Chris Brand
Environmental Remediation/ Facility Decom Advisor

VIA ELECTRONIC MAIL

June 10, 2024

New Mexico Oil Conservation Division
District I
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Chevron West Lovington Unit
Soil Remediation Work Plan
Incident No. nPAC0614230052
Case No. 1RP-889

Dear Whom it May Concern:

Please find enclosed for your files, copies of the following:
Chevron West Lovington Unit Soil Remediation Work Plan

The Work Plan was prepared by Arcadis U.S., Inc. (Arcadis) on behalf of Chevron Environmental Management Company (CEMC) for Chevron USA Inc.

Please do not hesitate to call Scott Foord with Arcadis at 713.953.4853, or myself at 661.401.0359, should you have any questions.

Sincerely,

Chris Brand

Encl. 2024 Work Plan
Chevron West Lovington Unit

cc. Scott Foord – Arcadis
Morgan Jordan – Arcadis

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ARCADIS

Chevron Environmental Management Company

2024 Work Plan

Chevron West Lovington Unit

Lea County, New Mexico

Incident # nPAC0614230052

June 2024

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2024 Work Plan

Chevron West Lovington Unit
Incident # nPAC0614230052
Lea County, New Mexico

June 2024

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1 Introduction

Arcadis U.S., Inc. (Arcadis) has prepared this Work Plan, for Chevron Environmental Management Company (CEMC) on behalf of Chevron U.S.A. Inc., through its division Chevron North America Exploration and Production Company, for the release site known as the Chevron West Lovington Unit (Site) located at coordinates: 32.860240, -103.372657. Details of the release are summarized in the New Mexico Oil Conservation Division (NMOCD) Initial C-141 Form included as **Appendix A**.

2 Project Summary

The Site is located on state land approximately 5.85 miles south of the City of Lovington in Unit I, Section 5, Township 17 South, Range 36 East, Lea County, New Mexico. The site is located within a low karst area. A Site Location Map is included as **Figure 1** and a Topographic Map as **Figure 2**.

2.1 Incident # nPAC0614230052

According to the Initial C-141 Form, on May 11, 2006, a packing pump leaked and released approximately 100 barrels (bbls) of produced water at the Site. The water was retained inside building and berm areas around the injection station. According to the Initial C-141 Form, the amount recovered by vacuum truck was approximately 90 bbls of standing fluid. The Initial C-141 Form was approved on May 16, 2006 and assigned remediation permit number 1RP-889 and incident number nPAC0614230052. The Initial C-141 Form is included as **Appendix A**.

3 Site Characterization

After a review of the New Mexico Office of State Engineers (NMOSE) and United States Geological Survey (USGS) databases, USGS well 325131103223101 located approximately 0.36 miles west of the Site was identified and gauged with a water level meter by Arcadis on May 20, 2024. USGS well 325131103223101 was verified as dry at 54.67 feet below ground surface (bgs). Additionally, USGS well 325144103214701 located approximately 0.47 miles north-east of the Site was identified and gauged with a water level meter by Arcadis on May 2, 2024. Depth to water was verified at 66.80 feet below ground surface (bgs). Photographic documentation of gauging activities by Arcadis are included in **Appendix B.**

The following site characteristics were determined in accordance with 19.15.29 New Mexico Administrative Code (NMAC):

- Shallowest depth to groundwater beneath the area affected by the release in ft bgs: Between 51 and 75 feet;
- Method used to determine the depth to groundwater: direct measurement;
- Distance to continuously flowing watercourse or any other significant watercourse: >5 miles;
- Distance to lakebed, sinkhole, or playa lake: Between 0.50 and 1 mile;
- Distance to occupied permanent residence, school, hospital, institution, or church: Between 1 and 5 miles,
- Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes: Between 1 and 5 miles;
- Distance to any other fresh water well or spring: Between 1,000 feet and 0.50 mile;

- Distance to incorporated municipal boundaries or a defined municipal fresh water well field: Between 1 and 5 miles;
- Distance to wetland: Between 1,000 feet and 0.50 mile;
- Distance to subsurface mine: >5 miles;
- Distance to (non-karst) unstable area: >5 miles;
- Categorize the risk of this well/site being in a karst geology: Low;
- Distance to a 100-year floodplain: Between 1 and 5 miles; and
- Did the release impact areas not on an exploration, development, production, or storage site? No

The site characterization data is presented in **Appendix C**.

4 NMAC Regulatory Criteria

Per Table I of NMAC part 19.15.29.12, the following closure criteria apply to the Site for reclamation activities within the first 4 feet of soil:

Constituent	Limit (mg/kg)
Benzene	10 mg/kg
Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)	50 mg/kg
Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Oil Range Organics (ORO)	100 mg/kg
Chloride	600 mg/kg

Per Table I of NMAC part 19.15.29.12, the following closure criteria apply to the Site for remediation activities for soils at depths greater than 4 feet bgs due to depth to groundwater measured by Arcadis as dry at 54.67 feet bgs. within USGS well 325131103223101 located approximately 0.36 miles west of the Site, and additionally depth to water was verified at 66.80 feet bgs. within USGS well 325144103214701 located approximately 0.47 miles north-east of the Site.

Constituent	Limit (mg/kg)
Benzene	10 mg/kg
BTEX	50 mg/kg
TPH –GRO, DRO, and ORO	2,500 mg/kg
Chloride	10,000 mg/kg

5 Site Assessment Activities

In March 2023, and subsequently in January and April 2024, Arcadis performed site assessment activities to evaluate soil impacts stemming from the release. A total of twenty-nine (29) sample points (SB-1 through SB-29) were advanced to depths ranging from the surface to 11 feet bgs inside and surrounding the release area to evaluate the horizontal and vertical extents of the release. Soil sample locations are shown on **Figure 3**. Soil samples were collected for chemical analyses, placed directly into laboratory-provided sample containers, stored on ice, and transported under the proper chain-of-custody protocol to Eurofins Laboratories in Midland, Texas.

The soil samples were analyzed for BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH by EPA Method 8015, and chloride by EPA method 300.0. Soil samples analyzed for BTEX were reported with concentrations ranging from 0.000493 J mg/kg (SB-2) to 0.419 mg/kg (SB-18). Soil samples analyzed for TPH were reported with concentrations ranging from 21.0 J mg/kg (SB-20) to 5,750 mg/kg (SB-18). Soil samples analyzed for chloride were reported with concentrations ranging from 1.32 J mg/kg (SB-24) to 10,800 mg/kg (SB-10).

Horizontal and vertical delineation of the area of concern was completed during assessment activities. Analytical data collected to date and field screening during proposed remediation activities will be utilized to guide remediation activities. Soil sample analytical results from assessment activities are summarized in **Table 1**. Laboratory reports for soil samples collected during the initial site assessment, including analytical methods, results, and chain-of-custody documents, are attached in **Appendix D.** NMOCD correspondence is shown in **Appendix E.**

6 Proposed Work Plan

Based on the analytical data and the detected TPH and chloride concentrations in soil samples collected during site assessment activities, CEMC proposes to remediate the areas of concern via excavation illustrated in orange as shown in **Figure 3** and bolded in **Table 1**.

The proposed excavation area encompasses a surface area of approximately 149,000 square feet. An estimated 22,500 cubic yards of soil will be removed and transported to the R360 CRI Facility, which is listed as an NMOCD approved disposal facility.

In accordance with NMAC 19.15.29.12(D)(1)(b) CEMC proposes the following confirmation sampling plan to adhere with NMOCD requirements. Five-point composite confirmation soil samples will be collected from the excavation floor and sidewalls at 200 square foot intervals for analysis of BTEX by EPA Method 8260, TPH for GRO, DRO, and ORO by EPA Method 8015, and chloride by EPA Method 300.0. Lateral and vertical limits of the excavation will halt once confirmation sample analytical results are in accordance with NMAC 19.15.29.12(D)(1)(c).

Backfill material will be verified to be non-waste containing prior to backfilling the remediated area by obtaining analytical data from the backfill material supplier (R360) if available, or by collecting a five-point composite sample and analyzing for BTEX by EPA Method 8260, TPH for GRO, DRO, and ORO by EPA Method 8015, and chloride by EPA Method 300.0. Following completion of excavation activities and confirmation that the backfill material is non-waste containing, the areas will be backfilled with the clean material and graded to match the original surface conditions and drainage. Approximately 149,000 square feet of the area of concern located within the pad area will be reclaimed to original condition and re-seeded following remediation activities.

