	222.6 J B	**4,190**
SW 91H- Bottom 16	**1/31/2024**	**1**	<0.000484	<0.00127	360 J B	360 J B	**1,800**
SW 91H- Bottom 17	**1/31/2024**	**1**	<0.000424 *+	<0.00111	**490 B**	**490 B**	**1,500**
Remediation Closure Criteria[4]			**10**	**50**	**1,000**	**2,500**	**10,000**

Notes:

1. Value is the sum of detected benzene, ethylbenzene, toluene, and total xylenes (BTEX). If no BTEX constituent was detected above the laboratory Method Detection Limit (MDL), the maximum MDL is reported.
2. Value is the sum of detected TPH (GRO) and TPH (DRO). If no TPH (GRO) and TPH (DRO) was detected above the laboratory Method Detection Limit (MDL), the maximum MDL is reported.
3. Value is the sum of detected TPH (GRO), TPH (DRO) and TPH (MRO). If no TPH (GRO), TPH (DRO) or TPH (MRO) was detected above the laboratory Method Detection Limit (MDL), the maximum MDL is reported.
4. Remediation Closure Criteria for soils impacted by a release from Table I of 19.15.29 NMAC. Criteria are based on minimum depth to groundwater between 51 and 100 ft-bgs.

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B Compound was found in the blank and sample.
F1 MS and/or MSD recovery exceeds control limits.
J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

APPENDIX A

INITIAL RELEASE NOTIFICATION AND OCD RESPONSE

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☐ The source of the release has been stopped.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: _____

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: Shelly Wells Date: 9/11/2023

Seawolf 1-12 fed 91 H

9/7/2023

Spill incident # nAPP2325072650

Spill Volume(Bbls) Calculator *Inputs in blue, Outputs in red*	
Contaminated Soil measurement	
Area (square feet)	Depth(inches)
3019.132	1.000
Cubic Feet of Soil Impacted	251.594
Barrels of Soil Impacted	44.85
Soil Type	Clay/Sand
Barrels of Oil Assuming 100% Saturation	6.73
Saturation	Fluid present when squeezed
Estimated Barrels of Oil Released	3.36
Free Standing Fluid Only	
Area (square feet)	Depth(inches)
3019.132	1.000
Standing fluid	44.847
Total fluids spilled	**51.575**

APPENDIX B

SENSITIVE RECEPTOR MAP

P:\330-000\335-562\-GIS\Maps\EN01_Site_Characterization\335562_EN01_Site_Characterization.aprx 7/19/2024 1:02 PM (npamukcoglu)

NORTH

Approximate Point of Release

C-4628 Temporary Well Location

Seawolf 1 12 81H Well Pad

LEGEND

- APPROXIMATE POINT OF RELEASE
- C-4628 TEMPORARY WELL LOCATION
- NHD STREAM
- NWI WETLAND
- SEAWOLF 1 12 91H WELL PAD

SCALE IN FEET

0 3,500 7,000

REFERENCES

ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY, ACCESSED 7/19/2024.

NHD FLOWLINES NEW MEXICO, U.S. GEOLOGICAL SERVICE, NATIONAL HYDROGRAPHY DATASET (NHD) FLOWLINES FOR NEW MEXICO, 2022.

U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI) DATABASE FOR NEW MEXICO, 2021.

Civil & Environmental Consultants, Inc.
700 Cherrington Parkway - Moon Township, PA 15108
412-429-2324 ·800-365-2324
www.cecinc.com

DEVON ENERGY CORPORATION
REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPT 7, 2023 RELEASE
LEA COUNTY, NEW MEXICO

SENSITIVE RECEPTOR MAP

DRAWN BY:	JLR/NTP	CHECKED BY:	DRAFT	APPROVED BY:	* Hand signature on file DRAFT	FIGURE NO:	B-1
DATE:	7/19/2024	SCALE:	1"=3,500'	PROJECT NO:	335-562		

APPENDIX C

TEMPORARY WELL C-4626 RECORDS

Atkins ENGINEERING ASSOCIATES INC.
2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

June 8, 2022

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record C-4628 Pod1at Seawolf 1-12 CTB 1

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings, C-4628 Pod1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

OSE DII JUN 16 2022 PM2:19

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1 (TW-1)	N/A	C-4628

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Devon Energy	575-748-1838

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6488 7 Rivers Hwy	Artesia	NM	88210

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	4	46.64	N
	LONGITUDE	103	31	34.28	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW NW NE Sec.1 T26S R33S NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
6/9/2022	6/9/2022	Temporary Well	±55	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DATE STATIC MEASURED: 6/13/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	55	±6.5	Boring-HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

OSE DII JUN 13 2022 PM 2:13

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Sand, Fine-grained, poorly graded, unconsolidated 7.5 YR 5/4, Brown	Y ✓ N	
4	14	10	Sand, Fine-grained, poorly graded, semi-consolidated 7.5 YR 5/4, Brown	Y ✓ N	
14	19	5	Limestone, consolidated 10 YR 7/4. Pale Brown	Y ✓ N	
19	55	36	Sand, Fine-grained, poorly graded, 7.5 YR 6/8, Reddish Yellow	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface.
27
Seawolf 1-12 CTB 1

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 6/16/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

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PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4628

Well owner: Devon Energy Phone No.: 575-748-1838

Mailing address: 6488 7 Rivers Hwy

City: Artesia State: New Mexico Zip code: 88210

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/23

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge, Cameron Pruitt

4) Date well plugging began: 6/13/2022 Date well plugging concluded: 6/13/2022

5) GPS Well Location: Latitude: 32 deg, 4 min, 46.64 sec
Longitude: 103 deg, 31 min, 34.28 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 55 ft below ground level (bgl), by the following manner: water level probe

7) Static water level measured at initiation of plugging: n/a ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 5/26/2022

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

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10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	0-10' Hydrated Bentonite	Approx. 15 gallons	15 gallons	Augers	
	10'-55' Drill Cuttings	Approx. 71 gallons	71 gallons	Boring	

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins

Signature of Well Driller

6/16/2022

Date

Version: September 8, 2009
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OSE DIT JUN 16 2022 PM2:13

WR-20 Well Record and Log_2022-01-28-forsig n

Final Audit Report 2022-06-16

Created:	2022-06-16
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA5h_Mq_hHlnyQhNrnN3hkX09Fm6A5MILxW

"WR-20 Well Record and Log_2022-01-28-forsign" History

Document created by Lucas Middleton (lucas@atkinseng.com)
2022-06-16 - 4:59:31 PM GMT- IP address: 24.49.110.136

Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2022-06-16 - 5:00:16 PM GMT

Email viewed by Jack Atkins (jack@atkinseng.com)
2022-06-16 - 5:04:06 PM GMT- IP address: 64.90.153.232

Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2022-06-16 - 5:05:04 PM GMT - Time Source: server- IP address: 64.90.153.232

Agreement completed.
2022-06-16 - 5:05:04 PM GMT

RECEIVED OCD JUN 16 2022 PM2:20

Adobe Acrobat Sign

APPENDIX D

NCMOD CORRESPONDENCE

From: Wells, Shelly, EMNRD
To: Brittain, Brad; Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject: RE: [EXTERNAL] Devon Energy Seawolf 1 12 Fed 91H (nAPP2325072650) - 48 Hr. Notification
Date: Friday, October 27, 2023 10:44:14 AM
Attachments: image001.png

Good morning Brad,

The OCD has received your notification. Notification requirements are **two full business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

Thank you,

Shelly

Shelly Wells * Environmental Specialist-Advanced
Environmental Bureau
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive|Santa Fe, NM 87505
(505)469-7520|Shelly.Wells@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Brittain, Brad <bbrittain@cecinc.com>
Sent: Thursday, October 26, 2023 4:50 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Devon Energy Seawolf 1 12 Fed 91H (nAPP2325072650) - 48 Hr. Notification

Hello:

CEC will be collecting additional site characterization/delineation samples at the Seawolf 1 12 Fed 91H. We plan to start work on Monday, October 30 around 8am. My apologies, I'd typed these emails up this morning and thought I'd sent them.

Bradley Neal Brittain | *Senior Project Manager*
Civil & Environmental Consultants, Inc.
(Please note new address)
4700 Gaillardia Parkway, Suite 101, Oklahoma City, OK 73142
office 405.246.9411 Ext 7617 **direct** 405.463.7617 **mobile** 405.815.7664
bbrittain@cecinc.com | www.cecinc.com

APPENDIX E

SOPS FOR FIELD SCREENING

06-03-02 FIELD CHLORIDE CONCENTRATION SCREENING IN SOIL SAMPLES

I. SCOPE AND APPLICABILITY: This procedure is used for estimation of chloride concentrations in soil samples.

II. PROJECT-SPECIFIC REQUIREMENTS

A. SAMPLES TO BE SCREENED: Screening locations are described in the SQAPP.

B. MONITORING INSTRUMENTS: Screening will be conducted using Quantab® chloride titrators (or equivalent).

C. OTHER REQUIREMENTS: None

III. METHODOLOGY

A. Place split soil sample in a stainless steel mixing bowl, remove rock fragments and organic material and completely homogenize with a stainless steel spoon.

B. Using a portable battery operated scale, weigh 50 grams of soil and place into a plastic or glass container. Using a graduated cylinder, add distilled water to the container and shake for one minute or longer. In order to simplify the math, it is customary to add distilled water in quantities of either 50 mL (equivalent to 1 to 1 weight ratio of water to soil), 100 mL (equivalent to 2 to 1 weight ratio of water to soil), or 150 mL (equivalent to 3 to 1 weight ratio of water to soil). In highly cohesive soil, shaking may not completely disaggregate the soil. In this case, a gloved hand can be used to break up the soil to release the chloride from the soil provided that none of the soil and distilled water mixture splashes out of the container or is removed by cohesion to the glove. Once the soil is disaggregated, allow the sample mixture to settle so that heavy particles drop out.

C. Insert the lower end of a low-range chloride Quantab® titrator (or equivalent) in the aqueous solution that contains the disaggregated soil. The reaction is complete when the moisture sensitive yellow band across the top of the titrator turns dark. The length of the white chloride column on the strip represents the titrator unit value. If the white chloride column reaches the top of the strip, the chloride concentration in the solution exceeds the low-range titrator. If this exceedance occurs, use a high-range titrator strip.

D. Convert the unit value read on the titrator to chloride concentration in water in milligrams/Liter (mg/L) using the table provided on the titrator bottle. Multiply the chloride concentration in mg/L obtained from the table by the appropriate factor of 1, 2 or 3 based on the weight ratio of water to soil used in Section B. to calculate the chloride concentration in soil in milligrams per kilogram (mg/kg). Note that the soil chloride concentration calculated using this method is based on wet weight whereas laboratories typically report chloride concentrations in dry weight. The wet weight result is typically satisfactory for field screening. The wet weight soil chloride concentration reported using this method can be converted to a dry weight if the percent moisture content of the original soil sample is known. Simply multiply the calculated wet weight chloride result arrived at using this method by 1 + moisture content of the original soil sample.

E. Using the remaining aqueous solution, collect field parameter measurements including total dissolved solids (TDS) and specific conductance.

IV. PRECAUTIONS AND COMMON PROBLEMS

A. If laboratory analysis is to be performed, the material submitted for laboratory analysis should be similar to the sample selected for field chloride screening.

B. Turbid solutions will clog the capillary pores of the titrator and cause very slow or incomplete reactions.

C. Each Quantab® lot is calibrated independently. The chloride concentration table on the bottle from which the strip was removed must be used as values may differ from those of other bottles.

D. Dropping the titrator strip to the bottom of the container when taking readings should be avoided because the sediment on the bottom of the container often clogs the strip. It is customary to suspend the titrator strip off of the bottom of the container using a clothes pin or similar clipping device.

V. DOCUMENTATION: Record the readings on the **Field Screening Log**.

VI. REFERENCES: None.

06-03-01 ORGANIC VAPORS IN HEADSPACE OVER SOIL

I. SCOPE AND APPLICABILITY: This procedure is used to obtain field measurements of VOCs in the headspace above a soil sample.

II. PROJECT-SPECIFIC REQUIREMENTS

A. SAMPLES TO BE SCREENED: Screening locations are described in the SI-QAPP.

B. MONITORING INSTRUMENTS: Screening will be conducted using a photoionization detector (PID) with a 10.6 eV lamp.

C. OTHER REQUIREMENTS: PID is to be calibrated daily in the field with proper documentation. calibration records will be maintained on the daily field activity log.

III. METHODOLOGY

A. Use the non-viable split when performing field screening.

B. Break up cohesive samples inside the ziplock bag to expose additional surface area.

C. Allow to stand for at least 15 minutes. If temperatures are below 40 F, keep the samples in a warm place. Do not leave the samples in direct sunlight during hot weather.

D. To take the headspace reading, open the seal just enough to insert a probe, slip the probe in, and record the initial reading.

IV. PRECAUTIONS AND COMMON PROBLEMS

A. This screening does not replace any monitoring required by the Site Health and Safety Plan.

B. Do not expose samples to extreme temperatures.

V. DOCUMENTATION: Record the results of field screening along with ambient conditions on the Field Screening Log.

VI. REFERENCES: None.

06-03-02 FIELD CHLORIDE CONCENTRATION SCREENING IN SOIL

I. SCOPE AND APPLICABILITY: This procedure is used for estimation of chloride concentrations on aqueous extracts prepared from soil samples.

II. PROJECT-SPECIFIC REQUIREMENTS

A. SAMPLES TO BE SCREENED: Screening locations are described in the SQAPP.

B. MONITORING INSTRUMENTS: Screening will be conducted using Quantab® chloride titrators (or equivalent).

C. OTHER REQUIREMENTS: None

III. METHODOLOGY FOR WATER

A. Place the water sample into a container.

B. Insert the lower end of a low-range chloride Quantab® titrator (or equivalent) in the aqueous solution. The reaction is complete when the moisture sensitive yellow band across the top of the titrator turns dark. The length of the white chloride column on the strip represents the titrator unit value. If the white chloride column reaches the top of the strip, the chloride concentration in the solution exceeds the low-range titrator. If this exceedance occurs, use a high-range titrator strip.

C. Convert the unit value read on the titrator to chloride concentration in milligrams/Liter (mg/L) using the table provided on the titrator bottle.

IV. METHODOLOGY FOR SOIL

A. Place split soil sample in a stainless steel mixing bowl, remove rock fragments and organic material and completely homogenize with a stainless steel spoon.

B. Using a portable battery operated scale, weigh 50 grams of soil and place into a plastic or glass container. Using a graduated cylinder, add 100 milliliters (mL) of distilled water to the container and shake for one minute or longer. Allow the sample mixture to settle so that heavy particles drop out.

C. Insert the lower end of a low-range chloride Quantab® titrator (or equivalent) in the aqueous solution. The reaction is complete when the moisture sensitive yellow band across the top of the titrator turns dark. The length of the white chloride column on the strip represents the titrator unit value. If the white chloride column reaches the top of the strip, the chloride concentration in the solution exceeds the low-range titrator. If this exceedance occurs, use a high-range titrator strip.

D. Convert the unit value read on the titrator to chloride concentration in milligrams/Liter (mg/L) using the table provided on the titrator bottle. Multiply the chloride concentration in mg/L obtained from the table by two (2) to calculate the chloride concentration in soil in milligrams per kilogram (mg/kg).

E. Using the remaining aqueous solution, collect field parameter measurements including total dissolved solids (TDS) and specific conductance.

V. PRECAUTIONS AND COMMON PROBLEMS

A. If laboratory analysis is to be performed, the material submitted for laboratory analysis should be similar to the sample selected for field chloride screening.

B. Turbid solutions will clog the capillary pores of the titrator and cause very slow or incomplete reactions.

C. Each Quantab® lot is calibrated independently. The chloride concentration table on the bottle from which the strip was removed must be used as values may differ from those of other bottles.

VI. DOCUMENTATION: Record the readings on the **Field Screening Log**.

VI. REFERENCES: None.

Table of Contents

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Introduction to the PetroFLAG® Hydrocarbon Analysis System

NOTE: PLEASE READ THE ENTIRE MANUAL BEFORE ATTEMPTING TO RUN THIS TEST

The PetroFLAG hydrocarbon analysis system is a broad spectrum field analytical tool suitable for any type of hydrocarbon contamination regardless of the source or state of degradation[1]. Unlike other field screening methods, the PetroFLAG system does not target specific compounds such as BTEX (Benzene, Toluene, Methylbenzene and Xylene) or PNAs (Poly-Nuclear Aromatics) that may be part of some hydrocarbon mixture. This makes the PetroFLAG system a very versatile analytical method that can be used on most hydrocarbon spills without prior knowledge of the BTEX or PNA content of the contaminant. The PetroFLAG system uses patented chemistry to respond to the broadest range of hydrocarbons possible. The PetroFLAG system is most sensitive to heavier hydrocarbons such as oils and greases and less sensitive to the lighter more volatile hydrocarbon fuels. The specially designed PetroFLAG analyzer allows the user to select, in the field, the response factor that is appropriate for the suspected contaminant at each site. The response factors for a number of contaminants are listed in Table 1. Using the selected response factor, the analyzer compensates for the relative response of each analyte and displays the correct concentration in ppm. The response curves for some typical hydrocarbon contaminants are plotted in Appendix A.

All chemical methods for hydrocarbon analysis in soil that are currently in use, whether they be field screening or laboratory methods, depend on solvent extraction to remove the hydrocarbons from the soil sample. The extraction efficiency for each method is a function of the solvent used and the extraction procedure. This efficiency is also dependent on many other factors such as the soil type, water content, pH, etc. Many EPA SW-846 methods use chlorinated solvents or Freon as extraction solvents. These solvents were originally chosen for their extraction efficiency of polar organic compounds and may not be appropriate for hydrocarbons. Furthermore, special measures need to be taken with these lab methods when the soil is wet.[2] The extraction efficiencies may be as low as 1%[3] in some cases.

The extraction solvent used in the PetroFLAG system has been carefully developed to give consistent extraction efficiencies over the range of soil types and conditions most commonly encountered in the field. The PetroFLAG solvent system contains no chlorofluorocarbons or chlorinated solvents. The extraction efficiency is unaffected by soil moisture and, in most cases, is up to 15%(w/w).[4]

Because the PetroFLAG system has such a broad response spectrum, there are situations where it will indicate a higher hydrocarbon concentration than other methods. This can be due to the higher extraction efficiency of the PetroFLAG extraction solution or the broader response range of the detection system. SW-846 method 8015B, for example, targets only a very narrow range of

[1] Brake fluid, phosphate ester based hydraulic oil, and other soluble fluids, will not be detected by the PetroFLAG system.

[2] USEPA SW846 Method 3550A Ultrasonic Extraction Rev 1, November 1992

[3] Lee, W.E. III, Houchin, C.A. and Albergo, N., "TRPH Discrimination of Petroleum and Non-petroleum Organic Materials", *American Environmental Lab*, December 1993.

[4] The presence of water will cause a dilution effect resulting in a lower response. This effect can be corrected for, if the water content is known. (For a more complete discussion see "Using the PetroFLAG System: Effects of Soil Water Content on PetroFLAG Result")

hydrocarbons typically in the "Diesel" or "Gasoline" range (DRO or GRO). This method does not detect oils or greases unless the analyst changes the method and specifically looks for the heavier compounds. Requesting 8015B for diesel range hydrocarbons may result in under reporting of the actual total hydrocarbon contamination when oils or greases are present. Method 418.1 is a more general method and detects any Freon extractable compounds that contain a C-H bond. This method has relatively poor extraction efficiencies with many soil types. For a more complete discussion of the comparability of hydrocarbon methods see Appendix B.

Since the PetroFLAG system responds to the full range of hydrocarbons it will also detect some naturally occurring hydrocarbon-like compounds. (Method 418.1 uses a silica column to remove some of these compounds, but will still detect naturally occurring terpenes and creosotes, etc.) Therefore, in situations where high organic content is suspected, background levels outside the spill site should be determined. This will help to identify any naturally occurring sources of hydrocarbons that may cause a positive interference with the test. In cases where there exists a high natural organic background, a "Background Correction" can, in limited circumstances, be used to correct readings for this positive interference. Note: Because of the broad spectrum screening nature of the test, naturally occurring waxes and oils can cause high readings; however, false negatives or under-reported levels are very unlikely.

The PetroFLAG system is a valuable field analytical tool when used as part of a systematic sampling plan. As part of any site work, always have the hydrocarbon contamination characterized at some point during the project by for example, sending confirmation samples for closure to a certified laboratory. Since each laboratory method for petroleum hydrocarbons has a different target analyte and different response characteristics, use only appropriate methods for comparison. Furthermore, since the proficiency of laboratory methods for petroleum hydrocarbons varies from one laboratory to another; it is important to verify that the lab you use is proficient with the method you request. Always ask for QA/QC data and verify that the blanks, duplicates and spikes are within specification for the method. When using a lab that is new to you, send them proficiency samples of known concentrations and varying water content.

Lab results often contain one or more samples that are designated "ND" (none detected) without a qualifier. This type of reporting is misleading because information on the limit of quantification is not included. The designation "ND" never means zero ppm and should be followed by an indication of the detection limits of the method used to obtain the result, e.g., ND<40 ppm. In many cases the detection limits for a method will vary with sample size, dilution factors or extraction procedures and may not be the same for all samples in the sample batch. The detection limits for some of the common lab TPH methods are on the order of 40-50 ppm. Therefore, when comparing laboratory data it is important to know the realized detection limits implied in any "ND" results.

Using the PetroFLAG System

The PetroFLAG analyzer has been specifically designed to be used with the unique patented chemistry of the PetroFLAG system. The meter is shipped fully calibrated, preset with response factor 5. This calibration is sufficient to begin screening measurements; however, in order to achieve optimum performance we recommend that the analyzer be calibrated with each batch of samples, or at least daily. The PetroFLAG analyzeris easy to calibrate and a calibration standard is included with every refill pack.

The PetroFLAG analyzer stores two independent calibration equations in separate memory locations. Each calibration has a unique designation, "1C" or "2C". One way to effectively use this feature is to use one for a “low temp.” calibration and one for a “high temp.” calibration. This practice is very useful when working at field locations where the ambient temperature varies by more than 10°C over the course of the day. One calibration, run at the lower temperature in the morning, could be stored under “1C” and later as the temperature rises, triggering a temperature warning, a new calibration can be run and stored under “2C”. (See below under “Temperature Effects”)-

Table 1: Response Factors and Method Detection Limits for Common Hydrocarbons

Hydrocarbon Type	Method Detection Limit (ppm)	Response Setting
Transformer Oil	15	10
Grease	15	9
Hydraulic Fluid	10	8
Transmission Fluid	19	8
Motor Oil	19	7
#2 Fuel Oil	25	7
#6 Fuel Oil	18	6
Diesel Fuel	13	5
Gear Oil	22	5
Low Aromatic Diesel	27	4
Pennsylvania Crude Oil	20	4
Kerosene	28	4
Jet A	27	4
Weathered Gasoline	200*+	2

*See Appendix A
+Due to the non-linear response curve of Gasoline, quantification below 1000 ppm may underestimate the true contamination

Choosing the Correct Response Factor

The microprocessor in the PetroFLAG analyzer uses the calibration data to convert the optical reading into a preliminary concentration. The selected response factor is then used to calculate the correct concentration for the analyte of interest. Therefore, it is important to choose the response factor that is appropriate for the particular hydrocarbon or class of hydrocarbons present at the site. The response factor can be changed at any time without affecting the stored calibrations. (See “Analyzer Operation Examples: Standard Operation-Changing Response Factor Without Recalibrating”)

If the contaminant is known or suspected, choose the appropriate response factor from Table 1 and set that response factor on the analyzer. (See “Analyzer Operation” below.) If there is a mixture of hydrocarbons, use the most conservative response factor (i.e. the lowest) for the contaminants known to be present. If the contaminants are unknown, choose a conservative response factor based on those hydrocarbons that are likely to be on the site. Examination of Table 1, indicates that the majority of typical contaminants are in response category 5 or above.

Analyzing High Concentration Samples

The PetroFLAG Hydrocarbon Analyzer is pre-programmed to warn the user of an over-range condition. If the over-range reading is outside of the linear range (±10 precision), but still within the quantifiable range (±20% precision), the reading will be displayed blinking. This reading can be used as an indication that the concentration in the sample is not less than the displayed value. Since the response curve for most analytes is non-linear at high concentrations, the concentration in the sample may be higher than the displayed value. If the over-range condition is outside of the quantifiable range of the meter, the display will show a blinking "EEEE". Either error indication can be cleared by simply inserting the next vial and pressing the <READ/ON> key.

Accurate results can be difficult to obtain when 10 gram soil samples with high contaminant concentrations are used since they may cause a over-range condition on the PetroFLAG analyzer. To quantify these high contaminant samples, extract fresh soil samples of 1 gram size and reanalyze. Then multiply the result by 10 to obtain the concentration in the sample. Using this procedure, it is possible to measure oils containing up to 50,000 ppm of light hydrocarbon contamination or 10,000 ppm of a heavier hydrocarbon. For readings at higher concentrations, a “high range kit” is available.

NOTE: The use of either smaller samples or “high range kits” will affect the precision and accuracy of the method as well as raise the MDL (Minimum Detection Limit) in proportion to the dilution factor.

Converting Response Factors for Data Already Collected

Collected data can be easily converted to the correct reading when it has been determined that the wrong response factor has been used. To make this conversion, multiply the measured value by the response factor initially used to make the measurement and divide by the new response factor.

Temperature Effects on Measurements

The PetroFLAG analyzer is equipped with an onboard temperature sensor to measure the ambient temperature while measurements are being made. The software uses the temperature readings to correct the optical readings for drift caused by the temperature fluctuations. The corrections have been determined for their effects on the turbidity development and the temperature drift of the electronics.

The PetroFLAG analyzer can be used at temperatures from 4ºC to 45ºC. The temperature corrections are valid for temperatures within 10ºC of the calibration temperature. If a calibration is run with each batch of samples, the temperature correction is not significant and measurements can be made at any temperature within the usable range of the instrument. However, if no calibration is run and the ambient temperature deviates from the calibration temperature by more than 10ºC, an error condition will result. The analyzer will display "Err4" which can only be cleared by pressing the <NEXT> key. Pressing of the <NEXT> key will clear the error and display the current reading. This reading can be recorded but it should be noted that the ambient temperature was outside of the acceptable 10ºC window. Any other samples remaining in the series can be read, however, the same error condition will most likely occur. The meter must be recalibrated to eliminate this error condition.

The ambient temperature should be checked before starting to avoid a temperature error when a calibration is not run with the samples,. This can be

done by taking a reading without inserting a vial into the meter. If a reading is displayed, the temperature is within range and additional readings can proceed. If an error is displayed, the meter must be recalibrated before proceeding.

As previously mentioned, the storage of two calibrations, each at a different temperature, will reduce the number of recalibrations necessary as the temperature changes. If the two calibrations are stored under "1C" and "2C" and are run at temperatures levels 20°C apart, the effective temperature range for measurements now becomes 40°C.

Effects of Soil Water Content on PetroFLAG Result

The presence of water in a soil sample will have a definite effect on the reporting value in the final PetroFLAG result. As with all field measurements, the PetroFLAG system result is calculated based on the sample weight "as received". If there is water present in the sample, this will produce a "wet weight" result causing an apparent under reporting by the PetroFLAG technique when compared to a laboratory reporting on a "dry weight" basis.

To correct for the difference between "wet weight" vs. "dry weight" results, simply divide the PetroFLAG value by the "fraction solids" (FS), where fraction solids is:

FS = Dry Weight/Wet Weight

or:

FS = (100 - %water)/100

Furthermore, when reporting the wet weight vs. dry weight results, the presence of water in a soil sample will cause a "dilution effect". Since the PetroFLAG solvent system is miscible with water, the water in the soil will be extracted into the solvent phase. The aliquot filtered into the developer vial will, therefore, be diluted by the presence of the water. To a first approximation, the correction for this "dilution effect" is made by multiplying the PetroFLAG result by one plus the "fraction water" in the sample, R'=R(1+FW), where fraction water (FW) is:

FW=(Wet Weight - Dry Weight)/Wet Weight

or:

FW = %water/100

The equation below can be used to achieve an overall correction that includes both the conversion of the PetroFLAG result to a "dry weight" value and the correction for the dilution effect:

R'=R((2/FS) - 1)

where:

R' = "Dry Weight" Corrected Result
R = Result displayed by PetroFLAG unit
FS = Fraction Solids

where:

FS = (100 - %water)/100

The above correction is applicable for typical soil types containing up to approximately 15% water by weight. For heavy clays or samples with higher water content, the effect of water content will vary with the analyte and should be determined specifically for each site.

In many cases, the effects of water content can be overcome by using a smaller sample size. This approach is the simplest and can be used effectively when a reduction in precision resulting from a smaller sample size still satisfies the overall data quality objective.

In some soils with high water content, the PetroFLAG response will be reduced both by the poor extraction efficiency of the analyte and a simple dilution. In these soils, the effect of water content on the extraction efficiency can sometimes be reduced by the addition of anhydrous sodium sulfate.

To treat such soils with sodium sulfate, weigh out the appropriate amount of soil sample (10 grams for a standard analysis) followed by the addition of up to 10 grams of anhydrous sodium sulfate. Mix the system thoroughly by stirring and/or shaking the sample until a free-flowing mixture is formed. Add the extraction solvent from a break-top ampule and then, follow the standard analysis procedure.

Treatment with sodium sulfate can improve the extraction efficiency, but will not correct for either the dilution effect or the wet weight/dry weight reporting error. The actual water content in the sample should be determined at some point so that the above corrections for wet weight and the dilution effect can be applied to the final result.

Sample Preparation

Each 10-pack of soil reagents contains reagents and supplies for 10 tests. In addition, one blank and one calibration standard are included. Samples can be run individually or by batch. For optimum performance and throughput, samples should be run in groups of 10 samples, once the meter has been calibrated with a blank and a standard. The meter does not need to be recalibrated, provided that the operating conditions and reaction times are maintained. Total time to analyze 10-15 samples is approximately 20-25 minutes.

Calibration

To insure accurate quantification and repeatable results, it is recommended that the PetroFLAG meter be recalibrated with each batch of 10 samples or, at least, daily. The meter is easily calibrated using an extraction solvent ampule as a blank and the calibration standard (supplied with each ten-pack of reagents).

After exiting the calibration mode, all additional readings made by the PetroFLAG analyzer will automatically incorporate the selected response factor. Therefore, rereading of the calibration standard will result in an incorrect reading unless the response factor being used is 10 and within the correct development time of the sample.

NOTE: Once the *blank* and *calibration standard* have been read, discard them. They will fade with time and cannot be reused; DO NOT USE THEM TO RECALIBRATE THE METER OR TO CHECK THE EXISTING CALIBRATION.

Preparing Blanks and Standards

The following description summarizes the procedure for preparing the blank and calibration standard. Read the step-by-step instructions below completely before beginning the calibration process.

To prepare a *blank* and a *calibration standard*, first label two soil tubes, one as the "blank" and the other as the "standard". Add to the *blank* tube the contents of a break-top ampule labeled “Extraction Solvent”. Add the contents of the break-top ampule labeled "Calibration Standard" to the *standard* soil tube. Process the blank and standard exactly as soil samples as described below. (See “The PetroFLAG Test Procedure”)

QA/QC

Performing periodic calibrations of the PetroFLAG meter is one of the most important quality control checks that can be made. In addition to calibrating the PetroFLAG meter, performance of periodic calibration also serves as a quality control check of the entire analysis system. Each time a calibration is performed the individual operator needs to prepare a fresh set of standards following the entire analysis procedure. To complete a valid calibration, the resulting test standards must meet the QC acceptance criteria stored in the meter. Each time a calibration is carried out, the meter verifies if the operator is performing the test correctly, e.g., following the correct order of steps in sample preparation, holding to the timing requirements, operating the meter correctly, etc. while the meter checks its basic operation. As each calibration is made, the intensity of the test solution is compared to the stored values for acceptance. If the optics have degraded or the electronics are out of specification the calibration will be flagged as an error.

The most important factor affecting the accuracy of PetroFLAG measurements is operator error followed by the ambient temperature determination. If the temperature varies by more than 10ºC from the calibration temperature, the accuracy of the resulting measurement will be affected. Therefore, during each measurement made by the meter, the current ambient temperature is compared to the temperature determined at calibration. If the difference is more than 10ºC, a warning is flashed alerting the operator of the temperature drift. This QC check is transparent to the user unless an error condition exists.

The internal check of the optical system is also transparent to the user. The PetroFLAG meter is designed with two independent optical channels. If, during a measurement, both channels do not agree, an error condition will be generated.

Along with these QC checks, which are performed automatically by the PetroFLAG meter, additional QA/QC procedures should be developed to provide assurances that the data quality objectives for each project are met. The most important part of any SOP (Standard Operating Procedure) should include provisions for ensuring that confirmatory samples are sent to a qualified lab for verification as to the type of hydrocarbon contamination present. This will also serve as a check of the response factor being used. When PetroFLAG meter results are determined to be either high or low when correlated to laboratory data, then a new response factor should be calculated and used. If the PetroFLAG results are not well correlated with the lab, then the field techniques should be examined to determine possible sources of error. A lack of correlation may be the result of inhomogeneous samples or may be due to splitting technique, etc.

A program of field QA/QC should be developed that is compatible with the competing requirements of each user. It should include, a minimum of periodic soil blanks, equipment blanks, soil spikes, and dupes. Other procedures should be implemented depending on the specific requirements of each site.

The PetroFLAG Test Procedure

1) Label the soil extraction tubes (plastic tubes with colored caps) and developer vials (small glass vials with black caps) with the appropriate sample ID. Use the self-adhesive labels to label the screw cap of the developer vial. Do not write in the center 1/3 of the developer vial as this may obscure the optical path when the readings are made

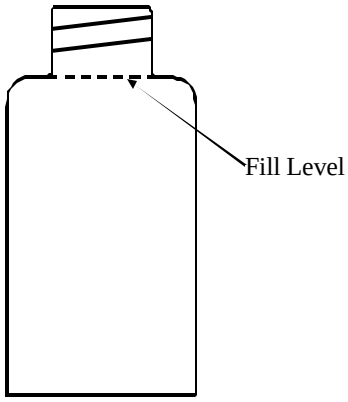
2) Weigh 10 grams (± 0.1 gram) samples of all unknown soils into each of the labeled color-capped polypropylene tubes.

3) Set timer for 5 minutes. Add one break-top ampule of extraction solvent (blue polypropylene top) to the first tube. Start 5 minute timer and shake for 15 seconds. A separate ampule of extraction solvent is added to each of the remaining sample tubes when additional samples are being analyzed. Shake each tube for 15 seconds ensuring that the soil samples are fully wet. Shake each tube intermittently for a total of 4 minutes, then allow each tube to stand for the remaining 1 minute.

4) Verify that the filter disk is firmly attached to the syringe barrel. Remove the cap from the first labeled developer vial. Carefully decant the liquid from the polypropylene soil tube into the syringe barrel minimizing the transfer of soil particles, as this may plug the filter. Insert the plunger into the syringe barrel. Discard the first few drops from the filter into a waste container by pressing the plunger. Next, add the soil extract drop-wise to the developer solution until the meniscus just enters the neck of the vial (see figure). Shake the vial for 10 seconds, start the 10 minute timer and proceed to the next sample. Read the samples as close to the 10 minute time period as possible. Record this reading. Do NOT attempt to reread the sample as sample variation will occur due to fading of the solution over time. Do not let the developer vials stand longer than 20 minutes before reading, as this may result in lower than actual values.

5) If meter is off, turn on the meter by pressing <READ/ON> key and calibrate (optional, see Analyzer Operation).

6) To read, wipe the vial, place into the meter and press the <READ/ON> key. Be sure that the outside of the vial is clean before reading. Record result on work sheet. Read vials in the same order as they were prepared.



6 mL Developer Vial

Analyzer Operation

The PetroFLAG analyzer is controlled by a low-power consumption micro-computer with a pre-loaded operating program which is stored in EEPROM memory. The program cannot be lost regardless of battery condition. The meter stores two calibration curves in separate memory locations. These calibration curves can be independently updated and the response factors can be changed without losing the calibrations.

The PetroFLAG meter is configured to allow easy access to the program modes. The currently active mode is indicated on the LCD display while a reading is in progress. The response factor and the active calibration can be changed from the MAIN MENU using the four keys on the keypad. The four keys are:

SCROLL	**Scrolls through menu choices.**
NEXT	**Exits the read mode or skips a menu option without changing or executing. (Also used to clear error conditions.)**
READ ON	**Turns the meter on and starts a reading.**
SELECT OFF	**Selects a menu choice. Manually turns meter off (only in the *read* mode).**

When the PetroFLAG analyzer is turned on, the unit will return to the last mode it was in prior to being shut down. Under normal operating conditions, the analyzer will power up in the *read* mode. When the analyzer powers up in the *read* mode, the screen will display the last measured value for two seconds, and then, display the currently selected calibration curve ("1C" or "2C") and response factor (1-15). The meter is now ready to resume measurement. Simply insert a new sample vial into the meter and push the <READ/ON> key. The display will initially indicate the calibration curve (either "1C" or "2C") and the response factor (1-15) that is currently selected. Next, the term "CALC" will flash on the screen and after 5 seconds, the measured concentration in ppm will be displayed.

NOTE: If the battery is disconnected and then reconnected, the meter will automatically return to the MAIN MENU. If the calibration curve and response factor displayed are the desired parameters, the MAIN MENU can be exited while retaining the calibration data by pushing the <NEXT> key. To return to the *read* mode, continue pressing the <NEXT> key until the display shows the calibration curve and the response factor continuously without blinking.

If you wish to exit the *read* mode, push the <NEXT> key and the operation is returned to the MAIN MENU. The <NEXT> key is also used to skip a step where a menu selection is required. To change a flashing menu option, push the <SCROLL> key while the option is flashing. To store the currently flashing menu choice, push the <SELECT> key. This stores the current choice and moves the flashing cursor to the next program mode.

Selecting a Calibration Curve

Either of the two calibration curves, identified as "1C" and "2C", can be selected from the MAIN MENU. From either calibration curve any response factor can be selected. To change the response factor or to re-calibrate the unit, use the <NEXT> key to enter the MAIN MENU screen. Immediately upon entering this menu three decimal points and the response factor are displayed. Next, the first two characters on the screen indicates the calibration curve that is currently selected ("1C" or "2C") is displayed. They will blink, indicating that a new curve may be selected. Use the <SCROLL> key to scroll to the next calibration curve. Push the <SELECT/OFF> key to select the curve.

The response factor will then blink. Use the <"SCROLL> key to scroll to the desired response factor for the target analyte and press the <SELECT/OFF> key.

Reading the Blank and Standard

After the response factor has been selected, the screen will read “CALC” for five seconds and then display the calibration temperature. This temperature will remain on the screen until either the <NEXT> key or the <READ/ON> key is pressed. The screen will then prompt you for the "blank" vial by displaying "-bL-". Insert the blank vial in the meter and press the <READ/ON> key (See "Preparing Blanks and Standards" under "Using the PetroFLAG Hydrocarbon Analysis System). After 5 seconds the screen display should read "0" for 2 seconds. The screen will then prompt for the calibration standard, "-CSd". Insert the calibration standard in the meter, press the <READ/ON> key and after 5 seconds, the calibration is complete. The meter will then re-read the calibration standard to verify a valid calibration and display "1000". If the concentration of the calibration standard is not correct using the newly calculated equation, an error message will flash until the <NEXT> key is pushed. If an error condition exists, the previously stored calibration constants will be retained until a valid calibration is completed (See Appendix C, Table 1: Error Conditions).

Taking a Reading

After calibration, the meter will then display the calibration curve in use (“1C” or “2C”) and the current response factor selected. The meter is ready to read the first sample by inserting the sample vial into the meter and pressing the <READ/ON> key. After reading the sample, the meter will display the concentration in parts per million (ppm) until either the <READ/ON> key or the <NEXT> key is pushed. If no key is pushed for a period of five minutes, the meter will turn off automatically. If the meter turns off automatically, the meter can be reactivated by pressing the <READ/ON> key and the unit will return to the operation mode last used. The meter can be turned off manually by using the <SELECT/OFF> key, while in the *read* mode only.

The optical system on the PetroFLAG analyzer is covered with a screw cap to keep out stray light. To remove this screw cap from the vial holder, simply unscrew it 1/4 of a turn counter-clockwise. To make a measurement, insert the developer vial into the unit, place the screw cap over the vial, and while pressing down on the cap (depressing the spring in the bottom of the vial holder), rotate the cap clockwise. Turn the cap until it is snug, but do not over-tighten.

Power Requirement

The PetroFLAG analyzer is powered by one 9V alkaline battery (included). This battery should last for several thousand readings. If a low battery condition exists "LP" will appear on the display.

Analyzer Operation Examples

Outlined below are step-by-step examples of how to use the PetroFLAG analyzer. Under normal operating conditions the meter will power up in the *read* mode. The examples given here categorized as "standard operation" assume that the meter was last operated in the *read* mode. If the meter was left in another mode for longer than five minutes or the batteries were removed, see below for special cases.

Standard Operation:

(Whenever the last operation mode was *read*, the calibration data is current and the last-used response factor is valid.)

1) Turn the meter on by pressing:

READ ON	**The last reading will be displayed for 2 seconds. The display will show the calibration curve and response factor currently selected. The meter is now in the *read* mode.**

2) Remove the screw cap, insert developer vial to be read and retighten cap.

3) To begin reading press:

READ ON	**The display will show the calibration curve and response factor currently selected (blinking), the display will read "CALC" for 3 seconds, and the final result will be displayed.**

4) The result will be displayed until the next reading is taken. To make the next reading: remove the vial and repeat steps 2 and 3 above.

Standard Operation/Changing Response Factor Without Recalibrating:

(Whenever the last operation mode was *read* and a different response factor is desired.)