The proposed remediation activities will be implemented within 90 days following approval of this work plan by the NMOCD. The anticipated schedule includes 30 days to setup field work and confirm sub-contractors, 30 days to complete on-site remediation activities, and 30 days to prepare a soil remediation summary and closure request report.

7 Work Plan Approval Request

Upon completion of the above proposed soil remediation activities, a final closure request report describing the remediation activities and a separate reclamation report will be submitted to the NMOCD for review. If you have any questions regarding this work plan or need additional information, please do not hesitate to contact Scott Foord at 281-725-7447 or Morgan Jordan at 281-644-9437.

Tables

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Table 1
Soil Analytical Results
Chevron Environmental Management Company
Chevron West Lovington Unit/ WLU Water Injection Station

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Sample I.D.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH GRO + DRO	TPH MRO	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Standards			10	--	--	--	50	--	--	1,000	--	2,500	10,000
Restoration Requirements			10	--	--	--	50	--	--	--	--	100	600
SB-1	0-0.5'	03/22/23	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	18.4 J	82.9	101.3 J	<15.0	***101***	***2,240***
	2'	03/22/23	<0.00765	0.0146 J	<0.0112	0.00711	0.0217	17.2 J	39.1 J	56.3 J	<15.0	56.3	***2,540***
SB-2	0-0.5'	03/22/23	<0.000384	<0.000455	<0.000564	<0.000343	<0.000343	21.2 J	82.9	104.1 J	<15.0	***104***	***2,210***
	2'	03/22/23	<0.000387	0.000493 J	<0.000568	<0.000346	0.000493 J	23.3 J	34.9 J	58.2 J	<15.0	58.2	***2,610***
SB-3	0-0.5'	03/22/23	<0.000389	<0.000461	<0.000571	<0.000347	<0.000347	19.5 J	47.4 J	66.9 J	<15.0	66.9	137
	2'	03/22/23	<0.000383	0.000608 J	<0.000562	<0.000342	0.00608 J	21.8 J	55.3	77.1 J	<15.0	77.1	121
SB-4	0-0.5'	03/22/23	<0.000384	<0.000455	<0.000564	<0.000343	<0.000343	21.0 J	24.2 J	45.2 J	<15.0	45.2 J	160
	2'	03/22/23	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	22.8 J	22.0 J	44.8 J	<15.0	44.8 J	354
SB-5	1'	01/18/24	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	33.4 J *1	104 B	137.4 J B *1	<15.2	***137***	485 F1
	2'	01/18/24	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	32.4 J *1	44.9 J B	77.3 J B *1	<15.1	77.3	***1,660***
	4'	01/18/24	--	--	--	--	--	--	--	--	--	--	***2,090***
SB-6	1'	01/19/24	--	--	--	--	--	--	--	--	--	--	***1,250***
	2'	01/19/24	<0.000383	0.000524 J	<0.000563	<0.00101	<0.00101	35.8 J *1	30.3 J B	66.1 J B *1	<14.9	66.1	***3,140***
	4'	01/19/24	--	--	--	--	--	--	--	--	--	--	***2,980***
SB-7	1'	01/19/24	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	36.7 J *1	102 B	138.7 J B *1	<15.0	***139***	496
	2'	01/19/24	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	30.3 J *1	143 B	173.3 J B *1	<14.9	***173***	166
	4'	01/19/24	--	--	--	--	--	--	--	--	--	--	119
SB-8	1'	01/19/24	--	--	--	--	--	--	--	--	--	--	***2,070***
	2'	01/19/24	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	41.8 J *1	74.2 B	116 J B *1	<15.0	***116***	***2,620***
	4'	01/19/24	--	--	--	--	--	--	--	--	--	--	***2,130***
SB-9	1'	01/19/24	--	--	--	--	--	--	--	--	--	--	***3,150***
	2'	01/19/24	<0.000383	0.000550 J	<0.000563	<0.00101	<0.00101	45.3 J *1	55.6 B	100.9 J B *1	<15.0	***101***	***2,290***
	3'	01/19/24	--	--	--	--	--	--	--	--	--	--	***1,080***
SB-10	1'	01/19/24	--	--	--	--	--	--	--	--	--	--	***10,800***
	2'	01/19/24	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	44.3 J *1	31.3 J B	75.6 J B *1	<15.2	75.6	***3,660***
	4'	01/19/24	--	--	--	--	--	--	--	--	--	--	***2,410***
SB-11	1'	01/19/24	<0.000384	0.000479 J	<0.000564	<0.00101	<0.00101	40.3 J *1	51.4 B	91.7 J B *1	<15.0	91.7	***2,130***
	2'	01/19/24	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	38.9 J *1	29.8 J B	68.7 J B *1	<15.0	68.7	***2,970***
	4.5'	01/19/24	--	--	--	--	--	--	--	--	--	--	*2,600*
SB-12	0-1'	04/05/24	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	41.6 J	57.2 *1	98.8 J	<15.0	98.8	***1,120***
	2-3'	04/05/24	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	38.7 J	30.7 J *1	69.4 J	<14.9	69.4	***2,300***
SB-13	0-1'	04/05/24	<0.000384	<0.000455	0.000669 J	<0.00101	<0.00101	30.3 J	673 *1	839 J *1	136	***839***	58.4
	2-3'	04/05/24	0.00112 J	<0.000453	0.0709	0.0245	0.0965	59.4	1,030 *1	1,170 *1	80.4	***1,170***	403
SB-14	3'	04/05/24	<0.000382	<0.000452	<0.000561	0.00771	0.00771	32.2 J	78.1 *1	110.3 J *1	<15.0	***110***	10.8
	4-5'	04/05/24	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	48.1 J	65.9 *1	114 J *1	<15.0	114	24.6
SB-15	0-1'	04/05/24	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	31.0 J	260 *1	345 J *1	54.1	***345***	***1,060***
	2-3'	04/05/24	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	47.5 J	51.2 *1	98.7 J *1	<14.9	98.7	***957***
SB-16	0-1'	04/05/24	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	39.8 J	61.0 *1	101.8 J *1	<14.9	***101***	323
	2-3'	04/05/24	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	40.7 J	43.5 J *1	84.2 J *1	<15.0	84.2	***775***
SB-17	0-1'	04/05/24	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	42.1 J	44.8 J *1	86.9 J *1	<15.0	86.9	3.95 J
	2-3'	04/05/24	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	24.6 J	24.3 J	48.9 J	<15.0	48.9 J	1.60 J
SB-18	0-1'	04/05/24	0.000710 J	0.00129 J	0.00366	0.00345 J	0.00911	<15.0	554	554	<15.0	***554***	***782***
	2-3'	04/05/24	0.00169 J	0.0768	0.205	0.135	0.419	174 J	5,580	5,750 J	<74.7	***5,750***	***1,540***

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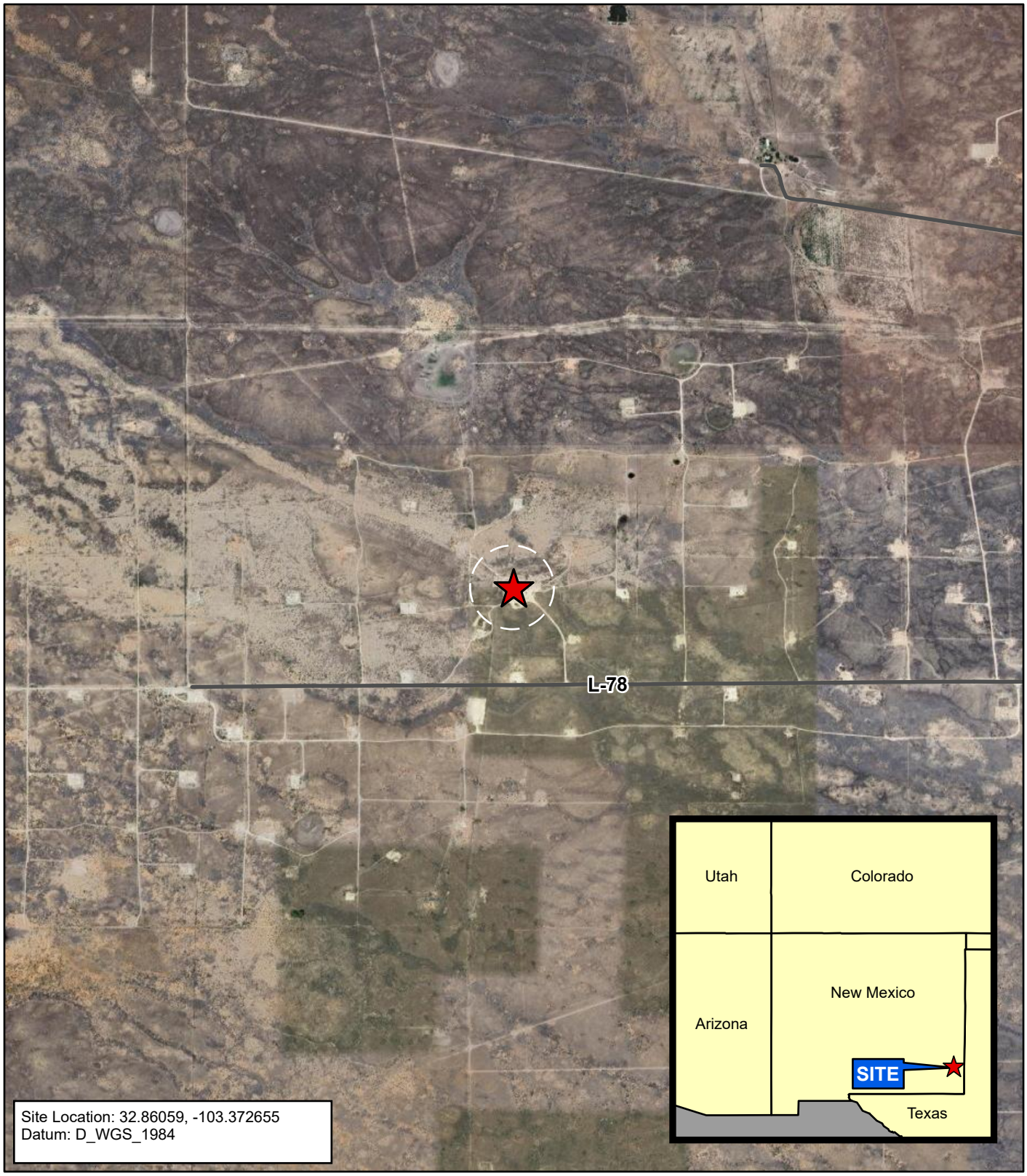
Chevron West Lovington Unit/ WLU Water Injection Station

ARCADIS

Sample I.D.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH GRO + DRO	TPH MRO	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Standards			10	--	--	--	50	--	--	1,000	--	2,500	10,000
Restoration Requirements			10	--	--	--	50	--	--	--	--	100	600
SB-19	4-5'	04/08/24	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	858
	6-7'	04/08/24	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	23.0 J	18.6 J	41.6 J	<15.0	41.6 J	1,040
	8-9'	04/08/24	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	33.6 J	15.1 J	48.7 J	<15.0	48.7 J	939
SB-20	4-5'	04/08/24	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	21.0 J	<15.0	21.0 J	<15.0	21.0 J	2580
	8-9'	04/08/24	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	32.4 J	<14.9	32.4 J	<14.9	32.4 J	313
	10-11'	04/08/24	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	21.2 J	<15.0	21.2 J	<15.0	21.2 J	162
SB-21	0-1'	04/08/24	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	15.0 J	25.8 J	40.8 J	<15.0	40.8 J	10.4
	2-3'	04/08/24	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	23.8 J	17.0 J	40.8 J	<14.9	40.8 J	3.74 J
SB-22	0-1'	04/08/24	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	19.6 J	17.0 J	36.6 J	<15.0	36.6 J	4.21 J
	2-3'	04/08/24	<0.000387	0.000459	<0.000568	<0.00102	<0.00102	<15.0	<15.0	<15.0	<15.0	<15.0	268
SB-23	0-1'	04/08/24	0.000499 J	0.00322	<0.000559	0.00150 J	0.00522	16.8 J	16.9 J	33.7 J	<15.0	33.7 J	4.23 J
	2-3'	04/08/24	<0.000389	0.00258	<0.000571	<0.00102	0.00258 J	35.0 J	29.2 J F1 *1	64.3 J	<15.0	64.3	26.6
SB-24	0-1'	04/08/24	<0.000387	0.00244	<0.000567	<0.00101	<0.00101	36.6 J	28.4 J *1	65.0 J *1	<15.0	65.0	2.43 J
	2-3'	04/08/24	<0.000387	0.00228	<0.000568	<0.00102	0.00228 J	22.9 J	24.6 J *1	47.5 J *1	<15.0	47.5 J	1.32 J
SB-25	0-1'	04/08/24	<0.000386	0.00256	<0.000566	<0.00101	0.00256 J	28.1 J	23.6 J *1	51.7 J *1	<15.1	51.7	128
	2-3'	04/08/24	0.00146 J	0.00355	<0.000565	<0.00101	0.00501	26.6 J	39.9 J *1	66.5 J *1	<15.0	66.5	13.8
SB-26	0-1'	04/08/24	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	23.6 J	52.7 *1	76.3 J *1	<14.9	76.3	7.03
	2-3'	04/08/24	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	37.0 J	29.3 J *1	66.3 J *1	<14.9	66.3	1.57 J
SB-27	0-1'	04/08/24	<0.000388	<0.000460	<0.000570	<0.00102	<0.00102	28.2 J	390 *1	418.2 J *1	88.8	***507***	89.6
	2-3'	04/08/24	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	35.5 J	52.5 *1	88.0 J *1	<15.0	88.0	4.53 J
SB-28	2-3'	04/10/24	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	34.7 J B *1	432 *+ *1	466. 7 J B	67.5	***534***	***1,240***
	4-5'	04/10/24	<0.000388	<0.000460	<0.000570	<0.00102	<0.00102	47.6 J B *1	24.3 J *+ *1	71.9 J B	<14.9	71.9	1,620
	6-7'	04/10/24	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	35.8 J B *1	24.9 J *+*1	60.7 J B	<14.9	60.7	931
SB-29	2-3'	04/10/24	0.000849 J	<0.000452	<0.000561	<0.00100	<0.00100	48.0 J B *1	1,190 *+ *1	1,238 J B	175	***1,410***	***907***
	6-7'	04/10/24	<0.000385	<0.000465	<0.000565	<0.00101	<0.00101	46.5 J B *1	28.3 J *+ *1	74.8 J B	<14.9	74.8	146
	8-9'	04/10/24	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	36.1 J B *1	25.5 J *+ *1	61.6 J B	<15.0	61.6	206

Legend:
BOLD = Analytes exceeding Restoration Requirement
J: Result is less than the Reporting Limit but greater than or equal to the MDL and the concentration is an approximate value
B: Compound was found in the blank and sample.
*1: LCS/LCSD RPD exceeds control limits.
'<' indicates the analyte was not detected at or above the Method Detection Limit (MDL)
mg/kg: Milligram per Kilogram
BTEX : Benzene, Toluene, Ethylbenzene, and Total Xylenes
NMAC : New Mexico Administration Code. Criteria based off of depth to groundwater of 51-100 feet.
TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics
TPH MRO: Total Petroluem Hydrocarbons Motor Oil Range Organics
TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics
Total TPH: GRO + DRO + MRO
*Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018
Notes:
1. Chloride analyzed by United States Environmental Protection Agency Method 300
2. TPH analyzed by TPH by SW8015 Mod DRO/ORO Method
3. BTEX analyzed by USEPA Method 8021B
4. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2)