1) Turn the meter on by pressing:

READ ON	**The last reading will be displayed for 2 seconds. The display will show the calibration curve and response factor currently selected. The meter is now in the *read* mode.**

2) Return the operation to the MAIN MENU by pressing:

NEXT	**Three decimal points will be displayed along with the current response factor. The calibration curve designation will begin blinking.**

3) The response factor entry mode is activated by pressing:

NEXT	**The response factor will begin to blink indicating that it may be changed.**

4) Scroll to the desired response factor by pressing:

SCROLL	**The next response factor will be displayed. Continue pressing the < SCROLL > key until the desired response factor is displayed. (Response factors scroll in descending order, i.e., 15-1)**

5) When the desired response factor is reached, select it by pressing:

SELECT OFF

The new response factor has been selected. The meter will calculate and display the current temperature.

6) Move to the next screen by pressing:

NEXT

The meter will prompt for the blank to be entered and the calibration procedure to begin by displaying "-bL-".

7) Skip this calibration procedure and move directly to the *read* mode, saving the new response factor but not recalibrating, by pressing (This exits the calibration mode without affecting the current calibration data):

NEXT

The meter will display the current calibration curve and the selected response factor and is ready to read a sample using the new response factor.

8) Proceed with the reading of a sample by following the above procedure for "Standard Operation" beginning at step 2.

Standard Operation With Recalibration:

(Where the last operational mode was the *read* mode and the meter is to be recalibrated.)

Prior to performing this calibration procedure, prepare the *blank* and *standard* as described in the manual under "Using the PetroFLAG Hydrocarbon Analysis System - Preparing Blanks and Standards". They may also be prepared along with the unknown samples in order to save time.

1) Turn the meter on by pressing:

READ ON

The last reading will be displayed for 2 seconds. The display will show the calibration curve and response factor currently selected. The meter is now in the *read* mode.

2) Return the operation to the MAIN MENU by pressing:

NEXT

Three decimal points will be displayed along with the current response factor. The calibration curve designation will begin blinking, indicating that it may be changed.

(If the displayed calibration curve is the one to be redetermined, skip directly to the response factor input by pressing the < NEXT> key.)

OTHERWISE

3) Scroll to the calibration curve that is to be redetermined by pressing:

SCROLL

The display will show the next calibration curve designation.

4) When the desired calibration curve is determined, select it by pressing:

SELECT OFF

The calibration curve is selected and the meter will prompt for the input of the response factor.

5) If the response factor displayed is not the desired one, use the <SCROLL> key as described the previous section above under "Standard Operation - Changing Response Factor Without Recalibrating". If the response factor is correct, skip this step by pressing:

NEXT

The meter will calculate and display the current temperature.

6) Move to the next screen by pressing:

NEXT

The meter will prompt for the blank to be entered and the calibration procedure to begin by displaying "-bL-".

7) Remove the screw cap and insert the prepared blank vial, replace the cap and begin calibration by pressing:

READ ON

The display will blink showing the selected calibration curve and response factor. The meter will display "0" for three seconds and prompt for the calibration standard by displaying "-CSd".

8) Remove the screw cap and blank vial and insert the calibration standard vial. Read the calibration standard by pressing:

READ ON

The display will blink showing the selected calibration curve and response factor. The display will read "1000" for three seconds and display the currently selected calibration curve and response factor continuously. The meter is now in the read mode.

9) Proceed with reading the unknown samples by following the procedure for "Standard Operation" above, beginning with step 2.

Special Operating Conditions:

Replacement of Battery:

***NOTE*: Use ONLY 9V Alkaline or 9V Lithium battery. Use of carbon/zinc battery will cause the PetroFLAG meter to malfunction.**

Open the battery compartment by sliding the compartment door back (indicated by the arrow on the back of the unit). Lift out the old battery from the compartment and carefully unsnap the battery from the wire harness/connector. Replace with a fresh alkaline battery by snapping the wire harness/connector onto the new battery making sure the polarity is correct (The snaps will only go on one way). Reinsert the battery and connector into the compartment being careful not to twist/ damage the connector wires. Replace compartment door by sliding the door forward until the latch clicks.

Operation of the Meter After the Battery has been Disconnected:

When the battery has been disconnected the micro-processor will automatically return to the MAIN MENU once the battery has been reconnected. The meter, however, will not be in a *read* mode but is calibrated for use, unless other factors warrant recalibration. The operations to be performed will determine the exact steps to be followed. The steps to follow are described above in the various sections of "Analyzer Operation Examples."

Meter Left to Turn Off in Other Mode:

When the meter is left in any "screen" for five minutes the meter will shut off automatically. The meter will return to last active screen when the <READ/ON> key is pressed.

Helpful Suggestions and Safety Precautions

When PetroFLAG test results indicate no hydrocarbons are present, the sample can be sent in for certified laboratory confirmatory analysis. All environmental soil sampling used for final closure should be performed using methods that are approved by the local regulating agency.

Personal protection should be worn during soil sampling and testing. A minimum of latex gloves and goggles should be worn.

Decontamination stations should be set up using appropriate cleaners and rinsing solutions. Soil sampling equipment not supplied with the reagent pack should be decontaminated between sampling locations to prevent the possibility of cross contamination.

All reagents and sampling scoops supplied with the kit are single-use disposable items. Therefore, *do not* reuse spoons, tubes, filters, or vials. The electronic balance is *NOT* disposable.

Check ambient temperature BEFORE extracting soils, when a calibration procedure is not planned for the current batch of test samples.

Make sure the filter disks are screwed on tightly before adding the soil extract to a filter syringe.

Do not leave the PetroFLAG analyzer in direct sunlight when not in use. Store the instrument in the protective carrying case with the lid closed.

Make sure that the contamination at the site is characterized at some time during the investigation.

Avoid sampling organic matter. Scrape away organic material (leaves, sticks, etc.) before sampling.

Avoid sampling directly under pine, cedar, and fir trees unless the sample is collected below the organic layer. Do not collect samples from areas where tree roots have been encountered.

Avoid sampling directly beneath creosote bushes, sage brush and other oil bearing plants.

Commonly Asked Questions

What are the response factors?

A response factor (RF) is the relationship between the analyte of interest and the calibration standard. The turbidity formed in the development solution by the sample is compared to the calibration standard followed by a calculation which determines the correct concentration for your contaminant. For Example: Equal concentrations of diesel and mineral oil do not produce the same level of turbidity. A RF value of 10 for mineral oil divided by the RF value of 5 for diesel produces a result of 2. This means that mineral oil forms twice the turbidity of diesel at the same concentration. Stated another way, 250ppm mineral oil forms the same turbidity as 500 ppm diesel. For more information please see Appendix A in the Manual.

Why doesn't my calibration standard read 1000ppm when I re-read it after calibrating?

This is directly related to the first question. The calibration standard is 1000 ppm mineral oil, therefore, if you read it on any RF other than 10 you will get a different number.

How long are my samples good for after they develop for 10 minutes?

The PetroFLAG development process is a temporary reaction, therefore, readings should be taken right at the end of the 10 minute development period. The turbidity will continue to develop for period of time, after which the solution will begin to fade. Do NOT attempt to reread the sample as results may vary due to these changes in the solution. No measurements should be taken after 20 minutes. This means you must record your data as it is generated because you cannot save your sample vials for future analysis.

After I prepare a set of calibration solutions how long are they good for?

Since the PetroFLAG development chemistry fades over time they are only good for a single use and the 10 minute time window should be adhered to.

The screen is displaying an error code, what does it mean?

See the reference table in Appendix D for a list of "Error Conditions".

What can I do if my reading is over-range?

Process a new sample using a 1 gram soil sample and multiply the end result by 10. This sample dilution will allow you to read up to 10,000-15,000 ppm on most samples (1-1.5%).

The meter is "stuck" in the calibration program mode with the "1C" or "2C" characters flashing?

The meter will not allow normal calibration procedure or sample measurement when the <READ/ON> key is pressed, but returns to a flashing "1C" or "2C" screen. This is usually caused by use of a non-alkaline battery. Replacement with a fresh 9V Alkaline battery should eliminate the problem and the meter should return to normal operation.

Caution

When opening the break-top ampules *DO NOT* remove the plastic sleeve from the top. It is there for your protection. Removing it may result in personal injury.

The Extraction Solvent and Calibration Standards contain methanol and are Flammable and Poisonous.

Wear rubber gloves and safety glasses while performing tests.

Dispose of all used reagents and soil properly.

Read the Material Safety Data Sheet before performing test.

Manufacturer's Warranty

The reagents and supplies used in the PetroFLAG test are warranted to be free of defects in material and workmanship until the expiration date stamped on the box. Manufacturer's sole and exclusive liability under this warranty shall be limited to replacement of any materials that are proved to be defective. Manufacturer shall not be liable for any incidental or consequential damages.

Reliable test results are highly dependent upon the care with which the directions are followed and, consequently, cannot be guaranteed.

Appendix A: PetroFLAG Response Curves

Most fuels, lubes and greases are complex mixtures of various hydrocarbons having a broad range of physical and chemical properties. The PetroFLAG system will detect a majority of the ecologically important hydrocarbon mixtures. The PetroFLAG responses to some typical hydrocarbon contaminants are plotted in figure 1[5].

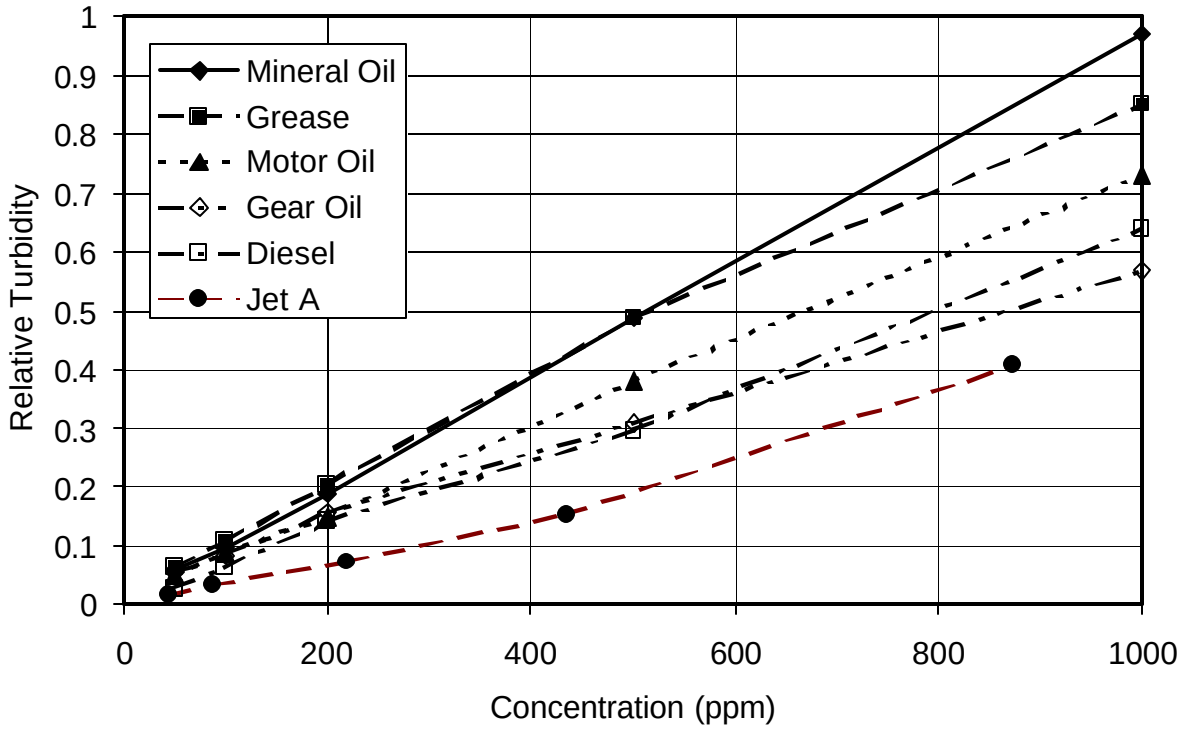


Figure 1: Relative Intensity Data for Common Analytes

[5]The lower limit of quantification, using a 10 gram sample size, is 1000 ppm for gasoline (linear range from 1000 ppm to 5,000 ppm). Brake fluid, phosphate ester based hydraulic oil, or other water soluble compounds will not be detected by the PetroFLAG system.

Appendix B: Comparison with Laboratory Methods

In field trials, the PetroFLAG system was used at sites contaminated with diesel fuel or with oil and grease. In both cases the PetroFLAG results correlated very well with EPA laboratory methods. Both EPA methods 8015B and 418.1 were used to analyze the samples from the diesel site. The resulting correlations were 89% and 92% respectively[6]. The samples from the oil and grease site were analyzed using EPA method 418.1 for soil. The lab results confirmed the PetroFLAG results with no false negatives and only 2 false positives (10%). When comparing the field results and the lab results for the field split samples, the correlation between the PetroFLAG data and EPA method 418.1 for the laboratory split samples was 90%[7].

When comparing the PetroFLAG field results with laboratory results using EPA methods it is important to keep in mind that EPA laboratory methods for TPH are known to have variable extraction efficiency. The extraction efficiency achieved using EPA laboratory methods varies with soil type and moisture content. In addition, the degree to which moisture affects the extraction is dependent on how the individual laboratory is implementing the method. It is, therefore, important to verify that the lab used for comparison is performing the method properly and that the recovery is known.

Another important factor affecting laboratory confirmation analysis is the inhomogeneous nature of soil samples. Whenever possible, homogenize samples using standard methods[8] before taking "splits" to send to the lab for confirmation.

[6]Wright, Keith A., "Evaluation of a New Field Test Kit for Determining Total Petroleum Hydrocarbon Concentrations in Soil at a Site Contaminated by Diesel Fuel", Presented at the AEHS Conference on "Hydrocarbon Contaminated Soils", January 11-13, 1995, New Orleans, LA.

[7]Wright, Keith A. and Jermstad, David B., "Evaluation of a Rapid Field Analytical Test Kit for Assessing Hydrocarbon Soil Contamination", Presented at the "Third International Conference On-Site Analysis", January 22-25, 1995 Houston, TX.

[8]See for example: Pitard, Francis F. , Pierre Gy's Sampling Theory and Sampling Practice, Volumes 1 and 2, CRC Press, Inc., Boca Raton, FL, 1992).

Appendix C: Determining the Response Factor for Hydrocarbons Not Listed in Table 1

The response factors listed in Table 1 are calculated from response curves similar to those in Figure 1 in Appendix A. The response factor is equal to the slope of the response curve multiplied by 10. The slope of the response curve for the analyte is calculated from the response of the specific analyte relative to the response of the calibration standard. The calibration standard has a slope of one and a response factor of 10 on the PetroFLAG meter. Multiplying the slope of a specific analyte's response curve by 10 yields the appropriate response factor for that analyte.

When a suspected contaminant is not listed in Table 1, there are a few methods that may be used to determine the response factor. The method used is determined by the information and facilities available. The most accurate method would be to replicate the data in Figure 1 for the specific analyte, and then calculate the response factor from the slope of the response curve.

Initially, prepare soil standards from a single homogeneous batch of clean soil spiked at a minimum of 5 different concentrations between 100 and 1000 ppm. (For light hydrocarbons, a higher concentration range can be used.) Next, analyze the soil standards in triplicate using a calibrated PetroFLAG meter set to a response factor of 10. Plot the results with the true spiked concentrations on the "X" axis and the meter readings on the "Y" axis. The slope of the regression line (least squares line) through the data points multiplied by 10 is the response factor that should be used for this analyte. To avoid a low bias and false negatives, round the resulting number down to the nearest whole number when selecting the response factor for the meter. This method can be used if either the contaminant is known or a sample of the neat product is available.

NOTE: When the soil used to prepare the spiked soil standards is not actually clean but contains some hydrocarbons, the curve will have a positive intercept. This result should not affect the calculated response factor provided that the highest spiked standard does not read higher than 1000 ppm on the PetroFLAG meter.

When the contaminant is unknown and a sample of the pure product is not available, then an alternative method can be used. The PetroFLAG results, with the meter set to response factor 10, can be compared with laboratory results from split samples analyzed in triplicate. This method requires extreme care in the homogenizing of the bulk material and also, the preparation of the split samples. Improper sample preparation can result in errors of 100 to 200% or greater. To minimize the effects of this sample variation, as many samples as possible should be analyzed (greater than 20) and the concentrations used should be evenly distributed over the range of 100 to 1000 ppm. Once the data has been collected, plot the data as described above using the laboratory reference method results as the known concentration. The slope of the regression line multiplied by 10 is then the response factor.

NOTE: This method is not as precise as the spike method and any bias in the laboratory method will result in an error in determining this response factor. It is important to check both the laboratory method and the lab performing the analysis thoroughly before using it as the reference method. (See Appendix B)

If the facilities are not available to perform these tests contact Dexsil for advice.

Appendix D: Error Conditions

Table 2: Error Conditions

Message	Cause	Solution
Flashing Concentration Reading [Applies to Unknown Measurements]	Over range condition. Sample concentration outside of linear range.	Use smaller sample (1 gram recommended) and rerun.
Flashing "EEEE" [Applies to Unknown Measurements]	Sensor over range condition. Sample concentration too high.	Use smaller sample (1 gram recommended) and rerun.
"Err0" [Applies to Calibration Mode]	Blank and Calibration Standard vials mixed up. Blank or Calibration Standard outside of QC window (bL too high or CSd too low).	Check calibration vials. Rerun and/or make up new ones.
"Err1" [Applies to All Modes]	Readings from the two optical channels do not agree.	Check vial and reread. If error remains, rerun using another vial.
"Err2" [Applies to Unknown Measurements]	Sample is reading lower than the blank, e.g., Calibration Blank soil unusually high background or not zero.	Recalibrate using true Blank soil.
"Err3" [Applies to Calibration Mode]	Blank or Calibration Standard outside of QC window (bL too low or CSd too high).	Recalibrate using fresh calibration solutions.
"Err4" [Applies to Unknown Measurements]	Absolute temperature difference between calibration and reading exceeds 10°C.	Recalibrate at current temperature.
"Err5" [Applies to All Modes]	Ambient temperature outside of operating range. (4°C - 45°C)	Remove meter and reagents to climate controlled environment to recalibrate/rerun.
"LP"	Low Power	Replace battery.

Appendix E: Meter Specifications

A/D Resolution:	0.5 ppm
Display Resolution:	1 ppm
Precision:	Analyte Dependent From MDL to Max Linear Range (MLR) ±10% +5 ppm From Max Linear Range to Max Quantifiable Range (MQR) ± 20%
Measurement Range:	10-10,000 ppm (linear range analyte dependent)
Operating Temperature:	4ºC to 45ºC

Quantification Limit:

Analyte Dependent Response Factor	Approx. MLR (ppm)*	Approx. MQR (ppm)*
15	730	1,460
10	1,000	2,000
5	2,000	4,000
2	5,000	10,000

*Actual limits realized in the field are temperature and device dependent. PetroFLAG meter automatically warns user when each limit has been reached.

Program Storage:	EEPROM
Calibration Storage:	EEPROM
Display:	4 digit ½ inch seven segment LCD
Batteries:	One 9V Alkaline (included) [Use only Alkaline or Lithium type]
Battery Life:	Approx. 4000 measurements or 1 year (using a 550 mAh alkaline battery)
Dimensions:	length=5.75" width=3.5" height=2"
Weight:	9.85 oz (280 g)

APPENDIX F

LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Laura Campbell
Civil & Environmental Consultants Inc
700 Cherrington Parkway
Moon Township, Pennsylvania 15108

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JOB DESCRIPTION

SEAWOLD 1 12 Federal #091H

JOB NUMBER

880-33484-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

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Authorized for release by
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(281)794-7216

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Laboratory Job ID: 880-33484-1

Table of Contents

Definitions/Glossary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Definitions/Glossary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Job ID: 880-33484-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-33484-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/21/2023 11:13 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH1 0-1 (880-33484-1), BH2 2-3 (880-33484-2), BH2 3-4 (880-33484-3), BH3 0-1 (880-33484-4), BH3 2-3 (880-33484-5), BH3 3-4 (880-33484-6), BH3 4-5 (880-33484-7), BH4 1-2 (880-33484-8), BH4 2-3 (880-33484-9), BH5 0-1 (880-33484-10), BH5 3-4 (880-33484-11), BH6 1-2 (880-33484-12), BH6 2-3 (880-33484-13), BH6 3-4 (880-33484-14), BH7 3-4 (880-33484-15), BH7 4-5 (880-33484-16), BH8 2-3 (880-33484-17), BH8 3-4 (880-33484-18), BH9 2-3 (880-33484-19), BH9 3-4 (880-33484-20), BH10 0-1 (880-33484-21), BH10 2-3 (880-33484-22), BH11 0-1 (880-33484-23), BH11 1-2 (880-33484-24), BH12 2-3 (880-33484-25), BH12 3-4 (880-33484-26), BH13 0-1 (880-33484-27) and BH13 1-2 (880-33484-28).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63286 and analytical batch 880-63282 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-63317/2) and (CCV 880-63317/20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The method blank for preparation batch 880-63020 and analytical batch 880-63282 contained o-Xylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63018 and analytical batch 880-63317 was outside the control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH2 2-3 (880-33484-2), BH2 3-4 (880-33484-3), BH3 3-4 (880-33484-6), BH3 4-5 (880-33484-7) and BH4 1-2 (880-33484-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH5 0-1 (880-33484-10), BH6 1-2 (880-33484-12), BH6 3-4 (880-33484-14), BH8 3-4 (880-33484-18), BH9 2-3 (880-33484-19) and BH9 3-4 (880-33484-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-63018 and analytical batch 880-63317 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Case Narrative

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Job ID: 880-33484-1 (Continued)

Laboratory: Eurofins Midland (Continued)

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-63004 and analytical batch 880-63027 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-33484-A-21-B MS) and (880-33484-A-21-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-63027/20), (CCV 880-63027/5) and (LCS 880-63004/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-63004 and analytical batch 880-63027 contained OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-63004 and analytical batch 880-63027 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-63008 and analytical batch 880-63029 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-63008 and analytical batch 880-63029 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-63037 and analytical batch 880-63319 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH1 0-1
Lab Sample ID: 880-33484-1
Date Collected: 09/18/23 15:58
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 98.1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000390	U	0.00203	0.000390	mg/Kg	☼	09/21/23 16:34	09/26/23 15:16	1
Toluene	<0.000462	U F1	0.00203	0.000462	mg/Kg	☼	09/21/23 16:34	09/26/23 15:16	1
Ethylbenzene	<0.000573	U	0.00203	0.000573	mg/Kg	☼	09/21/23 16:34	09/26/23 15:16	1
m-Xylene & p-Xylene	<0.00102	U	0.00405	0.00102	mg/Kg	☼	09/21/23 16:34	09/26/23 15:16	1
o-Xylene	<0.000349	U	0.00203	0.000349	mg/Kg	☼	09/21/23 16:34	09/26/23 15:16	1
Xylenes, Total	<0.00102	U	0.00405	0.00102	mg/Kg	☼	09/21/23 16:34	09/26/23 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*09/21/23 16:34*	*09/26/23 15:16*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/21/23 16:34*	*09/26/23 15:16*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**24.5**	**J F1**	50.7	15.2	mg/Kg	☼	09/21/23 14:39	09/22/23 10:31	1
Diesel Range Organics (Over C10-C28)	<15.2	U	50.7	15.2	mg/Kg	☼	09/21/23 14:39	09/22/23 10:31	1
OII Range Organics (Over C28-C36)	<15.2	U	50.7	15.2	mg/Kg	☼	09/21/23 14:39	09/22/23 10:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*09/21/23 14:39*	*09/22/23 10:31*	*1*
o-Terphenyl	*91*		*70 - 130*	*09/21/23 14:39*	*09/22/23 10:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**117**		5.08	0.401	mg/Kg	☼		09/26/23 14:01	1

Client Sample ID: BH2 2-3
Lab Sample ID: 880-33484-2
Date Collected: 09/19/23 07:57
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000402	U	0.00209	0.000402	mg/Kg	☼	09/21/23 16:34	09/26/23 15:42	1
Toluene	<0.000476	U	0.00209	0.000476	mg/Kg	☼	09/21/23 16:34	09/26/23 15:42	1
Ethylbenzene	<0.000590	U	0.00209	0.000590	mg/Kg	☼	09/21/23 16:34	09/26/23 15:42	1
m-Xylene & p-Xylene	<0.00105	U	0.00418	0.00105	mg/Kg	☼	09/21/23 16:34	09/26/23 15:42	1
o-Xylene	<0.000359	U	0.00209	0.000359	mg/Kg	☼	09/21/23 16:34	09/26/23 15:42	1
Xylenes, Total	<0.00105	U	0.00418	0.00105	mg/Kg	☼	09/21/23 16:34	09/26/23 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*09/21/23 16:34*	*09/26/23 15:42*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*09/21/23 16:34*	*09/26/23 15:42*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**26.8**	**J**	52.6	15.8	mg/Kg	☼	09/21/23 14:39	09/22/23 11:42	1
Diesel Range Organics (Over C10-C28)	<15.8	U	52.6	15.8	mg/Kg	☼	09/21/23 14:39	09/22/23 11:42	1
OII Range Organics (Over C28-C36)	<15.8	U	52.6	15.8	mg/Kg	☼	09/21/23 14:39	09/22/23 11:42	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH2 2-3

Lab Sample ID: 880-33484-2
Date Collected: 09/19/23 07:57
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*09/21/23 14:39*	*09/22/23 11:42*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/21/23 14:39*	*09/22/23 11:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**403**		5.19	0.410	mg/Kg	☼		09/26/23 14:08	1

Client Sample ID: BH2 3-4

Lab Sample ID: 880-33484-3
Date Collected: 09/19/23 08:00
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000406	U	0.00211	0.000406	mg/Kg	☼	09/21/23 16:34	09/26/23 16:08	1
Toluene	<0.000481	U	0.00211	0.000481	mg/Kg	☼	09/21/23 16:34	09/26/23 16:08	1
Ethylbenzene	<0.000595	U	0.00211	0.000595	mg/Kg	☼	09/21/23 16:34	09/26/23 16:08	1
m-Xylene & p-Xylene	<0.00106	U	0.00422	0.00106	mg/Kg	☼	09/21/23 16:34	09/26/23 16:08	1
o-Xylene	<0.000363	U	0.00211	0.000363	mg/Kg	☼	09/21/23 16:34	09/26/23 16:08	1
Xylenes, Total	<0.00106	U	0.00422	0.00106	mg/Kg	☼	09/21/23 16:34	09/26/23 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*	*09/21/23 16:34*	*09/26/23 16:08*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/21/23 16:34*	*09/26/23 16:08*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**26.4**	**J**	52.8	15.9	mg/Kg	☼	09/21/23 14:39	09/22/23 12:05	1
Diesel Range Organics (Over C10-C28)	<15.9	U	52.8	15.9	mg/Kg	☼	09/21/23 14:39	09/22/23 12:05	1
Oil Range Organics (Over C28-C36)	<15.9	U	52.8	15.9	mg/Kg	☼	09/21/23 14:39	09/22/23 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*09/21/23 14:39*	*09/22/23 12:05*	*1*
o-Terphenyl	*99*		*70 - 130*	*09/21/23 14:39*	*09/22/23 12:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**487**		5.28	0.417	mg/Kg	☼		09/26/23 14:14	1

Client Sample ID: BH3 0-1

Lab Sample ID: 880-33484-4
Date Collected: 09/19/23 08:11
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 85.4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000452	U	0.00235	0.000452	mg/Kg	☼	09/21/23 16:34	09/26/23 16:34	1
Toluene	<0.000535	U	0.00235	0.000535	mg/Kg	☼	09/21/23 16:34	09/26/23 16:34	1
Ethylbenzene	<0.000663	U	0.00235	0.000663	mg/Kg	☼	09/21/23 16:34	09/26/23 16:34	1
m-Xylene & p-Xylene	<0.00119	U	0.00469	0.00119	mg/Kg	☼	09/21/23 16:34	09/26/23 16:34	1
o-Xylene	<0.000404	U	0.00235	0.000404	mg/Kg	☼	09/21/23 16:34	09/26/23 16:34	1
Xylenes, Total	<0.00119	U	0.00469	0.00119	mg/Kg	☼	09/21/23 16:34	09/26/23 16:34	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH3 0-1

Lab Sample ID: 880-33484-4
Date Collected: 09/19/23 08:11
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 85.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	09/21/23 16:34	09/26/23 16:34	1
1,4-Difluorobenzene (Surr)	92		70 - 130	09/21/23 16:34	09/26/23 16:34	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	27.3	J	59.1	17.7	mg/Kg	☼	09/21/23 14:39	09/22/23 12:27	1
Diesel Range Organics (Over C10-C28)	2980		59.1	17.7	mg/Kg	☼	09/21/23 14:39	09/22/23 12:27	1
OII Range Organics (Over C28-C36)	<17.7	U	59.1	17.7	mg/Kg	☼	09/21/23 14:39	09/22/23 12:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130	09/21/23 14:39	09/22/23 12:27	1
o-Terphenyl	109		70 - 130	09/21/23 14:39	09/22/23 12:27	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3470		29.3	2.31	mg/Kg	☼		09/26/23 14:34	5

Client Sample ID: BH3 2-3

Lab Sample ID: 880-33484-5
Date Collected: 09/19/23 08:13
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 91.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000421	U	0.00219	0.000421	mg/Kg	☼	09/21/23 16:34	09/26/23 17:00	1
Toluene	0.000647	J	0.00219	0.000498	mg/Kg	☼	09/21/23 16:34	09/26/23 17:00	1
Ethylbenzene	<0.000617	U	0.00219	0.000617	mg/Kg	☼	09/21/23 16:34	09/26/23 17:00	1
m-Xylene & p-Xylene	<0.00110	U	0.00437	0.00110	mg/Kg	☼	09/21/23 16:34	09/26/23 17:00	1
o-Xylene	0.000852	J	0.00219	0.000376	mg/Kg	☼	09/21/23 16:34	09/26/23 17:00	1
Xylenes, Total	<0.00110	U	0.00437	0.00110	mg/Kg	☼	09/21/23 16:34	09/26/23 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	09/21/23 16:34	09/26/23 17:00	1
1,4-Difluorobenzene (Surr)	90		70 - 130	09/21/23 16:34	09/26/23 17:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	28.2	J	54.7	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 12:50	1
Diesel Range Organics (Over C10-C28)	57.5		54.7	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 12:50	1
OII Range Organics (Over C28-C36)	<16.4	U	54.7	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 12:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130	09/21/23 14:39	09/22/23 12:50	1
o-Terphenyl	92		70 - 130	09/21/23 14:39	09/22/23 12:50	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2320		27.3	2.15	mg/Kg	☼		09/26/23 14:41	5

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH3 3-4

Lab Sample ID: 880-33484-6
Date Collected: 09/19/23 08:15
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 90.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000421	U	0.00219	0.000421	mg/Kg	☼	09/21/23 16:34	09/26/23 17:26	1
Toluene	<0.000499	U	0.00219	0.000499	mg/Kg	☼	09/21/23 16:34	09/26/23 17:26	1
Ethylbenzene	<0.000618	U	0.00219	0.000618	mg/Kg	☼	09/21/23 16:34	09/26/23 17:26	1
m-Xylene & p-Xylene	<0.00110	U	0.00438	0.00110	mg/Kg	☼	09/21/23 16:34	09/26/23 17:26	1
o-Xylene	<0.000376	U	0.00219	0.000376	mg/Kg	☼	09/21/23 16:34	09/26/23 17:26	1
Xylenes, Total	<0.00110	U	0.00438	0.00110	mg/Kg	☼	09/21/23 16:34	09/26/23 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*145*	*S1+*	*70 - 130*	*09/21/23 16:34*	*09/26/23 17:26*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/21/23 16:34*	*09/26/23 17:26*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**29.1**	**J**	54.8	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 13:14	1
Diesel Range Organics (Over C10-C28)	**18.9**	**J**	54.8	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 13:14	1
OII Range Organics (Over C28-C36)	<16.4	U	54.8	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*09/21/23 14:39*	*09/22/23 13:14*	*1*
o-Terphenyl	*93*		*70 - 130*	*09/21/23 14:39*	*09/22/23 13:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**648**		5.47	0.432	mg/Kg	☼		09/26/23 14:48	1

Client Sample ID: BH3 4-5

Lab Sample ID: 880-33484-7
Date Collected: 09/19/23 08:17
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 79.9

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000479	U	0.00249	0.000479	mg/Kg	☼	09/21/23 16:34	09/26/23 17:53	1
Toluene	<0.000568	U	0.00249	0.000568	mg/Kg	☼	09/21/23 16:34	09/26/23 17:53	1
Ethylbenzene	<0.000703	U	0.00249	0.000703	mg/Kg	☼	09/21/23 16:34	09/26/23 17:53	1
m-Xylene & p-Xylene	<0.00126	U	0.00498	0.00126	mg/Kg	☼	09/21/23 16:34	09/26/23 17:53	1
o-Xylene	<0.000428	U	0.00249	0.000428	mg/Kg	☼	09/21/23 16:34	09/26/23 17:53	1
Xylenes, Total	<0.00126	U	0.00498	0.00126	mg/Kg	☼	09/21/23 16:34	09/26/23 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*09/21/23 16:34*	*09/26/23 17:53*	*1*
1,4-Difluorobenzene (Surr)	*57*	*S1-*	*70 - 130*	*09/21/23 16:34*	*09/26/23 17:53*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**33.9**	**J**	62.1	18.6	mg/Kg	☼	09/21/23 14:39	09/22/23 13:38	1
Diesel Range Organics (Over C10-C28)	**292**		62.1	18.6	mg/Kg	☼	09/21/23 14:39	09/22/23 13:38	1
OII Range Organics (Over C28-C36)	<18.6	U	62.1	18.6	mg/Kg	☼	09/21/23 14:39	09/22/23 13:38	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH3 4-5

Lab Sample ID: 880-33484-7
Date Collected: 09/19/23 08:17
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 79.9

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*09/21/23 14:39*	*09/22/23 13:38*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/21/23 14:39*	*09/22/23 13:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1090**		6.21	0.491	mg/Kg	☼		09/26/23 14:54	1

Client Sample ID: BH4 1-2

Lab Sample ID: 880-33484-8
Date Collected: 09/19/23 08:05
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000400	U	0.00208	0.000400	mg/Kg	☼	09/21/23 16:34	09/26/23 18:19	1
Toluene	<0.000474	U	0.00208	0.000474	mg/Kg	☼	09/21/23 16:34	09/26/23 18:19	1
Ethylbenzene	<0.000587	U	0.00208	0.000587	mg/Kg	☼	09/21/23 16:34	09/26/23 18:19	1
m-Xylene & p-Xylene	<0.00105	U	0.00416	0.00105	mg/Kg	☼	09/21/23 16:34	09/26/23 18:19	1
o-Xylene	<0.000357	U	0.00208	0.000357	mg/Kg	☼	09/21/23 16:34	09/26/23 18:19	1
Xylenes, Total	<0.00105	U	0.00416	0.00105	mg/Kg	☼	09/21/23 16:34	09/26/23 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*09/21/23 16:34*	*09/26/23 18:19*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/21/23 16:34*	*09/26/23 18:19*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**27.3**	**J**	52.2	15.7	mg/Kg	☼	09/21/23 14:39	09/22/23 14:02	1
Diesel Range Organics (Over C10-C28)	<15.7	U	52.2	15.7	mg/Kg	☼	09/21/23 14:39	09/22/23 14:02	1
OII Range Organics (Over C28-C36)	<15.7	U	52.2	15.7	mg/Kg	☼	09/21/23 14:39	09/22/23 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*09/21/23 14:39*	*09/22/23 14:02*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/21/23 14:39*	*09/22/23 14:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**587**		5.22	0.412	mg/Kg	☼		09/26/23 15:01	1

Client Sample ID: BH4 2-3

Lab Sample ID: 880-33484-9
Date Collected: 09/19/23 08:08
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000396	U	0.00206	0.000396	mg/Kg	☼	09/21/23 16:34	09/26/23 18:45	1
Toluene	<0.000469	U	0.00206	0.000469	mg/Kg	☼	09/21/23 16:34	09/26/23 18:45	1
Ethylbenzene	<0.000581	U	0.00206	0.000581	mg/Kg	☼	09/21/23 16:34	09/26/23 18:45	1
m-Xylene & p-Xylene	<0.00104	U	0.00412	0.00104	mg/Kg	☼	09/21/23 16:34	09/26/23 18:45	1
o-Xylene	<0.000354	U	0.00206	0.000354	mg/Kg	☼	09/21/23 16:34	09/26/23 18:45	1
Xylenes, Total	<0.00104	U	0.00412	0.00104	mg/Kg	☼	09/21/23 16:34	09/26/23 18:45	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH4 2-3

Lab Sample ID: 880-33484-9
Date Collected: 09/19/23 08:08
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	09/21/23 16:34	09/26/23 18:45	1
1,4-Difluorobenzene (Surr)	89		70 - 130	09/21/23 16:34	09/26/23 18:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	24.5	J	52.0	15.6	mg/Kg	☼	09/21/23 14:39	09/22/23 14:26	1
Diesel Range Organics (Over C10-C28)	184		52.0	15.6	mg/Kg	☼	09/21/23 14:39	09/22/23 14:26	1
OII Range Organics (Over C28-C36)	<15.6	U	52.0	15.6	mg/Kg	☼	09/21/23 14:39	09/22/23 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130	09/21/23 14:39	09/22/23 14:26	1
o-Terphenyl	96		70 - 130	09/21/23 14:39	09/22/23 14:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	412	F1	5.11	0.404	mg/Kg	☼		09/26/23 15:08	1

Client Sample ID: BH5 0-1

Lab Sample ID: 880-33484-10
Date Collected: 09/19/23 08:19
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 85.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000451	U	0.00234	0.000451	mg/Kg	☼	09/21/23 16:34	09/26/23 19:11	1
Toluene	<0.000534	U	0.00234	0.000534	mg/Kg	☼	09/21/23 16:34	09/26/23 19:11	1
Ethylbenzene	<0.000662	U	0.00234	0.000662	mg/Kg	☼	09/21/23 16:34	09/26/23 19:11	1
m-Xylene & p-Xylene	<0.00118	U	0.00469	0.00118	mg/Kg	☼	09/21/23 16:34	09/26/23 19:11	1
o-Xylene	<0.000403	U	0.00234	0.000403	mg/Kg	☼	09/21/23 16:34	09/26/23 19:11	1
Xylenes, Total	<0.00118	U	0.00469	0.00118	mg/Kg	☼	09/21/23 16:34	09/26/23 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	145	S1+	70 - 130	09/21/23 16:34	09/26/23 19:11	1
1,4-Difluorobenzene (Surr)	86		70 - 130	09/21/23 16:34	09/26/23 19:11	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	41.1	J	59.1	17.7	mg/Kg	☼	09/21/23 14:39	09/22/23 14:49	1
Diesel Range Organics (Over C10-C28)	1500		59.1	17.7	mg/Kg	☼	09/21/23 14:39	09/22/23 14:49	1
OII Range Organics (Over C28-C36)	<17.7	U	59.1	17.7	mg/Kg	☼	09/21/23 14:39	09/22/23 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130	09/21/23 14:39	09/22/23 14:49	1
o-Terphenyl	102		70 - 130	09/21/23 14:39	09/22/23 14:49	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2390		29.3	2.31	mg/Kg	☼		09/26/23 15:28	5

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH5 3-4

Lab Sample ID: 880-33484-11
Date Collected: 09/19/23 08:25
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 79.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000481	U	0.00250	0.000481	mg/Kg	☼	09/21/23 16:34	09/26/23 20:56	1
Toluene	<0.000570	U	0.00250	0.000570	mg/Kg	☼	09/21/23 16:34	09/26/23 20:56	1
Ethylbenzene	<0.000706	U	0.00250	0.000706	mg/Kg	☼	09/21/23 16:34	09/26/23 20:56	1
m-Xylene & p-Xylene	<0.00126	U	0.00500	0.00126	mg/Kg	☼	09/21/23 16:34	09/26/23 20:56	1
o-Xylene	<0.000430	U	0.00250	0.000430	mg/Kg	☼	09/21/23 16:34	09/26/23 20:56	1
Xylenes, Total	<0.00126	U	0.00500	0.00126	mg/Kg	☼	09/21/23 16:34	09/26/23 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*09/21/23 16:34*	*09/26/23 20:56*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*09/21/23 16:34*	*09/26/23 20:56*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**31.0**	**J**	62.4	18.7	mg/Kg	☼	09/21/23 14:39	09/22/23 15:40	1
Diesel Range Organics (Over C10-C28)	**40.0**	**J**	62.4	18.7	mg/Kg	☼	09/21/23 14:39	09/22/23 15:40	1
OII Range Organics (Over C28-C36)	<18.7	U	62.4	18.7	mg/Kg	☼	09/21/23 14:39	09/22/23 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*09/21/23 14:39*	*09/22/23 15:40*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/21/23 14:39*	*09/22/23 15:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1430**		6.30	0.498	mg/Kg	☼		09/26/23 15:34	1

Client Sample ID: BH6 1-2

Lab Sample ID: 880-33484-12
Date Collected: 09/19/23 09:27
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.9