Figures



Legend

Site Location

Credits: ESRI Online, Google Earth

0 2,000 4,000 Feet

GRAPHIC SCALE

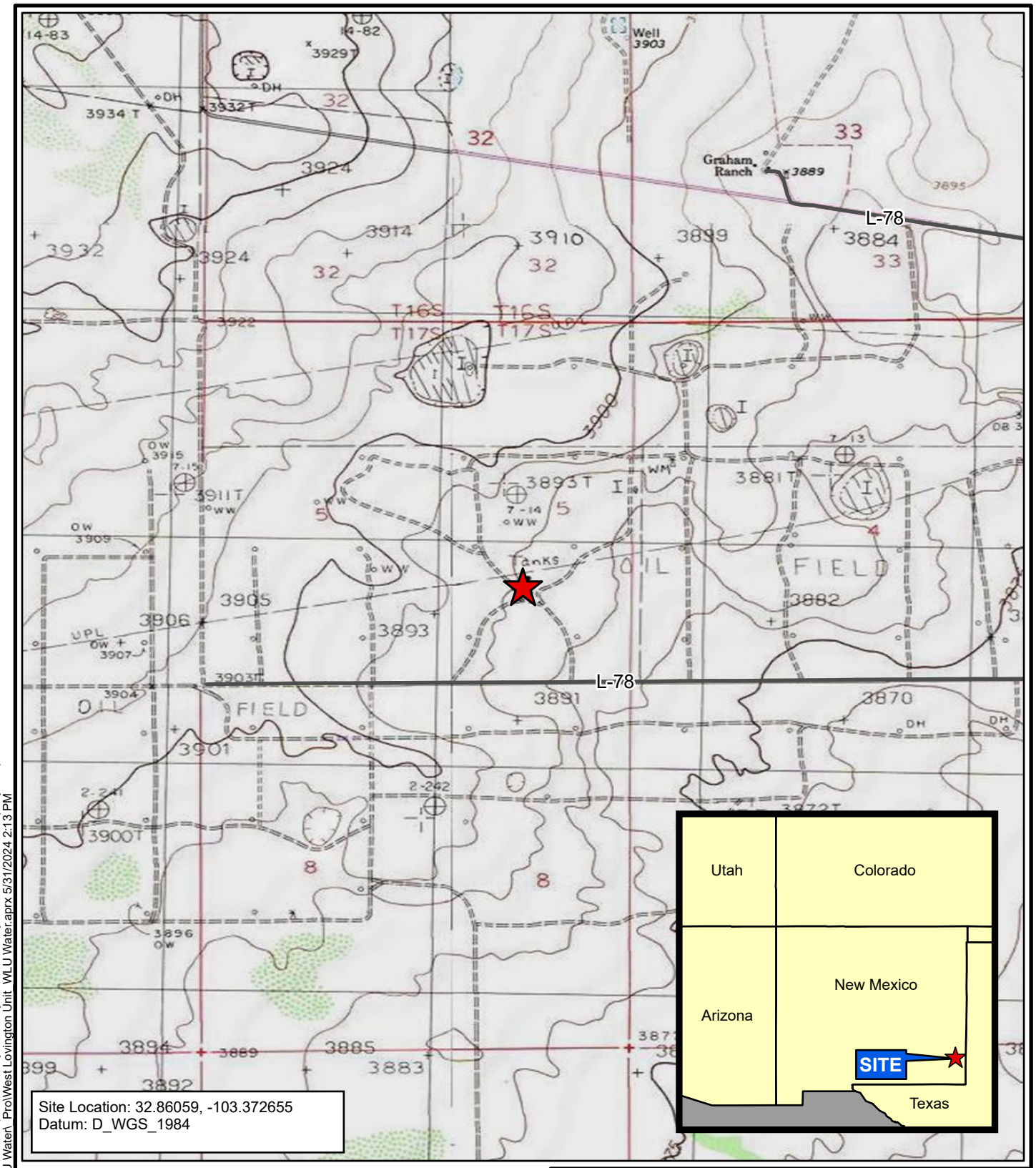
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
WEST LOVINGTON UNIT WATER INJ STATION
LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

ARCADIS

FIGURE
1

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: avi00976 ; Client (Project #)
T:_ENV\Upstream\West Lovington Unit WLU Water_Pro\West Lovington Unit WLU Water.aprx 5/31/2024 2:13 PM



Legend

Site Location

Credits: ESRI Online, USGS 24,000 K Topo (Map Service)
Red Lake, New Mexico Quadrangle

0 2,000 4,000 Feet
GRAPHIC SCALE

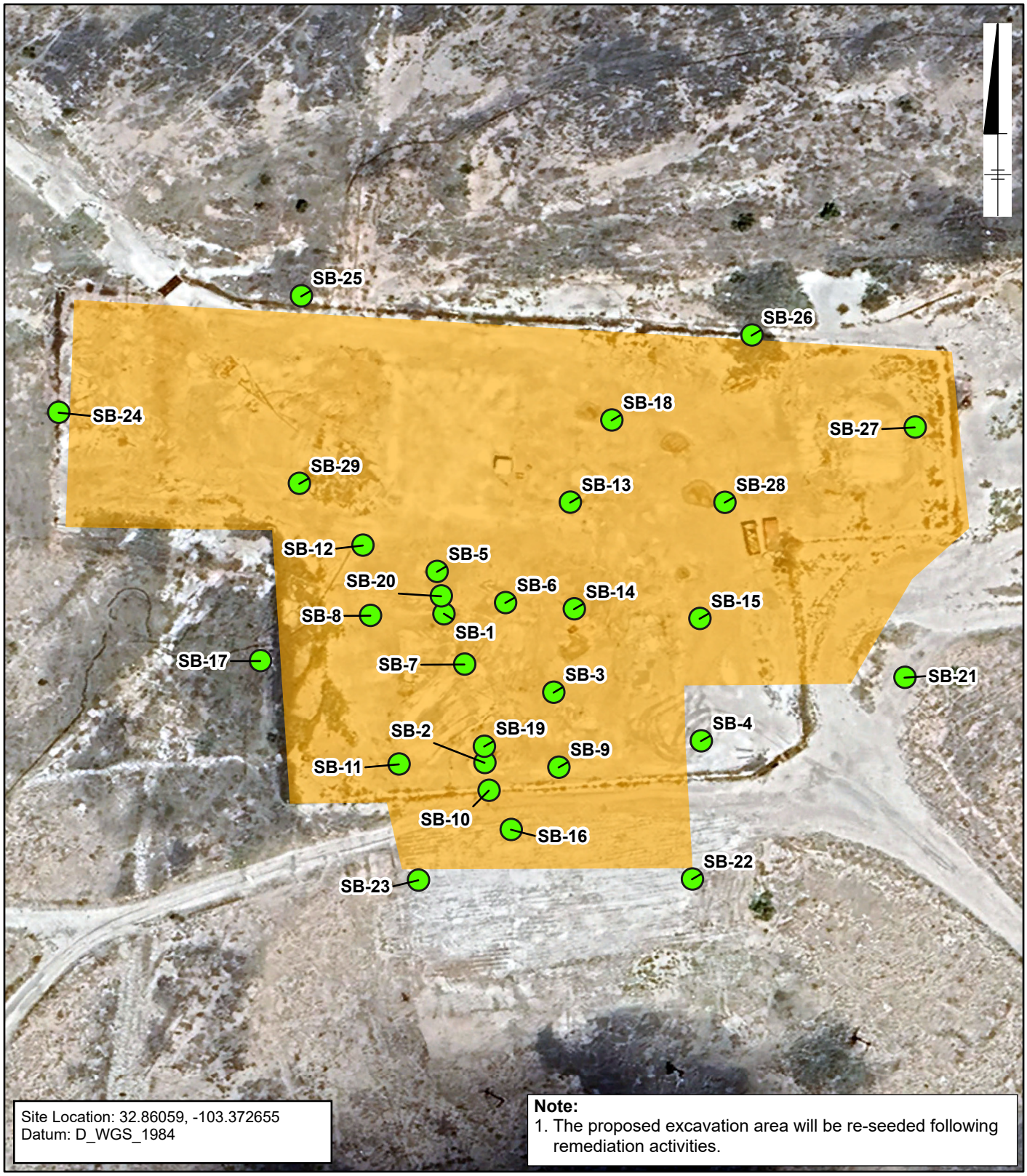
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
WEST LOVINGTON UNIT WATER INJ STATION
LEA COUNTY, NEW MEXICO

TOPOGRAPHIC MAP

ARCADIS

FIGURE
2

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: avi00976 ; Client (Project #)
T:_ENV\Upstream\West Lovington Unit WLU Water_Pro\West Lovington Unit WLU Water.aprx 5/31/2024 2:13 PM



Site Location: 32.86059, -103.372655
Datum: D_WGS_1984

Note:
1. The proposed excavation area will be re-seeded following remediation activities.

Legend

- Previous Assessment Sample Location
- Proposed Excavation Area

0 100 200 Feet
GRAPHIC SCALE

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
WEST LOVINGTON UNIT WATER INJ STATION
LEA COUNTY, NEW MEXICO

PROPOSED EXCAVATION AND SOIL SAMPLE LOCATION MAP

ARCADIS

FIGURE
3

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: avi00976 ; Client (Project #)
T:_ENV\Upstream\West Lovington Unit WLU Water_Pro\West Lovington Unit WLU Water.aprx 6/6/2024 10:10 AM

Appendix A

Initial C-141 Form Incident # nPAC0614230052

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Chevron USA Inc.	Contact Wayne Minchew
Address HCR 60 Box 423 Lovington, NM 88260	Telephone No. 505-396-4414
Facility Name West Lovington Unit	Facility Type Injection Station

Surface Owner State of NM	Mineral Owner State of NM	Lease No. B4286-1

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	5	17S	36E					Lea

56'

Latitude_____ Longitude_____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 100bbls	Volume Recovered 90bbls
Source of Release Packing leak on pump	Date and Hour of Occurrence 7:00pm 05-11-06	Date and Hour of Discovery 8:30pm 05-11-06
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Pat (MOCD)	
By Whom? Wayne Minchew	Date and Hour 9:30 am 05-12-06	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Packing pump leaked, water stayed inside building and berm around injection station, pump turned off.

Describe Area Affected and Cleanup Action Taken.*

Vacuum truck picked up water inside facility yard

MAY 2006 Received Hobbs OCD

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: P.W. Minchew	OIL CONSERVATION DIVISION	
Printed Name: P. W. Minchew	Approved by District Supervisor:	
Title: Operations Supervisor	Approval Date:	Expiration Date:
E-mail Address: pminchew@chevron.com	Conditions of Approval:	Attached ☐
Date: Phone: 505-396-4414		

* Attach Additional Sheets If Necessary

Facility - fPAC0614229930
Incident - nPAC0614230052
Application - pPAC0614230325

Appendix B

Photo Log

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident No.
Chevron West Lovington Unit	Lea County, TX	nPAC0614230052

Photo No.	Date:
1	5/02/2024

Direction Photo Taken:

Facing West

Description:

USGS well 325131103223101 being gauged by Arcadis on May 20, 2024, and was verified as dry at 54.67 feet below ground surface (bgs).

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident No.
Chevron West Lovington Unit	Lea County, TX	nPAC0614230052

Photo No.	Date:
2	5/02/2024

Direction Photo Taken:

Facing West

Description:

USGS well 325131103223101 being gauged by Arcadis on May 20, 2024, and was verified as dry at 54.67 feet below ground surface (bgs).

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident No.
Chevron West Lovington Unit	Lea County, TX	nPAC0614230052

Photo No.	Date:
3	5/02/2024

Direction Photo Taken:

Facing West

Description:

USGS well 325144103214701 being gauged by Arcadis on May 2, 2024, and depth to water was verified at 66.80 ft below ground surface (bgs).

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident No.
Chevron West Lovington Unit	Lea County, TX	nPAC0614230052

Photo No.	Date:
4	5/02/2024

Direction Photo Taken:

Facing West

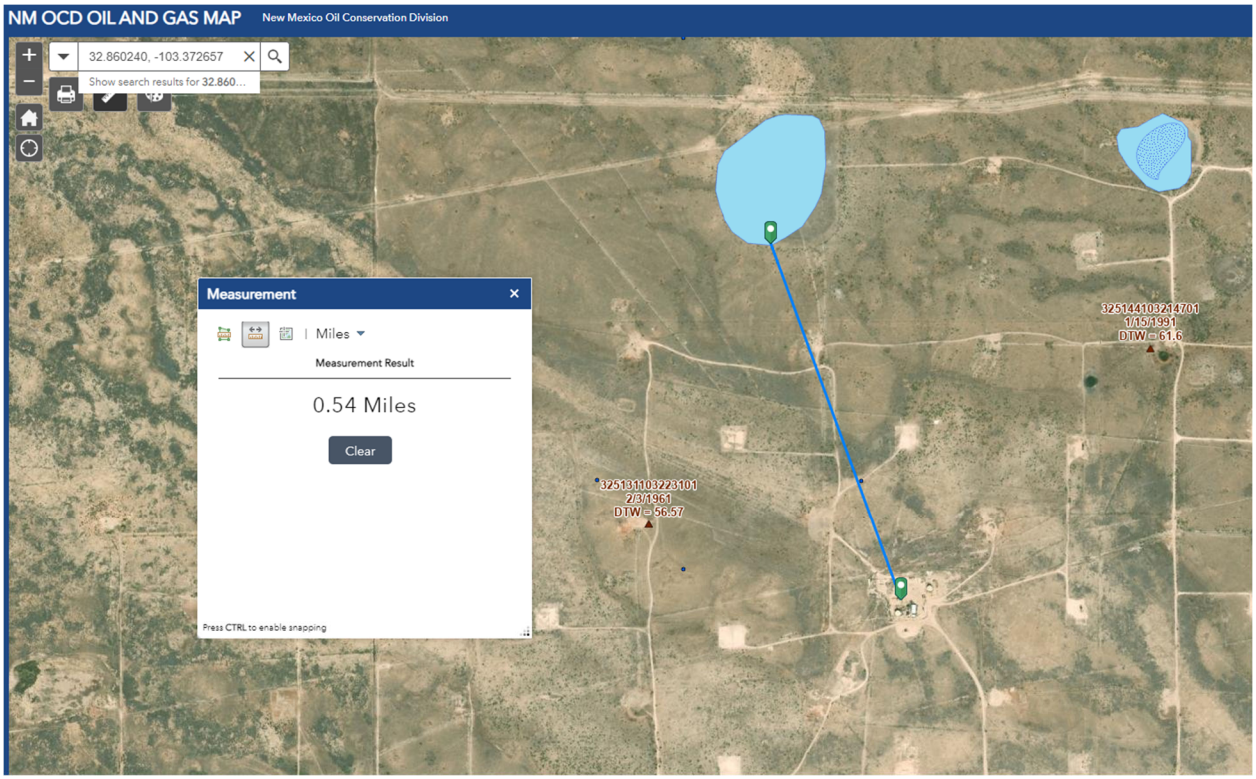
Description:

USGS well 325144103214701 being gauged by Arcadis on May 2, 2024. Meter lighting up for water detection at 66.80 ft below ground surface (bgs).