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000398	U	0.00207	0.000398	mg/Kg	☼	09/21/23 16:34	09/26/23 21:22	1
Toluene	<0.000472	U	0.00207	0.000472	mg/Kg	☼	09/21/23 16:34	09/26/23 21:22	1
Ethylbenzene	<0.000585	U	0.00207	0.000585	mg/Kg	☼	09/21/23 16:34	09/26/23 21:22	1
m-Xylene & p-Xylene	<0.00104	U	0.00414	0.00104	mg/Kg	☼	09/21/23 16:34	09/26/23 21:22	1
o-Xylene	<0.000356	U	0.00207	0.000356	mg/Kg	☼	09/21/23 16:34	09/26/23 21:22	1
Xylenes, Total	<0.00104	U	0.00414	0.00104	mg/Kg	☼	09/21/23 16:34	09/26/23 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*148*	*S1+*	*70 - 130*	*09/21/23 16:34*	*09/26/23 21:22*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/21/23 16:34*	*09/26/23 21:22*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**28.0**	**J**	51.9	15.6	mg/Kg	☼	09/21/23 14:39	09/22/23 16:03	1
Diesel Range Organics (Over C10-C28)	<15.6	U	51.9	15.6	mg/Kg	☼	09/21/23 14:39	09/22/23 16:03	1
OII Range Organics (Over C28-C36)	<15.6	U	51.9	15.6	mg/Kg	☼	09/21/23 14:39	09/22/23 16:03	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH6 1-2

Lab Sample ID: 880-33484-12
Date Collected: 09/19/23 09:27
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*75*		*70 - 130*	*09/21/23 14:39*	*09/22/23 16:03*	*1*
o-Terphenyl	*92*		*70 - 130*	*09/21/23 14:39*	*09/22/23 16:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**607**		5.18	0.409	mg/Kg	☼		09/26/23 15:54	1

Client Sample ID: BH6 2-3

Lab Sample ID: 880-33484-13
Date Collected: 09/19/23 09:30
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000546**	**J**	0.00211	0.000406	mg/Kg	☼	09/21/23 16:34	09/26/23 21:48	1
Toluene	<0.000481	U	0.00211	0.000481	mg/Kg	☼	09/21/23 16:34	09/26/23 21:48	1
Ethylbenzene	<0.000596	U	0.00211	0.000596	mg/Kg	☼	09/21/23 16:34	09/26/23 21:48	1
m-Xylene & p-Xylene	<0.00107	U	0.00422	0.00107	mg/Kg	☼	09/21/23 16:34	09/26/23 21:48	1
o-Xylene	<0.000363	U	0.00211	0.000363	mg/Kg	☼	09/21/23 16:34	09/26/23 21:48	1
Xylenes, Total	<0.00107	U	0.00422	0.00107	mg/Kg	☼	09/21/23 16:34	09/26/23 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*09/21/23 16:34*	*09/26/23 21:48*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/21/23 16:34*	*09/26/23 21:48*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.9	U	52.8	15.9	mg/Kg	☼	09/21/23 14:39	09/22/23 16:27	1
Diesel Range Organics (Over C10-C28)	<15.9	U	52.8	15.9	mg/Kg	☼	09/21/23 14:39	09/22/23 16:27	1
OII Range Organics (Over C28-C36)	<15.9	U	52.8	15.9	mg/Kg	☼	09/21/23 14:39	09/22/23 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*81*		*70 - 130*	*09/21/23 14:39*	*09/22/23 16:27*	*1*
o-Terphenyl	*105*		*70 - 130*	*09/21/23 14:39*	*09/22/23 16:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**487**		5.36	0.423	mg/Kg	☼		09/26/23 16:01	1

Client Sample ID: BH6 3-4

Lab Sample ID: 880-33484-14
Date Collected: 09/19/23 09:33
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000436**	**J**	0.00208	0.000400	mg/Kg	☼	09/21/23 16:34	09/26/23 22:14	1
Toluene	<0.000474	U	0.00208	0.000474	mg/Kg	☼	09/21/23 16:34	09/26/23 22:14	1
Ethylbenzene	<0.000587	U	0.00208	0.000587	mg/Kg	☼	09/21/23 16:34	09/26/23 22:14	1
m-Xylene & p-Xylene	<0.00105	U	0.00416	0.00105	mg/Kg	☼	09/21/23 16:34	09/26/23 22:14	1
o-Xylene	<0.000358	U	0.00208	0.000358	mg/Kg	☼	09/21/23 16:34	09/26/23 22:14	1
Xylenes, Total	<0.00105	U	0.00416	0.00105	mg/Kg	☼	09/21/23 16:34	09/26/23 22:14	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH6 3-4

Lab Sample ID: 880-33484-14
Date Collected: 09/19/23 09:33
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130	09/21/23 16:34	09/26/23 22:14	1
1,4-Difluorobenzene (Surr)	91		70 - 130	09/21/23 16:34	09/26/23 22:14	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	27.3	J	51.8	15.5	mg/Kg	☼	09/21/23 14:39	09/22/23 16:52	1
Diesel Range Organics (Over C10-C28)	17.6	J	51.8	15.5	mg/Kg	☼	09/21/23 14:39	09/22/23 16:52	1
OII Range Organics (Over C28-C36)	<15.5	U	51.8	15.5	mg/Kg	☼	09/21/23 14:39	09/22/23 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130	09/21/23 14:39	09/22/23 16:52	1
o-Terphenyl	101		70 - 130	09/21/23 14:39	09/22/23 16:52	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	131		5.24	0.414	mg/Kg	☼		09/26/23 14:32	1

Client Sample ID: BH7 3-4

Lab Sample ID: 880-33484-15
Date Collected: 09/19/23 09:36
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 90.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000426	U	0.00221	0.000426	mg/Kg	☼	09/21/23 16:34	09/26/23 22:41	1
Toluene	<0.000504	U	0.00221	0.000504	mg/Kg	☼	09/21/23 16:34	09/26/23 22:41	1
Ethylbenzene	<0.000625	U	0.00221	0.000625	mg/Kg	☼	09/21/23 16:34	09/26/23 22:41	1
m-Xylene & p-Xylene	<0.00112	U	0.00442	0.00112	mg/Kg	☼	09/21/23 16:34	09/26/23 22:41	1
o-Xylene	<0.000380	U	0.00221	0.000380	mg/Kg	☼	09/21/23 16:34	09/26/23 22:41	1
Xylenes, Total	<0.00112	U	0.00442	0.00112	mg/Kg	☼	09/21/23 16:34	09/26/23 22:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	09/21/23 16:34	09/26/23 22:41	1
1,4-Difluorobenzene (Surr)	73		70 - 130	09/21/23 16:34	09/26/23 22:41	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	28.8	J	54.7	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 17:16	1
Diesel Range Organics (Over C10-C28)	<16.4	U	54.7	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 17:16	1
OII Range Organics (Over C28-C36)	<16.4	U	54.7	16.4	mg/Kg	☼	09/21/23 14:39	09/22/23 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130	09/21/23 14:39	09/22/23 17:16	1
o-Terphenyl	88		70 - 130	09/21/23 14:39	09/22/23 17:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1830		27.6	2.18	mg/Kg	☼		09/26/23 14:50	5

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH7 4-5

Lab Sample ID: 880-33484-16
Date Collected: 09/19/23 09:39
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 89.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000579**	**J**	0.00224	0.000431	mg/Kg	☼	09/21/23 16:34	09/26/23 23:07	1
Toluene	<0.000510	U	0.00224	0.000510	mg/Kg	☼	09/21/23 16:34	09/26/23 23:07	1
Ethylbenzene	<0.000632	U	0.00224	0.000632	mg/Kg	☼	09/21/23 16:34	09/26/23 23:07	1
m-Xylene & p-Xylene	<0.00113	U	0.00448	0.00113	mg/Kg	☼	09/21/23 16:34	09/26/23 23:07	1
o-Xylene	<0.000385	U	0.00224	0.000385	mg/Kg	☼	09/21/23 16:34	09/26/23 23:07	1
Xylenes, Total	<0.00113	U	0.00448	0.00113	mg/Kg	☼	09/21/23 16:34	09/26/23 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*09/21/23 16:34*	*09/26/23 23:07*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/21/23 16:34*	*09/26/23 23:07*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**29.3**	**J**	56.7	17.0	mg/Kg	☼	09/21/23 14:39	09/22/23 17:39	1
Diesel Range Organics (Over C10-C28)	<17.0	U	56.7	17.0	mg/Kg	☼	09/21/23 14:39	09/22/23 17:39	1
OII Range Organics (Over C28-C36)	<17.0	U	56.7	17.0	mg/Kg	☼	09/21/23 14:39	09/22/23 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*09/21/23 14:39*	*09/22/23 17:39*	*1*
o-Terphenyl	*102*		*70 - 130*	*09/21/23 14:39*	*09/22/23 17:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1960**		28.0	2.21	mg/Kg	☼		09/26/23 14:56	5

Client Sample ID: BH8 2-3

Lab Sample ID: 880-33484-17
Date Collected: 09/19/23 09:48
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000405	U	0.00210	0.000405	mg/Kg	☼	09/21/23 16:34	09/26/23 23:33	1
Toluene	<0.000480	U	0.00210	0.000480	mg/Kg	☼	09/21/23 16:34	09/26/23 23:33	1
Ethylbenzene	<0.000595	U	0.00210	0.000595	mg/Kg	☼	09/21/23 16:34	09/26/23 23:33	1
m-Xylene & p-Xylene	<0.00106	U	0.00421	0.00106	mg/Kg	☼	09/21/23 16:34	09/26/23 23:33	1
o-Xylene	<0.000362	U	0.00210	0.000362	mg/Kg	☼	09/21/23 16:34	09/26/23 23:33	1
Xylenes, Total	<0.00106	U	0.00421	0.00106	mg/Kg	☼	09/21/23 16:34	09/26/23 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*09/21/23 16:34*	*09/26/23 23:33*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*09/21/23 16:34*	*09/26/23 23:33*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**28.0**	**J**	53.4	16.0	mg/Kg	☼	09/21/23 14:39	09/22/23 18:01	1
Diesel Range Organics (Over C10-C28)	<16.0	U	53.4	16.0	mg/Kg	☼	09/21/23 14:39	09/22/23 18:01	1
OII Range Organics (Over C28-C36)	<16.0	U	53.4	16.0	mg/Kg	☼	09/21/23 14:39	09/22/23 18:01	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH8 2-3

Lab Sample ID: 880-33484-17
Date Collected: 09/19/23 09:48
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*09/21/23 14:39*	*09/22/23 18:01*	*1*
o-Terphenyl	*107*		*70 - 130*	*09/21/23 14:39*	*09/22/23 18:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**453**		5.30	0.419	mg/Kg	☼		09/26/23 15:01	1

Client Sample ID: BH8 3-4

Lab Sample ID: 880-33484-18
Date Collected: 09/19/23 09:51
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 79.3

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000485	U	0.00252	0.000485	mg/Kg	☼	09/21/23 16:34	09/26/23 23:59	1
Toluene	<0.000574	U	0.00252	0.000574	mg/Kg	☼	09/21/23 16:34	09/26/23 23:59	1
Ethylbenzene	<0.000711	U	0.00252	0.000711	mg/Kg	☼	09/21/23 16:34	09/26/23 23:59	1
m-Xylene & p-Xylene	<0.00127	U	0.00504	0.00127	mg/Kg	☼	09/21/23 16:34	09/26/23 23:59	1
o-Xylene	<0.000433	U	0.00252	0.000433	mg/Kg	☼	09/21/23 16:34	09/26/23 23:59	1
Xylenes, Total	<0.00127	U	0.00504	0.00127	mg/Kg	☼	09/21/23 16:34	09/26/23 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*	*09/21/23 16:34*	*09/26/23 23:59*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/21/23 16:34*	*09/26/23 23:59*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**33.6**	**J**	63.6	19.1	mg/Kg	☼	09/21/23 14:39	09/22/23 18:23	1
Diesel Range Organics (Over C10-C28)	<19.1	U	63.6	19.1	mg/Kg	☼	09/21/23 14:39	09/22/23 18:23	1
Oil Range Organics (Over C28-C36)	<19.1	U	63.6	19.1	mg/Kg	☼	09/21/23 14:39	09/22/23 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*09/21/23 14:39*	*09/22/23 18:23*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/21/23 14:39*	*09/22/23 18:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**236**		6.36	0.502	mg/Kg	☼		09/26/23 15:07	1

Client Sample ID: BH9 2-3

Lab Sample ID: 880-33484-19
Date Collected: 09/19/23 10:14
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000410	U	0.00213	0.000410	mg/Kg	☼	09/21/23 16:34	09/27/23 00:25	1
Toluene	<0.000485	U	0.00213	0.000485	mg/Kg	☼	09/21/23 16:34	09/27/23 00:25	1
Ethylbenzene	<0.000601	U	0.00213	0.000601	mg/Kg	☼	09/21/23 16:34	09/27/23 00:25	1
m-Xylene & p-Xylene	<0.00107	U	0.00426	0.00107	mg/Kg	☼	09/21/23 16:34	09/27/23 00:25	1
o-Xylene	<0.000366	U	0.00213	0.000366	mg/Kg	☼	09/21/23 16:34	09/27/23 00:25	1
Xylenes, Total	<0.00107	U	0.00426	0.00107	mg/Kg	☼	09/21/23 16:34	09/27/23 00:25	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH9 2-3

Lab Sample ID: 880-33484-19
Date Collected: 09/19/23 10:14
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	09/21/23 16:34	09/27/23 00:25	1
1,4-Difluorobenzene (Surr)	88		70 - 130	09/21/23 16:34	09/27/23 00:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	26.4	J	53.6	16.1	mg/Kg	☼	09/21/23 14:39	09/22/23 18:45	1
Diesel Range Organics (Over C10-C28)	1570		53.6	16.1	mg/Kg	☼	09/21/23 14:39	09/22/23 18:45	1
OII Range Organics (Over C28-C36)	<16.1	U	53.6	16.1	mg/Kg	☼	09/21/23 14:39	09/22/23 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	09/21/23 14:39	09/22/23 18:45	1
o-Terphenyl	129		70 - 130	09/21/23 14:39	09/22/23 18:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000		26.8	2.11	mg/Kg	☼		09/26/23 15:25	5

Client Sample ID: BH9 3-4

Lab Sample ID: 880-33484-20
Date Collected: 09/19/23 10:16
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 93.3

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000415	U	0.00216	0.000415	mg/Kg	☼	09/21/23 16:34	09/27/23 00:52	1
Toluene	<0.000491	U	0.00216	0.000491	mg/Kg	☼	09/21/23 16:34	09/27/23 00:52	1
Ethylbenzene	<0.000609	U	0.00216	0.000609	mg/Kg	☼	09/21/23 16:34	09/27/23 00:52	1
m-Xylene & p-Xylene	<0.00109	U	0.00431	0.00109	mg/Kg	☼	09/21/23 16:34	09/27/23 00:52	1
o-Xylene	<0.000371	U	0.00216	0.000371	mg/Kg	☼	09/21/23 16:34	09/27/23 00:52	1
Xylenes, Total	<0.00109	U	0.00431	0.00109	mg/Kg	☼	09/21/23 16:34	09/27/23 00:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130	09/21/23 16:34	09/27/23 00:52	1
1,4-Difluorobenzene (Surr)	89		70 - 130	09/21/23 16:34	09/27/23 00:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	27.4	J	53.4	16.0	mg/Kg	☼	09/21/23 14:39	09/22/23 19:07	1
Diesel Range Organics (Over C10-C28)	40.3	J	53.4	16.0	mg/Kg	☼	09/21/23 14:39	09/22/23 19:07	1
OII Range Organics (Over C28-C36)	<16.0	U	53.4	16.0	mg/Kg	☼	09/21/23 14:39	09/22/23 19:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130	09/21/23 14:39	09/22/23 19:07	1
o-Terphenyl	103		70 - 130	09/21/23 14:39	09/22/23 19:07	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	715		5.36	0.423	mg/Kg	☼		09/26/23 15:31	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH10 0-1
Lab Sample ID: 880-33484-21
Date Collected: 09/19/23 11:07
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 90.3

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000424	U	0.00220	0.000424	mg/Kg	☼	09/21/23 17:02	09/26/23 23:21	1
Toluene	<0.000502	U	0.00220	0.000502	mg/Kg	☼	09/21/23 17:02	09/26/23 23:21	1
Ethylbenzene	<0.000622	U	0.00220	0.000622	mg/Kg	☼	09/21/23 17:02	09/26/23 23:21	1
m-Xylene & p-Xylene	<0.00111	U	0.00440	0.00111	mg/Kg	☼	09/21/23 17:02	09/26/23 23:21	1
o-Xylene	<0.000379	U	0.00220	0.000379	mg/Kg	☼	09/21/23 17:02	09/26/23 23:21	1
Xylenes, Total	<0.00111	U	0.00440	0.00111	mg/Kg	☼	09/21/23 17:02	09/26/23 23:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*09/21/23 17:02*	*09/26/23 23:21*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/21/23 17:02*	*09/26/23 23:21*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<16.5	U F1	54.9	16.5	mg/Kg	☼	09/21/23 14:28	09/22/23 10:31	1
Diesel Range Organics (Over C10-C28)	**37.4**	**J F1**	54.9	16.5	mg/Kg	☼	09/21/23 14:28	09/22/23 10:31	1
Oil Range Organics (Over C28-C36)	<16.5	U	54.9	16.5	mg/Kg	☼	09/21/23 14:28	09/22/23 10:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*09/21/23 14:28*	*09/22/23 10:31*	*1*
o-Terphenyl	*72*		*70 - 130*	*09/21/23 14:28*	*09/22/23 10:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**589**		5.52	0.436	mg/Kg	☼		09/26/23 15:36	1

Client Sample ID: BH10 2-3
Lab Sample ID: 880-33484-22
Date Collected: 09/19/23 11:10
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000402	U	0.00209	0.000402	mg/Kg	☼	09/21/23 17:02	09/26/23 23:42	1
Toluene	<0.000476	U	0.00209	0.000476	mg/Kg	☼	09/21/23 17:02	09/26/23 23:42	1
Ethylbenzene	<0.000590	U	0.00209	0.000590	mg/Kg	☼	09/21/23 17:02	09/26/23 23:42	1
m-Xylene & p-Xylene	<0.00106	U	0.00418	0.00106	mg/Kg	☼	09/21/23 17:02	09/26/23 23:42	1
o-Xylene	**0.000515**	**J B**	0.00209	0.000359	mg/Kg	☼	09/21/23 17:02	09/26/23 23:42	1
Xylenes, Total	<0.00106	U	0.00418	0.00106	mg/Kg	☼	09/21/23 17:02	09/26/23 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*09/21/23 17:02*	*09/26/23 23:42*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/21/23 17:02*	*09/26/23 23:42*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.9	U	52.9	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 11:42	1
Diesel Range Organics (Over C10-C28)	**24.0**	**J**	52.9	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 11:42	1
Oil Range Organics (Over C28-C36)	<15.9	U	52.9	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 11:42	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH10 2-3

Lab Sample ID: 880-33484-22
Date Collected: 09/19/23 11:10
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*09/21/23 14:28*	*09/22/23 11:42*	*1*
o-Terphenyl	*72*		*70 - 130*	*09/21/23 14:28*	*09/22/23 11:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**329**		5.19	0.410	mg/Kg	☼		09/26/23 15:42	1

Client Sample ID: BH11 0-1

Lab Sample ID: 880-33484-23
Date Collected: 09/19/23 11:19
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000407	U	0.00212	0.000407	mg/Kg	☼	09/21/23 17:02	09/27/23 00:02	1
Toluene	<0.000483	U	0.00212	0.000483	mg/Kg	☼	09/21/23 17:02	09/27/23 00:02	1
Ethylbenzene	<0.000598	U	0.00212	0.000598	mg/Kg	☼	09/21/23 17:02	09/27/23 00:02	1
m-Xylene & p-Xylene	<0.00107	U	0.00423	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 00:02	1
o-Xylene	<0.000364	U	0.00212	0.000364	mg/Kg	☼	09/21/23 17:02	09/27/23 00:02	1
Xylenes, Total	<0.00107	U	0.00423	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 00:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*09/21/23 17:02*	*09/27/23 00:02*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/21/23 17:02*	*09/27/23 00:02*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.9	U	53.0	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 12:05	1
Diesel Range Organics (Over C10-C28)	**25.4**	**J**	53.0	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 12:05	1
Oil Range Organics (Over C28-C36)	<15.9	U	53.0	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*09/21/23 14:28*	*09/22/23 12:05*	*1*
o-Terphenyl	*70*		*70 - 130*	*09/21/23 14:28*	*09/22/23 12:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2010**		26.3	2.08	mg/Kg	☼		09/26/23 01:43	5

Client Sample ID: BH11 1-2

Lab Sample ID: 880-33484-24
Date Collected: 09/19/23 11:21
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.3

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000402	U	0.00209	0.000402	mg/Kg	☼	09/21/23 17:02	09/27/23 00:23	1
Toluene	<0.000477	U	0.00209	0.000477	mg/Kg	☼	09/21/23 17:02	09/27/23 00:23	1
Ethylbenzene	<0.000590	U	0.00209	0.000590	mg/Kg	☼	09/21/23 17:02	09/27/23 00:23	1
m-Xylene & p-Xylene	<0.00106	U	0.00418	0.00106	mg/Kg	☼	09/21/23 17:02	09/27/23 00:23	1
o-Xylene	<0.000359	U	0.00209	0.000359	mg/Kg	☼	09/21/23 17:02	09/27/23 00:23	1
Xylenes, Total	<0.00106	U	0.00418	0.00106	mg/Kg	☼	09/21/23 17:02	09/27/23 00:23	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH11 1-2

Lab Sample ID: 880-33484-24
Date Collected: 09/19/23 11:21
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*09/21/23 17:02*	*09/27/23 00:23*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*09/21/23 17:02*	*09/27/23 00:23*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.6	U	52.1	15.6	mg/Kg	☼	09/21/23 14:28	09/22/23 12:27	1
Diesel Range Organics (Over C10-C28)	**18.7**	**J**	52.1	15.6	mg/Kg	☼	09/21/23 14:28	09/22/23 12:27	1
OII Range Organics (Over C28-C36)	<15.6	U	52.1	15.6	mg/Kg	☼	09/21/23 14:28	09/22/23 12:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*78*		*70 - 130*	*09/21/23 14:28*	*09/22/23 12:27*	*1*
o-Terphenyl	*73*		*70 - 130*	*09/21/23 14:28*	*09/22/23 12:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1170**		5.27	0.416	mg/Kg	☼		09/26/23 01:49	1

Client Sample ID: BH12 2-3

Lab Sample ID: 880-33484-25
Date Collected: 09/19/23 11:34
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 93.4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000410	U	0.00213	0.000410	mg/Kg	☼	09/21/23 17:02	09/27/23 00:43	1
Toluene	<0.000485	U	0.00213	0.000485	mg/Kg	☼	09/21/23 17:02	09/27/23 00:43	1
Ethylbenzene	<0.000601	U	0.00213	0.000601	mg/Kg	☼	09/21/23 17:02	09/27/23 00:43	1
m-Xylene & p-Xylene	<0.00107	U	0.00425	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 00:43	1
o-Xylene	<0.000366	U	0.00213	0.000366	mg/Kg	☼	09/21/23 17:02	09/27/23 00:43	1
Xylenes, Total	<0.00107	U	0.00425	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 00:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/21/23 17:02*	*09/27/23 00:43*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*09/21/23 17:02*	*09/27/23 00:43*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<16.0	U	53.3	16.0	mg/Kg	☼	09/21/23 14:28	09/22/23 12:50	1
Diesel Range Organics (Over C10-C28)	**28.1**	**J**	53.3	16.0	mg/Kg	☼	09/21/23 14:28	09/22/23 12:50	1
OII Range Organics (Over C28-C36)	<16.0	U	53.3	16.0	mg/Kg	☼	09/21/23 14:28	09/22/23 12:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*80*		*70 - 130*	*09/21/23 14:28*	*09/22/23 12:50*	*1*
o-Terphenyl	*75*		*70 - 130*	*09/21/23 14:28*	*09/22/23 12:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**825**		5.32	0.420	mg/Kg	☼		09/26/23 16:08	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH12 3-4
Lab Sample ID: 880-33484-26
Date Collected: 09/19/23 11:37
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000404	U	0.00210	0.000404	mg/Kg	☼	09/21/23 17:02	09/27/23 01:04	1
Toluene	**0.000599**	**J**	0.00210	0.000478	mg/Kg	☼	09/21/23 17:02	09/27/23 01:04	1
Ethylbenzene	<0.000592	U	0.00210	0.000592	mg/Kg	☼	09/21/23 17:02	09/27/23 01:04	1
m-Xylene & p-Xylene	<0.00106	U	0.00419	0.00106	mg/Kg	☼	09/21/23 17:02	09/27/23 01:04	1
o-Xylene	**0.000374**	**J B**	0.00210	0.000361	mg/Kg	☼	09/21/23 17:02	09/27/23 01:04	1
Xylenes, Total	<0.00106	U	0.00419	0.00106	mg/Kg	☼	09/21/23 17:02	09/27/23 01:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*09/21/23 17:02*	*09/27/23 01:04*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/21/23 17:02*	*09/27/23 01:04*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.6	U	52.0	15.6	mg/Kg	☼	09/21/23 14:28	09/22/23 13:14	1
Diesel Range Organics (Over C10-C28)	**28.6**	**J**	52.0	15.6	mg/Kg	☼	09/21/23 14:28	09/22/23 13:14	1
OII Range Organics (Over C28-C36)	<15.6	U	52.0	15.6	mg/Kg	☼	09/21/23 14:28	09/22/23 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*09/21/23 14:28*	*09/22/23 13:14*	*1*
o-Terphenyl	*75*		*70 - 130*	*09/21/23 14:28*	*09/22/23 13:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**578**		5.25	0.415	mg/Kg	☼		09/26/23 16:14	1

Client Sample ID: BH13 0-1
Lab Sample ID: 880-33484-27
Date Collected: 09/19/23 11:50
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000409	U	0.00213	0.000409	mg/Kg	☼	09/21/23 17:02	09/27/23 01:24	1
Toluene	<0.000485	U	0.00213	0.000485	mg/Kg	☼	09/21/23 17:02	09/27/23 01:24	1
Ethylbenzene	<0.000601	U	0.00213	0.000601	mg/Kg	☼	09/21/23 17:02	09/27/23 01:24	1
m-Xylene & p-Xylene	<0.00107	U	0.00425	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 01:24	1
o-Xylene	**0.000620**	**J B**	0.00213	0.000366	mg/Kg	☼	09/21/23 17:02	09/27/23 01:24	1
Xylenes, Total	<0.00107	U	0.00425	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*09/21/23 17:02*	*09/27/23 01:24*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/21/23 17:02*	*09/27/23 01:24*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.9	U	53.2	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 13:38	1
Diesel Range Organics (Over C10-C28)	**61.9**		53.2	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 13:38	1
OII Range Organics (Over C28-C36)	<15.9	U	53.2	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 13:38	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH13 0-1

Lab Sample ID: 880-33484-27
Date Collected: 09/19/23 11:50
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130	09/21/23 14:28	09/22/23 13:38	1
o-Terphenyl	73		70 - 130	09/21/23 14:28	09/22/23 13:38	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2050**		26.2	2.07	mg/Kg	☼		09/26/23 16:21	5

Client Sample ID: BH13 1-2

Lab Sample ID: 880-33484-28
Date Collected: 09/19/23 11:55
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000407	U	0.00211	0.000407	mg/Kg	☼	09/21/23 17:02	09/27/23 01:45	1
Toluene	**0.000500**	**J**	0.00211	0.000482	mg/Kg	☼	09/21/23 17:02	09/27/23 01:45	1
Ethylbenzene	<0.000597	U	0.00211	0.000597	mg/Kg	☼	09/21/23 17:02	09/27/23 01:45	1
m-Xylene & p-Xylene	<0.00107	U	0.00423	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 01:45	1
o-Xylene	<0.000364	U	0.00211	0.000364	mg/Kg	☼	09/21/23 17:02	09/27/23 01:45	1
Xylenes, Total	<0.00107	U	0.00423	0.00107	mg/Kg	☼	09/21/23 17:02	09/27/23 01:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	09/21/23 17:02	09/27/23 01:45	1
1,4-Difluorobenzene (Surr)	102		70 - 130	09/21/23 17:02	09/27/23 01:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.9	U	53.1	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 14:02	1
Diesel Range Organics (Over C10-C28)	**23.5**	**J**	53.1	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 14:02	1
Oil Range Organics (Over C28-C36)	<15.9	U	53.1	15.9	mg/Kg	☼	09/21/23 14:28	09/22/23 14:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	09/21/23 14:28	09/22/23 14:02	1
o-Terphenyl	73		70 - 130	09/21/23 14:28	09/22/23 14:02	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1070**		5.23	0.413	mg/Kg	☼		09/26/23 16:28	1

Surrogate Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-33484-1	BH1 0-1	108	90										
880-33484-1 MS	BH1 0-1	127	97										
880-33484-1 MSD	BH1 0-1	112	74										
880-33484-2	BH2 2-3	138 S1+	114										
880-33484-3	BH2 3-4	154 S1+	99										
880-33484-4	BH3 0-1	124	92										
880-33484-5	BH3 2-3	126	90										
880-33484-6	BH3 3-4	145 S1+	101										
880-33484-7	BH3 4-5	121	57 S1-										
880-33484-8	BH4 1-2	138 S1+	98										
880-33484-9	BH4 2-3	98	89										
880-33484-10	BH5 0-1	145 S1+	86										
880-33484-11	BH5 3-4	121	88										
880-33484-12	BH6 1-2	148 S1+	102										
880-33484-13	BH6 2-3	130	97										
880-33484-14	BH6 3-4	140 S1+	91										
880-33484-15	BH7 3-4	128	73										
880-33484-16	BH7 4-5	128	93										
880-33484-17	BH8 2-3	129	74										
880-33484-18	BH8 3-4	134 S1+	95										
880-33484-19	BH9 2-3	133 S1+	88										
880-33484-20	BH9 3-4	141 S1+	89										
880-33484-21	BH10 0-1	88	98										
880-33484-21 MS	BH10 0-1	97	103										
880-33484-21 MSD	BH10 0-1	104	98										
880-33484-22	BH10 2-3	98	102										
880-33484-23	BH11 0-1	108	101										
880-33484-24	BH11 1-2	97	104										
880-33484-25	BH12 2-3	100	111										
880-33484-26	BH12 3-4	98	109										
880-33484-27	BH13 0-1	109	107										
880-33484-28	BH13 1-2	100	102										
LCS 880-63018/1-A	Lab Control Sample	109	84										
LCS 880-63020/1-A	Lab Control Sample	108	98										
LCSD 880-63018/2-A	Lab Control Sample Dup	100	81										
LCSD 880-63020/2-A	Lab Control Sample Dup	107	97										
MB 880-63018/5-A	Method Blank	69 S1-	79										
MB 880-63020/5-A	Method Blank	117	126										
MB 880-63286/5-A	Method Blank	124	137 S1+										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Surrogate Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-33484-1	BH1 0-1	74	91								
880-33484-1 MS	BH1 0-1	85	94								
880-33484-1 MSD	BH1 0-1	83	89								
880-33484-2	BH2 2-3	86	109								
880-33484-3	BH2 3-4	79	99								
880-33484-4	BH3 0-1	82	109								
880-33484-5	BH3 2-3	73	92								
880-33484-6	BH3 3-4	73	93								
880-33484-7	BH3 4-5	76	95								
880-33484-8	BH4 1-2	77	95								
880-33484-9	BH4 2-3	76	96								
880-33484-10	BH5 0-1	81	102								
880-33484-11	BH5 3-4	73	95								
880-33484-12	BH6 1-2	75	92								
880-33484-13	BH6 2-3	81	105								
880-33484-14	BH6 3-4	80	101								
880-33484-15	BH7 3-4	72	88								
880-33484-16	BH7 4-5	78	102								
880-33484-17	BH8 2-3	83	107								
880-33484-18	BH8 3-4	86	111								
880-33484-19	BH9 2-3	101	129								
880-33484-20	BH9 3-4	81	103								
880-33484-21	BH10 0-1	78	72								
880-33484-21 MS	BH10 0-1	76	66 S1-								
880-33484-21 MSD	BH10 0-1	75	65 S1-								
880-33484-22	BH10 2-3	78	72								
880-33484-23	BH11 0-1	74	70								
880-33484-24	BH11 1-2	78	73								
880-33484-25	BH12 2-3	80	75								
880-33484-26	BH12 3-4	80	75								
880-33484-27	BH13 0-1	77	73								
880-33484-28	BH13 1-2	78	73								
LCS 880-63004/2-A	Lab Control Sample	146 S1+	146 S1+								
LCS 880-63008/2-A	Lab Control Sample	80	98								
LCSD 880-63004/3-A	Lab Control Sample Dup	106	105								
LCSD 880-63008/3-A	Lab Control Sample Dup	99	123								
MB 880-63004/1-A - IN3	Method Blank	127	132 S1+								
MB 880-63008/1-A	Method Blank	113	151 S1+								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-63018/5-A
Matrix: Solid
Analysis Batch: 63317

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		09/21/23 16:34	09/26/23 14:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*09/21/23 16:34*	*09/26/23 14:50*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*09/21/23 16:34*	*09/26/23 14:50*	*1*

Lab Sample ID: LCS 880-63018/1-A
Matrix: Solid
Analysis Batch: 63317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63018

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1118		mg/Kg		112	70 - 130		
Toluene			0.100	0.1263		mg/Kg		126	70 - 130		
Ethylbenzene			0.100	0.1117		mg/Kg		112	70 - 130		
m-Xylene & p-Xylene			0.200	0.2161		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1077		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: LCSD 880-63018/2-A
Matrix: Solid
Analysis Batch: 63317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63018

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1006		mg/Kg		101	70 - 130	11	35
Toluene			0.100	0.1124		mg/Kg		112	70 - 130	12	35
Ethylbenzene			0.100	0.1015		mg/Kg		102	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.2074		mg/Kg		104	70 - 130	4	35
o-Xylene			0.100	0.1015		mg/Kg		102	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

Lab Sample ID: 880-33484-1 MS
Matrix: Solid
Analysis Batch: 63317

Client Sample ID: BH1 0-1
Prep Type: Total/NA
Prep Batch: 63018

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.000390	U	0.102	0.1183		mg/Kg	☼	116	70 - 130		
Toluene	<0.000462	U F1	0.102	0.1341	F1	mg/Kg	☼	132	70 - 130		

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-33484-1 MS
Matrix: Solid
Analysis Batch: 63317

Client Sample ID: BH1 0-1
Prep Type: Total/NA
Prep Batch: 63018

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.000573	U	0.102	0.1215		mg/Kg	☼	119	70 - 130
m-Xylene & p-Xylene	<0.00102	U	0.203	0.2451		mg/Kg	☼	120	70 - 130
o-Xylene	<0.000349	U	0.102	0.1120		mg/Kg	☼	110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-33484-1 MSD
Matrix: Solid
Analysis Batch: 63317

Client Sample ID: BH1 0-1
Prep Type: Total/NA
Prep Batch: 63018

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000390	U	0.101	0.1052		mg/Kg	☼	104	70 - 130	12	35
Toluene	<0.000462	U F1	0.101	0.1123		mg/Kg	☼	111	70 - 130	18	35
Ethylbenzene	<0.000573	U	0.101	0.1032		mg/Kg	☼	102	70 - 130	16	35
m-Xylene & p-Xylene	<0.00102	U	0.202	0.2130		mg/Kg	☼	106	70 - 130	14	35
o-Xylene	<0.000349	U	0.101	0.09943		mg/Kg	☼	98	70 - 130	12	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*

Lab Sample ID: MB 880-63020/5-A
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63020

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		09/21/23 17:02	09/26/23 22:52	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		09/21/23 17:02	09/26/23 22:52	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		09/21/23 17:02	09/26/23 22:52	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		09/21/23 17:02	09/26/23 22:52	1
o-Xylene	0.0004957	J	0.00200	0.000344	mg/Kg		09/21/23 17:02	09/26/23 22:52	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		09/21/23 17:02	09/26/23 22:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*09/21/23 17:02*	*09/26/23 22:52*	*1*
1,4-Difluorobenzene (Surr)	*126*		*70 - 130*	*09/21/23 17:02*	*09/26/23 22:52*	*1*

Lab Sample ID: LCS 880-63020/1-A
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63020

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07564		mg/Kg		76	70 - 130
Toluene	0.100	0.07658		mg/Kg		77	70 - 130
Ethylbenzene	0.100	0.07573		mg/Kg		76	70 - 130
m-Xylene & p-Xylene	0.200	0.1737		mg/Kg		87	70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-63020/1-A
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63020

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.08460		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-63020/2-A
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63020

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08419		mg/Kg		84	70 - 130	11	35
Toluene			0.100	0.08114		mg/Kg		81	70 - 130	6	35
Ethylbenzene			0.100	0.08199		mg/Kg		82	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1847		mg/Kg		92	70 - 130	6	35
o-Xylene			0.100	0.08975		mg/Kg		90	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-33484-21 MS
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: BH10 0-1
Prep Type: Total/NA
Prep Batch: 63020

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.000424	U	0.111	0.1145		mg/Kg	☼	104	70 - 130		
Toluene	<0.000502	U	0.111	0.1024		mg/Kg	☼	93	70 - 130		
Ethylbenzene	<0.000622	U	0.111	0.08653		mg/Kg	☼	78	70 - 130		
m-Xylene & p-Xylene	<0.00111	U	0.221	0.2036		mg/Kg	☼	92	70 - 130		
o-Xylene	<0.000379	U	0.111	0.09875		mg/Kg	☼	89	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-33484-21 MSD
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: BH10 0-1
Prep Type: Total/NA
Prep Batch: 63020

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000424	U	0.110	0.1229		mg/Kg	☼	111	70 - 130	7	35
Toluene	<0.000502	U	0.110	0.1029		mg/Kg	☼	93	70 - 130	0	35
Ethylbenzene	<0.000622	U	0.110	0.1005		mg/Kg	☼	91	70 - 130	15	35
m-Xylene & p-Xylene	<0.00111	U	0.221	0.2316		mg/Kg	☼	105	70 - 130	13	35
o-Xylene	<0.000379	U	0.110	0.1118		mg/Kg	☼	101	70 - 130	12	35

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-33484-21 MSD
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: BH10 0-1
Prep Type: Total/NA
Prep Batch: 63020

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: MB 880-63286/5-A
Matrix: Solid
Analysis Batch: 63282

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63286

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		09/26/23 09:26	09/26/23 11:15	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		09/26/23 09:26	09/26/23 11:15	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		09/26/23 09:26	09/26/23 11:15	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		09/26/23 09:26	09/26/23 11:15	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		09/26/23 09:26	09/26/23 11:15	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		09/26/23 09:26	09/26/23 11:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	09/26/23 09:26	09/26/23 11:15	1
1,4-Difluorobenzene (Surr)	137	S1+	70 - 130	09/26/23 09:26	09/26/23 11:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: LCS 880-63004/2-A
Matrix: Solid
Analysis Batch: 63027

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63004

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	877.2		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	908.9		mg/Kg		91	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	146	S1+	70 - 130
o-Terphenyl	146	S1+	70 - 130

Lab Sample ID: LCSD 880-63004/3-A
Matrix: Solid
Analysis Batch: 63027

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63004

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	909.1		mg/Kg		91	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	959.9		mg/Kg		96	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	105		70 - 130

Eurofins Midland

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-33484-21 MS
Matrix: Solid
Analysis Batch: 63027

Client Sample ID: BH10 0-1
Prep Type: Total/NA
Prep Batch: 63004

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<16.5	U F1	1110	777.5		mg/Kg	☼	70	70 - 130
Diesel Range Organics (Over C10-C28)	37.4	J F1	1110	751.2	F1	mg/Kg	☼	64	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*76*		*70 - 130*
o-Terphenyl	*66*	*S1-*	*70 - 130*

Lab Sample ID: 880-33484-21 MSD
Matrix: Solid
Analysis Batch: 63027

Client Sample ID: BH10 0-1
Prep Type: Total/NA
Prep Batch: 63004

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<16.5	U F1	1110	768.4	F1	mg/Kg	☼	69	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	37.4	J F1	1110	737.6	F1	mg/Kg	☼	63	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*75*		*70 - 130*
o-Terphenyl	*65*	*S1-*	*70 - 130*

Lab Sample ID: MB 880-63008/1-A
Matrix: Solid
Analysis Batch: 63029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63008

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		09/21/23 14:39	09/22/23 07:49	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		09/21/23 14:39	09/22/23 07:49	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		09/21/23 14:39	09/22/23 07:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*09/21/23 14:39*	*09/22/23 07:49*	*1*
o-Terphenyl	*151*	*S1+*	*70 - 130*	*09/21/23 14:39*	*09/22/23 07:49*	*1*

Lab Sample ID: LCS 880-63008/2-A
Matrix: Solid
Analysis Batch: 63029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63008

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1009		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1146		mg/Kg		115	70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-63008/2-A
Matrix: Solid
Analysis Batch: 63029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63008

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	80		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: LCSD 880-63008/3-A
Matrix: Solid
Analysis Batch: 63029

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63008

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1120		mg/Kg		112	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	1091		mg/Kg		109	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	123		70 - 130

Lab Sample ID: 880-33484-1 MS
Matrix: Solid
Analysis Batch: 63029

Client Sample ID: BH1 0-1
Prep Type: Total/NA
Prep Batch: 63008

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	24.5	J F1	1020	739.2		mg/Kg	☼	70	70 - 130		
Diesel Range Organics (Over C10-C28)	<15.2	U	1020	966.8		mg/Kg	☼	95	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 880-33484-1 MSD
Matrix: Solid
Analysis Batch: 63029

Client Sample ID: BH1 0-1
Prep Type: Total/NA
Prep Batch: 63008

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	24.5	J F1	1020	731.2	F1	mg/Kg	☼	69	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<15.2	U	1020	915.3		mg/Kg	☼	90	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	89		70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) - IN3

Lab Sample ID: MB 880-63004/1-A
Matrix: Solid
Analysis Batch: 63027

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10 - IN3	<15.0	U	50.0	15.0	mg/Kg		09/21/23 14:28	09/22/23 07:49	1
Diesel Range Organics (Over C10-C28) - IN3	<15.0	U	50.0	15.0	mg/Kg		09/21/23 14:28	09/22/23 07:49	1
Oil Range Organics (Over C28-C36) - IN3	23.48	J	50.0	15.0	mg/Kg		09/21/23 14:28	09/22/23 07:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane - IN3	*127*		*70 - 130*	*09/21/23 14:28*	*09/22/23 07:49*	*1*
o-Terphenyl - IN3	*132*	*S1+*	*70 - 130*	*09/21/23 14:28*	*09/22/23 07:49*	*1*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-63036/1-A
Matrix: Solid
Analysis Batch: 63236

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			09/25/23 22:29	1

Lab Sample ID: LCS 880-63036/2-A
Matrix: Solid
Analysis Batch: 63236

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	250.6		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-63036/3-A
Matrix: Solid
Analysis Batch: 63236

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	250.6		mg/Kg		100	90 - 110	0	20

Lab Sample ID: MB 880-63037/1-A
Matrix: Solid
Analysis Batch: 63319

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			09/26/23 11:56	1

Lab Sample ID: LCS 880-63037/2-A
Matrix: Solid
Analysis Batch: 63319

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	200	195.4		mg/Kg		98	90 - 110

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-63037/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63319

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			200	194.5		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-33484-9 MS — **Client Sample ID: BH4 2-3**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63319

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	412	F1	256	639.5	F1	mg/Kg	☼	89	90 - 110

Lab Sample ID: 880-33484-9 MSD — **Client Sample ID: BH4 2-3**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63319

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	412	F1	256	638.8	F1	mg/Kg	☼	89	90 - 110	0	20

Lab Sample ID: MB 880-63038/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63344

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			09/26/23 14:15	1

Lab Sample ID: LCS 880-63038/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63344

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	239.2		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-63038/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63344

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	239.3		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 880-33484-14 MS — **Client Sample ID: BH6 3-4**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63344

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	131		262	382.2		mg/Kg	☼	96	90 - 110

Lab Sample ID: 880-33484-14 MSD — **Client Sample ID: BH6 3-4**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 63344

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	131		262	382.7		mg/Kg	☼	96	90 - 110	0	20

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

GC VOA

Prep Batch: 63018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1	BH1 0-1	Total/NA	Solid	5035	
880-33484-2	BH2 2-3	Total/NA	Solid	5035	
880-33484-3	BH2 3-4	Total/NA	Solid	5035	
880-33484-4	BH3 0-1	Total/NA	Solid	5035	
880-33484-5	BH3 2-3	Total/NA	Solid	5035	
880-33484-6	BH3 3-4	Total/NA	Solid	5035	
880-33484-7	BH3 4-5	Total/NA	Solid	5035	
880-33484-8	BH4 1-2	Total/NA	Solid	5035	
880-33484-9	BH4 2-3	Total/NA	Solid	5035	
880-33484-10	BH5 0-1	Total/NA	Solid	5035	
880-33484-11	BH5 3-4	Total/NA	Solid	5035	
880-33484-12	BH6 1-2	Total/NA	Solid	5035	
880-33484-13	BH6 2-3	Total/NA	Solid	5035	
880-33484-14	BH6 3-4	Total/NA	Solid	5035	
880-33484-15	BH7 3-4	Total/NA	Solid	5035	
880-33484-16	BH7 4-5	Total/NA	Solid	5035	
880-33484-17	BH8 2-3	Total/NA	Solid	5035	
880-33484-18	BH8 3-4	Total/NA	Solid	5035	
880-33484-19	BH9 2-3	Total/NA	Solid	5035	
880-33484-20	BH9 3-4	Total/NA	Solid	5035	
MB 880-63018/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63018/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63018/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-33484-1 MS	BH1 0-1	Total/NA	Solid	5035	
880-33484-1 MSD	BH1 0-1	Total/NA	Solid	5035	

Prep Batch: 63020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-21	BH10 0-1	Total/NA	Solid	5035	
880-33484-22	BH10 2-3	Total/NA	Solid	5035	
880-33484-23	BH11 0-1	Total/NA	Solid	5035	
880-33484-24	BH11 1-2	Total/NA	Solid	5035	
880-33484-25	BH12 2-3	Total/NA	Solid	5035	
880-33484-26	BH12 3-4	Total/NA	Solid	5035	
880-33484-27	BH13 0-1	Total/NA	Solid	5035	
880-33484-28	BH13 1-2	Total/NA	Solid	5035	
MB 880-63020/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63020/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63020/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-33484-21 MS	BH10 0-1	Total/NA	Solid	5035	
880-33484-21 MSD	BH10 0-1	Total/NA	Solid	5035	

Analysis Batch: 63282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-21	BH10 0-1	Total/NA	Solid	8021B	63020
880-33484-22	BH10 2-3	Total/NA	Solid	8021B	63020
880-33484-23	BH11 0-1	Total/NA	Solid	8021B	63020
880-33484-24	BH11 1-2	Total/NA	Solid	8021B	63020
880-33484-25	BH12 2-3	Total/NA	Solid	8021B	63020
880-33484-26	BH12 3-4	Total/NA	Solid	8021B	63020
880-33484-27	BH13 0-1	Total/NA	Solid	8021B	63020

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

GC VOA (Continued)

Analysis Batch: 63282 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-28	BH13 1-2	Total/NA	Solid	8021B	63020
MB 880-63020/5-A	Method Blank	Total/NA	Solid	8021B	63020
MB 880-63286/5-A	Method Blank	Total/NA	Solid	8021B	63286
LCS 880-63020/1-A	Lab Control Sample	Total/NA	Solid	8021B	63020
LCSD 880-63020/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63020
880-33484-21 MS	BH10 0-1	Total/NA	Solid	8021B	63020
880-33484-21 MSD	BH10 0-1	Total/NA	Solid	8021B	63020

Prep Batch: 63286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-63286/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 63317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1	BH1 0-1	Total/NA	Solid	8021B	63018
880-33484-2	BH2 2-3	Total/NA	Solid	8021B	63018
880-33484-3	BH2 3-4	Total/NA	Solid	8021B	63018
880-33484-4	BH3 0-1	Total/NA	Solid	8021B	63018
880-33484-5	BH3 2-3	Total/NA	Solid	8021B	63018
880-33484-6	BH3 3-4	Total/NA	Solid	8021B	63018
880-33484-7	BH3 4-5	Total/NA	Solid	8021B	63018
880-33484-8	BH4 1-2	Total/NA	Solid	8021B	63018
880-33484-9	BH4 2-3	Total/NA	Solid	8021B	63018
880-33484-10	BH5 0-1	Total/NA	Solid	8021B	63018
880-33484-11	BH5 3-4	Total/NA	Solid	8021B	63018
880-33484-12	BH6 1-2	Total/NA	Solid	8021B	63018
880-33484-13	BH6 2-3	Total/NA	Solid	8021B	63018
880-33484-14	BH6 3-4	Total/NA	Solid	8021B	63018
880-33484-15	BH7 3-4	Total/NA	Solid	8021B	63018
880-33484-16	BH7 4-5	Total/NA	Solid	8021B	63018
880-33484-17	BH8 2-3	Total/NA	Solid	8021B	63018
880-33484-18	BH8 3-4	Total/NA	Solid	8021B	63018
880-33484-19	BH9 2-3	Total/NA	Solid	8021B	63018
880-33484-20	BH9 3-4	Total/NA	Solid	8021B	63018
MB 880-63018/5-A	Method Blank	Total/NA	Solid	8021B	63018
LCS 880-63018/1-A	Lab Control Sample	Total/NA	Solid	8021B	63018
LCSD 880-63018/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63018
880-33484-1 MS	BH1 0-1	Total/NA	Solid	8021B	63018
880-33484-1 MSD	BH1 0-1	Total/NA	Solid	8021B	63018

GC Semi VOA

Prep Batch: 63004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-21	BH10 0-1	Total/NA	Solid	8015NM Prep	
880-33484-22	BH10 2-3	Total/NA	Solid	8015NM Prep	
880-33484-23	BH11 0-1	Total/NA	Solid	8015NM Prep	
880-33484-24	BH11 1-2	Total/NA	Solid	8015NM Prep	
880-33484-25	BH12 2-3	Total/NA	Solid	8015NM Prep	
880-33484-26	BH12 3-4	Total/NA	Solid	8015NM Prep	
880-33484-27	BH13 0-1	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

GC Semi VOA (Continued)

Prep Batch: 63004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-28	BH13 1-2	Total/NA	Solid	8015NM Prep	
MB 880-63004/1-A - IN3	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63004/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63004/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-33484-21 MS	BH10 0-1	Total/NA	Solid	8015NM Prep	
880-33484-21 MSD	BH10 0-1	Total/NA	Solid	8015NM Prep	

Prep Batch: 63008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1	BH1 0-1	Total/NA	Solid	8015NM Prep	
880-33484-2	BH2 2-3	Total/NA	Solid	8015NM Prep	
880-33484-3	BH2 3-4	Total/NA	Solid	8015NM Prep	
880-33484-4	BH3 0-1	Total/NA	Solid	8015NM Prep	
880-33484-5	BH3 2-3	Total/NA	Solid	8015NM Prep	
880-33484-6	BH3 3-4	Total/NA	Solid	8015NM Prep	
880-33484-7	BH3 4-5	Total/NA	Solid	8015NM Prep	
880-33484-8	BH4 1-2	Total/NA	Solid	8015NM Prep	
880-33484-9	BH4 2-3	Total/NA	Solid	8015NM Prep	
880-33484-10	BH5 0-1	Total/NA	Solid	8015NM Prep	
880-33484-11	BH5 3-4	Total/NA	Solid	8015NM Prep	
880-33484-12	BH6 1-2	Total/NA	Solid	8015NM Prep	
880-33484-13	BH6 2-3	Total/NA	Solid	8015NM Prep	
880-33484-14	BH6 3-4	Total/NA	Solid	8015NM Prep	
880-33484-15	BH7 3-4	Total/NA	Solid	8015NM Prep	
880-33484-16	BH7 4-5	Total/NA	Solid	8015NM Prep	
880-33484-17	BH8 2-3	Total/NA	Solid	8015NM Prep	
880-33484-18	BH8 3-4	Total/NA	Solid	8015NM Prep	
880-33484-19	BH9 2-3	Total/NA	Solid	8015NM Prep	
880-33484-20	BH9 3-4	Total/NA	Solid	8015NM Prep	
MB 880-63008/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63008/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63008/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-33484-1 MS	BH1 0-1	Total/NA	Solid	8015NM Prep	
880-33484-1 MSD	BH1 0-1	Total/NA	Solid	8015NM Prep	

Analysis Batch: 63027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-21	BH10 0-1	Total/NA	Solid	8015B NM	63004
880-33484-22	BH10 2-3	Total/NA	Solid	8015B NM	63004
880-33484-23	BH11 0-1	Total/NA	Solid	8015B NM	63004
880-33484-24	BH11 1-2	Total/NA	Solid	8015B NM	63004
880-33484-25	BH12 2-3	Total/NA	Solid	8015B NM	63004
880-33484-26	BH12 3-4	Total/NA	Solid	8015B NM	63004
880-33484-27	BH13 0-1	Total/NA	Solid	8015B NM	63004
880-33484-28	BH13 1-2	Total/NA	Solid	8015B NM	63004
MB 880-63004/1-A - IN3	Method Blank	Total/NA	Solid	8015B NM	63004
LCS 880-63004/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63004
LCSD 880-63004/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63004
880-33484-21 MS	BH10 0-1	Total/NA	Solid	8015B NM	63004
880-33484-21 MSD	BH10 0-1	Total/NA	Solid	8015B NM	63004

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

GC Semi VOA

Analysis Batch: 63029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1	BH1 0-1	Total/NA	Solid	8015B NM	63008
880-33484-2	BH2 2-3	Total/NA	Solid	8015B NM	63008
880-33484-3	BH2 3-4	Total/NA	Solid	8015B NM	63008
880-33484-4	BH3 0-1	Total/NA	Solid	8015B NM	63008
880-33484-5	BH3 2-3	Total/NA	Solid	8015B NM	63008
880-33484-6	BH3 3-4	Total/NA	Solid	8015B NM	63008
880-33484-7	BH3 4-5	Total/NA	Solid	8015B NM	63008
880-33484-8	BH4 1-2	Total/NA	Solid	8015B NM	63008
880-33484-9	BH4 2-3	Total/NA	Solid	8015B NM	63008
880-33484-10	BH5 0-1	Total/NA	Solid	8015B NM	63008
880-33484-11	BH5 3-4	Total/NA	Solid	8015B NM	63008
880-33484-12	BH6 1-2	Total/NA	Solid	8015B NM	63008
880-33484-13	BH6 2-3	Total/NA	Solid	8015B NM	63008
880-33484-14	BH6 3-4	Total/NA	Solid	8015B NM	63008
880-33484-15	BH7 3-4	Total/NA	Solid	8015B NM	63008
880-33484-16	BH7 4-5	Total/NA	Solid	8015B NM	63008
880-33484-17	BH8 2-3	Total/NA	Solid	8015B NM	63008
880-33484-18	BH8 3-4	Total/NA	Solid	8015B NM	63008
880-33484-19	BH9 2-3	Total/NA	Solid	8015B NM	63008
880-33484-20	BH9 3-4	Total/NA	Solid	8015B NM	63008
MB 880-63008/1-A	Method Blank	Total/NA	Solid	8015B NM	63008
LCS 880-63008/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63008
LCSD 880-63008/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63008
880-33484-1 MS	BH1 0-1	Total/NA	Solid	8015B NM	63008
880-33484-1 MSD	BH1 0-1	Total/NA	Solid	8015B NM	63008

HPLC/IC

Leach Batch: 63036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-23	BH11 0-1	Soluble	Solid	DI Leach	
880-33484-24	BH11 1-2	Soluble	Solid	DI Leach	
MB 880-63036/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63036/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63036/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 63037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1	BH1 0-1	Soluble	Solid	DI Leach	
880-33484-2	BH2 2-3	Soluble	Solid	DI Leach	
880-33484-3	BH2 3-4	Soluble	Solid	DI Leach	
880-33484-4	BH3 0-1	Soluble	Solid	DI Leach	
880-33484-5	BH3 2-3	Soluble	Solid	DI Leach	
880-33484-6	BH3 3-4	Soluble	Solid	DI Leach	
880-33484-7	BH3 4-5	Soluble	Solid	DI Leach	
880-33484-8	BH4 1-2	Soluble	Solid	DI Leach	
880-33484-9	BH4 2-3	Soluble	Solid	DI Leach	
880-33484-10	BH5 0-1	Soluble	Solid	DI Leach	
880-33484-11	BH5 3-4	Soluble	Solid	DI Leach	
880-33484-12	BH6 1-2	Soluble	Solid	DI Leach	
880-33484-13	BH6 2-3	Soluble	Solid	DI Leach	

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

HPLC/IC (Continued)

Leach Batch: 63037 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-25	BH12 2-3	Soluble	Solid	DI Leach	
880-33484-26	BH12 3-4	Soluble	Solid	DI Leach	
880-33484-27	BH13 0-1	Soluble	Solid	DI Leach	
880-33484-28	BH13 1-2	Soluble	Solid	DI Leach	
MB 880-63037/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63037/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63037/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-33484-9 MS	BH4 2-3	Soluble	Solid	DI Leach	
880-33484-9 MSD	BH4 2-3	Soluble	Solid	DI Leach	

Leach Batch: 63038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-14	BH6 3-4	Soluble	Solid	DI Leach	
880-33484-15	BH7 3-4	Soluble	Solid	DI Leach	
880-33484-16	BH7 4-5	Soluble	Solid	DI Leach	
880-33484-17	BH8 2-3	Soluble	Solid	DI Leach	
880-33484-18	BH8 3-4	Soluble	Solid	DI Leach	
880-33484-19	BH9 2-3	Soluble	Solid	DI Leach	
880-33484-20	BH9 3-4	Soluble	Solid	DI Leach	
880-33484-21	BH10 0-1	Soluble	Solid	DI Leach	
880-33484-22	BH10 2-3	Soluble	Solid	DI Leach	
MB 880-63038/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63038/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63038/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-33484-14 MS	BH6 3-4	Soluble	Solid	DI Leach	
880-33484-14 MSD	BH6 3-4	Soluble	Solid	DI Leach	

Analysis Batch: 63236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-23	BH11 0-1	Soluble	Solid	300.0	63036
880-33484-24	BH11 1-2	Soluble	Solid	300.0	63036
MB 880-63036/1-A	Method Blank	Soluble	Solid	300.0	63036
LCS 880-63036/2-A	Lab Control Sample	Soluble	Solid	300.0	63036
LCSD 880-63036/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63036

Analysis Batch: 63319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1	BH1 0-1	Soluble	Solid	300.0	63037
880-33484-2	BH2 2-3	Soluble	Solid	300.0	63037
880-33484-3	BH2 3-4	Soluble	Solid	300.0	63037
880-33484-4	BH3 0-1	Soluble	Solid	300.0	63037
880-33484-5	BH3 2-3	Soluble	Solid	300.0	63037
880-33484-6	BH3 3-4	Soluble	Solid	300.0	63037
880-33484-7	BH3 4-5	Soluble	Solid	300.0	63037
880-33484-8	BH4 1-2	Soluble	Solid	300.0	63037
880-33484-9	BH4 2-3	Soluble	Solid	300.0	63037
880-33484-10	BH5 0-1	Soluble	Solid	300.0	63037
880-33484-11	BH5 3-4	Soluble	Solid	300.0	63037
880-33484-12	BH6 1-2	Soluble	Solid	300.0	63037
880-33484-13	BH6 2-3	Soluble	Solid	300.0	63037
880-33484-25	BH12 2-3	Soluble	Solid	300.0	63037

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

HPLC/IC (Continued)

Analysis Batch: 63319 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-26	BH12 3-4	Soluble	Solid	300.0	63037
880-33484-27	BH13 0-1	Soluble	Solid	300.0	63037
880-33484-28	BH13 1-2	Soluble	Solid	300.0	63037
MB 880-63037/1-A	Method Blank	Soluble	Solid	300.0	63037
LCS 880-63037/2-A	Lab Control Sample	Soluble	Solid	300.0	63037
LCSD 880-63037/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63037
880-33484-9 MS	BH4 2-3	Soluble	Solid	300.0	63037
880-33484-9 MSD	BH4 2-3	Soluble	Solid	300.0	63037

Analysis Batch: 63344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-14	BH6 3-4	Soluble	Solid	300.0	63038
880-33484-15	BH7 3-4	Soluble	Solid	300.0	63038
880-33484-16	BH7 4-5	Soluble	Solid	300.0	63038
880-33484-17	BH8 2-3	Soluble	Solid	300.0	63038
880-33484-18	BH8 3-4	Soluble	Solid	300.0	63038
880-33484-19	BH9 2-3	Soluble	Solid	300.0	63038
880-33484-20	BH9 3-4	Soluble	Solid	300.0	63038
880-33484-21	BH10 0-1	Soluble	Solid	300.0	63038
880-33484-22	BH10 2-3	Soluble	Solid	300.0	63038
MB 880-63038/1-A	Method Blank	Soluble	Solid	300.0	63038
LCS 880-63038/2-A	Lab Control Sample	Soluble	Solid	300.0	63038
LCSD 880-63038/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63038
880-33484-14 MS	BH6 3-4	Soluble	Solid	300.0	63038
880-33484-14 MSD	BH6 3-4	Soluble	Solid	300.0	63038

General Chemistry

Analysis Batch: 63045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1	BH1 0-1	Total/NA	Solid	D2216	
880-33484-2	BH2 2-3	Total/NA	Solid	D2216	
880-33484-3	BH2 3-4	Total/NA	Solid	D2216	
880-33484-4	BH3 0-1	Total/NA	Solid	D2216	
880-33484-5	BH3 2-3	Total/NA	Solid	D2216	
880-33484-6	BH3 3-4	Total/NA	Solid	D2216	
880-33484-7	BH3 4-5	Total/NA	Solid	D2216	
880-33484-8	BH4 1-2	Total/NA	Solid	D2216	
880-33484-9	BH4 2-3	Total/NA	Solid	D2216	
880-33484-10	BH5 0-1	Total/NA	Solid	D2216	
880-33484-11	BH5 3-4	Total/NA	Solid	D2216	
880-33484-12	BH6 1-2	Total/NA	Solid	D2216	
880-33484-13	BH6 2-3	Total/NA	Solid	D2216	
880-33484-14	BH6 3-4	Total/NA	Solid	D2216	
880-33484-15	BH7 3-4	Total/NA	Solid	D2216	
880-33484-16	BH7 4-5	Total/NA	Solid	D2216	
880-33484-17	BH8 2-3	Total/NA	Solid	D2216	
880-33484-18	BH8 3-4	Total/NA	Solid	D2216	
880-33484-19	BH9 2-3	Total/NA	Solid	D2216	
880-33484-20	BH9 3-4	Total/NA	Solid	D2216	
MB 880-63045/1	Method Blank	Total/NA	Solid	D2216	

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

General Chemistry (Continued)

Analysis Batch: 63045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-1 DU	BH1 0-1	Total/NA	Solid	D2216	
880-33484-11 DU	BH5 3-4	Total/NA	Solid	D2216	

Analysis Batch: 63048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-33484-21	BH10 0-1	Total/NA	Solid	D2216	
880-33484-22	BH10 2-3	Total/NA	Solid	D2216	
880-33484-23	BH11 0-1	Total/NA	Solid	D2216	
880-33484-24	BH11 1-2	Total/NA	Solid	D2216	
880-33484-25	BH12 2-3	Total/NA	Solid	D2216	
880-33484-26	BH12 3-4	Total/NA	Solid	D2216	
880-33484-27	BH13 0-1	Total/NA	Solid	D2216	
880-33484-28	BH13 1-2	Total/NA	Solid	D2216	
MB 880-63048/1	Method Blank	Total/NA	Solid	D2216	
880-33484-21 DU	BH10 0-1	Total/NA	Solid	D2216	

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH1 0-1
Lab Sample ID: 880-33484-1
Date Collected: 09/18/23 15:58
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH1 0-1
Lab Sample ID: 880-33484-1
Date Collected: 09/18/23 15:58
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 98.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 15:16	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 10:31	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 14:01	CH	EET MID

Client Sample ID: BH2 2-3
Lab Sample ID: 880-33484-2
Date Collected: 09/19/23 07:57
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH2 2-3
Lab Sample ID: 880-33484-2
Date Collected: 09/19/23 07:57
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 15:42	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 11:42	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 14:08	CH	EET MID

Client Sample ID: BH2 3-4
Lab Sample ID: 880-33484-3
Date Collected: 09/19/23 08:00
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH2 3-4

Lab Sample ID: 880-33484-3
Date Collected: 09/19/23 08:00
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 16:08	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 12:05	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 14:14	CH	EET MID

Client Sample ID: BH3 0-1

Lab Sample ID: 880-33484-4
Date Collected: 09/19/23 08:11
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH3 0-1

Lab Sample ID: 880-33484-4
Date Collected: 09/19/23 08:11
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 16:34	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 12:27	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		5			63319	09/26/23 14:34	CH	EET MID

Client Sample ID: BH3 2-3

Lab Sample ID: 880-33484-5
Date Collected: 09/19/23 08:13
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH3 2-3

Lab Sample ID: 880-33484-5
Date Collected: 09/19/23 08:13
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 17:00	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 12:50	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		5			63319	09/26/23 14:41	CH	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH3 3-4
Lab Sample ID: 880-33484-6
Date Collected: 09/19/23 08:15
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH3 3-4
Lab Sample ID: 880-33484-6
Date Collected: 09/19/23 08:15
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 17:26	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 13:14	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 14:48	CH	EET MID

Client Sample ID: BH3 4-5
Lab Sample ID: 880-33484-7
Date Collected: 09/19/23 08:17
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH3 4-5
Lab Sample ID: 880-33484-7
Date Collected: 09/19/23 08:17
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 17:53	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 13:38	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 14:54	CH	EET MID

Client Sample ID: BH4 1-2
Lab Sample ID: 880-33484-8
Date Collected: 09/19/23 08:05
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH4 1-2

Lab Sample ID: 880-33484-8
Date Collected: 09/19/23 08:05
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 18:19	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 14:02	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 15:01	CH	EET MID

Client Sample ID: BH4 2-3

Lab Sample ID: 880-33484-9
Date Collected: 09/19/23 08:08
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH4 2-3

Lab Sample ID: 880-33484-9
Date Collected: 09/19/23 08:08
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 18:45	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 14:26	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 15:08	CH	EET MID

Client Sample ID: BH5 0-1

Lab Sample ID: 880-33484-10
Date Collected: 09/19/23 08:19
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH5 0-1

Lab Sample ID: 880-33484-10
Date Collected: 09/19/23 08:19
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 85.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 19:11	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 14:49	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		5			63319	09/26/23 15:28	CH	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH5 3-4

Lab Sample ID: 880-33484-11
Date Collected: 09/19/23 08:25
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH5 3-4

Lab Sample ID: 880-33484-11
Date Collected: 09/19/23 08:25
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 20:56	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 15:40	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 15:34	CH	EET MID

Client Sample ID: BH6 1-2

Lab Sample ID: 880-33484-12
Date Collected: 09/19/23 09:27
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH6 1-2

Lab Sample ID: 880-33484-12
Date Collected: 09/19/23 09:27
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 21:22	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 16:03	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 15:54	CH	EET MID

Client Sample ID: BH6 2-3

Lab Sample ID: 880-33484-13
Date Collected: 09/19/23 09:30
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH6 2-3

Lab Sample ID: 880-33484-13
Date Collected: 09/19/23 09:30
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 21:48	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 16:27	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 16:01	CH	EET MID

Client Sample ID: BH6 3-4

Lab Sample ID: 880-33484-14
Date Collected: 09/19/23 09:33
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH6 3-4

Lab Sample ID: 880-33484-14
Date Collected: 09/19/23 09:33
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 22:14	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 16:52	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		1			63344	09/26/23 14:32	CH	EET MID

Client Sample ID: BH7 3-4

Lab Sample ID: 880-33484-15
Date Collected: 09/19/23 09:36
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH7 3-4

Lab Sample ID: 880-33484-15
Date Collected: 09/19/23 09:36
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 22:41	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 17:16	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		5			63344	09/26/23 14:50	CH	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH7 4-5
Lab Sample ID: 880-33484-16
Date Collected: 09/19/23 09:39
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH7 4-5
Lab Sample ID: 880-33484-16
Date Collected: 09/19/23 09:39
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 23:07	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 17:39	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		5			63344	09/26/23 14:56	CH	EET MID

Client Sample ID: BH8 2-3
Lab Sample ID: 880-33484-17
Date Collected: 09/19/23 09:48
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH8 2-3
Lab Sample ID: 880-33484-17
Date Collected: 09/19/23 09:48
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 23:33	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 18:01	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		1			63344	09/26/23 15:01	CH	EET MID

Client Sample ID: BH8 3-4
Lab Sample ID: 880-33484-18
Date Collected: 09/19/23 09:51
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH8 3-4
Lab Sample ID: 880-33484-18
Date Collected: 09/19/23 09:51
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 79.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/26/23 23:59	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 18:23	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		1			63344	09/26/23 15:07	CH	EET MID

Client Sample ID: BH9 2-3
Lab Sample ID: 880-33484-19
Date Collected: 09/19/23 10:14
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH9 2-3
Lab Sample ID: 880-33484-19
Date Collected: 09/19/23 10:14
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/27/23 00:25	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 18:45	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		5			63344	09/26/23 15:25	CH	EET MID

Client Sample ID: BH9 3-4
Lab Sample ID: 880-33484-20
Date Collected: 09/19/23 10:16
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63045	09/22/23 10:17	SMC	EET MID

Client Sample ID: BH9 3-4
Lab Sample ID: 880-33484-20
Date Collected: 09/19/23 10:16
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63018	09/21/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/27/23 00:52	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	63008	09/21/23 14:39	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63029	09/22/23 19:07	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		1			63344	09/26/23 15:31	CH	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH10 0-1
Lab Sample ID: 880-33484-21
Date Collected: 09/19/23 11:07
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Client Sample ID: BH10 0-1
Lab Sample ID: 880-33484-21
Date Collected: 09/19/23 11:07
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/26/23 23:21	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 10:31	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		1			63344	09/26/23 15:36	CH	EET MID

Client Sample ID: BH10 2-3
Lab Sample ID: 880-33484-22
Date Collected: 09/19/23 11:10
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Client Sample ID: BH10 2-3
Lab Sample ID: 880-33484-22
Date Collected: 09/19/23 11:10
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/26/23 23:42	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 11:42	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	63038	09/22/23 08:22	AG	EET MID
Soluble	Analysis	300.0		1			63344	09/26/23 15:42	CH	EET MID

Client Sample ID: BH11 0-1
Lab Sample ID: 880-33484-23
Date Collected: 09/19/23 11:19
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH11 0-1

Lab Sample ID: 880-33484-23
Date Collected: 09/19/23 11:19
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/27/23 00:02	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 12:05	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	63036	09/22/23 08:16	AG	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	63236	09/26/23 01:43	CH	EET MID

Client Sample ID: BH11 1-2

Lab Sample ID: 880-33484-24
Date Collected: 09/19/23 11:21
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Client Sample ID: BH11 1-2

Lab Sample ID: 880-33484-24
Date Collected: 09/19/23 11:21
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/27/23 00:23	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 12:27	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	63036	09/22/23 08:16	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	63236	09/26/23 01:49	CH	EET MID

Client Sample ID: BH12 2-3

Lab Sample ID: 880-33484-25
Date Collected: 09/19/23 11:34
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Client Sample ID: BH12 2-3

Lab Sample ID: 880-33484-25
Date Collected: 09/19/23 11:34
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/27/23 00:43	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 12:50	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 16:08	CH	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Client Sample ID: BH12 3-4

Lab Sample ID: 880-33484-26
Date Collected: 09/19/23 11:37
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Client Sample ID: BH12 3-4

Lab Sample ID: 880-33484-26
Date Collected: 09/19/23 11:37
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/27/23 01:04	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 13:14	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 16:14	CH	EET MID

Client Sample ID: BH13 0-1

Lab Sample ID: 880-33484-27
Date Collected: 09/19/23 11:50
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Client Sample ID: BH13 0-1

Lab Sample ID: 880-33484-27
Date Collected: 09/19/23 11:50
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/27/23 01:24	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 13:38	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		5			63319	09/26/23 16:21	CH	EET MID

Client Sample ID: BH13 1-2

Lab Sample ID: 880-33484-28
Date Collected: 09/19/23 11:55
Matrix: Solid
Date Received: 09/21/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D2216		1			63048	09/22/23 10:20	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Client Sample ID: BH13 1-2
Lab Sample ID: 880-33484-28
Date Collected: 09/19/23 11:55
Matrix: Solid
Date Received: 09/21/23 11:13
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	63020	09/21/23 17:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63282	09/27/23 01:45	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	63004	09/21/23 14:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63027	09/22/23 14:02	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	63037	09/22/23 08:18	AG	EET MID
Soluble	Analysis	300.0		1			63319	09/26/23 16:28	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Civil & Environmental Consultants Inc
Job ID: 880-33484-1
Project/Site: SEAWOLD 1 12 Federal #091H

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

Method Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
D2216	Percent Moisture	ASTM	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Civil & Environmental Consultants Inc
Project/Site: SEAWOLD 1 12 Federal #091H

Job ID: 880-33484-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-33484-1	BH1 0-1	Solid	09/18/23 15:58	09/21/23 11:13
880-33484-2	BH2 2-3	Solid	09/19/23 07:57	09/21/23 11:13
880-33484-3	BH2 3-4	Solid	09/19/23 08:00	09/21/23 11:13
880-33484-4	BH3 0-1	Solid	09/19/23 08:11	09/21/23 11:13
880-33484-5	BH3 2-3	Solid	09/19/23 08:13	09/21/23 11:13
880-33484-6	BH3 3-4	Solid	09/19/23 08:15	09/21/23 11:13
880-33484-7	BH3 4-5	Solid	09/19/23 08:17	09/21/23 11:13
880-33484-8	BH4 1-2	Solid	09/19/23 08:05	09/21/23 11:13
880-33484-9	BH4 2-3	Solid	09/19/23 08:08	09/21/23 11:13
880-33484-10	BH5 0-1	Solid	09/19/23 08:19	09/21/23 11:13
880-33484-11	BH5 3-4	Solid	09/19/23 08:25	09/21/23 11:13
880-33484-12	BH6 1-2	Solid	09/19/23 09:27	09/21/23 11:13
880-33484-13	BH6 2-3	Solid	09/19/23 09:30	09/21/23 11:13
880-33484-14	BH6 3-4	Solid	09/19/23 09:33	09/21/23 11:13
880-33484-15	BH7 3-4	Solid	09/19/23 09:36	09/21/23 11:13
880-33484-16	BH7 4-5	Solid	09/19/23 09:39	09/21/23 11:13
880-33484-17	BH8 2-3	Solid	09/19/23 09:48	09/21/23 11:13
880-33484-18	BH8 3-4	Solid	09/19/23 09:51	09/21/23 11:13
880-33484-19	BH9 2-3	Solid	09/19/23 10:14	09/21/23 11:13
880-33484-20	BH9 3-4	Solid	09/19/23 10:16	09/21/23 11:13
880-33484-21	BH10 0-1	Solid	09/19/23 11:07	09/21/23 11:13
880-33484-22	BH10 2-3	Solid	09/19/23 11:10	09/21/23 11:13
880-33484-23	BH11 0-1	Solid	09/19/23 11:19	09/21/23 11:13
880-33484-24	BH11 1-2	Solid	09/19/23 11:21	09/21/23 11:13
880-33484-25	BH12 2-3	Solid	09/19/23 11:34	09/21/23 11:13
880-33484-26	BH12 3-4	Solid	09/19/23 11:37	09/21/23 11:13
880-33484-27	BH13 0-1	Solid	09/19/23 11:50	09/21/23 11:13
880-33484-28	BH13 1-2	Solid	09/19/23 11:55	09/21/23 11:13

Eurofins Midland
1211 W Florida Ave
Midland, TX 79701
Phone (432) 704-5440

Chain of Custody Record

880-33484 Chain of Custody

Client Information	Sampler: N. SHEPHERD	Lab PM: Richter, Travis W	Carrier Tracking No:	
Client Contact: Ms Laura Campbell / BRAD BERTRAM	Phone: 405 815 7664	E-Mail: Travis.Richter@et.eurofinsus.com	State of Origin: NM	Page: Page 1 of 13
Company: Civil & Environmental Consultants Inc	PWSID:			Job #:
Address: 700 Cherrington Parkway	Due Date Requested:			
City: Moon Township	TAT Requested (days):			
State, Zip: PA 15108	Compliance Project: Δ Yes Δ No			
Phone: 800-365-2324(Tel)	PO #:			
Email: lcampbell@cecinc.com / bbritton@cecinc.com	WO #:			
Project Name: SEAWOLF 1 12 FEDERAL #091H	Project #: 88001737			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C - Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N - None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D - Chloride	8015MOD_NM - Full TPH	8021B - BTEX	MOISTURE_2540G - Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N	X	
BH1 0-1	9/18/23	15:58	G	Solid			X	X	X	X	2	4oz
BH2 2-3	9/19/23	07:51	G	Solid			X	X	X	X	2	
BH2 3-4	9/19/23	08:00	G	Solid			X	X	X	X	2	
BH3 0-1	9/19/23	08:11	G	Solid			X	X	X	X	2	
BH3 2-3	9/19/23	08:13	G	Solid			X	X	X	X	2	
BH3 3-4	9/19/23	08:15	G	Solid			X	X	X	X	2	
BH3 4-5	9/19/23	08:17	G	Solid			X	X	X	X	2	
BH4 1-2	9/19/23	08:05	G	Solid			X	X	X	X	2	
BH4 2-3	9/19/23	08:08	G	Solid			X	X	X	X	2	
BH5 0-1	9/19/23	08:19	G	Solid			X	X	X	X	2	
BH5 3-4	9/19/23	08:25	G	Solid			X	X	X	X	2	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify): II

Special Instructions/QC Requirements: EDD

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		9/20/23 10:00	CEC		9/21/23 11:13	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3 2.5 2 2

Ver: 01/16/2019

Eurofins Midland
1211 W Florida Ave
Midland TX 79701
Phone (432) 704-5440

Chain of Custody Record

eurofins | Environment Testing

338484

Client Information	Sampler: N. SHEPHERD	Lab PM: Richter Travis W	Carrier Tracking No(s):	COC No: 880-6828-956 2
Client Contact: ~~Ms. Laura Campbell~~ BRAD BRITTAIN	Phone: 405 815 7664	E-Mail: Travis Richter@et.eurofinsus com	State of Origin:	Page: Page 2 of 3
Company: Civil & Environmental Consultants Inc	PWSID:			Job #:
Address: 700 Cherrington Parkway	Due Date Requested:			
City: Moon Township	TAT Requested (days):			
State Zip: PA 15108	Compliance Project: Δ Yes Δ No			
Phone: 800-365-2324(Tel)	PO #:			
Email: lcampbell@cecinc.com, bbritain@cecinc.com	WO #:			
Project Name: SEAWOLF 1 12 FEDERAL #091H	Project #: 88001737			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D - Chloride	8015MOD_NM - Full TPH	8021B - BTEX	MOISTURE_2540G - Local Method	Total Number of containers	Special Instructions/Note.
			Preservation Code:				N	N	N	N		
BH6 1-2	9/19/23	09:27	G	Solid			X	X	X	X	2	4oz
BH6 2-3	9/19/23	09:30	G	Solid			X	X	X	X	2	
BH6 3-4	9/19/23	09:33	G	Solid			X	X	X	X	2	
BH7 3-4	9/19/23	09:36	G	Solid			X	X	X	X	2	
BH7 4-5	9/19/23	09:39	G	Solid			X	X	X	X	2	
BH8 2-3	9/19/23	09:48	G	Solid			X	X	X	X	2	
BH8 3-4	9/19/23	09:51	G	Solid			X	X	X	X	2	
BH9 2-3	9/19/23	10:14	G	Solid			X	X	X	X	2	
BH9 3-4	9/19/23	10:16	G	Solid			X	X	X	X	2	
BH 10 0-1	9/19/23	1107	G				1	1	1	1	2	
BH 10 2-3	9/19/23	1110	G				1	1	1	1	2	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		9/20/23 1000	CEC		9/21/23 11 13	
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins Midland
1211 W Florida Ave
Midland TX 79701
Phone (432) 704-5440

Chain of Custody Record

eurofins Environment Testing

33484

Client Information	Sampler: N. SHEPHERD	Lab PM: Richter Travis W	Carrier Tracking No(s):	COC No: 880-6827-9332 956.3
Client Contact: Ms Laura Campbell / BRAD BRITAIN	Phone: 405 815 7664	E-Mail: Travis Richter@et eurofinsus com	State of Origin:	Page: Page 3 of 3
Company: Civil & Environmental Consultants Inc	PWSID:			Job #:
Address: 700 Cherrington Parkway	Due Date Requested:			
City: Moon Township	TAT Requested (days):			
State, Zip: PA, 15108	Compliance Project: Δ Yes Δ No			
Phone: 800-365-2324(Tel)	PO #:			
Email: lcampbell@cecinc.com / bbritain@cecinc.com	WO #:			
Project Name: SEAWOLF 112 Federal 91H	Project #: 88001737			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D - Chloride	8015MOD_NM - Full TPH	8021B - BTEX	MOISTURE_2540G - Local Method	Total Number of containers
			Preservation Code:				N	N	N	N	
BH 11 0-1	9-19-23	1119	G	Solid			1	1	1	1	2
BH 11 1-2		1121		Solid			1	1	1	1	2
BH 12 2-3		1134		Solid			1	1	1	1	2
BH 12 3-4		1137		Solid			1	1	1	1	2
BH 13 0-1		1150		Solid			1	1	1	1	2
BH 13 1-2		1155		Solid			1	1	1	1	2
				Solid							
				Solid							
				Solid							

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N - None, O - AsNaO2, P - Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V - MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Special Instructions/Note:

407

Loc: 880
33484

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify) II

Special Instructions/QC Requirements. EDD

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	9/20/23 1000	CEC	[signature]	9/21/23	
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time 11.13	Company
	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Civil & Environmental Consultants Inc Job Number: 880-33484-1

Login Number: 33484 **List Source: Eurofins Midland**
List Number: 1
Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Laura Campbell
Civil & Environmental Consultants Inc
700 Cherrington Parkway
Moon Township, Pennsylvania 15108

Generated 11/7/2023 9:12:24 AM Revision 1

JOB DESCRIPTION

Seawolf Federal 1-12-91H
SDG NUMBER 335-562

JOB NUMBER

820-10710-1

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock TX 79424

See page two for job notes and contact information.

my EOL

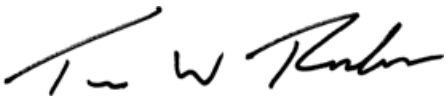
Eurofins Lubbock

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
Travis Richter, Project Manager
Travis.Richter@et.eurofinsus.com
(281)794-7216

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Laboratory Job ID: 820-10710-1
SDG: 335-562

Table of Contents

Definitions/Glossary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Job ID: 820-10710-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-10710-1

REVISION

The report being provided is a revision of the original report sent on 11/6/2023. The report (revision 1) is being revised due to Original report requires revision to remove unrequested results..