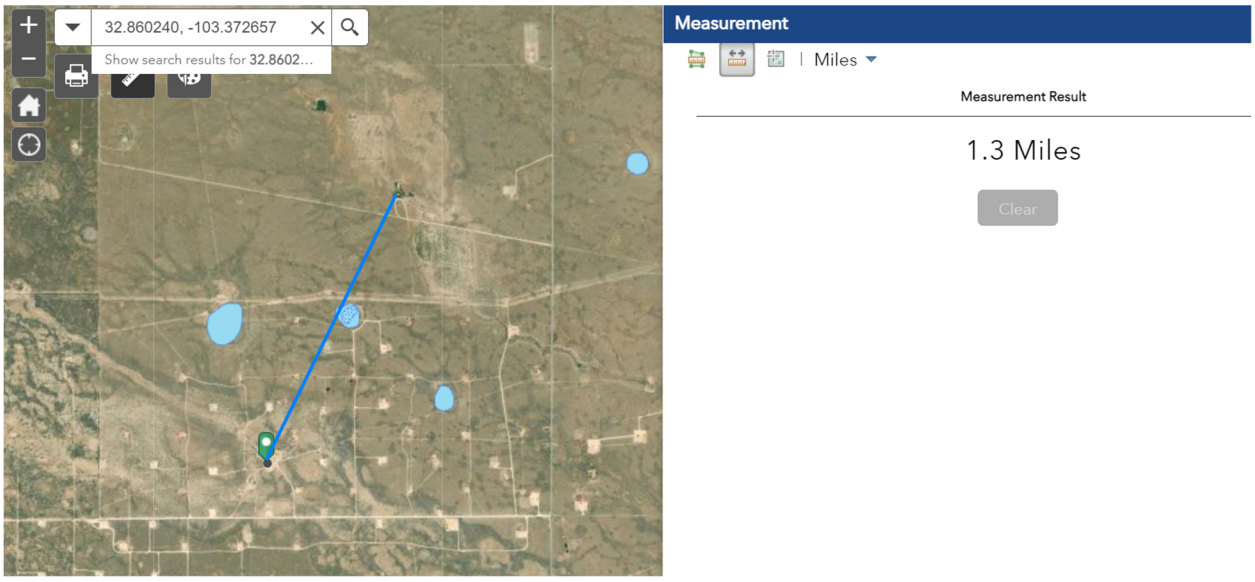
Appendix C

Site Characterization Data

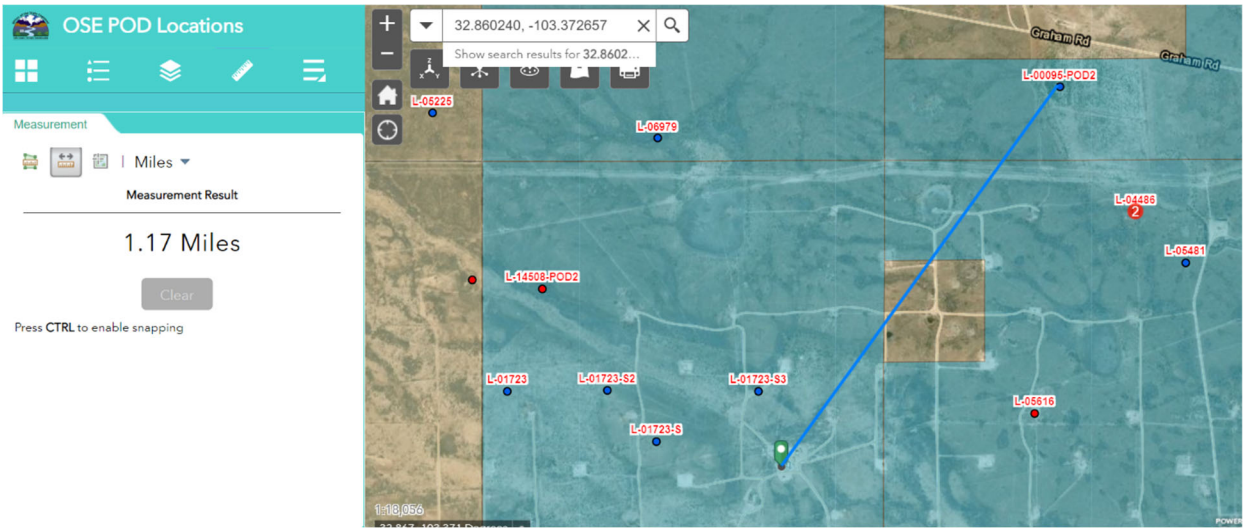
Distance to lakebed, sinkhole, or playa lake.



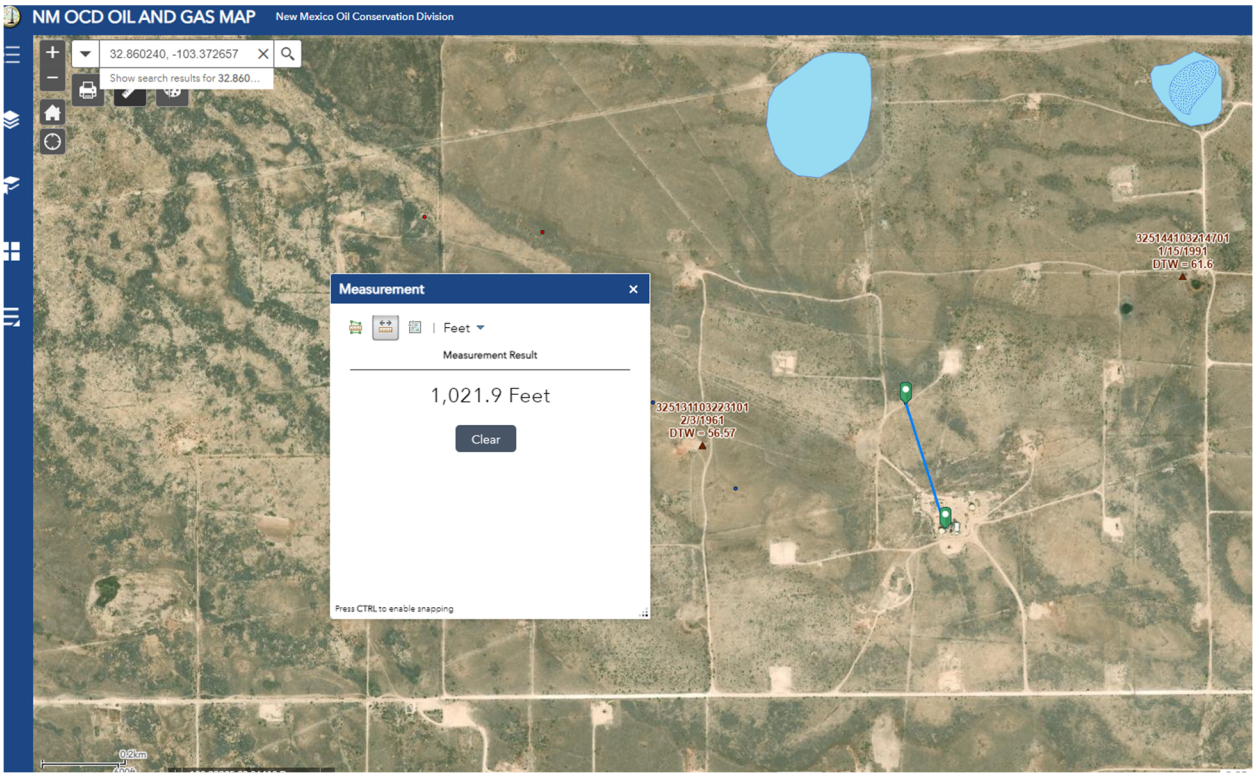
Distance to occupied permanent residence, school, hospital, institution, or church.



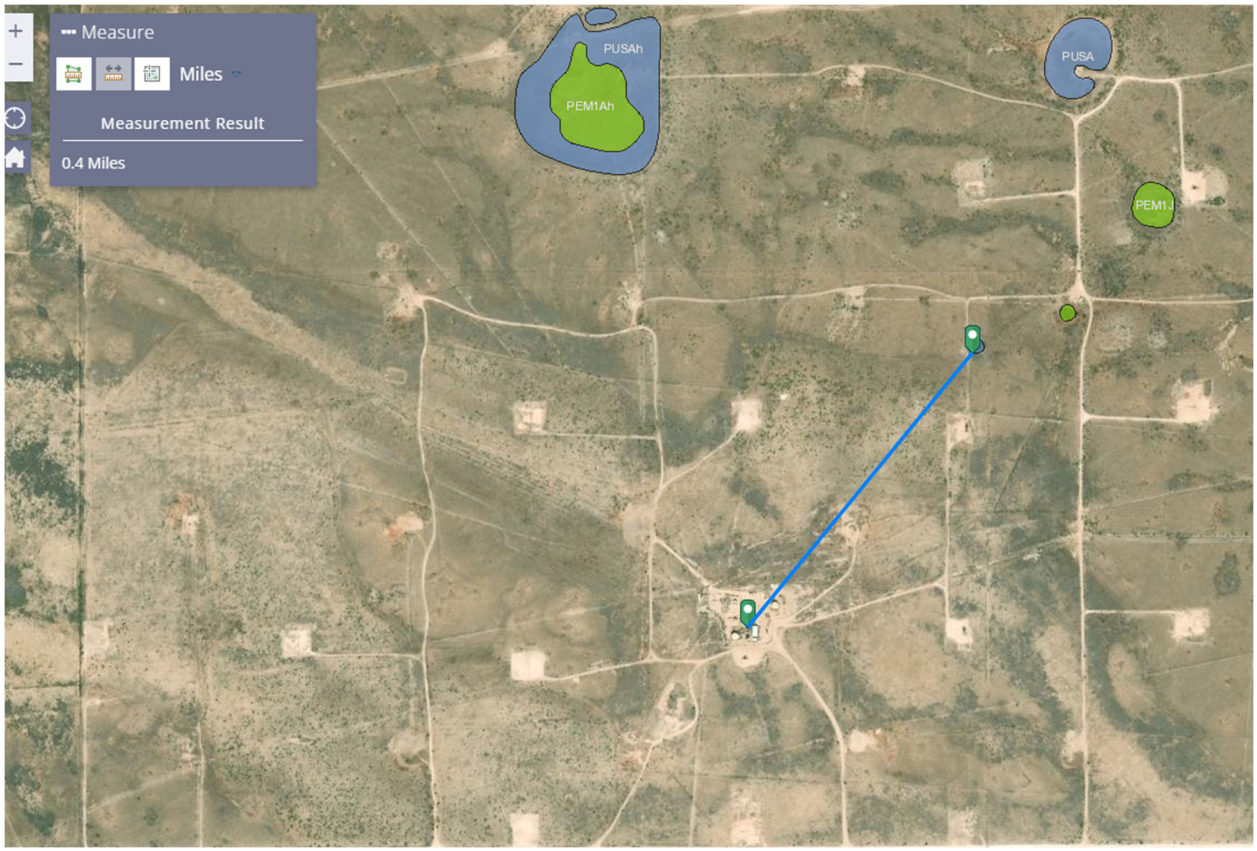
Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes (L-00095-POD2).



Distance to any other fresh water well or spring (L-01723-S).



Distance to a wetland.



Appendix D

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Douglas Jordan
ARCADIS U.S. Inc
10205 Westheimer Rd
Suite 800
Houston, Texas 77042

Generated 4/5/2023 12:02:46 PM

JOB DESCRIPTION

Lovington Field Assessment
SDG NUMBER WLU Water Inj Station

JOB NUMBER

880-26268-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

Released to Imaging: 7/23/2024 2:27:58 PM

my EOL

Eurofins Midland

Job Notes

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

Generated
4/5/2023 12:02:46 PM

Authorized for release by
John Builes, Project Manager
John.Builes@et.eurofinsus.com
(561)558-4549

Table of Contents

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Job ID: 880-26268-1
Project/Site: Lovington Field Assessment
SDG: WLU Water Inj Station

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.
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: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Job ID: 880-26268-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-26268-1

Receipt
The samples were received on 3/23/2023 8:20 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 analyzed for method <TPH 8015> were received and analyzed from an unpreserved bulk soil jar

GC VOA
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 880-49771 and analytical batch 880-49783 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
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-50160 and analytical batch 880-50338 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.SB-1-S-0.5'-20230322 (880-26268-1), SB-1-S-2'-20230322 (880-26268-2), SB-2-S-0.5'-20230322 (880-26268-3), SB-2-S-2'-20230322 (880-26268-4) and SB-3-S-0.5'-20230322 (880-26268-5)

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

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-1-S-0.5'-20230322

Lab Sample ID: 880-26268-1
Matrix: Solid

Date Collected: 03/22/23 12:00
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		03/30/23 12:57	04/01/23 05:41	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		03/30/23 12:57	04/01/23 05:41	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		03/30/23 12:57	04/01/23 05:41	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		03/30/23 12:57	04/01/23 05:41	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		03/30/23 12:57	04/01/23 05:41	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		03/30/23 12:57	04/01/23 05:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*03/30/23 12:57*	*04/01/23 05:41*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/30/23 12:57*	*04/01/23 05:41*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**101**		50.0	15.0	mg/Kg			03/30/23 12:56	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	**18.4**	**J**	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:03	1
Diesel Range Organics (Over C10-C28)	**82.9**		50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:03	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/28/23 17:17*	*03/29/23 13:03*	*1*
o-Terphenyl	*95*		*70 - 130*	*03/28/23 17:17*	*03/29/23 13:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2240**		25.1	1.98	mg/Kg			04/04/23 21:38	5

Client Sample ID: SB-1-S-2'-20230322

Lab Sample ID: 880-26268-2
Matrix: Solid

Date Collected: 03/22/23 12:10
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00765	U	0.0398	0.00765	mg/Kg		03/30/23 12:57	04/01/23 08:45	20
Toluene	**0.0146**	**J**	0.0398	0.00907	mg/Kg		03/30/23 12:57	04/01/23 08:45	20
Ethylbenzene	<0.0112	U	0.0398	0.0112	mg/Kg		03/30/23 12:57	04/01/23 08:45	20
m-Xylene & p-Xylene	<0.0201	U	0.0795	0.0201	mg/Kg		03/30/23 12:57	04/01/23 08:45	20
o-Xylene	**0.00711**	**J**	0.0398	0.00684	mg/Kg		03/30/23 12:57	04/01/23 08:45	20
Xylenes, Total	<0.0201	U	0.0795	0.0201	mg/Kg		03/30/23 12:57	04/01/23 08:45	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*03/30/23 12:57*	*04/01/23 08:45*	*20*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*03/30/23 12:57*	*04/01/23 08:45*	*20*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**56.3**		50.0	15.0	mg/Kg			03/30/23 12:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-1-S-2'-20230322

Lab Sample ID: 880-26268-2
Matrix: Solid

Date Collected: 03/22/23 12:10
Date Received: 03/23/23 08:20

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	17.2	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:28	1
Diesel Range Organics (Over C10-C28)	39.1	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:28	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/28/23 17:17*	*03/29/23 14:28*	*1*
o-Terphenyl	*98*		*70 - 130*	*03/28/23 17:17*	*03/29/23 14:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2540		25.2	1.99	mg/Kg			04/04/23 21:43	5

Client Sample ID: SB-2-S-0.5'-20230322

Lab Sample ID: 880-26268-3
Matrix: Solid

Date Collected: 03/22/23 10:25
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		03/30/23 12:57	04/01/23 06:01	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		03/30/23 12:57	04/01/23 06:01	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		03/30/23 12:57	04/01/23 06:01	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		03/30/23 12:57	04/01/23 06:01	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		03/30/23 12:57	04/01/23 06:01	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		03/30/23 12:57	04/01/23 06:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/30/23 12:57*	*04/01/23 06:01*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/30/23 12:57*	*04/01/23 06:01*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	104		49.9	15.0	mg/Kg			03/30/23 12:56	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	21.2	J	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:24	1
Diesel Range Organics (Over C10-C28)	82.9		49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:24	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/28/23 17:17*	*03/29/23 13:24*	*1*
o-Terphenyl	*96*		*70 - 130*	*03/28/23 17:17*	*03/29/23 13:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2210		25.2	1.99	mg/Kg			04/04/23 21:47	5

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-2-S-2'-20230322

Lab Sample ID: 880-26268-4
Matrix: Solid

Date Collected: 03/22/23 10:50
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		03/30/23 12:57	04/01/23 06:22	1
Toluene	**0.000493**	**J**	0.00201	0.000459	mg/Kg		03/30/23 12:57	04/01/23 06:22	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		03/30/23 12:57	04/01/23 06:22	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		03/30/23 12:57	04/01/23 06:22	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		03/30/23 12:57	04/01/23 06:22	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		03/30/23 12:57	04/01/23 06:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*03/30/23 12:57*	*04/01/23 06:22*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/30/23 12:57*	*04/01/23 06:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**58.2**		49.9	15.0	mg/Kg			03/30/23 12:56	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	**23.3**	**J**	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:45	1
Diesel Range Organics (Over C10-C28)	**34.9**	**J**	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:45	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/28/23 17:17*	*03/29/23 13:45*	*1*
o-Terphenyl	*96*		*70 - 130*	*03/28/23 17:17*	*03/29/23 13:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2610**		25.0	1.97	mg/Kg			04/04/23 21:52	5

Client Sample ID: SB-3-S-0.5'-20230322

Lab Sample ID: 880-26268-5
Matrix: Solid

Date Collected: 03/22/23 11:33
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		03/30/23 12:57	04/01/23 06:42	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		03/30/23 12:57	04/01/23 06:42	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		03/30/23 12:57	04/01/23 06:42	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		03/30/23 12:57	04/01/23 06:42	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		03/30/23 12:57	04/01/23 06:42	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		03/30/23 12:57	04/01/23 06:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/30/23 12:57*	*04/01/23 06:42*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/30/23 12:57*	*04/01/23 06:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**66.9**		50.0	15.0	mg/Kg			03/30/23 12:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-3-S-0.5'-20230322