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/31/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.7°C

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-66099 and analytical batch 880-66131 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-65997 and analytical batch 880-66029 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-66029/20) and (CCV 880-66029/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-65997 and analytical batch 880-66029 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-65997 and analytical batch 880-66029 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: An incorrect volume of spiking solution was inadvertently added to the CCV associated with analytical batch 880-66029. Percent recoveries are based on the amount spiked.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-65991 and analytical batch 880-66206 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because

Case Narrative

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Job ID: 820-10710-1 (Continued)

Laboratory: Eurofins Lubbock (Continued)

the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-14 1-2'

Date Collected: 10/30/23 10:22
Date Received: 10/31/23 10:00
Sample Depth: 1 - 2

Lab Sample ID: 820-10710-1
Matrix: Solid
Percent Solids: 92.3

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000413	U	0.00215	0.000413	mg/Kg	☼	11/02/23 15:23	11/03/23 12:00	1
Toluene	<0.000489	U	0.00215	0.000489	mg/Kg	☼	11/02/23 15:23	11/03/23 12:00	1
Ethylbenzene	<0.000606	U	0.00215	0.000606	mg/Kg	☼	11/02/23 15:23	11/03/23 12:00	1
m-Xylene & p-Xylene	<0.00108	U	0.00429	0.00108	mg/Kg	☼	11/02/23 15:23	11/03/23 12:00	1
o-Xylene	**0.000473**	**J**	0.00215	0.000369	mg/Kg	☼	11/02/23 15:23	11/03/23 12:00	1
Xylenes, Total	<0.00108	U	0.00429	0.00108	mg/Kg	☼	11/02/23 15:23	11/03/23 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*11/02/23 15:23*	*11/03/23 12:00*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*11/02/23 15:23*	*11/03/23 12:00*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<16.2	U F1	53.9	16.2	mg/Kg	☼	11/01/23 14:49	11/02/23 11:07	1
Diesel Range Organics (Over C10-C28)	**18.1**	**J F1 B**	53.9	16.2	mg/Kg	☼	11/01/23 14:49	11/02/23 11:07	1
Oil Range Organics (Over C28-C36)	<16.2	U	53.9	16.2	mg/Kg	☼	11/01/23 14:49	11/02/23 11:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*11/01/23 14:49*	*11/02/23 11:07*	*1*
o-Terphenyl	*88*		*70 - 130*	*11/01/23 14:49*	*11/02/23 11:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**424**		4.95	0.391	mg/Kg			11/03/23 00:50	1

Client Sample ID: BH-14 2-3'

Date Collected: 10/30/23 10:26
Date Received: 10/31/23 10:00
Sample Depth: 2 - 3

Lab Sample ID: 820-10710-2
Matrix: Solid
Percent Solids: 93.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000418	U	0.00217	0.000418	mg/Kg	☼	11/02/23 15:23	11/03/23 12:20	1
Toluene	<0.000495	U	0.00217	0.000495	mg/Kg	☼	11/02/23 15:23	11/03/23 12:20	1
Ethylbenzene	<0.000614	U	0.00217	0.000614	mg/Kg	☼	11/02/23 15:23	11/03/23 12:20	1
m-Xylene & p-Xylene	<0.00110	U	0.00434	0.00110	mg/Kg	☼	11/02/23 15:23	11/03/23 12:20	1
o-Xylene	<0.000374	U	0.00217	0.000374	mg/Kg	☼	11/02/23 15:23	11/03/23 12:20	1
Xylenes, Total	<0.00110	U	0.00434	0.00110	mg/Kg	☼	11/02/23 15:23	11/03/23 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*11/02/23 15:23*	*11/03/23 12:20*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*11/02/23 15:23*	*11/03/23 12:20*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<16.1	U	53.7	16.1	mg/Kg	☼	11/01/23 14:49	11/02/23 12:14	1
Diesel Range Organics (Over C10-C28)	**21.6**	**J B**	53.7	16.1	mg/Kg	☼	11/01/23 14:49	11/02/23 12:14	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-14 2-3'

Date Collected: 10/30/23 10:26
Date Received: 10/31/23 10:00
Sample Depth: 2 - 3

Lab Sample ID: 820-10710-2

Matrix: Solid
Percent Solids: 93.0

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<16.1	U	53.7	16.1	mg/Kg	☼	11/01/23 14:49	11/02/23 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*11/01/23 14:49*	*11/02/23 12:14*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/01/23 14:49*	*11/02/23 12:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**223**		5.00	0.395	mg/Kg			11/03/23 01:06	1

Client Sample ID: BH-15 0-1'

Date Collected: 10/30/23 10:30
Date Received: 10/31/23 10:00
Sample Depth: 0 - 1

Lab Sample ID: 820-10710-3

Matrix: Solid
Percent Solids: 95.1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000406	U	0.00211	0.000406	mg/Kg	☼	11/02/23 15:23	11/03/23 12:41	1
Toluene	<0.000481	U	0.00211	0.000481	mg/Kg	☼	11/02/23 15:23	11/03/23 12:41	1
Ethylbenzene	<0.000596	U	0.00211	0.000596	mg/Kg	☼	11/02/23 15:23	11/03/23 12:41	1
m-Xylene & p-Xylene	<0.00107	U	0.00422	0.00107	mg/Kg	☼	11/02/23 15:23	11/03/23 12:41	1
o-Xylene	<0.000363	U	0.00211	0.000363	mg/Kg	☼	11/02/23 15:23	11/03/23 12:41	1
Xylenes, Total	<0.00107	U	0.00422	0.00107	mg/Kg	☼	11/02/23 15:23	11/03/23 12:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*11/02/23 15:23*	*11/03/23 12:41*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/02/23 15:23*	*11/03/23 12:41*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.6	U	52.1	15.6	mg/Kg	☼	11/01/23 14:49	11/02/23 12:36	1
Diesel Range Organics (Over C10-C28)	**56.5**	**B**	52.1	15.6	mg/Kg	☼	11/01/23 14:49	11/02/23 12:36	1
Oil Range Organics (Over C28-C36)	<15.6	U	52.1	15.6	mg/Kg	☼	11/01/23 14:49	11/02/23 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*11/01/23 14:49*	*11/02/23 12:36*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/01/23 14:49*	*11/02/23 12:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1860**		24.8	1.96	mg/Kg			11/03/23 01:12	5

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-15 3-4'

Date Collected: 10/30/23 10:34
Date Received: 10/31/23 10:00
Sample Depth: 3 - 4

Lab Sample ID: 820-10710-4

Matrix: Solid
Percent Solids: 90.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000428	U	0.00223	0.000428	mg/Kg	☼	11/02/23 15:23	11/03/23 13:01	1
Toluene	<0.000507	U	0.00223	0.000507	mg/Kg	☼	11/02/23 15:23	11/03/23 13:01	1
Ethylbenzene	**0.000860**	**J**	0.00223	0.000629	mg/Kg	☼	11/02/23 15:23	11/03/23 13:01	1
m-Xylene & p-Xylene	<0.00112	U	0.00445	0.00112	mg/Kg	☼	11/02/23 15:23	11/03/23 13:01	1
o-Xylene	<0.000383	U	0.00223	0.000383	mg/Kg	☼	11/02/23 15:23	11/03/23 13:01	1
Xylenes, Total	<0.00112	U	0.00445	0.00112	mg/Kg	☼	11/02/23 15:23	11/03/23 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*11/02/23 15:23*	*11/03/23 13:01*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*11/02/23 15:23*	*11/03/23 13:01*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**17.7**	**J**	55.2	16.6	mg/Kg	☼	11/01/23 14:49	11/02/23 12:58	1
Diesel Range Organics (Over C10-C28)	**79.7**	**B**	55.2	16.6	mg/Kg	☼	11/01/23 14:49	11/02/23 12:58	1
Oil Range Organics (Over C28-C36)	<16.6	U	55.2	16.6	mg/Kg	☼	11/01/23 14:49	11/02/23 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*11/01/23 14:49*	*11/02/23 12:58*	*1*
o-Terphenyl	*97*		*70 - 130*	*11/01/23 14:49*	*11/02/23 12:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3580**		25.2	1.99	mg/Kg			11/03/23 01:17	5

Client Sample ID: BH-16 0-1'

Date Collected: 10/30/23 10:38
Date Received: 10/31/23 10:00
Sample Depth: 0 - 1

Lab Sample ID: 820-10710-5

Matrix: Solid
Percent Solids: 88.4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000433	U	0.00225	0.000433	mg/Kg	☼	11/02/23 15:23	11/03/23 13:22	1
Toluene	<0.000513	U	0.00225	0.000513	mg/Kg	☼	11/02/23 15:23	11/03/23 13:22	1
Ethylbenzene	**0.000704**	**J**	0.00225	0.000635	mg/Kg	☼	11/02/23 15:23	11/03/23 13:22	1
m-Xylene & p-Xylene	<0.00114	U	0.00450	0.00114	mg/Kg	☼	11/02/23 15:23	11/03/23 13:22	1
o-Xylene	<0.000387	U	0.00225	0.000387	mg/Kg	☼	11/02/23 15:23	11/03/23 13:22	1
Xylenes, Total	<0.00114	U	0.00450	0.00114	mg/Kg	☼	11/02/23 15:23	11/03/23 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*11/02/23 15:23*	*11/03/23 13:22*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*11/02/23 15:23*	*11/03/23 13:22*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**18.8**	**J**	56.8	17.0	mg/Kg	☼	11/01/23 14:49	11/02/23 13:20	1
Diesel Range Organics (Over C10-C28)	**33.7**	**J B**	56.8	17.0	mg/Kg	☼	11/01/23 14:49	11/02/23 13:20	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-16 0-1'

Lab Sample ID: 820-10710-5
Date Collected: 10/30/23 10:38
Matrix: Solid
Date Received: 10/31/23 10:00
Percent Solids: 88.4
Sample Depth: 0 - 1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<17.0	U	56.8	17.0	mg/Kg	☼	11/01/23 14:49	11/02/23 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*11/01/23 14:49*	*11/02/23 13:20*	*1*
o-Terphenyl	*104*		*70 - 130*	*11/01/23 14:49*	*11/02/23 13:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**82.3**		4.98	0.393	mg/Kg			11/03/23 01:22	1

Client Sample ID: BH-16 3-4'

Lab Sample ID: 820-10710-6
Date Collected: 10/30/23 10:42
Matrix: Solid
Date Received: 10/31/23 10:00
Percent Solids: 88.6
Sample Depth: 3 - 4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000433	U	0.00225	0.000433	mg/Kg	☼	11/02/23 15:23	11/03/23 13:42	1
Toluene	<0.000513	U	0.00225	0.000513	mg/Kg	☼	11/02/23 15:23	11/03/23 13:42	1
Ethylbenzene	<0.000636	U	0.00225	0.000636	mg/Kg	☼	11/02/23 15:23	11/03/23 13:42	1
m-Xylene & p-Xylene	<0.00114	U	0.00450	0.00114	mg/Kg	☼	11/02/23 15:23	11/03/23 13:42	1
o-Xylene	<0.000387	U	0.00225	0.000387	mg/Kg	☼	11/02/23 15:23	11/03/23 13:42	1
Xylenes, Total	<0.00114	U	0.00450	0.00114	mg/Kg	☼	11/02/23 15:23	11/03/23 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*11/02/23 15:23*	*11/03/23 13:42*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*11/02/23 15:23*	*11/03/23 13:42*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**17.1**	**J**	56.0	16.8	mg/Kg	☼	11/01/23 14:49	11/02/23 13:41	1
Diesel Range Organics (Over C10-C28)	**103**	**B**	56.0	16.8	mg/Kg	☼	11/01/23 14:49	11/02/23 13:41	1
Oil Range Organics (Over C28-C36)	**20.1**	**J**	56.0	16.8	mg/Kg	☼	11/01/23 14:49	11/02/23 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*11/01/23 14:49*	*11/02/23 13:41*	*1*
o-Terphenyl	*98*		*70 - 130*	*11/01/23 14:49*	*11/02/23 13:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**84.5**		4.99	0.394	mg/Kg			11/03/23 01:27	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-17 0-1'

Date Collected: 10/30/23 16:37
Date Received: 10/31/23 10:00
Sample Depth: 0 - 1

Lab Sample ID: 820-10710-7
Matrix: Solid
Percent Solids: 95.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000401	U	0.00208	0.000401	mg/Kg	☼	11/02/23 15:23	11/03/23 14:03	1
Toluene	<0.000474	U	0.00208	0.000474	mg/Kg	☼	11/02/23 15:23	11/03/23 14:03	1
Ethylbenzene	<0.000588	U	0.00208	0.000588	mg/Kg	☼	11/02/23 15:23	11/03/23 14:03	1
m-Xylene & p-Xylene	<0.00105	U	0.00416	0.00105	mg/Kg	☼	11/02/23 15:23	11/03/23 14:03	1
o-Xylene	<0.000358	U	0.00208	0.000358	mg/Kg	☼	11/02/23 15:23	11/03/23 14:03	1
Xylenes, Total	<0.00105	U	0.00416	0.00105	mg/Kg	☼	11/02/23 15:23	11/03/23 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*11/02/23 15:23*	*11/03/23 14:03*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*11/02/23 15:23*	*11/03/23 14:03*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**15.6**	**J**	52.0	15.6	mg/Kg	☼	11/01/23 14:49	11/02/23 14:04	1
Diesel Range Organics (Over C10-C28)	**25.4**	**J B**	52.0	15.6	mg/Kg	☼	11/01/23 14:49	11/02/23 14:04	1
Oil Range Organics (Over C28-C36)	<15.6	U	52.0	15.6	mg/Kg	☼	11/01/23 14:49	11/02/23 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*11/01/23 14:49*	*11/02/23 14:04*	*1*
o-Terphenyl	*94*		*70 - 130*	*11/01/23 14:49*	*11/02/23 14:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**86.2**		4.97	0.393	mg/Kg			11/03/23 01:32	1

Client Sample ID: BH-17 3-4'

Date Collected: 10/30/23 16:40
Date Received: 10/31/23 10:00
Sample Depth: 3 - 4

Lab Sample ID: 820-10710-8
Matrix: Solid
Percent Solids: 93.3

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000414	U	0.00215	0.000414	mg/Kg	☼	11/02/23 15:23	11/03/23 14:23	1
Toluene	<0.000491	U	0.00215	0.000491	mg/Kg	☼	11/02/23 15:23	11/03/23 14:23	1
Ethylbenzene	**0.000718**	**J**	0.00215	0.000608	mg/Kg	☼	11/02/23 15:23	11/03/23 14:23	1
m-Xylene & p-Xylene	<0.00109	U	0.00431	0.00109	mg/Kg	☼	11/02/23 15:23	11/03/23 14:23	1
o-Xylene	<0.000370	U	0.00215	0.000370	mg/Kg	☼	11/02/23 15:23	11/03/23 14:23	1
Xylenes, Total	<0.00109	U	0.00431	0.00109	mg/Kg	☼	11/02/23 15:23	11/03/23 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*11/02/23 15:23*	*11/03/23 14:23*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*11/02/23 15:23*	*11/03/23 14:23*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<16.0	U	53.4	16.0	mg/Kg	☼	11/01/23 14:49	11/02/23 14:25	1
Diesel Range Organics (Over C10-C28)	**18.3**	**J B**	53.4	16.0	mg/Kg	☼	11/01/23 14:49	11/02/23 14:25	1

Eurofins Lubbock

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-17 3-4'

Date Collected: 10/30/23 16:40
Date Received: 10/31/23 10:00
Sample Depth: 3 - 4

Lab Sample ID: 820-10710-8
Matrix: Solid
Percent Solids: 93.3

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<16.0	U	53.4	16.0	mg/Kg	☼	11/01/23 14:49	11/02/23 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*11/01/23 14:49*	*11/02/23 14:25*	*1*
o-Terphenyl	*94*		*70 - 130*	*11/01/23 14:49*	*11/02/23 14:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**101**		5.04	0.398	mg/Kg			11/03/23 01:38	1

Client Sample ID: BH-18 0-1'

Date Collected: 10/30/23 16:28
Date Received: 10/31/23 10:00
Sample Depth: 0 - 1

Lab Sample ID: 820-10710-9
Matrix: Solid
Percent Solids: 93.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000411	U	0.00214	0.000411	mg/Kg	☼	11/02/23 15:23	11/03/23 14:44	1
Toluene	<0.000487	U	0.00214	0.000487	mg/Kg	☼	11/02/23 15:23	11/03/23 14:44	1
Ethylbenzene	**0.000643**	**J**	0.00214	0.000604	mg/Kg	☼	11/02/23 15:23	11/03/23 14:44	1
m-Xylene & p-Xylene	<0.00108	U	0.00427	0.00108	mg/Kg	☼	11/02/23 15:23	11/03/23 14:44	1
o-Xylene	<0.000367	U	0.00214	0.000367	mg/Kg	☼	11/02/23 15:23	11/03/23 14:44	1
Xylenes, Total	<0.00108	U	0.00427	0.00108	mg/Kg	☼	11/02/23 15:23	11/03/23 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*11/02/23 15:23*	*11/03/23 14:44*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/02/23 15:23*	*11/03/23 14:44*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.9	U	53.1	15.9	mg/Kg	☼	11/01/23 14:49	11/02/23 14:47	1
Diesel Range Organics (Over C10-C28)	**18.6**	**J B**	53.1	15.9	mg/Kg	☼	11/01/23 14:49	11/02/23 14:47	1
Oil Range Organics (Over C28-C36)	<15.9	U	53.1	15.9	mg/Kg	☼	11/01/23 14:49	11/02/23 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*11/01/23 14:49*	*11/02/23 14:47*	*1*
o-Terphenyl	*90*		*70 - 130*	*11/01/23 14:49*	*11/02/23 14:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**107**	**F1**	4.98	0.393	mg/Kg			11/04/23 11:48	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-18 1-2'

Date Collected: 10/30/23 16:31
Date Received: 10/31/23 10:00
Sample Depth: 1 - 2

Lab Sample ID: 820-10710-10
Matrix: Solid
Percent Solids: 95.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000405	U	0.00210	0.000405	mg/Kg	☼	11/02/23 15:23	11/03/23 15:04	1
Toluene	<0.000479	U	0.00210	0.000479	mg/Kg	☼	11/02/23 15:23	11/03/23 15:04	1
Ethylbenzene	**0.000815**	**J**	0.00210	0.000594	mg/Kg	☼	11/02/23 15:23	11/03/23 15:04	1
m-Xylene & p-Xylene	<0.00106	U	0.00420	0.00106	mg/Kg	☼	11/02/23 15:23	11/03/23 15:04	1
o-Xylene	**0.000671**	**J**	0.00210	0.000361	mg/Kg	☼	11/02/23 15:23	11/03/23 15:04	1
Xylenes, Total	<0.00106	U	0.00420	0.00106	mg/Kg	☼	11/02/23 15:23	11/03/23 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*11/02/23 15:23*	*11/03/23 15:04*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*11/02/23 15:23*	*11/03/23 15:04*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.9	U	53.0	15.9	mg/Kg	☼	11/01/23 14:49	11/02/23 15:09	1
Diesel Range Organics (Over C10-C28)	**31.9**	**J B**	53.0	15.9	mg/Kg	☼	11/01/23 14:49	11/02/23 15:09	1
Oil Range Organics (Over C28-C36)	<15.9	U	53.0	15.9	mg/Kg	☼	11/01/23 14:49	11/02/23 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*11/01/23 14:49*	*11/02/23 15:09*	*1*
o-Terphenyl	*95*		*70 - 130*	*11/01/23 14:49*	*11/02/23 15:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**137**		5.02	0.397	mg/Kg			11/04/23 12:08	1

Client Sample ID: BH-19 0-1'

Date Collected: 10/30/23 10:46
Date Received: 10/31/23 10:00
Sample Depth: 0 - 1

Lab Sample ID: 820-10710-11
Matrix: Solid
Percent Solids: 96.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000399	U	0.00208	0.000399	mg/Kg	☼	11/02/23 15:23	11/03/23 17:10	1
Toluene	<0.000473	U	0.00208	0.000473	mg/Kg	☼	11/02/23 15:23	11/03/23 17:10	1
Ethylbenzene	<0.000586	U	0.00208	0.000586	mg/Kg	☼	11/02/23 15:23	11/03/23 17:10	1
m-Xylene & p-Xylene	<0.00105	U	0.00415	0.00105	mg/Kg	☼	11/02/23 15:23	11/03/23 17:10	1
o-Xylene	<0.000357	U	0.00208	0.000357	mg/Kg	☼	11/02/23 15:23	11/03/23 17:10	1
Xylenes, Total	<0.00105	U	0.00415	0.00105	mg/Kg	☼	11/02/23 15:23	11/03/23 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*11/02/23 15:23*	*11/03/23 17:10*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/02/23 15:23*	*11/03/23 17:10*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.7	U	52.2	15.7	mg/Kg	☼	11/01/23 14:49	11/02/23 15:53	1
Diesel Range Organics (Over C10-C28)	<15.7	U	52.2	15.7	mg/Kg	☼	11/01/23 14:49	11/02/23 15:53	1

Eurofins Lubbock

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-19 0-1'

Date Collected: 10/30/23 10:46
Date Received: 10/31/23 10:00
Sample Depth: 0 - 1

Lab Sample ID: 820-10710-11

Matrix: Solid
Percent Solids: 96.0

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<15.7	U	52.2	15.7	mg/Kg	☼	11/01/23 14:49	11/02/23 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*11/01/23 14:49*	*11/02/23 15:53*	*1*
o-Terphenyl	*90*		*70 - 130*	*11/01/23 14:49*	*11/02/23 15:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**156**		4.95	0.391	mg/Kg			11/04/23 12:14	1

Client Sample ID: BH-19 2-3'

Date Collected: 10/30/23 10:50
Date Received: 10/31/23 10:00
Sample Depth: 2 - 3

Lab Sample ID: 820-10710-12

Matrix: Solid
Percent Solids: 95.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000404	U	0.00210	0.000404	mg/Kg	☼	11/02/23 15:23	11/03/23 17:30	1
Toluene	<0.000479	U	0.00210	0.000479	mg/Kg	☼	11/02/23 15:23	11/03/23 17:30	1
Ethylbenzene	<0.000594	U	0.00210	0.000594	mg/Kg	☼	11/02/23 15:23	11/03/23 17:30	1
m-Xylene & p-Xylene	<0.00106	U	0.00420	0.00106	mg/Kg	☼	11/02/23 15:23	11/03/23 17:30	1
o-Xylene	<0.000361	U	0.00210	0.000361	mg/Kg	☼	11/02/23 15:23	11/03/23 17:30	1
Xylenes, Total	<0.00106	U	0.00420	0.00106	mg/Kg	☼	11/02/23 15:23	11/03/23 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*11/02/23 15:23*	*11/03/23 17:30*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*11/02/23 15:23*	*11/03/23 17:30*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.8	U	52.8	15.8	mg/Kg	☼	11/01/23 14:49	11/02/23 16:15	1
Diesel Range Organics (Over C10-C28)	**66.1**	**B**	52.8	15.8	mg/Kg	☼	11/01/23 14:49	11/02/23 16:15	1
Oil Range Organics (Over C28-C36)	**26.2**	**J**	52.8	15.8	mg/Kg	☼	11/01/23 14:49	11/02/23 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*11/01/23 14:49*	*11/02/23 16:15*	*1*
o-Terphenyl	*92*		*70 - 130*	*11/01/23 14:49*	*11/02/23 16:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		4.97	0.393	mg/Kg			11/04/23 12:21	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-20 0-1'

Date Collected: 10/30/23 11:05
Date Received: 10/31/23 10:00
Sample Depth: 0 - 1

Lab Sample ID: 820-10710-13
Matrix: Solid
Percent Solids: 95.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000398	U	0.00207	0.000398	mg/Kg	☼	11/02/23 15:23	11/03/23 17:51	1
Toluene	<0.000472	U	0.00207	0.000472	mg/Kg	☼	11/02/23 15:23	11/03/23 17:51	1
Ethylbenzene	<0.000584	U	0.00207	0.000584	mg/Kg	☼	11/02/23 15:23	11/03/23 17:51	1
m-Xylene & p-Xylene	<0.00104	U	0.00414	0.00104	mg/Kg	☼	11/02/23 15:23	11/03/23 17:51	1
o-Xylene	<0.000356	U	0.00207	0.000356	mg/Kg	☼	11/02/23 15:23	11/03/23 17:51	1
Xylenes, Total	<0.00104	U	0.00414	0.00104	mg/Kg	☼	11/02/23 15:23	11/03/23 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*11/02/23 15:23*	*11/03/23 17:51*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*11/02/23 15:23*	*11/03/23 17:51*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.7	U	52.2	15.7	mg/Kg	☼	11/01/23 14:49	11/02/23 16:37	1
Diesel Range Organics (Over C10-C28)	**21.9**	**J B**	52.2	15.7	mg/Kg	☼	11/01/23 14:49	11/02/23 16:37	1
Oil Range Organics (Over C28-C36)	<15.7	U	52.2	15.7	mg/Kg	☼	11/01/23 14:49	11/02/23 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*11/01/23 14:49*	*11/02/23 16:37*	*1*
o-Terphenyl	*93*		*70 - 130*	*11/01/23 14:49*	*11/02/23 16:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**		4.97	0.393	mg/Kg			11/04/23 12:28	1

Client Sample ID: BH-20 1-2'

Date Collected: 10/30/23 11:08
Date Received: 10/31/23 10:00
Sample Depth: 1 - 2

Lab Sample ID: 820-10710-14
Matrix: Solid
Percent Solids: 95.1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000406	U	0.00211	0.000406	mg/Kg	☼	11/02/23 15:23	11/03/23 18:11	1
Toluene	<0.000481	U	0.00211	0.000481	mg/Kg	☼	11/02/23 15:23	11/03/23 18:11	1
Ethylbenzene	<0.000597	U	0.00211	0.000597	mg/Kg	☼	11/02/23 15:23	11/03/23 18:11	1
m-Xylene & p-Xylene	<0.00107	U	0.00422	0.00107	mg/Kg	☼	11/02/23 15:23	11/03/23 18:11	1
o-Xylene	<0.000363	U	0.00211	0.000363	mg/Kg	☼	11/02/23 15:23	11/03/23 18:11	1
Xylenes, Total	<0.00107	U	0.00422	0.00107	mg/Kg	☼	11/02/23 15:23	11/03/23 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*11/02/23 15:23*	*11/03/23 18:11*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/02/23 15:23*	*11/03/23 18:11*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.8	U	52.6	15.8	mg/Kg	☼	11/01/23 14:49	11/02/23 16:59	1
Diesel Range Organics (Over C10-C28)	**25.4**	**J B**	52.6	15.8	mg/Kg	☼	11/01/23 14:49	11/02/23 16:59	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-20 1-2'

Date Collected: 10/30/23 11:08
Date Received: 10/31/23 10:00
Sample Depth: 1 - 2

Lab Sample ID: 820-10710-14

Matrix: Solid
Percent Solids: 95.1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<15.8	U	52.6	15.8	mg/Kg	☼	11/01/23 14:49	11/02/23 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*11/01/23 14:49*	*11/02/23 16:59*	*1*
o-Terphenyl	*90*		*70 - 130*	*11/01/23 14:49*	*11/02/23 16:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**364**		5.01	0.396	mg/Kg			11/04/23 13:12	1

Surrogate Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
820-10710-1	BH-14 1-2'	91	101
820-10710-1 MS	BH-14 1-2'	114	104
820-10710-1 MSD	BH-14 1-2'	106	100
820-10710-2	BH-14 2-3'	89	106
820-10710-3	BH-15 0-1'	90	99
820-10710-4	BH-15 3-4'	102	103
820-10710-5	BH-16 0-1'	99	111
820-10710-6	BH-16 3-4'	96	111
820-10710-7	BH-17 0-1'	96	102
820-10710-8	BH-17 3-4'	105	103
820-10710-9	BH-18 0-1'	96	109
820-10710-10	BH-18 1-2'	114	112
820-10710-11	BH-19 0-1'	82	99
820-10710-12	BH-19 2-3'	91	108
820-10710-13	BH-20 0-1'	106	116
820-10710-14	BH-20 1-2'	110	109
LCS 880-66099/1-A	Lab Control Sample	94	98
LCSD 880-66099/2-A	Lab Control Sample Dup	111	114
MB 880-66099/5-A	Method Blank	107	132 S1+

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
820-10710-1	BH-14 1-2'	86	88
820-10710-1 MS	BH-14 1-2'	89	84
820-10710-1 MSD	BH-14 1-2'	93	86
820-10710-2	BH-14 2-3'	95	96
820-10710-3	BH-15 0-1'	96	96
820-10710-4	BH-15 3-4'	96	97
820-10710-5	BH-16 0-1'	100	104
820-10710-6	BH-16 3-4'	97	98
820-10710-7	BH-17 0-1'	93	94
820-10710-8	BH-17 3-4'	93	94
820-10710-9	BH-18 0-1'	89	90
820-10710-10	BH-18 1-2'	94	95
820-10710-11	BH-19 0-1'	90	90
820-10710-12	BH-19 2-3'	92	92
820-10710-13	BH-20 0-1'	91	93
820-10710-14	BH-20 1-2'	88	90
LCS 880-65997/2-A	Lab Control Sample	93	105
LCSD 880-65997/3-A	Lab Control Sample Dup	89	95
MB 880-65997/1-A	Method Blank	141 S1+	140 S1+

Surrogate Legend

Surrogate Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-66099/5-A
Matrix: Solid
Analysis Batch: 66131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66099

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		11/02/23 15:23	11/03/23 11:31	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		11/02/23 15:23	11/03/23 11:31	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		11/02/23 15:23	11/03/23 11:31	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		11/02/23 15:23	11/03/23 11:31	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		11/02/23 15:23	11/03/23 11:31	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		11/02/23 15:23	11/03/23 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*11/02/23 15:23*	*11/03/23 11:31*	*1*
1,4-Difluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*11/02/23 15:23*	*11/03/23 11:31*	*1*

Lab Sample ID: LCS 880-66099/1-A
Matrix: Solid
Analysis Batch: 66131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09472		mg/Kg		95	70 - 130
Toluene	0.100	0.08916		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08943		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1799		mg/Kg		90	70 - 130
o-Xylene	0.100	0.08528		mg/Kg		85	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-66099/2-A
Matrix: Solid
Analysis Batch: 66131

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 66099

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1093		mg/Kg		109	70 - 130	14	35
Toluene	0.100	0.08697		mg/Kg		87	70 - 130	2	35
Ethylbenzene	0.100	0.1013		mg/Kg		101	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.2185		mg/Kg		109	70 - 130	19	35
o-Xylene	0.100	0.1004		mg/Kg		100	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 820-10710-1 MS
Matrix: Solid
Analysis Batch: 66131

Client Sample ID: BH-14 1-2'
Prep Type: Total/NA
Prep Batch: 66099

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000413	U	0.108	0.1022		mg/Kg	☼	95	70 - 130
Toluene	<0.000489	U	0.108	0.08952		mg/Kg	☼	83	70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 820-10710-1 MS
Matrix: Solid
Analysis Batch: 66131

Client Sample ID: BH-14 1-2'
Prep Type: Total/NA
Prep Batch: 66099

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.000606	U	0.108	0.09333		mg/Kg	☼	87	70 - 130
m-Xylene & p-Xylene	<0.00108	U	0.216	0.1828		mg/Kg	☼	85	70 - 130
o-Xylene	0.000473	J	0.108	0.09787		mg/Kg	☼	90	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 820-10710-1 MSD
Matrix: Solid
Analysis Batch: 66131

Client Sample ID: BH-14 1-2'
Prep Type: Total/NA
Prep Batch: 66099

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000413	U	0.109	0.1008		mg/Kg	☼	92	70 - 130	1	35
Toluene	<0.000489	U	0.109	0.09277		mg/Kg	☼	85	70 - 130	4	35
Ethylbenzene	<0.000606	U	0.109	0.09704		mg/Kg	☼	89	70 - 130	4	35
m-Xylene & p-Xylene	<0.00108	U	0.218	0.2064		mg/Kg	☼	95	70 - 130	12	35
o-Xylene	0.000473	J	0.109	0.09524		mg/Kg	☼	87	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-65997/1-A
Matrix: Solid
Analysis Batch: 66029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		11/01/23 14:48	11/02/23 08:33	1
Diesel Range Organics (Over C10-C28)	23.39	J	50.0	15.0	mg/Kg		11/01/23 14:48	11/02/23 08:33	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		11/01/23 14:48	11/02/23 08:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*141*	*S1+*	*70 - 130*	*11/01/23 14:48*	*11/02/23 08:33*	*1*
o-Terphenyl	*140*	*S1+*	*70 - 130*	*11/01/23 14:48*	*11/02/23 08:33*	*1*

Lab Sample ID: LCS 880-65997/2-A
Matrix: Solid
Analysis Batch: 66029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	908.9		mg/Kg		91	70 - 130
Diesel Range Organics (Over C10-C28)	1000	961.8		mg/Kg		96	70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-65997/2-A
Matrix: Solid
Analysis Batch: 66029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65997

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: LCSD 880-65997/3-A
Matrix: Solid
Analysis Batch: 66029

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65997

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	915.4		mg/Kg		92	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	951.2		mg/Kg		95	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 820-10710-1 MS
Matrix: Solid
Analysis Batch: 66029

Client Sample ID: BH-14 1-2'
Prep Type: Total/NA
Prep Batch: 65997

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<16.2	U F1	1090	740.2	F1	mg/Kg	☼	68	70 - 130
Diesel Range Organics (Over C10-C28)	18.1	J F1 B	1090	764.6	F1	mg/Kg	☼	68	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: 820-10710-1 MSD
Matrix: Solid
Analysis Batch: 66029

Client Sample ID: BH-14 1-2'
Prep Type: Total/NA
Prep Batch: 65997

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<16.2	U F1	1090	765.6		mg/Kg	☼	70	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	18.1	J F1 B	1090	805.6		mg/Kg	☼	72	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	86		70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-65990/1-A
Matrix: Solid
Analysis Batch: 66084

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			11/02/23 23:01	1

Lab Sample ID: LCS 880-65990/2-A
Matrix: Solid
Analysis Batch: 66084

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	263.5		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-65990/3-A
Matrix: Solid
Analysis Batch: 66084

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	262.9		mg/Kg		105	90 - 110	0	20

Lab Sample ID: MB 880-65991/1-A
Matrix: Solid
Analysis Batch: 66206

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			11/04/23 11:28	1

Lab Sample ID: LCS 880-65991/2-A
Matrix: Solid
Analysis Batch: 66206

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.6		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-65991/3-A
Matrix: Solid
Analysis Batch: 66206

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	254.0		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 820-10710-9 MS
Matrix: Solid
Analysis Batch: 66206

Client Sample ID: BH-18 0-1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	107	F1	249	311.3	F1	mg/Kg		82	90 - 110

Lab Sample ID: 820-10710-9 MSD
Matrix: Solid
Analysis Batch: 66206

Client Sample ID: BH-18 0-1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	107	F1	249	311.7	F1	mg/Kg		82	90 - 110	0	20

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

GC VOA

Prep Batch: 66099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-1	BH-14 1-2'	Total/NA	Solid	5035	
820-10710-2	BH-14 2-3'	Total/NA	Solid	5035	
820-10710-3	BH-15 0-1'	Total/NA	Solid	5035	
820-10710-4	BH-15 3-4'	Total/NA	Solid	5035	
820-10710-5	BH-16 0-1'	Total/NA	Solid	5035	
820-10710-6	BH-16 3-4'	Total/NA	Solid	5035	
820-10710-7	BH-17 0-1'	Total/NA	Solid	5035	
820-10710-8	BH-17 3-4'	Total/NA	Solid	5035	
820-10710-9	BH-18 0-1'	Total/NA	Solid	5035	
820-10710-10	BH-18 1-2'	Total/NA	Solid	5035	
820-10710-11	BH-19 0-1'	Total/NA	Solid	5035	
820-10710-12	BH-19 2-3'	Total/NA	Solid	5035	
820-10710-13	BH-20 0-1'	Total/NA	Solid	5035	
820-10710-14	BH-20 1-2'	Total/NA	Solid	5035	
MB 880-66099/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-66099/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-66099/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-10710-1 MS	BH-14 1-2'	Total/NA	Solid	5035	
820-10710-1 MSD	BH-14 1-2'	Total/NA	Solid	5035	

Analysis Batch: 66131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-1	BH-14 1-2'	Total/NA	Solid	8021B	66099
820-10710-2	BH-14 2-3'	Total/NA	Solid	8021B	66099
820-10710-3	BH-15 0-1'	Total/NA	Solid	8021B	66099
820-10710-4	BH-15 3-4'	Total/NA	Solid	8021B	66099
820-10710-5	BH-16 0-1'	Total/NA	Solid	8021B	66099
820-10710-6	BH-16 3-4'	Total/NA	Solid	8021B	66099
820-10710-7	BH-17 0-1'	Total/NA	Solid	8021B	66099
820-10710-8	BH-17 3-4'	Total/NA	Solid	8021B	66099
820-10710-9	BH-18 0-1'	Total/NA	Solid	8021B	66099
820-10710-10	BH-18 1-2'	Total/NA	Solid	8021B	66099
820-10710-11	BH-19 0-1'	Total/NA	Solid	8021B	66099
820-10710-12	BH-19 2-3'	Total/NA	Solid	8021B	66099
820-10710-13	BH-20 0-1'	Total/NA	Solid	8021B	66099
820-10710-14	BH-20 1-2'	Total/NA	Solid	8021B	66099
MB 880-66099/5-A	Method Blank	Total/NA	Solid	8021B	66099
LCS 880-66099/1-A	Lab Control Sample	Total/NA	Solid	8021B	66099
LCSD 880-66099/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	66099
820-10710-1 MS	BH-14 1-2'	Total/NA	Solid	8021B	66099
820-10710-1 MSD	BH-14 1-2'	Total/NA	Solid	8021B	66099

GC Semi VOA

Prep Batch: 65997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-1	BH-14 1-2'	Total/NA	Solid	8015NM Prep	
820-10710-2	BH-14 2-3'	Total/NA	Solid	8015NM Prep	
820-10710-3	BH-15 0-1'	Total/NA	Solid	8015NM Prep	
820-10710-4	BH-15 3-4'	Total/NA	Solid	8015NM Prep	
820-10710-5	BH-16 0-1'	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

GC Semi VOA (Continued)

Prep Batch: 65997 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-6	BH-16 3-4'	Total/NA	Solid	8015NM Prep	
820-10710-7	BH-17 0-1'	Total/NA	Solid	8015NM Prep	
820-10710-8	BH-17 3-4'	Total/NA	Solid	8015NM Prep	
820-10710-9	BH-18 0-1'	Total/NA	Solid	8015NM Prep	
820-10710-10	BH-18 1-2'	Total/NA	Solid	8015NM Prep	
820-10710-11	BH-19 0-1'	Total/NA	Solid	8015NM Prep	
820-10710-12	BH-19 2-3'	Total/NA	Solid	8015NM Prep	
820-10710-13	BH-20 0-1'	Total/NA	Solid	8015NM Prep	
820-10710-14	BH-20 1-2'	Total/NA	Solid	8015NM Prep	
MB 880-65997/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-65997/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-65997/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-10710-1 MS	BH-14 1-2'	Total/NA	Solid	8015NM Prep	
820-10710-1 MSD	BH-14 1-2'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 66029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-1	BH-14 1-2'	Total/NA	Solid	8015B NM	65997
820-10710-2	BH-14 2-3'	Total/NA	Solid	8015B NM	65997
820-10710-3	BH-15 0-1'	Total/NA	Solid	8015B NM	65997
820-10710-4	BH-15 3-4'	Total/NA	Solid	8015B NM	65997
820-10710-5	BH-16 0-1'	Total/NA	Solid	8015B NM	65997
820-10710-6	BH-16 3-4'	Total/NA	Solid	8015B NM	65997
820-10710-7	BH-17 0-1'	Total/NA	Solid	8015B NM	65997
820-10710-8	BH-17 3-4'	Total/NA	Solid	8015B NM	65997
820-10710-9	BH-18 0-1'	Total/NA	Solid	8015B NM	65997
820-10710-10	BH-18 1-2'	Total/NA	Solid	8015B NM	65997
820-10710-11	BH-19 0-1'	Total/NA	Solid	8015B NM	65997
820-10710-12	BH-19 2-3'	Total/NA	Solid	8015B NM	65997
820-10710-13	BH-20 0-1'	Total/NA	Solid	8015B NM	65997
820-10710-14	BH-20 1-2'	Total/NA	Solid	8015B NM	65997
MB 880-65997/1-A	Method Blank	Total/NA	Solid	8015B NM	65997
LCS 880-65997/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	65997
LCSD 880-65997/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	65997
820-10710-1 MS	BH-14 1-2'	Total/NA	Solid	8015B NM	65997
820-10710-1 MSD	BH-14 1-2'	Total/NA	Solid	8015B NM	65997

HPLC/IC

Leach Batch: 65990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-1	BH-14 1-2'	Soluble	Solid	DI Leach	
820-10710-2	BH-14 2-3'	Soluble	Solid	DI Leach	
820-10710-3	BH-15 0-1'	Soluble	Solid	DI Leach	
820-10710-4	BH-15 3-4'	Soluble	Solid	DI Leach	
820-10710-5	BH-16 0-1'	Soluble	Solid	DI Leach	
820-10710-6	BH-16 3-4'	Soluble	Solid	DI Leach	
820-10710-7	BH-17 0-1'	Soluble	Solid	DI Leach	
820-10710-8	BH-17 3-4'	Soluble	Solid	DI Leach	
MB 880-65990/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-65990/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

HPLC/IC (Continued)

Leach Batch: 65990 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-65990/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 65991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-9	BH-18 0-1'	Soluble	Solid	DI Leach	
820-10710-10	BH-18 1-2'	Soluble	Solid	DI Leach	
820-10710-11	BH-19 0-1'	Soluble	Solid	DI Leach	
820-10710-12	BH-19 2-3'	Soluble	Solid	DI Leach	
820-10710-13	BH-20 0-1'	Soluble	Solid	DI Leach	
820-10710-14	BH-20 1-2'	Soluble	Solid	DI Leach	
MB 880-65991/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-65991/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-65991/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-10710-9 MS	BH-18 0-1'	Soluble	Solid	DI Leach	
820-10710-9 MSD	BH-18 0-1'	Soluble	Solid	DI Leach	

Analysis Batch: 66084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-1	BH-14 1-2'	Soluble	Solid	300.0	65990
820-10710-2	BH-14 2-3'	Soluble	Solid	300.0	65990
820-10710-3	BH-15 0-1'	Soluble	Solid	300.0	65990
820-10710-4	BH-15 3-4'	Soluble	Solid	300.0	65990
820-10710-5	BH-16 0-1'	Soluble	Solid	300.0	65990
820-10710-6	BH-16 3-4'	Soluble	Solid	300.0	65990
820-10710-7	BH-17 0-1'	Soluble	Solid	300.0	65990
820-10710-8	BH-17 3-4'	Soluble	Solid	300.0	65990
MB 880-65990/1-A	Method Blank	Soluble	Solid	300.0	65990
LCS 880-65990/2-A	Lab Control Sample	Soluble	Solid	300.0	65990
LCSD 880-65990/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	65990

Analysis Batch: 66206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-9	BH-18 0-1'	Soluble	Solid	300.0	65991
820-10710-10	BH-18 1-2'	Soluble	Solid	300.0	65991
820-10710-11	BH-19 0-1'	Soluble	Solid	300.0	65991
820-10710-12	BH-19 2-3'	Soluble	Solid	300.0	65991
820-10710-13	BH-20 0-1'	Soluble	Solid	300.0	65991
820-10710-14	BH-20 1-2'	Soluble	Solid	300.0	65991
MB 880-65991/1-A	Method Blank	Soluble	Solid	300.0	65991
LCS 880-65991/2-A	Lab Control Sample	Soluble	Solid	300.0	65991
LCSD 880-65991/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	65991
820-10710-9 MS	BH-18 0-1'	Soluble	Solid	300.0	65991
820-10710-9 MSD	BH-18 0-1'	Soluble	Solid	300.0	65991

General Chemistry

Analysis Batch: 65998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-1	BH-14 1-2'	Total/NA	Solid	D2216	
820-10710-2	BH-14 2-3'	Total/NA	Solid	D2216	
820-10710-3	BH-15 0-1'	Total/NA	Solid	D2216	

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

General Chemistry (Continued)

Analysis Batch: 65998 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-10710-4	BH-15 3-4'	Total/NA	Solid	D2216	
820-10710-5	BH-16 0-1'	Total/NA	Solid	D2216	
820-10710-6	BH-16 3-4'	Total/NA	Solid	D2216	
820-10710-7	BH-17 0-1'	Total/NA	Solid	D2216	
820-10710-8	BH-17 3-4'	Total/NA	Solid	D2216	
820-10710-9	BH-18 0-1'	Total/NA	Solid	D2216	
820-10710-10	BH-18 1-2'	Total/NA	Solid	D2216	
820-10710-11	BH-19 0-1'	Total/NA	Solid	D2216	
820-10710-12	BH-19 2-3'	Total/NA	Solid	D2216	
820-10710-13	BH-20 0-1'	Total/NA	Solid	D2216	
820-10710-14	BH-20 1-2'	Total/NA	Solid	D2216	
MB 880-65998/1	Method Blank	Total/NA	Solid	D2216	
820-10710-1 DU	BH-14 1-2'	Total/NA	Solid	D2216	
820-10710-11 DU	BH-19 0-1'	Total/NA	Solid	D2216	

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-14 1-2'
Date Collected: 10/30/23 10:22
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66084	11/03/23 00:50	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-14 1-2'
Date Collected: 10/30/23 10:22
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-1
Matrix: Solid
Percent Solids: 92.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 12:00	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 11:07	SM	EET MID

Client Sample ID: BH-14 2-3'
Date Collected: 10/30/23 10:26
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.00 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66084	11/03/23 01:06	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-14 2-3'
Date Collected: 10/30/23 10:26
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-2
Matrix: Solid
Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 12:20	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 12:14	SM	EET MID

Client Sample ID: BH-15 0-1'
Date Collected: 10/30/23 10:30
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66084	11/03/23 01:12	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-15 0-1'
Date Collected: 10/30/23 10:30
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-3
Matrix: Solid
Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 12:41	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 12:36	SM	EET MID

Client Sample ID: BH-15 3-4'
Date Collected: 10/30/23 10:34
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66084	11/03/23 01:17	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-15 3-4'
Date Collected: 10/30/23 10:34
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-4
Matrix: Solid
Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 13:01	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 12:58	SM	EET MID

Client Sample ID: BH-16 0-1'
Date Collected: 10/30/23 10:38
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66084	11/03/23 01:22	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-16 0-1'
Date Collected: 10/30/23 10:38
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-5
Matrix: Solid
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 13:22	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 13:20	SM	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-16 3-4'
Date Collected: 10/30/23 10:42
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66084	11/03/23 01:27	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-16 3-4'
Date Collected: 10/30/23 10:42
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-6
Matrix: Solid
Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 13:42	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 13:41	SM	EET MID

Client Sample ID: BH-17 0-1'
Date Collected: 10/30/23 16:37
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66084	11/03/23 01:32	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-17 0-1'
Date Collected: 10/30/23 16:37
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-7
Matrix: Solid
Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 14:03	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 14:04	SM	EET MID

Client Sample ID: BH-17 3-4'
Date Collected: 10/30/23 16:40
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	65990	11/01/23 14:23	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66084	11/03/23 01:38	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-17 3-4'
Lab Sample ID: 820-10710-8
Date Collected: 10/30/23 16:40
Matrix: Solid
Date Received: 10/31/23 10:00
Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 14:23	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 14:25	SM	EET MID

Client Sample ID: BH-18 0-1'
Lab Sample ID: 820-10710-9
Date Collected: 10/30/23 16:28
Matrix: Solid
Date Received: 10/31/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	65991	11/01/23 14:25	SMC	EET MID
Soluble	Analysis	300.0		1			66206	11/04/23 11:48	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-18 0-1'
Lab Sample ID: 820-10710-9
Date Collected: 10/30/23 16:28
Matrix: Solid
Date Received: 10/31/23 10:00
Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 14:44	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 14:47	SM	EET MID

Client Sample ID: BH-18 1-2'
Lab Sample ID: 820-10710-10
Date Collected: 10/30/23 16:31
Matrix: Solid
Date Received: 10/31/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	65991	11/01/23 14:25	SMC	EET MID
Soluble	Analysis	300.0		1			66206	11/04/23 12:08	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-18 1-2'
Lab Sample ID: 820-10710-10
Date Collected: 10/30/23 16:31
Matrix: Solid
Date Received: 10/31/23 10:00
Percent Solids: 95.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 15:04	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 15:09	SM	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-19 0-1'
Date Collected: 10/30/23 10:46
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	65991	11/01/23 14:25	SMC	EET MID
Soluble	Analysis	300.0		1			66206	11/04/23 12:14	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-19 0-1'
Date Collected: 10/30/23 10:46
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-11
Matrix: Solid
Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 17:10	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 15:53	SM	EET MID

Client Sample ID: BH-19 2-3'
Date Collected: 10/30/23 10:50
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	65991	11/01/23 14:25	SMC	EET MID
Soluble	Analysis	300.0		1			66206	11/04/23 12:21	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-19 2-3'
Date Collected: 10/30/23 10:50
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-12
Matrix: Solid
Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 17:30	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 16:15	SM	EET MID

Client Sample ID: BH-20 0-1'
Date Collected: 10/30/23 11:05
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	65991	11/01/23 14:25	SMC	EET MID
Soluble	Analysis	300.0		1			66206	11/04/23 12:28	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Client Sample ID: BH-20 0-1'
Date Collected: 10/30/23 11:05
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-13
Matrix: Solid
Percent Solids: 95.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 17:51	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 16:37	SM	EET MID

Client Sample ID: BH-20 1-2'
Date Collected: 10/30/23 11:08
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	65991	11/01/23 14:25	SMC	EET MID
Soluble	Analysis	300.0		1			66206	11/04/23 13:12	CH	EET MID
Total/NA	Analysis	D2216		1			65998	11/02/23 13:14	SMC	EET MID

Client Sample ID: BH-20 1-2'
Date Collected: 10/30/23 11:08
Date Received: 10/31/23 10:00

Lab Sample ID: 820-10710-14
Matrix: Solid
Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	66099	11/02/23 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66131	11/03/23 18:11	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	65997	11/01/23 14:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66029	11/02/23 16:59	SM	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

Method Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
D2216	Percent Moisture	ASTM	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf Federal 1-12-91H

Job ID: 820-10710-1
SDG: 335-562

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
820-10710-1	BH-14 1-2'	Solid	10/30/23 10:22	10/31/23 10:00	1 - 2
820-10710-2	BH-14 2-3'	Solid	10/30/23 10:26	10/31/23 10:00	2 - 3
820-10710-3	BH-15 0-1'	Solid	10/30/23 10:30	10/31/23 10:00	0 - 1
820-10710-4	BH-15 3-4'	Solid	10/30/23 10:34	10/31/23 10:00	3 - 4
820-10710-5	BH-16 0-1'	Solid	10/30/23 10:38	10/31/23 10:00	0 - 1
820-10710-6	BH-16 3-4'	Solid	10/30/23 10:42	10/31/23 10:00	3 - 4
820-10710-7	BH-17 0-1'	Solid	10/30/23 16:37	10/31/23 10:00	0 - 1
820-10710-8	BH-17 3-4'	Solid	10/30/23 16:40	10/31/23 10:00	3 - 4
820-10710-9	BH-18 0-1'	Solid	10/30/23 16:28	10/31/23 10:00	0 - 1
820-10710-10	BH-18 1-2'	Solid	10/30/23 16:31	10/31/23 10:00	1 - 2
820-10710-11	BH-19 0-1'	Solid	10/30/23 10:46	10/31/23 10:00	0 - 1
820-10710-12	BH-19 2-3'	Solid	10/30/23 10:50	10/31/23 10:00	2 - 3
820-10710-13	BH-20 0-1'	Solid	10/30/23 11:05	10/31/23 10:00	0 - 1
820-10710-14	BH-20 1-2'	Solid	10/30/23 11:08	10/31/23 10:00	1 - 2

Loc: 820
10710 urofins | Environment Testing

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199
Little Rock, AR (501) 224-5060

820-10710 Chain of Custody

Project Manager:	LAURA CAMPBELL	Bill to: (if different)	DEVON
Company Name:	CRL	Company Name:	
Address:	700 CHERRINGTON PKWY	Address:	
City, State ZIP:	MOON TWSHP, PA 15108	City, State ZIP:	
Phone:		Email:	LCAMPBELL@CRLINC.COM

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☑ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☑ ADaPT ☐ Other:

Project Name:	SEMINOLE FEDERAL 1-12-9114	Turn Around	
Project Number:	335-562	☐ Routine ☐ Rush	
Project Location:	LEA CO. NM	Due Date:	
Sampler's Name:	B BRITTAIN	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	BENDING		

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR-4
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.8
Total Containers:	32	Corrected Temperature:	3.7

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3; H_2SO_4: H_2; NaOH: Na; H_3PO_4: HP; $NaHSO_4$: NABIS; $Na_2S_2O_3$: $NaSO_3$; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: 300 ORO FM 250 CL⁻	8015MOD NM - FULL TPH	8021 BTEX	MOISTURE 26406 - LEAL	Sample Comments
BH-14 1-2'	S	10/30/23	1022	1-2'	G	1					
BH-14 2-3			1026	2-3'							
BH-15 ~~1-2'~~ 0-1'			1030	0-1'							
BH-15 ~~2-3'~~ 3-4'			1034	3-4'							
BH-16 0-1'			1038	0-1'							
BH-16 3-4'			1042	3-4'							
BH-17 0-1'			1637	0-1'							
BH-17 3-4'			1640	3-4'							
BH-18 0-1'			1628	0-1'							
BH-18 1-2'			1631	1-2'							

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10/31/23 1100	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199
Little Rock, AR (501) 224-5060

Work Order No: 10710

Page 2 of 2

Project Manager:		Bill to: (if different)	
Company Name:	SEA PAGE	Company Name:	↓
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting: Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☒ ADaPT ☐ Other:

Project Name:		Turn Around	
Project Number:		☐ Routine ☐ Rush	Pres. Code
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank: Yes (No)	Wet Ice: (Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID: IR-4
Cooler Custody Seals:	Yes No (N/A)	Correction Factor: -0.1
Sample Custody Seals:	Yes No (N/A)	Temperature Reading: 3.8
Total Containers:	32	Corrected Temperature: 3.7

ANALYSIS REQUEST — Parameters: 300 ORGFM 300 Cl⁻; 8015 MOD NM - FULL TPH; 8021 - BTEX; MOISTURE 2640G - LOCAL

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	300 ORGFM 300 Cl⁻	8015 MOD NM - FULL TPH	8021 - BTEX	MOISTURE 2640G - LOCAL	Sample Comments
BH-19 0-1'	S	10/30/23	1046	0-1'	G	2	↓	↓	↓	↓	
BH-19 2-3'	↓	↓	1050	2-3'	↓	↓	↓	↓	↓	↓	
BH-20 0-1'	↓	↓	1105	0-1'	↓	↓	↓	↓	↓	↓	
BH-20 1-2'	↓	↓	1108	1-2'	↓	↓	↓	↓	↓	↓	
BH-21 0-1'	↓	↓	1122	0-1'	↓	↓	↓	↓	↓	↓	HOLD UNTIL
BH-21 1-2	↓	↓	1127	1-2'	↓	↓	↓	↓	↓	↓	PRELIM RESULTS OF BH-20

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature] Calley Tanglett	10/31/23 ~~1000~~ 1030	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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11/7/2023 (Rev. 1)

Login Sample Receipt Checklist

Client: Civil & Environmental Consultants Inc

Job Number: 820-10710-1
SDG Number: 335-562

Login Number: 10710
List Number: 1
Creator: Lee, Randell

List Source: Eurofins Lubbock

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Civil & Environmental Consultants Inc

Job Number: 820-10710-1
SDG Number: 335-562

Login Number: 10710
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/01/23 12:57 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Laura Campbell
Civil & Environmental Consultants Inc
700 Cherrington Parkway
Moon Township, Pennsylvania 15108

Generated 2/15/2024 1:55:59 PM Revision 1

JOB DESCRIPTION

Seawolf 112 91H-On

JOB NUMBER

820-11924-1

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock TX 79424

See page two for job notes and contact information.

my EOL

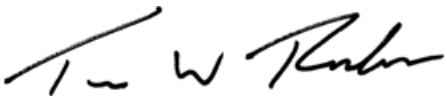
Eurofins Lubbock

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
Travis Richter, Project Manager
Travis.Richter@et.eurofinsus.com
(281)794-7216

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Laboratory Job ID: 820-11924-1

Table of Contents

Definitions/Glossary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Civil & Environmental Consultants Inc
Project: Seawolf 112 91H-On

Job ID: 820-11924-1

Job ID: 820-11924-1 Eurofins Lubbock

Job Narrative
820-11924-1

REVISION

The report being provided is a revision of the original report sent on 2/14/2024. The report (revision 1) is being revised due to Client wanted a reanalysis performed to confirm DRO result..

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/2/2024 10:11 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -0.3°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: Seawolf 91H-9-7-23 Sidewall 1 (820-11924-1), Seawolf 91H-9-7-23 Sidewall 2 (820-11924-2), Seawolf 91H-9-7-23 Sidewall 3 (820-11924-3), Seawolf 91H-9-7-23 Sidewall 4 (820-11924-4), Seawolf 91H-9-7-23 Bottom 1 (820-11924-5), Seawolf 91H-9-7-23 Bottom 2 (820-11924-6), Seawolf 91H-9-7-23 Bottom 3 (820-11924-7), Seawolf 91H-9-7-23 Bottom 4 (820-11924-8), Seawolf 91H-9-7-23 Bottom 5 (820-11924-9), Seawolf 91H-9-7-23 Bottom 6 (820-11924-10), Seawolf 91H-9-7-23 Bottom 7 (820-11924-11), Seawolf 91H-9-7-23 Bottom 8 (820-11924-12), Seawolf 91H-9-7-23 Bottom 9 (820-11924-13), Seawolf 91H-9-7-23 Bottom 10 (820-11924-14), Seawolf 91H-9-7-23 Bottom 11 (820-11924-15), Seawolf 91H-9-7-23 Bottom 12 (820-11924-16), Seawolf 91H-9-7-23 Bottom 13 (820-11924-17), Seawolf 91H-9-7-23 Bottom 14 (820-11924-18), Seawolf 91H-9-7-23 Bottom 15 (820-11924-19), Seawolf 91H-9-7-23 Bottom 16 (820-11924-20) and Seawolf 91H-9-7-23 Bottom 17 (820-11924-21).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-72659 and analytical batch 880-72586 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-72601 and analytical batch 880-72824 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following samples were outside control limits: Seawolf 91H-9-7-23 Bottom 7 (820-11924-11) and Seawolf 91H-9-7-23 Bottom 8 (820-11924-12). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-72824 recovered above the upper control limit for Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-72824/20).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-72383 and 880-72384 and analytical batch 880-72441 was outside the upper control limits.

Case Narrative

Client: Civil & Environmental Consultants Inc
Project: Seawolf 112 91H-On

Job ID: 820-11924-1

Job ID: 820-11924-1 (Continued) Eurofins Lubbock

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: Seawolf 91H-9-7-23 Sidewall 1 (820-11924-1), Seawolf 91H-9-7-23 Sidewall 2 (820-11924-2), Seawolf 91H-9-7-23 Sidewall 3 (820-11924-3), Seawolf 91H-9-7-23 Sidewall 4 (820-11924-4), Seawolf 91H-9-7-23 Bottom 1 (820-11924-5), Seawolf 91H-9-7-23 Bottom 2 (820-11924-6), Seawolf 91H-9-7-23 Bottom 3 (820-11924-7), Seawolf 91H-9-7-23 Bottom 4 (820-11924-8), Seawolf 91H-9-7-23 Bottom 5 (820-11924-9), Seawolf 91H-9-7-23 Bottom 6 (820-11924-10), Seawolf 91H-9-7-23 Bottom 7 (820-11924-11), Seawolf 91H-9-7-23 Bottom 8 (820-11924-12), Seawolf 91H-9-7-23 Bottom 9 (820-11924-13), Seawolf 91H-9-7-23 Bottom 10 (820-11924-14), Seawolf 91H-9-7-23 Bottom 11 (820-11924-15), Seawolf 91H-9-7-23 Bottom 12 (820-11924-16), Seawolf 91H-9-7-23 Bottom 13 (820-11924-17), Seawolf 91H-9-7-23 Bottom 14 (820-11924-18), Seawolf 91H-9-7-23 Bottom 15 (820-11924-19), Seawolf 91H-9-7-23 Bottom 16 (820-11924-20), Seawolf 91H-9-7-23 Bottom 17 (820-11924-21), (820-11924-A-1-E MS) and (820-11924-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-72383 and 880-72384 and analytical batch 880-72441 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-72343 and analytical batch 880-72615 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-72343 and analytical batch 880-72615 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-72365 and analytical batch 880-72452 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1

Lab Sample ID: 820-11924-1
Date Collected: 01/31/24 19:37
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 71.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000538	U	0.00279	0.000538	mg/Kg	☼	02/07/24 16:52	02/11/24 19:01	1
Toluene	<0.000637	U	0.00279	0.000637	mg/Kg	☼	02/07/24 16:52	02/11/24 19:01	1
Ethylbenzene	<0.000789	U *+	0.00279	0.000789	mg/Kg	☼	02/07/24 16:52	02/11/24 19:01	1
m-Xylene & p-Xylene	<0.00141	U *+	0.00558	0.00141	mg/Kg	☼	02/07/24 16:52	02/11/24 19:01	1
o-Xylene	<0.000480	U *+	0.00279	0.000480	mg/Kg	☼	02/07/24 16:52	02/11/24 19:01	1
Xylenes, Total	<0.00141	U *+	0.00558	0.00141	mg/Kg	☼	02/07/24 16:52	02/11/24 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*02/07/24 16:52*	*02/11/24 19:01*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*02/07/24 16:52*	*02/11/24 19:01*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<20.8	U	69.3	20.8	mg/Kg	☼	02/05/24 13:47	02/06/24 23:28	1
Diesel Range Organics (Over C10-C28)	**253**	**B**	69.3	20.8	mg/Kg	☼	02/05/24 13:47	02/06/24 23:28	1
Oil Range Organics (Over C28-C36)	<20.8	U	69.3	20.8	mg/Kg	☼	02/05/24 13:47	02/06/24 23:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/06/24 23:28*	*1*
o-Terphenyl	*126*		*70 - 130*	*02/05/24 13:47*	*02/06/24 23:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**959**	**F1**	5.02	0.397	mg/Kg			02/06/24 11:42	1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 2

Lab Sample ID: 820-11924-2
Date Collected: 01/31/24 19:38
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 81.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000469	U	0.00244	0.000469	mg/Kg	☼	02/07/24 16:52	02/11/24 19:22	1
Toluene	<0.000555	U	0.00244	0.000555	mg/Kg	☼	02/07/24 16:52	02/11/24 19:22	1
Ethylbenzene	<0.000688	U *+	0.00244	0.000688	mg/Kg	☼	02/07/24 16:52	02/11/24 19:22	1
m-Xylene & p-Xylene	<0.00123	U *+	0.00487	0.00123	mg/Kg	☼	02/07/24 16:52	02/11/24 19:22	1
o-Xylene	<0.000419	U *+	0.00244	0.000419	mg/Kg	☼	02/07/24 16:52	02/11/24 19:22	1
Xylenes, Total	<0.00123	U *+	0.00487	0.00123	mg/Kg	☼	02/07/24 16:52	02/11/24 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*02/07/24 16:52*	*02/11/24 19:22*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*02/07/24 16:52*	*02/11/24 19:22*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**45.9**	**J**	61.7	18.5	mg/Kg	☼	02/05/24 13:47	02/07/24 00:32	1
Diesel Range Organics (Over C10-C28)	**30.2**	**J B**	61.7	18.5	mg/Kg	☼	02/05/24 13:47	02/07/24 00:32	1
Oil Range Organics (Over C28-C36)	<18.5	U	61.7	18.5	mg/Kg	☼	02/05/24 13:47	02/07/24 00:32	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 2

Lab Sample ID: 820-11924-2
Date Collected: 01/31/24 19:38
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 81.8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*164*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 00:32*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 00:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1050**		5.03	0.397	mg/Kg			02/06/24 11:56	1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 3

Lab Sample ID: 820-11924-3
Date Collected: 02/01/24 15:39
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 81.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000469	U	0.00243	0.000469	mg/Kg	☼	02/07/24 16:52	02/11/24 19:42	1
Toluene	<0.000555	U	0.00243	0.000555	mg/Kg	☼	02/07/24 16:52	02/11/24 19:42	1
Ethylbenzene	<0.000688	U *+	0.00243	0.000688	mg/Kg	☼	02/07/24 16:52	02/11/24 19:42	1
m-Xylene & p-Xylene	<0.00123	U *+	0.00487	0.00123	mg/Kg	☼	02/07/24 16:52	02/11/24 19:42	1
o-Xylene	<0.000419	U *+	0.00243	0.000419	mg/Kg	☼	02/07/24 16:52	02/11/24 19:42	1
Xylenes, Total	<0.00123	U *+	0.00487	0.00123	mg/Kg	☼	02/07/24 16:52	02/11/24 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*02/07/24 16:52*	*02/11/24 19:42*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*02/07/24 16:52*	*02/11/24 19:42*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**45.3**	**J**	61.1	18.3	mg/Kg	☼	02/05/24 13:47	02/07/24 00:53	1
Diesel Range Organics (Over C10-C28)	**108**	**B**	61.1	18.3	mg/Kg	☼	02/05/24 13:47	02/07/24 00:53	1
Oil Range Organics (Over C28-C36)	<18.3	U	61.1	18.3	mg/Kg	☼	02/05/24 13:47	02/07/24 00:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*145*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 00:53*	*1*
o-Terphenyl	*125*		*70 - 130*	*02/05/24 13:47*	*02/07/24 00:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**360**		5.00	0.395	mg/Kg			02/06/24 12:00	1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 4

Lab Sample ID: 820-11924-4
Date Collected: 01/31/24 19:41
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 63.3

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000607	U	0.00315	0.000607	mg/Kg	☼	02/07/24 16:52	02/11/24 20:03	1
Toluene	<0.000719	U	0.00315	0.000719	mg/Kg	☼	02/07/24 16:52	02/11/24 20:03	1
Ethylbenzene	<0.000890	U *+	0.00315	0.000890	mg/Kg	☼	02/07/24 16:52	02/11/24 20:03	1
m-Xylene & p-Xylene	<0.00159	U *+	0.00630	0.00159	mg/Kg	☼	02/07/24 16:52	02/11/24 20:03	1
o-Xylene	<0.000542	U *+	0.00315	0.000542	mg/Kg	☼	02/07/24 16:52	02/11/24 20:03	1
Xylenes, Total	<0.00159	U *+	0.00630	0.00159	mg/Kg	☼	02/07/24 16:52	02/11/24 20:03	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 4

Lab Sample ID: 820-11924-4
Date Collected: 01/31/24 19:41
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 63.3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*02/07/24 16:52*	*02/11/24 20:03*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*02/07/24 16:52*	*02/11/24 20:03*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<23.5	U	78.4	23.5	mg/Kg	☼	02/05/24 13:47	02/07/24 01:14	1
Diesel Range Organics (Over C10-C28)	**290**	**B**	78.4	23.5	mg/Kg	☼	02/05/24 13:47	02/07/24 01:14	1
Oil Range Organics (Over C28-C36)	<23.5	U	78.4	23.5	mg/Kg	☼	02/05/24 13:47	02/07/24 01:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 01:14*	*1*
o-Terphenyl	*125*		*70 - 130*	*02/05/24 13:47*	*02/07/24 01:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1840**		25.1	1.98	mg/Kg			02/06/24 12:05	5

Client Sample ID: Seawolf 91H-9-7-23 Bottom 1

Lab Sample ID: 820-11924-5
Date Collected: 02/01/24 15:37
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 77.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000498	U	0.00259	0.000498	mg/Kg	☼	02/07/24 16:52	02/11/24 20:24	1
Toluene	<0.000589	U	0.00259	0.000589	mg/Kg	☼	02/07/24 16:52	02/11/24 20:24	1
Ethylbenzene	<0.000730	U *+	0.00259	0.000730	mg/Kg	☼	02/07/24 16:52	02/11/24 20:24	1
m-Xylene & p-Xylene	<0.00131	U *+	0.00517	0.00131	mg/Kg	☼	02/07/24 16:52	02/11/24 20:24	1
o-Xylene	<0.000445	U *+	0.00259	0.000445	mg/Kg	☼	02/07/24 16:52	02/11/24 20:24	1
Xylenes, Total	<0.00131	U *+	0.00517	0.00131	mg/Kg	☼	02/07/24 16:52	02/11/24 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*02/07/24 16:52*	*02/11/24 20:24*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*02/07/24 16:52*	*02/11/24 20:24*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<19.3	U	64.3	19.3	mg/Kg	☼	02/05/24 13:47	02/07/24 01:35	1
Diesel Range Organics (Over C10-C28)	**470**	**B**	64.3	19.3	mg/Kg	☼	02/05/24 13:47	02/07/24 01:35	1
Oil Range Organics (Over C28-C36)	<19.3	U	64.3	19.3	mg/Kg	☼	02/05/24 13:47	02/07/24 01:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*149*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 01:35*	*1*
o-Terphenyl	*124*		*70 - 130*	*02/05/24 13:47*	*02/07/24 01:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**550**		4.98	0.393	mg/Kg			02/06/24 12:10	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 2

Lab Sample ID: 820-11924-6
Date Collected: 01/31/24 19:48
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 65.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000583	U	0.00303	0.000583	mg/Kg	☼	02/07/24 16:52	02/11/24 20:45	1
Toluene	<0.000691	U	0.00303	0.000691	mg/Kg	☼	02/07/24 16:52	02/11/24 20:45	1
Ethylbenzene	<0.000856	U *+	0.00303	0.000856	mg/Kg	☼	02/07/24 16:52	02/11/24 20:45	1
m-Xylene & p-Xylene	<0.00153	U *+	0.00606	0.00153	mg/Kg	☼	02/07/24 16:52	02/11/24 20:45	1
o-Xylene	<0.000521	U *+	0.00303	0.000521	mg/Kg	☼	02/07/24 16:52	02/11/24 20:45	1
Xylenes, Total	<0.00153	U *+	0.00606	0.00153	mg/Kg	☼	02/07/24 16:52	02/11/24 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*02/07/24 16:52*	*02/11/24 20:45*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*02/07/24 16:52*	*02/11/24 20:45*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**49.0**	**J**	75.4	22.6	mg/Kg	☼	02/05/24 13:47	02/07/24 01:56	1
Diesel Range Organics (Over C10-C28)	**33.5**	**J B**	75.4	22.6	mg/Kg	☼	02/05/24 13:47	02/07/24 01:56	1
Oll Range Organics (Over C28-C36)	<22.6	U	75.4	22.6	mg/Kg	☼	02/05/24 13:47	02/07/24 01:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*138*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 01:56*	*1*
o-Terphenyl	*118*		*70 - 130*	*02/05/24 13:47*	*02/07/24 01:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**127**		5.01	0.396	mg/Kg			02/06/24 12:24	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 3

Lab Sample ID: 820-11924-7
Date Collected: 01/31/24 19:50
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 73.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000518	U	0.00269	0.000518	mg/Kg	☼	02/07/24 16:52	02/11/24 21:06	1
Toluene	<0.000614	U	0.00269	0.000614	mg/Kg	☼	02/07/24 16:52	02/11/24 21:06	1
Ethylbenzene	<0.000761	U *+	0.00269	0.000761	mg/Kg	☼	02/07/24 16:52	02/11/24 21:06	1
m-Xylene & p-Xylene	<0.00136	U *+	0.00539	0.00136	mg/Kg	☼	02/07/24 16:52	02/11/24 21:06	1
o-Xylene	<0.000463	U *+	0.00269	0.000463	mg/Kg	☼	02/07/24 16:52	02/11/24 21:06	1
Xylenes, Total	<0.00136	U *+	0.00539	0.00136	mg/Kg	☼	02/07/24 16:52	02/11/24 21:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*02/07/24 16:52*	*02/11/24 21:06*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*02/07/24 16:52*	*02/11/24 21:06*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**34.6**	**J**	68.1	20.4	mg/Kg	☼	02/05/24 13:47	02/07/24 02:18	1
Diesel Range Organics (Over C10-C28)	**49.7**	**J B**	68.1	20.4	mg/Kg	☼	02/05/24 13:47	02/07/24 02:18	1
Oll Range Organics (Over C28-C36)	<20.4	U	68.1	20.4	mg/Kg	☼	02/05/24 13:47	02/07/24 02:18	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 3

Lab Sample ID: 820-11924-7
Date Collected: 01/31/24 19:50
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 73.8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	153	S1+	70 - 130	02/05/24 13:47	02/07/24 02:18	1
o-Terphenyl	127		70 - 130	02/05/24 13:47	02/07/24 02:18	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	566		5.04	0.398	mg/Kg			02/06/24 12:28	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 4

Lab Sample ID: 820-11924-8
Date Collected: 01/31/24 19:52
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 82.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000468	U	0.00243	0.000468	mg/Kg	☼	02/07/24 16:52	02/11/24 21:27	1
Toluene	<0.000555	U	0.00243	0.000555	mg/Kg	☼	02/07/24 16:52	02/11/24 21:27	1
Ethylbenzene	<0.000687	U *+	0.00243	0.000687	mg/Kg	☼	02/07/24 16:52	02/11/24 21:27	1
m-Xylene & p-Xylene	<0.00123	U *+	0.00487	0.00123	mg/Kg	☼	02/07/24 16:52	02/11/24 21:27	1
o-Xylene	<0.000419	U *+	0.00243	0.000419	mg/Kg	☼	02/07/24 16:52	02/11/24 21:27	1
Xylenes, Total	<0.00123	U *+	0.00487	0.00123	mg/Kg	☼	02/07/24 16:52	02/11/24 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	02/07/24 16:52	02/11/24 21:27	1
1,4-Difluorobenzene (Surr)	89		70 - 130	02/07/24 16:52	02/11/24 21:27	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	33.7	J	61.1	18.3	mg/Kg	☼	02/05/24 13:47	02/07/24 02:40	1
Diesel Range Organics (Over C10-C28)	61.2	B	61.1	18.3	mg/Kg	☼	02/05/24 13:47	02/07/24 02:40	1
Oil Range Organics (Over C28-C36)	<18.3	U	61.1	18.3	mg/Kg	☼	02/05/24 13:47	02/07/24 02:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	138	S1+	70 - 130	02/05/24 13:47	02/07/24 02:40	1
o-Terphenyl	119		70 - 130	02/05/24 13:47	02/07/24 02:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	882		4.97	0.393	mg/Kg			02/06/24 12:33	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 5

Lab Sample ID: 820-11924-9
Date Collected: 01/31/24 19:54
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 70.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000550	U	0.00285	0.000550	mg/Kg	☼	02/07/24 16:52	02/11/24 21:47	1
Toluene	<0.000651	U	0.00285	0.000651	mg/Kg	☼	02/07/24 16:52	02/11/24 21:47	1
Ethylbenzene	<0.000806	U *+	0.00285	0.000806	mg/Kg	☼	02/07/24 16:52	02/11/24 21:47	1
m-Xylene & p-Xylene	<0.00144	U *+	0.00571	0.00144	mg/Kg	☼	02/07/24 16:52	02/11/24 21:47	1
o-Xylene	<0.000491	U *+	0.00285	0.000491	mg/Kg	☼	02/07/24 16:52	02/11/24 21:47	1
Xylenes, Total	<0.00144	U *+	0.00571	0.00144	mg/Kg	☼	02/07/24 16:52	02/11/24 21:47	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 5

Lab Sample ID: 820-11924-9
Date Collected: 01/31/24 19:54
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 70.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*02/07/24 16:52*	*02/11/24 21:47*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*02/07/24 16:52*	*02/11/24 21:47*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**31.5**	**J**	71.3	21.4	mg/Kg	☼	02/05/24 13:47	02/07/24 03:01	1
Diesel Range Organics (Over C10-C28)	**60.8**	**J B**	71.3	21.4	mg/Kg	☼	02/05/24 13:47	02/07/24 03:01	1
Oil Range Organics (Over C28-C36)	<21.4	U	71.3	21.4	mg/Kg	☼	02/05/24 13:47	02/07/24 03:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*146*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 03:01*	*1*
o-Terphenyl	*127*		*70 - 130*	*02/05/24 13:47*	*02/07/24 03:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**669**		5.03	0.397	mg/Kg			02/06/24 12:38	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 6

Lab Sample ID: 820-11924-10
Date Collected: 01/31/24 19:58
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 71.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000539	U	0.00280	0.000539	mg/Kg	☼	02/07/24 16:52	02/11/24 22:08	1
Toluene	<0.000638	U	0.00280	0.000638	mg/Kg	☼	02/07/24 16:52	02/11/24 22:08	1
Ethylbenzene	<0.000791	U *+	0.00280	0.000791	mg/Kg	☼	02/07/24 16:52	02/11/24 22:08	1
m-Xylene & p-Xylene	<0.00141	U *+	0.00560	0.00141	mg/Kg	☼	02/07/24 16:52	02/11/24 22:08	1
o-Xylene	<0.000482	U *+	0.00280	0.000482	mg/Kg	☼	02/07/24 16:52	02/11/24 22:08	1
Xylenes, Total	<0.00141	U *+	0.00560	0.00141	mg/Kg	☼	02/07/24 16:52	02/11/24 22:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*02/07/24 16:52*	*02/11/24 22:08*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*02/07/24 16:52*	*02/11/24 22:08*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**38.5**	**J**	70.4	21.1	mg/Kg	☼	02/05/24 13:47	02/07/24 03:22	1
Diesel Range Organics (Over C10-C28)	**40.0**	**J B**	70.4	21.1	mg/Kg	☼	02/05/24 13:47	02/07/24 03:22	1
Oil Range Organics (Over C28-C36)	<21.1	U	70.4	21.1	mg/Kg	☼	02/05/24 13:47	02/07/24 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 03:22*	*1*
o-Terphenyl	*116*		*70 - 130*	*02/05/24 13:47*	*02/07/24 03:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1170**		4.99	0.394	mg/Kg			02/06/24 12:42	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 7

Lab Sample ID: 820-11924-11
Date Collected: 01/31/24 20:00
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 67.0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000573	U	0.00298	0.000573	mg/Kg	☼	02/07/24 16:52	02/11/24 23:31	1
Toluene	**0.000729**	**J**	0.00298	0.000678	mg/Kg	☼	02/07/24 16:52	02/11/24 23:31	1
Ethylbenzene	<0.000841	U *+	0.00298	0.000841	mg/Kg	☼	02/07/24 16:52	02/11/24 23:31	1
m-Xylene & p-Xylene	<0.00150	U *+	0.00595	0.00150	mg/Kg	☼	02/07/24 16:52	02/11/24 23:31	1
o-Xylene	<0.000512	U *+	0.00298	0.000512	mg/Kg	☼	02/07/24 16:52	02/11/24 23:31	1
Xylenes, Total	<0.00150	U *+	0.00595	0.00150	mg/Kg	☼	02/07/24 16:52	02/11/24 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*02/07/24 16:52*	*02/11/24 23:31*	*1*
1,4-Difluorobenzene (Surr)	*63*	*S1-*	*70 - 130*	*02/07/24 16:52*	*02/11/24 23:31*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**35.1**	**J**	75.4	22.6	mg/Kg	☼	02/05/24 13:47	02/07/24 04:04	1
Diesel Range Organics (Over C10-C28)	**38.0**	**J B**	75.4	22.6	mg/Kg	☼	02/05/24 13:47	02/07/24 04:04	1
Oll Range Organics (Over C28-C36)	<22.6	U	75.4	22.6	mg/Kg	☼	02/05/24 13:47	02/07/24 04:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*157*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 04:04*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 04:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**511**	**F1**	5.05	0.399	mg/Kg			02/06/24 12:47	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 8

Lab Sample ID: 820-11924-12
Date Collected: 01/31/24 20:02
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 66.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000574	U	0.00298	0.000574	mg/Kg	☼	02/07/24 16:52	02/11/24 23:52	1
Toluene	<0.000680	U	0.00298	0.000680	mg/Kg	☼	02/07/24 16:52	02/11/24 23:52	1
Ethylbenzene	<0.000842	U *+	0.00298	0.000842	mg/Kg	☼	02/07/24 16:52	02/11/24 23:52	1
m-Xylene & p-Xylene	<0.00151	U *+	0.00596	0.00151	mg/Kg	☼	02/07/24 16:52	02/11/24 23:52	1
o-Xylene	<0.000513	U *+	0.00298	0.000513	mg/Kg	☼	02/07/24 16:52	02/11/24 23:52	1
Xylenes, Total	<0.00151	U *+	0.00596	0.00151	mg/Kg	☼	02/07/24 16:52	02/11/24 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*02/07/24 16:52*	*02/11/24 23:52*	*1*
1,4-Difluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*02/07/24 16:52*	*02/11/24 23:52*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**107**		75.0	22.5	mg/Kg	☼	02/05/24 13:47	02/07/24 04:25	1
Diesel Range Organics (Over C10-C28)	**4090**	**B**	75.0	22.5	mg/Kg	☼	02/05/24 13:47	02/07/24 04:25	1
Oll Range Organics (Over C28-C36)	<22.5	U	75.0	22.5	mg/Kg	☼	02/05/24 13:47	02/07/24 04:25	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 8

Lab Sample ID: 820-11924-12
Date Collected: 01/31/24 20:02
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 66.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	155	S1+	70 - 130	02/05/24 13:47	02/07/24 04:25	1
o-Terphenyl	117		70 - 130	02/05/24 13:47	02/07/24 04:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	100	B	74.5	22.4	mg/Kg	☼	02/05/24 10:14	02/08/24 11:26	1
Diesel Range Organics (Over C10-C28)	2320	B	74.5	22.4	mg/Kg	☼	02/05/24 10:14	02/08/24 11:26	1
Oil Range Organics (Over C28-C36)	<22.4	U	74.5	22.4	mg/Kg	☼	02/05/24 10:14	02/08/24 11:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	122		70 - 130	02/05/24 10:14	02/08/24 11:26	1
o-Terphenyl	101		70 - 130	02/05/24 10:14	02/08/24 11:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	205		5.03	0.397	mg/Kg			02/06/24 13:01	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 9

Lab Sample ID: 820-11924-13
Date Collected: 01/31/24 20:03
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 74.9

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000513	U	0.00266	0.000513	mg/Kg	☼	02/07/24 16:52	02/12/24 00:12	1
Toluene	<0.000607	U	0.00266	0.000607	mg/Kg	☼	02/07/24 16:52	02/12/24 00:12	1
Ethylbenzene	<0.000752	U *+	0.00266	0.000752	mg/Kg	☼	02/07/24 16:52	02/12/24 00:12	1
m-Xylene & p-Xylene	<0.00134	U *+	0.00533	0.00134	mg/Kg	☼	02/07/24 16:52	02/12/24 00:12	1
o-Xylene	<0.000458	U *+	0.00266	0.000458	mg/Kg	☼	02/07/24 16:52	02/12/24 00:12	1
Xylenes, Total	<0.00134	U *+	0.00533	0.00134	mg/Kg	☼	02/07/24 16:52	02/12/24 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130	02/07/24 16:52	02/12/24 00:12	1
1,4-Difluorobenzene (Surr)	81		70 - 130	02/07/24 16:52	02/12/24 00:12	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	46.2	J	66.6	20.0	mg/Kg	☼	02/05/24 13:47	02/07/24 04:46	1
Diesel Range Organics (Over C10-C28)	57.6	J B	66.6	20.0	mg/Kg	☼	02/05/24 13:47	02/07/24 04:46	1
Oil Range Organics (Over C28-C36)	<20.0	U	66.6	20.0	mg/Kg	☼	02/05/24 13:47	02/07/24 04:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	148	S1+	70 - 130	02/05/24 13:47	02/07/24 04:46	1
o-Terphenyl	126		70 - 130	02/05/24 13:47	02/07/24 04:46	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	823		4.95	0.391	mg/Kg			02/06/24 13:05	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 10

Lab Sample ID: 820-11924-14
Date Collected: 01/31/24 20:05
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 74.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000522	U	0.00271	0.000522	mg/Kg	☼	02/07/24 16:52	02/12/24 00:33	1
Toluene	<0.000618	U	0.00271	0.000618	mg/Kg	☼	02/07/24 16:52	02/12/24 00:33	1
Ethylbenzene	<0.000766	U *+	0.00271	0.000766	mg/Kg	☼	02/07/24 16:52	02/12/24 00:33	1
m-Xylene & p-Xylene	<0.00137	U *+	0.00543	0.00137	mg/Kg	☼	02/07/24 16:52	02/12/24 00:33	1
o-Xylene	<0.000467	U *+	0.00271	0.000467	mg/Kg	☼	02/07/24 16:52	02/12/24 00:33	1
Xylenes, Total	<0.00137	U *+	0.00543	0.00137	mg/Kg	☼	02/07/24 16:52	02/12/24 00:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*02/07/24 16:52*	*02/12/24 00:33*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*02/07/24 16:52*	*02/12/24 00:33*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**34.8**	**J**	67.2	20.2	mg/Kg	☼	02/05/24 13:47	02/07/24 05:07	1
Diesel Range Organics (Over C10-C28)	**35.0**	**J B**	67.2	20.2	mg/Kg	☼	02/05/24 13:47	02/07/24 05:07	1
Oil Range Organics (Over C28-C36)	<20.2	U	67.2	20.2	mg/Kg	☼	02/05/24 13:47	02/07/24 05:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*143*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 05:07*	*1*
o-Terphenyl	*124*		*70 - 130*	*02/05/24 13:47*	*02/07/24 05:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1020**		4.98	0.393	mg/Kg			02/06/24 13:19	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 11

Lab Sample ID: 820-11924-15
Date Collected: 01/31/24 20:07
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 72.7

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000531	U	0.00276	0.000531	mg/Kg	☼	02/07/24 16:52	02/12/24 00:53	1
Toluene	<0.000629	U	0.00276	0.000629	mg/Kg	☼	02/07/24 16:52	02/12/24 00:53	1
Ethylbenzene	<0.000779	U *+	0.00276	0.000779	mg/Kg	☼	02/07/24 16:52	02/12/24 00:53	1
m-Xylene & p-Xylene	<0.00139	U *+	0.00552	0.00139	mg/Kg	☼	02/07/24 16:52	02/12/24 00:53	1
o-Xylene	<0.000474	U *+	0.00276	0.000474	mg/Kg	☼	02/07/24 16:52	02/12/24 00:53	1
Xylenes, Total	<0.00139	U *+	0.00552	0.00139	mg/Kg	☼	02/07/24 16:52	02/12/24 00:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*02/07/24 16:52*	*02/12/24 00:53*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*02/07/24 16:52*	*02/12/24 00:53*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**35.8**	**J**	68.4	20.5	mg/Kg	☼	02/05/24 13:47	02/07/24 05:29	1
Diesel Range Organics (Over C10-C28)	**53.4**	**J B**	68.4	20.5	mg/Kg	☼	02/05/24 13:47	02/07/24 05:29	1
Oil Range Organics (Over C28-C36)	<20.5	U	68.4	20.5	mg/Kg	☼	02/05/24 13:47	02/07/24 05:29	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 11

Lab Sample ID: 820-11924-15
Date Collected: 01/31/24 20:07
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 72.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*154*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 05:29*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 05:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1230**		5.00	0.395	mg/Kg			02/06/24 13:24	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 12

Lab Sample ID: 820-11924-16
Date Collected: 01/31/24 20:10
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 72.9

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000526	U	0.00273	0.000526	mg/Kg	☼	02/07/24 16:52	02/12/24 01:13	1
Toluene	<0.000623	U	0.00273	0.000623	mg/Kg	☼	02/07/24 16:52	02/12/24 01:13	1
Ethylbenzene	<0.000772	U *+	0.00273	0.000772	mg/Kg	☼	02/07/24 16:52	02/12/24 01:13	1
m-Xylene & p-Xylene	<0.00138	U *+	0.00547	0.00138	mg/Kg	☼	02/07/24 16:52	02/12/24 01:13	1
o-Xylene	<0.000470	U *+	0.00273	0.000470	mg/Kg	☼	02/07/24 16:52	02/12/24 01:13	1
Xylenes, Total	<0.00138	U *+	0.00547	0.00138	mg/Kg	☼	02/07/24 16:52	02/12/24 01:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*02/07/24 16:52*	*02/12/24 01:13*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*02/07/24 16:52*	*02/12/24 01:13*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**37.3**	**J**	68.7	20.6	mg/Kg	☼	02/05/24 13:47	02/07/24 05:49	1
Diesel Range Organics (Over C10-C28)	**60.2**	**J B**	68.7	20.6	mg/Kg	☼	02/05/24 13:47	02/07/24 05:49	1
Oil Range Organics (Over C28-C36)	<20.6	U	68.7	20.6	mg/Kg	☼	02/05/24 13:47	02/07/24 05:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*156*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 05:49*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 05:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**695**		5.01	0.396	mg/Kg			02/06/24 13:29	1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 13

Lab Sample ID: 820-11924-17
Date Collected: 01/31/24 20:12
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 84.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000453	U	0.00235	0.000453	mg/Kg	☼	02/07/24 16:52	02/12/24 01:34	1
Toluene	<0.000536	U	0.00235	0.000536	mg/Kg	☼	02/07/24 16:52	02/12/24 01:34	1
Ethylbenzene	<0.000664	U *+	0.00235	0.000664	mg/Kg	☼	02/07/24 16:52	02/12/24 01:34	1
m-Xylene & p-Xylene	<0.00119	U *+	0.00470	0.00119	mg/Kg	☼	02/07/24 16:52	02/12/24 01:34	1
o-Xylene	<0.000404	U *+	0.00235	0.000404	mg/Kg	☼	02/07/24 16:52	02/12/24 01:34	1
Xylenes, Total	<0.00119	U *+	0.00470	0.00119	mg/Kg	☼	02/07/24 16:52	02/12/24 01:34	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 13

Lab Sample ID: 820-11924-17
Date Collected: 01/31/24 20:12
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 84.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	02/07/24 16:52	02/12/24 01:34	1
1,4-Difluorobenzene (Surr)	79		70 - 130	02/07/24 16:52	02/12/24 01:34	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<17.8	U	59.3	17.8	mg/Kg	☼	02/05/24 13:47	02/07/24 06:10	1
Diesel Range Organics (Over C10-C28)	**506**	**B**	59.3	17.8	mg/Kg	☼	02/05/24 13:47	02/07/24 06:10	1
Oil Range Organics (Over C28-C36)	<17.8	U	59.3	17.8	mg/Kg	☼	02/05/24 13:47	02/07/24 06:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130	02/05/24 13:47	02/07/24 06:10	1
o-Terphenyl	117		70 - 130	02/05/24 13:47	02/07/24 06:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2570**		24.9	1.96	mg/Kg			02/06/24 13:33	5

Client Sample ID: Seawolf 91H-9-7-23 Bottom 14

Lab Sample ID: 820-11924-18
Date Collected: 01/31/24 20:14
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 65.2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000589	U	0.00306	0.000589	mg/Kg	☼	02/07/24 16:52	02/12/24 01:54	1
Toluene	<0.000698	U	0.00306	0.000698	mg/Kg	☼	02/07/24 16:52	02/12/24 01:54	1
Ethylbenzene	<0.000865	U *+	0.00306	0.000865	mg/Kg	☼	02/07/24 16:52	02/12/24 01:54	1
m-Xylene & p-Xylene	<0.00155	U *+	0.00612	0.00155	mg/Kg	☼	02/07/24 16:52	02/12/24 01:54	1
o-Xylene	<0.000527	U *+	0.00306	0.000527	mg/Kg	☼	02/07/24 16:52	02/12/24 01:54	1
Xylenes, Total	<0.00155	U *+	0.00612	0.00155	mg/Kg	☼	02/07/24 16:52	02/12/24 01:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	02/07/24 16:52	02/12/24 01:54	1
1,4-Difluorobenzene (Surr)	81		70 - 130	02/07/24 16:52	02/12/24 01:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**30.0**	**J**	77.3	23.2	mg/Kg	☼	02/05/24 13:47	02/07/24 06:32	1
Diesel Range Organics (Over C10-C28)	**243**	**B**	77.3	23.2	mg/Kg	☼	02/05/24 13:47	02/07/24 06:32	1
Oil Range Organics (Over C28-C36)	<23.2	U	77.3	23.2	mg/Kg	☼	02/05/24 13:47	02/07/24 06:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	136	S1+	70 - 130	02/05/24 13:47	02/07/24 06:32	1
o-Terphenyl	115		70 - 130	02/05/24 13:47	02/07/24 06:32	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2760**		25.0	1.97	mg/Kg			02/06/24 13:38	5

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 15

Lab Sample ID: 820-11924-19
Date Collected: 01/31/24 20:16
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 88.4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000438	U	0.00228	0.000438	mg/Kg	☼	02/07/24 16:52	02/12/24 02:15	1
Toluene	<0.000519	U	0.00228	0.000519	mg/Kg	☼	02/07/24 16:52	02/12/24 02:15	1
Ethylbenzene	<0.000643	U *+	0.00228	0.000643	mg/Kg	☼	02/07/24 16:52	02/12/24 02:15	1
m-Xylene & p-Xylene	<0.00115	U *+	0.00455	0.00115	mg/Kg	☼	02/07/24 16:52	02/12/24 02:15	1
o-Xylene	<0.000391	U *+	0.00228	0.000391	mg/Kg	☼	02/07/24 16:52	02/12/24 02:15	1
Xylenes, Total	<0.00115	U *+	0.00455	0.00115	mg/Kg	☼	02/07/24 16:52	02/12/24 02:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*02/07/24 16:52*	*02/12/24 02:15*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*02/07/24 16:52*	*02/12/24 02:15*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**48.6**	**J**	57.1	17.1	mg/Kg	☼	02/05/24 13:47	02/07/24 06:53	1
Diesel Range Organics (Over C10-C28)	**174**	**B**	57.1	17.1	mg/Kg	☼	02/05/24 13:47	02/07/24 06:53	1
Oll Range Organics (Over C28-C36)	<17.1	U	57.1	17.1	mg/Kg	☼	02/05/24 13:47	02/07/24 06:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*138*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/07/24 06:53*	*1*
o-Terphenyl	*117*		*70 - 130*	*02/05/24 13:47*	*02/07/24 06:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4190**		25.1	1.98	mg/Kg			02/06/24 13:43	5

Client Sample ID: Seawolf 91H-9-7-23 Bottom 16

Lab Sample ID: 820-11924-20
Date Collected: 01/31/24 20:18
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 79.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000484	U	0.00251	0.000484	mg/Kg	☼	02/07/24 16:52	02/12/24 02:35	1
Toluene	<0.000573	U	0.00251	0.000573	mg/Kg	☼	02/07/24 16:52	02/12/24 02:35	1
Ethylbenzene	<0.000710	U *+	0.00251	0.000710	mg/Kg	☼	02/07/24 16:52	02/12/24 02:35	1
m-Xylene & p-Xylene	<0.00127	U *+	0.00503	0.00127	mg/Kg	☼	02/07/24 16:52	02/12/24 02:35	1
o-Xylene	<0.000432	U *+	0.00251	0.000432	mg/Kg	☼	02/07/24 16:52	02/12/24 02:35	1
Xylenes, Total	<0.00127	U *+	0.00503	0.00127	mg/Kg	☼	02/07/24 16:52	02/12/24 02:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*02/07/24 16:52*	*02/12/24 02:35*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*02/07/24 16:52*	*02/12/24 02:35*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**30.0**	**J**	62.4	18.7	mg/Kg	☼	02/05/24 13:47	02/07/24 07:14	1
Diesel Range Organics (Over C10-C28)	**330**	**B**	62.4	18.7	mg/Kg	☼	02/05/24 13:47	02/07/24 07:14	1
Oll Range Organics (Over C28-C36)	<18.7	U	62.4	18.7	mg/Kg	☼	02/05/24 13:47	02/07/24 07:14	1

Client Sample Results

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

Client Sample ID: Seawolf 91H-9-7-23 Bottom 16 Lab Sample ID: 820-11924-20

Date Collected: 01/31/24 20:18 **Matrix: Solid**
Date Received: 02/02/24 10:11 **Percent Solids: 79.8**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	139	S1+	70 - 130	02/05/24 13:47	02/07/24 07:14	1
o-Terphenyl	116		70 - 130	02/05/24 13:47	02/07/24 07:14	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1800**		25.2	1.99	mg/Kg			02/06/24 13:47	5

Client Sample ID: Seawolf 91H-9-7-23 Bottom 17 Lab Sample ID: 820-11924-21

Date Collected: 01/31/24 20:20 **Matrix: Solid**
Date Received: 02/02/24 10:11 **Percent Solids: 91.6**

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000424	U *-	0.00220	0.000424	mg/Kg	☼	02/08/24 13:05	02/08/24 21:09	1
Toluene	<0.000502	U	0.00220	0.000502	mg/Kg	☼	02/08/24 13:05	02/08/24 21:09	1
Ethylbenzene	<0.000622	U	0.00220	0.000622	mg/Kg	☼	02/08/24 13:05	02/08/24 21:09	1
m-Xylene & p-Xylene	<0.00111	U	0.00440	0.00111	mg/Kg	☼	02/08/24 13:05	02/08/24 21:09	1
o-Xylene	**0.000422**	**J**	0.00220	0.000379	mg/Kg	☼	02/08/24 13:05	02/08/24 21:09	1
Xylenes, Total	<0.00111	U	0.00440	0.00111	mg/Kg	☼	02/08/24 13:05	02/08/24 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	02/08/24 13:05	02/08/24 21:09	1
1,4-Difluorobenzene (Surr)	102		70 - 130	02/08/24 13:05	02/08/24 21:09	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<16.5	U	55.1	16.5	mg/Kg	☼	02/05/24 13:43	02/06/24 20:20	1
Diesel Range Organics (Over C10-C28)	**490**	**B**	55.1	16.5	mg/Kg	☼	02/05/24 13:43	02/06/24 20:20	1
Oil Range Organics (Over C28-C36)	<16.5	U	55.1	16.5	mg/Kg	☼	02/05/24 13:43	02/06/24 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	132	S1+	70 - 130	02/05/24 13:43	02/06/24 20:20	1
o-Terphenyl	112		70 - 130	02/05/24 13:43	02/06/24 20:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1500**		5.02	0.397	mg/Kg			02/06/24 10:37	1

Surrogate Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	73	87
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	120	101
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	117	107
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	92	79
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	95	82
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	91	77
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	84	83
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	75	88
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	78	90
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	79	89
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	81	84
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	88	78
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	82	63 S1-
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	87	59 S1-
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	82	81
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	80	80
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	83	81
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	82	81
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	89	79
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	84	81
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	90	79
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	84	80
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	116	102
LCS 880-72601/1-A	Lab Control Sample	120	93
LCS 880-72659/1-A	Lab Control Sample	101	100
LCSD 880-72601/2-A	Lab Control Sample Dup	115	94
LCSD 880-72659/2-A	Lab Control Sample Dup	100	92
MB 880-72601/5-A	Method Blank	70	85
MB 880-72659/5-A	Method Blank	119	113

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	147 S1+	126
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	140 S1+	107
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	137 S1+	105
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	164 S1+	142 S1+
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	145 S1+	125
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	148 S1+	125
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	149 S1+	124
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	138 S1+	118
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	153 S1+	127
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	138 S1+	119

Surrogate Summary

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	146 S1+	127
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	133 S1+	116
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	157 S1+	134 S1+
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	155 S1+	117
820-11924-12 - RA	Seawolf 91H-9-7-23 Bottom 8	122	101
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	148 S1+	126
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	143 S1+	124
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	154 S1+	132 S1+
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	156 S1+	135 S1+
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	142 S1+	117
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	136 S1+	115
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	138 S1+	117
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	139 S1+	116
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	132 S1+	112
LCS 880-72343/2-A	Lab Control Sample	97	95
LCS 880-72383/2-A	Lab Control Sample	89	87
LCS 880-72384/2-A	Lab Control Sample	103	100
LCSD 880-72343/3-A	Lab Control Sample Dup	96	95
LCSD 880-72383/3-A	Lab Control Sample Dup	94	89
LCSD 880-72384/3-A	Lab Control Sample Dup	97	92
MB 880-72343/1-A	Method Blank	161 S1+	141 S1+
MB 880-72383/1-A	Method Blank	169 S1+	146 S1+
MB 880-72384/1-A	Method Blank	189 S1+	164 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-72601/5-A
Matrix: Solid
Analysis Batch: 72824

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/07/24 16:52	02/11/24 18:39	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/07/24 16:52	02/11/24 18:39	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/07/24 16:52	02/11/24 18:39	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/07/24 16:52	02/11/24 18:39	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		02/07/24 16:52	02/11/24 18:39	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/07/24 16:52	02/11/24 18:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*02/07/24 16:52*	*02/11/24 18:39*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*02/07/24 16:52*	*02/11/24 18:39*	*1*

Lab Sample ID: LCS 880-72601/1-A
Matrix: Solid
Analysis Batch: 72824

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72601

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1136		mg/Kg		114	70 - 130		
Toluene			0.100	0.1230		mg/Kg		123	70 - 130		
Ethylbenzene			0.100	0.1414	*+	mg/Kg		141	70 - 130		
m-Xylene & p-Xylene			0.200	0.2799	*+	mg/Kg		140	70 - 130		
o-Xylene			0.100	0.1379	*+	mg/Kg		138	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-72601/2-A
Matrix: Solid
Analysis Batch: 72824

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72601

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1071		mg/Kg		107	70 - 130	6	35
Toluene			0.100	0.1135		mg/Kg		114	70 - 130	8	35
Ethylbenzene			0.100	0.1291		mg/Kg		129	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.2493		mg/Kg		125	70 - 130	12	35
o-Xylene			0.100	0.1224		mg/Kg		122	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 820-11924-1 MS
Matrix: Solid
Analysis Batch: 72824

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Prep Type: Total/NA
Prep Batch: 72601

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.000538	U	0.139	0.1398		mg/Kg	☼	101	70 - 130		
Toluene	<0.000637	U	0.139	0.1403		mg/Kg	☼	101	70 - 130		

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 820-11924-1 MS
Matrix: Solid
Analysis Batch: 72824

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Prep Type: Total/NA
Prep Batch: 72601

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.000789	U *+	0.139	0.1624		mg/Kg	☼	117	70 - 130
m-Xylene & p-Xylene	<0.00141	U *+	0.278	0.3218		mg/Kg	☼	116	70 - 130
o-Xylene	<0.000480	U *+	0.139	0.1561		mg/Kg	☼	112	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 820-11924-1 MSD
Matrix: Solid
Analysis Batch: 72824

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Prep Type: Total/NA
Prep Batch: 72601

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000538	U	0.138	0.1551		mg/Kg	☼	112	70 - 130	10	35
Toluene	<0.000637	U	0.138	0.1533		mg/Kg	☼	111	70 - 130	9	35
Ethylbenzene	<0.000789	U *+	0.138	0.1703		mg/Kg	☼	123	70 - 130	5	35
m-Xylene & p-Xylene	<0.00141	U *+	0.276	0.3481		mg/Kg	☼	126	70 - 130	8	35
o-Xylene	<0.000480	U *+	0.138	0.1685		mg/Kg	☼	122	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: MB 880-72659/5-A
Matrix: Solid
Analysis Batch: 72586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/08/24 13:05	02/08/24 14:24	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/08/24 13:05	02/08/24 14:24	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/08/24 13:05	02/08/24 14:24	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/08/24 13:05	02/08/24 14:24	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		02/08/24 13:05	02/08/24 14:24	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/08/24 13:05	02/08/24 14:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*02/08/24 13:05*	*02/08/24 14:24*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*02/08/24 13:05*	*02/08/24 14:24*	*1*

Lab Sample ID: LCS 880-72659/1-A
Matrix: Solid
Analysis Batch: 72586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.06529	*-	mg/Kg		65	70 - 130
Toluene	0.100	0.07720		mg/Kg		77	70 - 130
Ethylbenzene	0.100	0.07542		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	0.200	0.1441		mg/Kg		72	70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-72659/1-A
Matrix: Solid
Analysis Batch: 72586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72659

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.07388		mg/Kg		74	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-72659/2-A
Matrix: Solid
Analysis Batch: 72586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72659

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08369		mg/Kg		84	70 - 130	25	35
Toluene			0.100	0.08169		mg/Kg		82	70 - 130	6	35
Ethylbenzene			0.100	0.09071		mg/Kg		91	70 - 130	18	35
m-Xylene & p-Xylene			0.200	0.1671		mg/Kg		84	70 - 130	15	35
o-Xylene			0.100	0.08345		mg/Kg		83	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-72343/1-A
Matrix: Solid
Analysis Batch: 72615

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72343

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	18.60	J	50.0	15.0	mg/Kg		02/05/24 10:14	02/08/24 07:47	1
Diesel Range Organics (Over C10-C28)	15.83	J	50.0	15.0	mg/Kg		02/05/24 10:14	02/08/24 07:47	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		02/05/24 10:14	02/08/24 07:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*02/05/24 10:14*	*02/08/24 07:47*	*1*
o-Terphenyl	*141*	*S1+*	*70 - 130*	*02/05/24 10:14*	*02/08/24 07:47*	*1*

Lab Sample ID: LCS 880-72343/2-A
Matrix: Solid
Analysis Batch: 72615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	811.1		mg/Kg		81	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	872.0		mg/Kg		87	70 - 130		

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-72343/2-A
Matrix: Solid
Analysis Batch: 72615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72343

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: LCSD 880-72343/3-A
Matrix: Solid
Analysis Batch: 72615

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72343

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	848.3		mg/Kg		85	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	876.8		mg/Kg		88	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: MB 880-72383/1-A
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		02/05/24 13:43	02/06/24 07:13	1
Diesel Range Organics (Over C10-C28)	19.29	J	50.0	15.0	mg/Kg		02/05/24 13:43	02/06/24 07:13	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		02/05/24 13:43	02/06/24 07:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	169	S1+	70 - 130	02/05/24 13:43	02/06/24 07:13	1
o-Terphenyl	146	S1+	70 - 130	02/05/24 13:43	02/06/24 07:13	1

Lab Sample ID: LCS 880-72383/2-A
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72383

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1004		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)			1000	885.4		mg/Kg		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	87		70 - 130

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-72383/3-A
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72383

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	998.8		mg/Kg		100	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	877.0		mg/Kg		88	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: MB 880-72384/1-A
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72384

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		02/05/24 13:47	02/06/24 22:25	1
Diesel Range Organics (Over C10-C28)	18.99	J	50.0	15.0	mg/Kg		02/05/24 13:47	02/06/24 22:25	1
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		02/05/24 13:47	02/06/24 22:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*189*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/06/24 22:25*	*1*
o-Terphenyl	*164*	*S1+*	*70 - 130*	*02/05/24 13:47*	*02/06/24 22:25*	*1*

Lab Sample ID: LCS 880-72384/2-A
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72384

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1082		mg/Kg		108	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1041		mg/Kg		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*103*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

Lab Sample ID: LCSD 880-72384/3-A
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72384

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1079		mg/Kg		108	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	928.7		mg/Kg		93	70 - 130	11	20

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-72384/3-A
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72384

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: 820-11924-1 MS
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Prep Type: Total/NA
Prep Batch: 72384

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<20.8	U	1400	1320		mg/Kg	☼	95	70 - 130
Diesel Range Organics (Over C10-C28)	253	B	1400	1703		mg/Kg	☼	104	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	140	S1+	70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 820-11924-1 MSD
Matrix: Solid
Analysis Batch: 72441

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Prep Type: Total/NA
Prep Batch: 72384

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<20.8	U	1400	1307		mg/Kg	☼	94	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	253	B	1400	1683		mg/Kg	☼	102	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	137	S1+	70 - 130
o-Terphenyl	105		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72302/1-A
Matrix: Solid
Analysis Batch: 72360

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			02/05/24 12:39	1

Lab Sample ID: LCS 880-72302/2-A
Matrix: Solid
Analysis Batch: 72360

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	242.1		mg/Kg		97	90 - 110

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-72302/3-A
Matrix: Solid
Analysis Batch: 72360

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	243.3		mg/Kg		97	90 - 110	0	20

Lab Sample ID: MB 880-72365/1-A
Matrix: Solid
Analysis Batch: 72452

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			02/06/24 11:28	1

Lab Sample ID: LCS 880-72365/2-A
Matrix: Solid
Analysis Batch: 72452

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.9		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-72365/3-A
Matrix: Solid
Analysis Batch: 72452

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	237.2		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 820-11924-1 MS
Matrix: Solid
Analysis Batch: 72452

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	959	F1	251	1153	F1	mg/Kg		77	90 - 110		

Lab Sample ID: 820-11924-1 MSD
Matrix: Solid
Analysis Batch: 72452

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	959	F1	251	1160	F1	mg/Kg		80	90 - 110	1	20

Lab Sample ID: 820-11924-11 MS
Matrix: Solid
Analysis Batch: 72452

Client Sample ID: Seawolf 91H-9-7-23 Bottom 7
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	511	F1	253	676.2	F1	mg/Kg		65	90 - 110		

Lab Sample ID: 820-11924-11 MSD
Matrix: Solid
Analysis Batch: 72452

Client Sample ID: Seawolf 91H-9-7-23 Bottom 7
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	511	F1	253	681.1	F1	mg/Kg		67	90 - 110	1	20

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

GC VOA

Analysis Batch: 72586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Total/NA	Solid	8021B	72659
MB 880-72659/5-A	Method Blank	Total/NA	Solid	8021B	72659
LCS 880-72659/1-A	Lab Control Sample	Total/NA	Solid	8021B	72659
LCSD 880-72659/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	72659

Prep Batch: 72601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	5035	
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Total/NA	Solid	5035	
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Total/NA	Solid	5035	
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Total/NA	Solid	5035	
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Total/NA	Solid	5035	
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Total/NA	Solid	5035	
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Total/NA	Solid	5035	
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Total/NA	Solid	5035	
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Total/NA	Solid	5035	
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Total/NA	Solid	5035	
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Total/NA	Solid	5035	
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Total/NA	Solid	5035	
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Total/NA	Solid	5035	
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Total/NA	Solid	5035	
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Total/NA	Solid	5035	
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Total/NA	Solid	5035	
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Total/NA	Solid	5035	
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Total/NA	Solid	5035	
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Total/NA	Solid	5035	
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Total/NA	Solid	5035	
MB 880-72601/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-72601/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-72601/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	5035	
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	5035	

Prep Batch: 72659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Total/NA	Solid	5035	
MB 880-72659/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-72659/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-72659/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 72824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8021B	72601
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Total/NA	Solid	8021B	72601
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Total/NA	Solid	8021B	72601
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Total/NA	Solid	8021B	72601
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Total/NA	Solid	8021B	72601
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Total/NA	Solid	8021B	72601
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Total/NA	Solid	8021B	72601
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Total/NA	Solid	8021B	72601
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Total/NA	Solid	8021B	72601

QC Association Summary

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

GC VOA (Continued)

Analysis Batch: 72824 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Total/NA	Solid	8021B	72601
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Total/NA	Solid	8021B	72601
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Total/NA	Solid	8021B	72601
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Total/NA	Solid	8021B	72601
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Total/NA	Solid	8021B	72601
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Total/NA	Solid	8021B	72601
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Total/NA	Solid	8021B	72601
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Total/NA	Solid	8021B	72601
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Total/NA	Solid	8021B	72601
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Total/NA	Solid	8021B	72601
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Total/NA	Solid	8021B	72601
MB 880-72601/5-A	Method Blank	Total/NA	Solid	8021B	72601
LCS 880-72601/1-A	Lab Control Sample	Total/NA	Solid	8021B	72601
LCSD 880-72601/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	72601
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8021B	72601
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8021B	72601

GC Semi VOA

Prep Batch: 72343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-12 - RA	Seawolf 91H-9-7-23 Bottom 8	Total/NA	Solid	8015NM Prep	
MB 880-72343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 72383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Total/NA	Solid	8015NM Prep	
MB 880-72383/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72383/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72383/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 72384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8015NM Prep	
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Total/NA	Solid	8015NM Prep	
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Total/NA	Solid	8015NM Prep	
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Total/NA	Solid	8015NM Prep	
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Total/NA	Solid	8015NM Prep	
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Total/NA	Solid	8015NM Prep	
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Total/NA	Solid	8015NM Prep	
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Total/NA	Solid	8015NM Prep	
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Total/NA	Solid	8015NM Prep	
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Total/NA	Solid	8015NM Prep	
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Total/NA	Solid	8015NM Prep	
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Total/NA	Solid	8015NM Prep	
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Total/NA	Solid	8015NM Prep	
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Total/NA	Solid	8015NM Prep	
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Total/NA	Solid	8015NM Prep	
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

GC Semi VOA (Continued)

Prep Batch: 72384 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Total/NA	Solid	8015NM Prep	
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Total/NA	Solid	8015NM Prep	
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Total/NA	Solid	8015NM Prep	
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Total/NA	Solid	8015NM Prep	
MB 880-72384/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72384/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72384/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8015NM Prep	
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8015NM Prep	

Analysis Batch: 72441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8015B NM	72384
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Total/NA	Solid	8015B NM	72384
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Total/NA	Solid	8015B NM	72384
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Total/NA	Solid	8015B NM	72384
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Total/NA	Solid	8015B NM	72384
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Total/NA	Solid	8015B NM	72384
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Total/NA	Solid	8015B NM	72384
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Total/NA	Solid	8015B NM	72384
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Total/NA	Solid	8015B NM	72384
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Total/NA	Solid	8015B NM	72384
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Total/NA	Solid	8015B NM	72384
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Total/NA	Solid	8015B NM	72384
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Total/NA	Solid	8015B NM	72384
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Total/NA	Solid	8015B NM	72384
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Total/NA	Solid	8015B NM	72384
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Total/NA	Solid	8015B NM	72384
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Total/NA	Solid	8015B NM	72384
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Total/NA	Solid	8015B NM	72384
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Total/NA	Solid	8015B NM	72384
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Total/NA	Solid	8015B NM	72384
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Total/NA	Solid	8015B NM	72383
MB 880-72383/1-A	Method Blank	Total/NA	Solid	8015B NM	72383
MB 880-72384/1-A	Method Blank	Total/NA	Solid	8015B NM	72384
LCS 880-72383/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72383
LCS 880-72384/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72384
LCSD 880-72383/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72383
LCSD 880-72384/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72384
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8015B NM	72384
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	8015B NM	72384

Analysis Batch: 72615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-12 - RA	Seawolf 91H-9-7-23 Bottom 8	Total/NA	Solid	8015B NM	72343
MB 880-72343/1-A	Method Blank	Total/NA	Solid	8015B NM	72343
LCS 880-72343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72343
LCSD 880-72343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72343

QC Association Summary

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

HPLC/IC

Leach Batch: 72302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Soluble	Solid	DI Leach	
MB 880-72302/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72302/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72302/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 72360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Soluble	Solid	300.0	72302
MB 880-72302/1-A	Method Blank	Soluble	Solid	300.0	72302
LCS 880-72302/2-A	Lab Control Sample	Soluble	Solid	300.0	72302
LCSD 880-72302/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72302

Leach Batch: 72365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Soluble	Solid	DI Leach	
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Soluble	Solid	DI Leach	
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Soluble	Solid	DI Leach	
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Soluble	Solid	DI Leach	
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Soluble	Solid	DI Leach	
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Soluble	Solid	DI Leach	
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Soluble	Solid	DI Leach	
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Soluble	Solid	DI Leach	
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Soluble	Solid	DI Leach	
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Soluble	Solid	DI Leach	
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Soluble	Solid	DI Leach	
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Soluble	Solid	DI Leach	
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Soluble	Solid	DI Leach	
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Soluble	Solid	DI Leach	
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Soluble	Solid	DI Leach	
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Soluble	Solid	DI Leach	
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Soluble	Solid	DI Leach	
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Soluble	Solid	DI Leach	
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Soluble	Solid	DI Leach	
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Soluble	Solid	DI Leach	
MB 880-72365/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72365/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72365/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	Soluble	Solid	DI Leach	
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	Soluble	Solid	DI Leach	
820-11924-11 MS	Seawolf 91H-9-7-23 Bottom 7	Soluble	Solid	DI Leach	
820-11924-11 MSD	Seawolf 91H-9-7-23 Bottom 7	Soluble	Solid	DI Leach	

Analysis Batch: 72452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Soluble	Solid	300.0	72365
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Soluble	Solid	300.0	72365
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Soluble	Solid	300.0	72365
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Soluble	Solid	300.0	72365
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Soluble	Solid	300.0	72365
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Soluble	Solid	300.0	72365
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Soluble	Solid	300.0	72365

QC Association Summary

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

HPLC/IC (Continued)

Analysis Batch: 72452 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Soluble	Solid	300.0	72365
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Soluble	Solid	300.0	72365
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Soluble	Solid	300.0	72365
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Soluble	Solid	300.0	72365
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Soluble	Solid	300.0	72365
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Soluble	Solid	300.0	72365
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Soluble	Solid	300.0	72365
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Soluble	Solid	300.0	72365
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Soluble	Solid	300.0	72365
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Soluble	Solid	300.0	72365
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Soluble	Solid	300.0	72365
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Soluble	Solid	300.0	72365
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Soluble	Solid	300.0	72365
MB 880-72365/1-A	Method Blank	Soluble	Solid	300.0	72365
LCS 880-72365/2-A	Lab Control Sample	Soluble	Solid	300.0	72365
LCSD 880-72365/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72365
820-11924-1 MS	Seawolf 91H-9-7-23 Sidewall 1	Soluble	Solid	300.0	72365
820-11924-1 MSD	Seawolf 91H-9-7-23 Sidewall 1	Soluble	Solid	300.0	72365
820-11924-11 MS	Seawolf 91H-9-7-23 Bottom 7	Soluble	Solid	300.0	72365
820-11924-11 MSD	Seawolf 91H-9-7-23 Bottom 7	Soluble	Solid	300.0	72365

General Chemistry

Analysis Batch: 72304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Total/NA	Solid	D2216	
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Total/NA	Solid	D2216	
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Total/NA	Solid	D2216	
MB 880-72304/1	Method Blank	Total/NA	Solid	D2216	

Analysis Batch: 72320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	D2216	
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Total/NA	Solid	D2216	
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Total/NA	Solid	D2216	
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Total/NA	Solid	D2216	
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Total/NA	Solid	D2216	
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Total/NA	Solid	D2216	
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Total/NA	Solid	D2216	
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Total/NA	Solid	D2216	
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Total/NA	Solid	D2216	
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Total/NA	Solid	D2216	
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Total/NA	Solid	D2216	
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Total/NA	Solid	D2216	
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Total/NA	Solid	D2216	
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Total/NA	Solid	D2216	
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Total/NA	Solid	D2216	
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Total/NA	Solid	D2216	
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Total/NA	Solid	D2216	
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Total/NA	Solid	D2216	
MB 880-72320/1	Method Blank	Total/NA	Solid	D2216	

QC Association Summary

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

General Chemistry (Continued)

Analysis Batch: 72320 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-11924-1 DU	Seawolf 91H-9-7-23 Sidewall 1	Total/NA	Solid	D2216	
820-11924-13 DU	Seawolf 91H-9-7-23 Bottom 9	Total/NA	Solid	D2216	

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Lab Sample ID: 820-11924-1
Date Collected: 01/31/24 19:37
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 11:42	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 1
Lab Sample ID: 820-11924-1
Date Collected: 01/31/24 19:37
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 71.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 19:01	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/06/24 23:28	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 2
Lab Sample ID: 820-11924-2
Date Collected: 01/31/24 19:38
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 11:56	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 2
Lab Sample ID: 820-11924-2
Date Collected: 01/31/24 19:38
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 19:22	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 00:32	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 3
Lab Sample ID: 820-11924-3
Date Collected: 02/01/24 15:39
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.00 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:00	CH	EET MID
Total/NA	Analysis	D2216		1			72304	02/04/24 12:39	CH	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 3

Lab Sample ID: 820-11924-3
Date Collected: 02/01/24 15:39
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 19:42	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 00:53	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 4

Lab Sample ID: 820-11924-4
Date Collected: 01/31/24 19:41
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		5			72452	02/06/24 12:05	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Sidewall 4

Lab Sample ID: 820-11924-4
Date Collected: 01/31/24 19:41
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 63.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 20:03	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 01:14	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 1

Lab Sample ID: 820-11924-5
Date Collected: 02/01/24 15:37
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:10	CH	EET MID
Total/NA	Analysis	D2216		1			72304	02/04/24 12:39	CH	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 1

Lab Sample ID: 820-11924-5
Date Collected: 02/01/24 15:37
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 77.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 20:24	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 01:35	SM	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 2
Lab Sample ID: 820-11924-6
Date Collected: 01/31/24 19:48
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:24	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 2
Lab Sample ID: 820-11924-6
Date Collected: 01/31/24 19:48
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 65.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 20:45	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 01:56	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 3
Lab Sample ID: 820-11924-7
Date Collected: 01/31/24 19:50
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:28	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 3
Lab Sample ID: 820-11924-7
Date Collected: 01/31/24 19:50
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 73.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 21:06	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 02:18	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 4
Lab Sample ID: 820-11924-8
Date Collected: 01/31/24 19:52
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:33	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 4

Lab Sample ID: 820-11924-8
Date Collected: 01/31/24 19:52
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 21:27	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 02:40	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 5

Lab Sample ID: 820-11924-9
Date Collected: 01/31/24 19:54
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:38	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 5

Lab Sample ID: 820-11924-9
Date Collected: 01/31/24 19:54
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 70.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 21:47	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 03:01	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 6

Lab Sample ID: 820-11924-10
Date Collected: 01/31/24 19:58
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:42	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 6

Lab Sample ID: 820-11924-10
Date Collected: 01/31/24 19:58
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 71.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 22:08	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 03:22	SM	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 7
Lab Sample ID: 820-11924-11
Date Collected: 01/31/24 20:00
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 12:47	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 7
Lab Sample ID: 820-11924-11
Date Collected: 01/31/24 20:00
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 67.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 23:31	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 04:04	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 8
Lab Sample ID: 820-11924-12
Date Collected: 01/31/24 20:02
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 13:01	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 8
Lab Sample ID: 820-11924-12
Date Collected: 01/31/24 20:02
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 66.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/11/24 23:52	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 04:25	SM	EET MID
Total/NA	Prep	8015NM Prep	RA		10.06 g	10 mL	72343	02/05/24 10:14	TKC	EET MID
Total/NA	Analysis	8015B NM	RA	1	1 uL	1 uL	72615	02/08/24 11:26	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 9
Lab Sample ID: 820-11924-13
Date Collected: 01/31/24 20:03
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 13:05	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 9

Lab Sample ID: 820-11924-13
Date Collected: 01/31/24 20:03
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 74.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 00:12	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 04:46	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 10

Lab Sample ID: 820-11924-14
Date Collected: 01/31/24 20:05
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 13:19	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 10

Lab Sample ID: 820-11924-14
Date Collected: 01/31/24 20:05
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 74.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 00:33	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 05:07	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 11

Lab Sample ID: 820-11924-15
Date Collected: 01/31/24 20:07
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.00 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 13:24	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 11

Lab Sample ID: 820-11924-15
Date Collected: 01/31/24 20:07
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 72.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 00:53	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 05:29	SM	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 12
Lab Sample ID: 820-11924-16
Date Collected: 01/31/24 20:10
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		1			72452	02/06/24 13:29	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 12
Lab Sample ID: 820-11924-16
Date Collected: 01/31/24 20:10
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 72.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 01:13	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 05:49	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 13
Lab Sample ID: 820-11924-17
Date Collected: 01/31/24 20:12
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		5			72452	02/06/24 13:33	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 13
Lab Sample ID: 820-11924-17
Date Collected: 01/31/24 20:12
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 01:34	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 06:10	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 14
Lab Sample ID: 820-11924-18
Date Collected: 01/31/24 20:14
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		5			72452	02/06/24 13:38	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 14

Lab Sample ID: 820-11924-18
Date Collected: 01/31/24 20:14
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 65.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 01:54	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 06:32	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 15

Lab Sample ID: 820-11924-19
Date Collected: 01/31/24 20:16
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		5			72452	02/06/24 13:43	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 15

Lab Sample ID: 820-11924-19
Date Collected: 01/31/24 20:16
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 02:15	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 06:53	SM	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 16

Lab Sample ID: 820-11924-20
Date Collected: 01/31/24 20:18
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	72365	02/05/24 11:45	SMC	EET MID
Soluble	Analysis	300.0		5			72452	02/06/24 13:47	CH	EET MID
Total/NA	Analysis	D2216		1			72320	02/05/24 09:45	SMC	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 16

Lab Sample ID: 820-11924-20
Date Collected: 01/31/24 20:18
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	72601	02/07/24 16:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72824	02/12/24 02:35	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	72384	02/05/24 13:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/07/24 07:14	SM	EET MID

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Client Sample ID: Seawolf 91H-9-7-23 Bottom 17

Lab Sample ID: 820-11924-21
Date Collected: 01/31/24 20:20
Matrix: Solid
Date Received: 02/02/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	72302	02/06/24 10:00	CH	EET MID
Soluble	Analysis	300.0		1			72360	02/06/24 10:37	CH	EET MID
Total/NA	Analysis	D2216		1			72304	02/04/24 12:39	CH	EET MID

Client Sample ID: Seawolf 91H-9-7-23 Bottom 17

Lab Sample ID: 820-11924-21
Date Collected: 01/31/24 20:20
Matrix: Solid
Date Received: 02/02/24 10:11
Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	72659	02/08/24 13:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72586	02/08/24 21:09	MNR	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72383	02/05/24 13:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72441	02/06/24 20:20	SM	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Civil & Environmental Consultants Inc Job ID: 820-11924-1
Project/Site: Seawolf 112 91H-On

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

Method Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
D2216	Percent Moisture	ASTM	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 91H-On

Job ID: 820-11924-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-11924-1	Seawolf 91H-9-7-23 Sidewall 1	Solid	01/31/24 19:37	02/02/24 10:11
820-11924-2	Seawolf 91H-9-7-23 Sidewall 2	Solid	01/31/24 19:38	02/02/24 10:11
820-11924-3	Seawolf 91H-9-7-23 Sidewall 3	Solid	02/01/24 15:39	02/02/24 10:11
820-11924-4	Seawolf 91H-9-7-23 Sidewall 4	Solid	01/31/24 19:41	02/02/24 10:11
820-11924-5	Seawolf 91H-9-7-23 Bottom 1	Solid	02/01/24 15:37	02/02/24 10:11
820-11924-6	Seawolf 91H-9-7-23 Bottom 2	Solid	01/31/24 19:48	02/02/24 10:11
820-11924-7	Seawolf 91H-9-7-23 Bottom 3	Solid	01/31/24 19:50	02/02/24 10:11
820-11924-8	Seawolf 91H-9-7-23 Bottom 4	Solid	01/31/24 19:52	02/02/24 10:11
820-11924-9	Seawolf 91H-9-7-23 Bottom 5	Solid	01/31/24 19:54	02/02/24 10:11
820-11924-10	Seawolf 91H-9-7-23 Bottom 6	Solid	01/31/24 19:58	02/02/24 10:11
820-11924-11	Seawolf 91H-9-7-23 Bottom 7	Solid	01/31/24 20:00	02/02/24 10:11
820-11924-12	Seawolf 91H-9-7-23 Bottom 8	Solid	01/31/24 20:02	02/02/24 10:11
820-11924-13	Seawolf 91H-9-7-23 Bottom 9	Solid	01/31/24 20:03	02/02/24 10:11
820-11924-14	Seawolf 91H-9-7-23 Bottom 10	Solid	01/31/24 20:05	02/02/24 10:11
820-11924-15	Seawolf 91H-9-7-23 Bottom 11	Solid	01/31/24 20:07	02/02/24 10:11
820-11924-16	Seawolf 91H-9-7-23 Bottom 12	Solid	01/31/24 20:10	02/02/24 10:11
820-11924-17	Seawolf 91H-9-7-23 Bottom 13	Solid	01/31/24 20:12	02/02/24 10:11
820-11924-18	Seawolf 91H-9-7-23 Bottom 14	Solid	01/31/24 20:14	02/02/24 10:11
820-11924-19	Seawolf 91H-9-7-23 Bottom 15	Solid	01/31/24 20:16	02/02/24 10:11
820-11924-20	Seawolf 91H-9-7-23 Bottom 16	Solid	01/31/24 20:18	02/02/24 10:11
820-11924-21	Seawolf 91H-9-7-23 Bottom 17	Solid	01/31/24 20:20	02/02/24 10:11

Billing: Dale Woodall Dale.Woodall@dvn.com
Devon Energy 575-748-1838

Loc: 820
11924

Chain of Custody Record

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Sampler: N. Shepherd	Lab PM: Richter, Travis W	Carrier Tracking No(s):	COC No: 880-8180-1150.1
Phone: 918 527 6599	E-Mail: Travis.Richter@et.eurofinsus.com	State of Origin: NM	Page: Page 1 of 4
Company: Civil & Environmental Consultants Inc	PWSID:	Analysis Requested	Job #:
Address: 4700 Gaillardia Parkway Suite 101	Due Date Requested:		
City: Oklahoma City	TAT Requested (days): 2 days		
State, Zip: OK, 73142	Compliance Project: Δ Yes Δ No		
Phone: 800-365-2324(Tel)	PO #: ~~301-870~~ 335-562		
Email: Lcampbell@cecinc.com, nshepherd@cecinc.com	WO #: ~~21126167~~ 21223252		
Project Name: Seawolf 112 91H - on	Project #: 88001737		
Site:	SSOW#:		

Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D - Chloride	8015MOD_NM - Full TPH	8021B - BTEX	MOISTURE_2540G - Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
Seawolf 91H-9-7-23 Sidewall 1	1/31/24	1937	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Sidewall 2	1/31/24	1938	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Sidewall 4	1/31/24	1941	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 2	1/31/24	1948	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 3	1/31/24	1950	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 4	1/31/24	1952	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 5	1/31/24	1954	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 6	1/31/24	1958	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 7	1/31/24	2000	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 8	1/31/24	2002	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 9	1/31/24	2003	Comp	Solid			X	X	X	X		

820-11924 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify) II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 2/2/24 1011	Company: CEC	Received by: [signature]	Date/Time: 2/2/24 1011	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: -0.2/-0.3		

Ver: 01/16/2019

2/15/2024 (Rev. 1)

Billing: Dale Woodall Dale.Woodall@dvn.com
Devon Energy 575 748 1838

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Phone (432) 704-5440

Chain of Custody Record

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Client Information	Sampler: N. Shepherd	Lab PM: Richter, Travis W	Carrier Tracking No(s):	COC No: 880-8180-1150.1
Client Contact: Mr. Nick Shepherd	Phone: 918 527 6599	E-Mail: Travis.Richter@et.eurofinsus.com	State of Origin: NM	Page: Page 1 of 4
Company: Civil & Environmental Consultants Inc	PWSID:			Job #:
Address: 4700 Gaillardia Parkway Suite 101	Due Date Requested:			
City: Oklahoma City	TAT Requested (days): 2 days			
State, Zip: OK, 73142	Compliance Project: Δ Yes Δ No			
Phone: 800-365-2324(Tel) nshepherd	PO #: ~~335-070~~ 335-562			
Email: Lcampbell@cecinc.com, @cecinc.com	WO #: 21223252			
Project Name: Seawolf 112 91H -on	Project #: 88001737			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D - Chloride	8015MOD_NM - Full TPH	8021B - BTEX	MOISTURE_2540G - Moisture	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N	N		
Seawolf 91H-9-7-23 Bottom 10	1/31/24	2005	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 11	1/31/24	2007	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 12	1/31/24	2010	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 13	1/31/24	2012	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 14	1/31/24	2014	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 15	1/31/24	2016	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 16	1/31/24	2018	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 17	1/31/24	2020	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Bottom 1	2/1/24	15 37	Comp	Solid			X	X	X	X		
Seawolf 91H-9-7-23 Sidewall 3	2/1/24	1539	Comp	Solid			X	X	X	X		
				Solid								

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) II

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2/2/24 10:11	CEC		2/2/24 1011	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: -0.2/-0.3

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Civil & Environmental Consultants Inc

Job Number: 820-11924-1

Login Number: 11924
List Number: 1
Creator: Triplett, Colby

List Source: Eurofins Lubbock

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Civil & Environmental Consultants Inc Job Number: 820-11924-1

Login Number: 11924
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/05/24 08:29 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Laura Campbell
Civil & Environmental Consultants Inc
700 Cherrington Parkway
Moon Township, Pennsylvania 15108

Generated 2/26/2024 4:29:06 PM

JOB DESCRIPTION

Seawolf 1 12 91H-on
Seawolf 112 91H-on

JOB NUMBER

880-39766-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

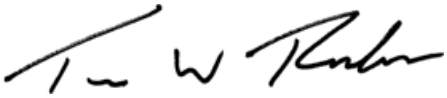
Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Travis Richter, Project Manager
Travis.Richter@et.eurofinsus.com
(281)794-7216

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Laboratory Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Table of Contents

Definitions/Glossary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Civil & Environmental Consultants Inc
Project: Seawolf 1 12 91H-on

Job ID: 880-39766-1

Job ID: 880-39766-1 Eurofins Midland

Job Narrative
880-39766-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 2/22/2024 8:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C.

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SW 91H-Bottom 8-2 (880-39766-1).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-73289/1-A) and (880-39351-A-2-F MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-73289 and analytical batch 880-73858 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW 91H-Bottom 8-2 (880-39766-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Client Sample ID: SW 91H-Bottom 8-2

Lab Sample ID: 880-39766-1

Date Collected: 02/21/24 00:00
Matrix: Solid
Date Received: 02/22/24 08:00
Percent Solids: 96.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000396	U	0.00205	0.000396	mg/Kg	☼	02/22/24 13:58	02/22/24 22:44	1
Toluene	<0.000468	U	0.00205	0.000468	mg/Kg	☼	02/22/24 13:58	02/22/24 22:44	1
Ethylbenzene	<0.000580	U	0.00205	0.000580	mg/Kg	☼	02/22/24 13:58	02/22/24 22:44	1
m-Xylene & p-Xylene	<0.00104	U	0.00411	0.00104	mg/Kg	☼	02/22/24 13:58	02/22/24 22:44	1
o-Xylene	<0.000353	U	0.00205	0.000353	mg/Kg	☼	02/22/24 13:58	02/22/24 22:44	1
Xylenes, Total	<0.00104	U	0.00411	0.00104	mg/Kg	☼	02/22/24 13:58	02/22/24 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*02/22/24 13:58*	*02/22/24 22:44*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*02/22/24 13:58*	*02/22/24 22:44*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**19.7**	**J**	51.6	15.5	mg/Kg	☼	02/22/24 10:49	02/22/24 14:18	1
Diesel Range Organics (Over C10-C28)	**28.1**	**J**	51.6	15.5	mg/Kg	☼	02/22/24 10:49	02/22/24 14:18	1
OII Range Organics (Over C28-C36)	<15.5	U	51.6	15.5	mg/Kg	☼	02/22/24 10:49	02/22/24 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*02/22/24 10:49*	*02/22/24 14:18*	*1*
o-Terphenyl	*74*		*70 - 130*	*02/22/24 10:49*	*02/22/24 14:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**89.5**		5.03	0.397	mg/Kg			02/22/24 10:26	1

Surrogate Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-39766-1	SW 91H-Bottom 8-2	133 S1+	106
LCS 880-73289/1-A	Lab Control Sample	136 S1+	142 S1+
LCSD 880-73289/2-A	Lab Control Sample Dup	111	114
MB 880-73289/5-A	Method Blank	62 S1-	132 S1+

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-39766-1	SW 91H-Bottom 8-2	74	74
880-39766-1 MS	SW 91H-Bottom 8-2	79	71
880-39766-1 MSD	SW 91H-Bottom 8-2	83	74
LCS 880-73703/2-A	Lab Control Sample	97	113
LCSD 880-73703/3-A	Lab Control Sample Dup	85	97
MB 880-73703/1-A	Method Blank	96	101

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73289/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73858 — **Prep Batch: 73289**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/15/24 15:58	02/22/24 18:16	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/15/24 15:58	02/22/24 18:16	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/15/24 15:58	02/22/24 18:16	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/15/24 15:58	02/22/24 18:16	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		02/15/24 15:58	02/22/24 18:16	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/15/24 15:58	02/22/24 18:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*02/15/24 15:58*	*02/22/24 18:16*	*1*
1,4-Difluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*02/15/24 15:58*	*02/22/24 18:16*	*1*

Lab Sample ID: LCS 880-73289/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73858 — **Prep Batch: 73289**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09374		mg/Kg		94	70 - 130
Toluene	0.100	0.09940		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.1018		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.200	0.2090		mg/Kg		105	70 - 130
o-Xylene	0.100	0.09283		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*142*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-73289/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73858 — **Prep Batch: 73289**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09160		mg/Kg		92	70 - 130	2	35
Toluene	0.100	0.09885		mg/Kg		99	70 - 130	1	35
Ethylbenzene	0.100	0.09688		mg/Kg		97	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.2111		mg/Kg		106	70 - 130	1	35
o-Xylene	0.100	0.09978		mg/Kg		100	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-73703/1-A
Matrix: Solid
Analysis Batch: 73819

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73703

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		02/20/24 16:46	02/22/24 11:25	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		02/20/24 16:46	02/22/24 11:25	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		02/20/24 16:46	02/22/24 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*02/20/24 16:46*	*02/22/24 11:25*	*1*
o-Terphenyl	*101*		*70 - 130*	*02/20/24 16:46*	*02/22/24 11:25*	*1*

Lab Sample ID: LCS 880-73703/2-A
Matrix: Solid
Analysis Batch: 73819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73703

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	990.6		mg/Kg		99	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*113*		*70 - 130*

Lab Sample ID: LCSD 880-73703/3-A
Matrix: Solid
Analysis Batch: 73819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73703

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	975.2		mg/Kg		98	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	939.9		mg/Kg		94	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 880-39766-1 MS
Matrix: Solid
Analysis Batch: 73819

Client Sample ID: SW 91H-Bottom 8-2
Prep Type: Total/NA
Prep Batch: 73703

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	19.7	J	1040	872.9		mg/Kg	☼	82	70 - 130		
Diesel Range Organics (Over C10-C28)	28.1	J	1040	999.8		mg/Kg	☼	93	70 - 130		

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-39766-1 MS
Matrix: Solid
Analysis Batch: 73819

Client Sample ID: SW 91H-Bottom 8-2
Prep Type: Total/NA
Prep Batch: 73703

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*79*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

Lab Sample ID: 880-39766-1 MSD
Matrix: Solid
Analysis Batch: 73819

Client Sample ID: SW 91H-Bottom 8-2
Prep Type: Total/NA
Prep Batch: 73703

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	19.7	J	1040	916.4		mg/Kg	☼	86	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	28.1	J	1040	1105		mg/Kg	☼	103	70 - 130	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*83*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-73751/1-A
Matrix: Solid
Analysis Batch: 73838

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			02/22/24 08:11	1

Lab Sample ID: LCS 880-73751/2-A
Matrix: Solid
Analysis Batch: 73838

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	237.5		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-73751/3-A
Matrix: Solid
Analysis Batch: 73838

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	239.2		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

GC VOA

Prep Batch: 73289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39766-1	SW 91H-Bottom 8-2	Total/NA	Solid	5035	
MB 880-73289/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73289/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73289/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 73858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39766-1	SW 91H-Bottom 8-2	Total/NA	Solid	8021B	73289
MB 880-73289/5-A	Method Blank	Total/NA	Solid	8021B	73289
LCS 880-73289/1-A	Lab Control Sample	Total/NA	Solid	8021B	73289
LCSD 880-73289/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73289

GC Semi VOA

Prep Batch: 73703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39766-1	SW 91H-Bottom 8-2	Total/NA	Solid	8015NM Prep	
MB 880-73703/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-73703/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-73703/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-39766-1 MS	SW 91H-Bottom 8-2	Total/NA	Solid	8015NM Prep	
880-39766-1 MSD	SW 91H-Bottom 8-2	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39766-1	SW 91H-Bottom 8-2	Total/NA	Solid	8015B NM	73703
MB 880-73703/1-A	Method Blank	Total/NA	Solid	8015B NM	73703
LCS 880-73703/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	73703
LCSD 880-73703/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	73703
880-39766-1 MS	SW 91H-Bottom 8-2	Total/NA	Solid	8015B NM	73703
880-39766-1 MSD	SW 91H-Bottom 8-2	Total/NA	Solid	8015B NM	73703

HPLC/IC

Leach Batch: 73751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39766-1	SW 91H-Bottom 8-2	Soluble	Solid	DI Leach	
MB 880-73751/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73751/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-73751/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 73838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39766-1	SW 91H-Bottom 8-2	Soluble	Solid	300.0	73751
MB 880-73751/1-A	Method Blank	Soluble	Solid	300.0	73751
LCS 880-73751/2-A	Lab Control Sample	Soluble	Solid	300.0	73751
LCSD 880-73751/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73751

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

General Chemistry

Analysis Batch: 73828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39766-1	SW 91H-Bottom 8-2	Total/NA	Solid	D2216	
MB 880-73828/1	Method Blank	Total/NA	Solid	D2216	
880-39766-1 DU	SW 91H-Bottom 8-2	Total/NA	Solid	D2216	

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Client Sample ID: SW 91H-Bottom 8-2

Lab Sample ID: 880-39766-1
Date Collected: 02/21/24 00:00
Matrix: Solid
Date Received: 02/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	73751	02/22/24 08:25	SA	EET MID
Soluble	Analysis	300.0		1			73838	02/22/24 10:26	CH	EET MID
Total/NA	Analysis	D2216		1			73828	02/22/24 09:16	SMC	EET MID

Client Sample ID: SW 91H-Bottom 8-2

Lab Sample ID: 880-39766-1
Date Collected: 02/21/24 00:00
Matrix: Solid
Date Received: 02/22/24 08:00
Percent Solids: 96.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	73289	02/22/24 13:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73858	02/22/24 22:44	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	73703	02/22/24 10:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73819	02/22/24 14:18	AJ	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Civil & Environmental Consultants Inc
Job ID: 880-39766-1
Project/Site: Seawolf 1 12 91H-on
SDG: Seawolf 112 91H-on

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

Method Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
D2216	Percent Moisture	ASTM	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 1 12 91H-on

Job ID: 880-39766-1
SDG: Seawolf 112 91H-on

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-39766-1	SW 91H-Bottom 8-2	Solid	02/21/24 00:00	02/22/24 08:00

Eurofins Midland
1211 W Florida Ave
Midland TX 79701
Phone (432) 704-5440

Billing: Dale Woodall Dale.Woodall@dvn.com Devon Energy 575 748 1838

Chain of Custody Record

eurofins Environment Testing

39766

Client Information	Sampler: Travis Montgomery	Lab PM: Richter Travis W	Carrier Tracking No(s):	COC No: 880-6066-828 1
Client Contact: ~~Ms. Laura Campbell~~ Mr. Nick Shepherd	Phone	E-Mail: Travis Richter@et eurofinsus.com	State of Origin: NM	Page: Page 1 of 2
Company: Civil & Environmental Consultants Inc	PWSID			Job #:
Address: ~~700 Gherrington Parkway~~ 4700 Gaillardia Parkway Suite 101	Due Date Requested			
City: ~~Moon Township~~ Oklahoma City	TAT Requested (days): 1 day			
State Zip: ~~PA, 15108~~ OK, 73142	Compliance Project: Δ Yes Δ No			
Phone: 800-365-2324(Tel)	PO #: ~~331-071~~ 335-562			
Email: lcampbell@cecinc.com, nshepherd@cecinc.com	WO #: ~~24128103~~ 21223252			
Project Name: SEAWOLF 1 12 ~~FEDERAL #081H~~ 91H-on	Project #: 88001737			
Site: Seawolf 112 91H-on	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C - Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N - None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U Acetone, V - MCAA, W - pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D - Chloride	8015MOD_NM - Full TPH	8021B - BTEX	MOISTURE_2540G - Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
SW 91H-Bottom 8-2	2-21-24		C	S Solid			X	X	X	X		
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								

880-39766 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date:	Time	Method of Shipment:		
Relinquished by: Travis Montgomery	Date/Time: 2-21-24 8:03	Company: CEC	Received by:	Date/Time: 2/22/24 800	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks: 5.3/5.2 -1 TR

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Civil & Environmental Consultants Inc

Job Number: 880-39766-1
SDG Number: Seawolf 112 91H-on

Login Number: 39766
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Laura Campbell
Civil & Environmental Consultants Inc
700 Cherrington Parkway
Moon Township, Pennsylvania 15108

Generated 7/5/2024 4:53:52 PM

JOB DESCRIPTION

Seawolf 112 Fed 91H

JOB NUMBER

880-45371-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

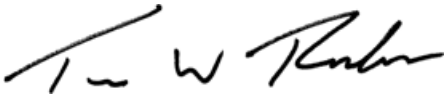
Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
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Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Laboratory Job ID: 880-45371-1

Table of Contents

Definitions/Glossary

Client: Civil & Environmental Consultants Inc Job ID: 880-45371-1
Project/Site: Seawolf 112 Fed 91H

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Civil & Environmental Consultants Inc
Project: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Job ID: 880-45371-1 Eurofins Midland

Job Narrative
880-45371-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/27/2024 5:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-84446 and analytical batch 880-84620 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Client Sample ID: BF-SW91H-042918

Lab Sample ID: 880-45371-1
Date Collected: 06/26/24 13:36
Matrix: Solid
Date Received: 06/27/24 17:40
Percent Solids: 99.6

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00141	U	0.00202	0.00141	mg/Kg	☼	06/30/24 18:35	07/01/24 05:22	1
Toluene	<0.00202	U	0.00202	0.00202	mg/Kg	☼	06/30/24 18:35	07/01/24 05:22	1
Ethylbenzene	<0.00110	U	0.00202	0.00110	mg/Kg	☼	06/30/24 18:35	07/01/24 05:22	1
m-Xylene & p-Xylene	<0.00231	U	0.00404	0.00231	mg/Kg	☼	06/30/24 18:35	07/01/24 05:22	1
o-Xylene	<0.00160	U	0.00202	0.00160	mg/Kg	☼	06/30/24 18:35	07/01/24 05:22	1
Xylenes, Total	<0.00231	U	0.00404	0.00231	mg/Kg	☼	06/30/24 18:35	07/01/24 05:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*06/30/24 18:35*	*07/01/24 05:22*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*06/30/24 18:35*	*07/01/24 05:22*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**17.7**	**J**	49.9	11.0	mg/Kg	☼	06/28/24 08:19	06/29/24 17:56	1
Diesel Range Organics (Over C10-C28)	**15.6**	**J**	49.9	15.0	mg/Kg	☼	06/28/24 08:19	06/29/24 17:56	1
Oil Range Organics (Over C28-C36)	<12.5	U	49.9	12.5	mg/Kg	☼	06/28/24 08:19	06/29/24 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*06/28/24 08:19*	*06/29/24 17:56*	*1*
o-Terphenyl	*109*		*70 - 130*	*06/28/24 08:19*	*06/29/24 17:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**54.6**		5.04	0.398	mg/Kg			07/02/24 02:27	1

Client Sample ID: BF-SW91H-090723

Lab Sample ID: 880-45371-2
Date Collected: 06/26/24 13:44
Matrix: Solid
Date Received: 06/27/24 17:40
Percent Solids: 97.9

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00141	U	0.00203	0.00141	mg/Kg	☼	06/29/24 13:54	07/01/24 12:32	1
Toluene	<0.00203	U	0.00203	0.00203	mg/Kg	☼	06/29/24 13:54	07/01/24 12:32	1
Ethylbenzene	<0.00111	U	0.00203	0.00111	mg/Kg	☼	06/29/24 13:54	07/01/24 12:32	1
m-Xylene & p-Xylene	<0.00232	U	0.00406	0.00232	mg/Kg	☼	06/29/24 13:54	07/01/24 12:32	1
o-Xylene	<0.00161	U	0.00203	0.00161	mg/Kg	☼	06/29/24 13:54	07/01/24 12:32	1
Xylenes, Total	<0.00232	U	0.00406	0.00232	mg/Kg	☼	06/29/24 13:54	07/01/24 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*06/29/24 13:54*	*07/01/24 12:32*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*06/29/24 13:54*	*07/01/24 12:32*	*1*

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**27.5**	**J**	50.9	11.2	mg/Kg	☼	06/28/24 08:19	06/29/24 18:16	1
Diesel Range Organics (Over C10-C28)	**17.4**	**J**	50.9	15.3	mg/Kg	☼	06/28/24 08:19	06/29/24 18:16	1
Oil Range Organics (Over C28-C36)	<12.7	U	50.9	12.7	mg/Kg	☼	06/28/24 08:19	06/29/24 18:16	1

Client Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Client Sample ID: BF-SW91H-090723
Date Collected: 06/26/24 13:44
Date Received: 06/27/24 17:40

Lab Sample ID: 880-45371-2
Matrix: Solid
Percent Solids: 97.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	06/28/24 08:19	06/29/24 18:16	1
o-Terphenyl	111		70 - 130	06/28/24 08:19	06/29/24 18:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	191		4.96	0.392	mg/Kg			07/02/24 02:34	1

Surrogate Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-45371-1	BF-SW91H-042918	108	90
880-45371-2	BF-SW91H-090723	106	90
LCS 880-84633/1-A	Lab Control Sample	105	93
LCS 880-84640/1-A	Lab Control Sample	105	91
LCSD 880-84633/2-A	Lab Control Sample Dup	103	93
LCSD 880-84640/2-A	Lab Control Sample Dup	103	93
MB 880-84633/5-A	Method Blank	105	85
MB 880-84640/5-A	Method Blank	103	88

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-45371-1	BF-SW91H-042918	109	109
880-45371-2	BF-SW91H-090723	107	111
LCS 880-84446/2-A	Lab Control Sample	81	83
LCSD 880-84446/3-A	Lab Control Sample Dup	97	99
MB 880-84446/1-A	Method Blank	139 S1+	152 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-84633/5-A
Matrix: Solid
Analysis Batch: 84659

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 84633

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00138	U	0.00198	0.00138	mg/Kg		06/29/24 13:54	07/01/24 11:49	1
Toluene	<0.00198	U	0.00198	0.00198	mg/Kg		06/29/24 13:54	07/01/24 11:49	1
Ethylbenzene	<0.00108	U	0.00198	0.00108	mg/Kg		06/29/24 13:54	07/01/24 11:49	1
m-Xylene & p-Xylene	<0.00227	U	0.00397	0.00227	mg/Kg		06/29/24 13:54	07/01/24 11:49	1
o-Xylene	<0.00157	U	0.00198	0.00157	mg/Kg		06/29/24 13:54	07/01/24 11:49	1
Xylenes, Total	<0.00227	U	0.00397	0.00227	mg/Kg		06/29/24 13:54	07/01/24 11:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/29/24 13:54*	*07/01/24 11:49*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*06/29/24 13:54*	*07/01/24 11:49*	*1*

Lab Sample ID: LCS 880-84633/1-A
Matrix: Solid
Analysis Batch: 84659

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 84633

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1004		mg/Kg		100	70 - 130
Toluene	0.100	0.09552		mg/Kg		96	70 - 130
Ethylbenzene	0.100	0.09292		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.2021		mg/Kg		101	70 - 130
o-Xylene	0.100	0.1007		mg/Kg		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-84633/2-A
Matrix: Solid
Analysis Batch: 84659

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 84633

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1005		mg/Kg		101	70 - 130	0	35
Toluene	0.100	0.09527		mg/Kg		95	70 - 130	0	35
Ethylbenzene	0.100	0.09254		mg/Kg		93	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.2016		mg/Kg		101	70 - 130	0	35
o-Xylene	0.100	0.1008		mg/Kg		101	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: MB 880-84640/5-A
Matrix: Solid
Analysis Batch: 84639

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 84640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00139	U	0.00200	0.00139	mg/Kg		06/30/24 18:35	06/30/24 21:19	1
Toluene	<0.00200	U	0.00200	0.00200	mg/Kg		06/30/24 18:35	06/30/24 21:19	1

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-84640/5-A
Matrix: Solid
Analysis Batch: 84639

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 84640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00109	U	0.00200	0.00109	mg/Kg		06/30/24 18:35	06/30/24 21:19	1
m-Xylene & p-Xylene	<0.00229	U	0.00400	0.00229	mg/Kg		06/30/24 18:35	06/30/24 21:19	1
o-Xylene	<0.00158	U	0.00200	0.00158	mg/Kg		06/30/24 18:35	06/30/24 21:19	1
Xylenes, Total	<0.00229	U	0.00400	0.00229	mg/Kg		06/30/24 18:35	06/30/24 21:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*06/30/24 18:35*	*06/30/24 21:19*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/30/24 18:35*	*06/30/24 21:19*	*1*

Lab Sample ID: LCS 880-84640/1-A
Matrix: Solid
Analysis Batch: 84639

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 84640

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1048		mg/Kg		105	70 - 130
Toluene	0.100	0.1028		mg/Kg		103	70 - 130
Ethylbenzene	0.100	0.09994		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.2149		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1071		mg/Kg		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: LCSD 880-84640/2-A
Matrix: Solid
Analysis Batch: 84639

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 84640

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1023		mg/Kg		102	70 - 130	2	35
Toluene	0.100	0.09916		mg/Kg		99	70 - 130	4	35
Ethylbenzene	0.100	0.09632		mg/Kg		96	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2067		mg/Kg		103	70 - 130	4	35
o-Xylene	0.100	0.1032		mg/Kg		103	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-84446/1-A
Matrix: Solid
Analysis Batch: 84620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 84446

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<11.0	U	50.0	11.0	mg/Kg		06/28/24 08:19	06/29/24 08:20	1

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-84446/1-A
Matrix: Solid
Analysis Batch: 84620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 84446

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		06/28/24 08:19	06/29/24 08:20	1
Oil Range Organics (Over C28-C36)	<12.5	U	50.0	12.5	mg/Kg		06/28/24 08:19	06/29/24 08:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*06/28/24 08:19*	*06/29/24 08:20*	*1*
o-Terphenyl	*152*	*S1+*	*70 - 130*	*06/28/24 08:19*	*06/29/24 08:20*	*1*

Lab Sample ID: LCS 880-84446/2-A
Matrix: Solid
Analysis Batch: 84620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 84446

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	894.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	812.8		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: LCSD 880-84446/3-A
Matrix: Solid
Analysis Batch: 84620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 84446

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	876.2		mg/Kg		88	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	870.8		mg/Kg		87	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-84502/1-A
Matrix: Solid
Analysis Batch: 84722

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			07/02/24 00:14	1

QC Sample Results

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-84502/2-A
Matrix: Solid
Analysis Batch: 84722

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	252.8		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-84502/3-A
Matrix: Solid
Analysis Batch: 84722

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	253.0		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

GC VOA

Prep Batch: 84633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-2	BF-SW91H-090723	Total/NA	Solid	5035	
MB 880-84633/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-84633/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-84633/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 84639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-1	BF-SW91H-042918	Total/NA	Solid	8021B	84640
MB 880-84640/5-A	Method Blank	Total/NA	Solid	8021B	84640
LCS 880-84640/1-A	Lab Control Sample	Total/NA	Solid	8021B	84640
LCSD 880-84640/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	84640

Prep Batch: 84640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-1	BF-SW91H-042918	Total/NA	Solid	5035	
MB 880-84640/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-84640/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-84640/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 84659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-2	BF-SW91H-090723	Total/NA	Solid	8021B	84633
MB 880-84633/5-A	Method Blank	Total/NA	Solid	8021B	84633
LCS 880-84633/1-A	Lab Control Sample	Total/NA	Solid	8021B	84633
LCSD 880-84633/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	84633

GC Semi VOA

Prep Batch: 84446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-1	BF-SW91H-042918	Total/NA	Solid	8015NM Prep	
880-45371-2	BF-SW91H-090723	Total/NA	Solid	8015NM Prep	
MB 880-84446/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-84446/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-84446/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 84620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-1	BF-SW91H-042918	Total/NA	Solid	8015B NM	84446
880-45371-2	BF-SW91H-090723	Total/NA	Solid	8015B NM	84446
MB 880-84446/1-A	Method Blank	Total/NA	Solid	8015B NM	84446
LCS 880-84446/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	84446
LCSD 880-84446/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	84446

HPLC/IC

Leach Batch: 84502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-1	BF-SW91H-042918	Soluble	Solid	DI Leach	
880-45371-2	BF-SW91H-090723	Soluble	Solid	DI Leach	
MB 880-84502/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-84502/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

QC Association Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

HPLC/IC (Continued)

Leach Batch: 84502 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-84502/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 84722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-1	BF-SW91H-042918	Soluble	Solid	300.0	84502
880-45371-2	BF-SW91H-090723	Soluble	Solid	300.0	84502
MB 880-84502/1-A	Method Blank	Soluble	Solid	300.0	84502
LCS 880-84502/2-A	Lab Control Sample	Soluble	Solid	300.0	84502
LCSD 880-84502/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	84502

General Chemistry

Analysis Batch: 84547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-45371-1	BF-SW91H-042918	Total/NA	Solid	D2216	
880-45371-2	BF-SW91H-090723	Total/NA	Solid	D2216	
MB 880-84547/1	Method Blank	Total/NA	Solid	D2216	

Lab Chronicle

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Client Sample ID: BF-SW91H-042918

Lab Sample ID: 880-45371-1
Date Collected: 06/26/24 13:36
Matrix: Solid
Date Received: 06/27/24 17:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	84502	06/28/24 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	84722	07/02/24 02:27	CH	EET MID
Total/NA	Analysis	D2216		1			84547	06/28/24 14:01	CH	EET MID

Client Sample ID: BF-SW91H-042918

Lab Sample ID: 880-45371-1
Date Collected: 06/26/24 13:36
Matrix: Solid
Date Received: 06/27/24 17:40
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	84640	06/30/24 18:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	84639	07/01/24 05:22	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	84446	06/28/24 08:19	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	84620	06/29/24 17:56	SM	EET MID

Client Sample ID: BF-SW91H-090723

Lab Sample ID: 880-45371-2
Date Collected: 06/26/24 13:44
Matrix: Solid
Date Received: 06/27/24 17:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	84502	06/28/24 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	84722	07/02/24 02:34	CH	EET MID
Total/NA	Analysis	D2216		1			84547	06/28/24 14:01	CH	EET MID

Client Sample ID: BF-SW91H-090723

Lab Sample ID: 880-45371-2
Date Collected: 06/26/24 13:44
Matrix: Solid
Date Received: 06/27/24 17:40
Percent Solids: 97.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	84633	06/29/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	84659	07/01/24 12:32	MNR	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	84446	06/28/24 08:19	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	84620	06/29/24 18:16	SM	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Civil & Environmental Consultants Inc Job ID: 880-45371-1
Project/Site: Seawolf 112 Fed 91H

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400	06-30-25

Method Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
D2216	Percent Moisture	ASTM	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Civil & Environmental Consultants Inc
Project/Site: Seawolf 112 Fed 91H

Job ID: 880-45371-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-45371-1	BF-SW91H-042918	Solid	06/26/24 13:36	06/27/24 17:40
880-45371-2	BF-SW91H-090723	Solid	06/26/24 13:44	06/27/24 17:40

eurofins | Environment Testing

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199
Little Rock, AR (501) 224-5060

Wo 880-45371 Chain of Custody

Page 1 of 1

Project Manager:	Travis Montgomery	Bill to: (If different)	
Company Name:	Civil & Environmental Consultants	Company Name:	
Address:	700 Cherrington Parkway	Address:	
City, State ZIP:	Moon Township, PA, 15108	City, State ZIP:	
Phone:	800-365-2324	Email:	TMontgomery@cec.inc

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Seawolf 112 Fed 91H	Turn Around	
Project Number:		☐ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR-8
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.2
Total Containers:		Corrected Temperature:	3.1

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3; H_2SO_4: H_2; NaOH: Na; H_3PO_4: HP; $NaHSO_4$: NABIS; $Na_2S_2O_3$: $NaSO_3$; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: 300_ORGFM_28D_Chloride	8015MOD_NM_Full TPH	8021B_BTEX	Moisture_2540G_Total
BF-SW91H-042918	S	04/20/24	13:36	surface	C			X	X	X	X
BF-SW91H-090723	S	"	13:44	"	C			X	X	X	X

Sample Comments

ANALYSIS REQUEST

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		6/27/24 17:40	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Civil & Environmental Consultants Inc

Job Number: 880-45371-1

Login Number: 45371

List Source: Eurofins Midland

List Number: 1

Creator: Kramer, Jessica

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

APPENDIX G

PHOTOGRAPHIC LOG

335-562
Seawolf 1 12 Federal 91H
September 7, 2023 Release
Devon Energy Corporation
February 21, 2024

Well Pad

Location of gas line on eastern edge of excavation area

View of excavation, facing north

View of excavation, facing south

View of excavation, facing south

Area requiring additional excavation
to greater depth (SW 91H-Bottom 8)

335-562
Seawolf 1 12 Federal 91H
September 7, 2023 Release
Devon Energy Corporation
June 26, 2024

View of backfilled excavation, facing southwest

Location of BF-SW91H-090723, facing northeast

View of backfilled excavation, facing north

View of backfilled excavation, facing northwest

View of backfilled excavation, facing northwest

View of backfilled excavation, facing southwest

APPENDIX H

SKETCH SHOWING GRAB LOCATIONS FOR COMPOSITE BACKFILL SAMPLE

\\cecinc.com\global\Projects\330-000\335-562\-GIS\Maps\EN01_Site_Characterization\335562_EN01_Site_Characterization.aprx 6/25/2024 2:23 PM (slavin)

NORTH

SW-91H-18
SW-91H-02
SW91H-Bottom 1
SW-91H-03
SW91H-Bottom 2
SW-91H-17
BF-SW91H-090723
SW81H-Sidewall 1
SW91H-Bottom 3
BF-SW91H-090723
SW91H-Bottom 4
SW81H-Sidewall 3
SW91H-Bottom 6
SW-91H-14
SW91H-Bottom 5
SW-91H-04
SW-91H-10
SW91H-Bottom 7
BF-SW91H-090723
SW91H-Bottom 8
SW91H-Bottom 9
SW-91H-05
SW-91H-01
SW-91H-13
SW-91H-15
SW81H-Sidewall 2
SW-91H-20
SW-91H-11
SW91H-Bottom 12
SW-91H-09
BF-SW91H-090723
SW91H-Bottom 10
BF-SW91H-090723
SW91H-Bottom 13
SW91H-Bottom 11
SW-91H-16
SW-91H-06
SW-91H-12
SW91H-Bottom 14
SW91H-Bottom 15
SW81H-Sidewall 4
SW-91H-07
SW-91H-08
SW91H-Bottom 16
SW91H-Bottom 17
SW-91H-19

LEGEND

- BORING/TEST PIT LOCATION
- 5-POINT COMPOSITE BOTTOM EXCAVATION CONFIRMATION SAMPLE ID
- APPROXIMATE POINT OF RELEASE
- SIDEWALL SAMPLE LENGTH AND ID
- APPROXIMATE LOCATION OF GAS FLOWLINE
- 5-POINT COMPOSITE CONFIRMATION SAMPLE GRID BLOCK

FINAL REMEDIATION EXCAVATION DEPTHS

- 1-FOOT
- 2-FEET
- 3-FEET
- 6-FEET

SCALE IN FEET
0 30 60

REFERENCE

ESRI WORLD IMAGERY / ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD_IMAGERY. ACCESSED 6/25/2024

Civil & Environmental Consultants, Inc.
700 Cherrington Parkway - Moon Township, PA 15108
412-429-2324 ·800-365-2324
www.cecinc.com

DEVON ENERGY CORPORATION
REMEDIATION CLOSURE REPORT
SEAWOLF 1 12 FEDERAL 91H SEPT 7, 2023 RELEASE
LEA COUNTY, NEW MEXICO

GRAB SAMPLE LOCATIONS FOR COMPOSITE BACKFILL SAMPLE (BF-SW91H-090723)

DRAWN BY:	CBL/NTP	CHECKED BY:	LDC	APPROVED BY:	* Hand signature on file RJV*	FIGURE NO:	H-1
DATE:	6/25/2024	SCALE:	1"=30'	PROJECT NO:	335-562		

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 375479

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 375479
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2325072650**
Incident Name	**NAPP2325072650 SEAWOLF 1 12 FEDERAL #091H @ 30-025-43768**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-025-43768] SEAWOLF 1 12 FEDERAL #091H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	SEAWOLF 1 12 FEDERAL #091H
Date Release Discovered	09/07/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure | Pipeline (Any) | Crude Oil | Released: 1 BBL | Recovered: 1 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Pipeline (Any) | Produced Water | Released: 51 BBL | Recovered: 29 BBL | Lost: 22 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Flowline developed a pin hole underground about 15ft away from where it went in the ground near the well head. All fluid stayed on the pad and is a estimate of 51.575bbls of water/oil mix spilled. Shut in well and bled pressure off of the flowline to stop the leak. Estimated recovered is 30bbls

District I
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District IV
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Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 375479
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 08/20/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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1000 Rio Brazos Rd., Aztec, NM 87410
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State of New Mexico
Energy, Minerals and Natural Resources
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1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 375479
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	3580
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	3007
GRO+DRO (EPA SW-846 Method 8015M)	3007
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	09/19/2023
On what date will (or did) the final sampling or liner inspection occur	01/29/2024
On what date will (or was) the remediation complete(d)	06/24/2024
What is the estimated surface area (in square feet) that will be reclaimed	2980
What is the estimated volume (in cubic yards) that will be reclaimed	310
What is the estimated surface area (in square feet) that will be remediated	2980
What is the estimated volume (in cubic yards) that will be remediated	310
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 375479
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	JAL LANDFARM [fEEM0112332673]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 08/20/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 375479
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 375479
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**307529**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**01/29/2024**
What was the (estimated) number of samples that were to be gathered	**8**
What was the sampling surface area in square feet	**1510**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	2980
What was the total volume (cubic yards) remediated	310
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	2980
What was the total volume (in cubic yards) reclaimed	310
Summarize any additional remediation activities not included by answers (above)	The areas where excavation was performed to remediate the Site were restored by backfilling with clean fill to stabilize the disturbed areas and return them to the existing grade, and provide a soil cover that prevents ponding of water and minimizes dust and erosion in accordance with Sections A., B. and C of 19.15.29.13 NMAC. Restoration activities were conducted on March 1, 2024.

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 08/20/2024

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QUESTIONS (continued)

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	Action Number: 375479
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 375479

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	6137
	Action Number: 375479
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CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation closure report approved, release resolved.	10/8/2024