Lab Sample ID: 880-26268-5
Matrix: Solid

Date Collected: 03/22/23 11:33
Date Received: 03/23/23 08:20

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	19.5	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:07	1
Diesel Range Organics (Over C10-C28)	47.4	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:07	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/28/23 17:17*	*03/29/23 14:07*	*1*
o-Terphenyl	*97*		*70 - 130*	*03/28/23 17:17*	*03/29/23 14:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	137		4.98	0.393	mg/Kg			04/04/23 21:57	1

Client Sample ID: SB-3-S-2'-20230322

Lab Sample ID: 880-26268-6
Matrix: Solid

Date Collected: 03/22/23 11:50
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		03/30/23 12:57	04/01/23 07:03	1
Toluene	0.000608	J	0.00199	0.000453	mg/Kg		03/30/23 12:57	04/01/23 07:03	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		03/30/23 12:57	04/01/23 07:03	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		03/30/23 12:57	04/01/23 07:03	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		03/30/23 12:57	04/01/23 07:03	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		03/30/23 12:57	04/01/23 07:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*03/30/23 12:57*	*04/01/23 07:03*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*03/30/23 12:57*	*04/01/23 07:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	77.1		49.9	15.0	mg/Kg			03/30/23 12:56	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	21.8	J	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 12:41	1
Diesel Range Organics (Over C10-C28)	55.3		49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 12:41	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 12:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*03/28/23 17:17*	*03/29/23 12:41*	*1*
o-Terphenyl	*80*		*70 - 130*	*03/28/23 17:17*	*03/29/23 12:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	121		5.02	0.397	mg/Kg			04/04/23 22:02	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-4-S-0.5'-20230322

Lab Sample ID: 880-26268-7
Matrix: Solid

Date Collected: 03/22/23 09:55
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		03/30/23 12:57	04/01/23 07:23	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		03/30/23 12:57	04/01/23 07:23	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		03/30/23 12:57	04/01/23 07:23	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		03/30/23 12:57	04/01/23 07:23	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		03/30/23 12:57	04/01/23 07:23	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		03/30/23 12:57	04/01/23 07:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*03/30/23 12:57*	*04/01/23 07:23*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*03/30/23 12:57*	*04/01/23 07:23*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**45.2**	**J**	49.9	15.0	mg/Kg			03/30/23 12:56	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	**21.0**	**J**	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:49	1
Diesel Range Organics (Over C10-C28)	**24.2**	**J**	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:49	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*03/28/23 17:17*	*03/29/23 14:49*	*1*
o-Terphenyl	*103*		*70 - 130*	*03/28/23 17:17*	*03/29/23 14:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		5.00	0.395	mg/Kg			04/04/23 22:16	1

Client Sample ID: SB-4-S-2'-20230322

Lab Sample ID: 880-26268-8
Matrix: Solid

Date Collected: 03/22/23 10:10
Date Received: 03/23/23 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		03/30/23 12:57	04/01/23 07:44	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		03/30/23 12:57	04/01/23 07:44	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		03/30/23 12:57	04/01/23 07:44	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		03/30/23 12:57	04/01/23 07:44	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		03/30/23 12:57	04/01/23 07:44	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		03/30/23 12:57	04/01/23 07:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/30/23 12:57*	*04/01/23 07:44*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*03/30/23 12:57*	*04/01/23 07:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**44.8**	**J**	50.0	15.0	mg/Kg			03/30/23 12:56	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-4-S-2'-20230322

Lab Sample ID: 880-26268-8

Date Collected: 03/22/23 10:10
Matrix: Solid
Date Received: 03/23/23 08:20

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	22.8	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 15:10	1
Diesel Range Organics (Over C10-C28)	22.0	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 15:10	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*03/28/23 17:17*	*03/29/23 15:10*	*1*
o-Terphenyl	*105*		*70 - 130*	*03/28/23 17:17*	*03/29/23 15:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	354		4.97	0.393	mg/Kg			04/04/23 22:21	1

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Method: 8021B - Volatile Organic Compounds (GC)

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

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-26268-1	SB-1-S-0.5'-20230322	95	105
880-26268-2	SB-1-S-2'-20230322	90	99
880-26268-3	SB-2-S-0.5'-20230322	104	105
880-26268-4	SB-2-S-2'-20230322	106	105
880-26268-5	SB-3-S-0.5'-20230322	104	105
880-26268-6	SB-3-S-2'-20230322	101	107
880-26268-7	SB-4-S-0.5'-20230322	101	104
880-26268-8	SB-4-S-2'-20230322	97	104
LCS 880-49940/1-A	Lab Control Sample	99	109
LCSD 880-49940/2-A	Lab Control Sample Dup	98	107
MB 880-49940/5-A	Method Blank	94	101
MB 880-50015/8	Method Blank	89	104

Percent Surrogate Recovery (Acceptance Limits)

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**

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-26268-1	SB-1-S-0.5'-20230322	99	95
880-26268-2	SB-1-S-2'-20230322	99	98
880-26268-3	SB-2-S-0.5'-20230322	99	96
880-26268-4	SB-2-S-2'-20230322	99	96
880-26268-5	SB-3-S-0.5'-20230322	99	97
880-26268-6	SB-3-S-2'-20230322	92	80
880-26268-7	SB-4-S-0.5'-20230322	104	103
880-26268-8	SB-4-S-2'-20230322	109	105
LCS 880-49771/2-A	Lab Control Sample	123	115
LCSD 880-49771/3-A	Lab Control Sample Dup	118	113
MB 880-49771/1-A	Method Blank	132 S1+	119

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49940/5-A
Matrix: Solid
Analysis Batch: 50015

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		03/30/23 12:57	04/01/23 00:19	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		03/30/23 12:57	04/01/23 00:19	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		03/30/23 12:57	04/01/23 00:19	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		03/30/23 12:57	04/01/23 00:19	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		03/30/23 12:57	04/01/23 00:19	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		03/30/23 12:57	04/01/23 00:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*03/30/23 12:57*	*04/01/23 00:19*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*03/30/23 12:57*	*04/01/23 00:19*	*1*

Lab Sample ID: LCS 880-49940/1-A
Matrix: Solid
Analysis Batch: 50015

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49940

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09687		mg/Kg		96	70 - 130
Toluene	0.101	0.09476		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.08711		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	0.201	0.1728		mg/Kg		86	70 - 130
o-Xylene	0.101	0.08770		mg/Kg		87	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: LCSD 880-49940/2-A
Matrix: Solid
Analysis Batch: 50015

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49940

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1056		mg/Kg		105	70 - 130	9	35
Toluene	0.101	0.1031		mg/Kg		103	70 - 130	8	35
Ethylbenzene	0.100	0.09544		mg/Kg		95	70 - 130	9	35
m-Xylene & p-Xylene	0.201	0.1882		mg/Kg		94	70 - 130	9	35
o-Xylene	0.101	0.09492		mg/Kg		94	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: MB 880-50015/8
Matrix: Solid
Analysis Batch: 50015

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg			03/31/23 12:43	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg			03/31/23 12:43	1

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

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

Lab Sample ID: MB 880-50015/8
Matrix: Solid
Analysis Batch: 50015

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg			03/31/23 12:43	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg			03/31/23 12:43	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg			03/31/23 12:43	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg			03/31/23 12:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*03/31/23 12:43*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*03/31/23 12:43*	*1*

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

Lab Sample ID: MB 880-49771/1-A
Matrix: Solid
Analysis Batch: 49783

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49771

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		03/28/23 17:17	03/29/23 08:47	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 08:47	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 08:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*03/28/23 17:17*	*03/29/23 08:47*	*1*
o-Terphenyl	*119*		*70 - 130*	*03/28/23 17:17*	*03/29/23 08:47*	*1*

Lab Sample ID: LCS 880-49771/2-A
Matrix: Solid
Analysis Batch: 49783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49771

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	846.1		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	801.6		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*123*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: LCSD 880-49771/3-A
Matrix: Solid
Analysis Batch: 49783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49771

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	820.0		mg/Kg		82	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	833.0		mg/Kg		83	70 - 130	4	20

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

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

Lab Sample ID: LCSD 880-49771/3-A
Matrix: Solid
Analysis Batch: 49783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49771

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	113		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50160/1-A
Matrix: Solid
Analysis Batch: 50338

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			04/04/23 20:40	1

Lab Sample ID: LCS 880-50160/2-A
Matrix: Solid
Analysis Batch: 50338

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.5		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-50160/3-A
Matrix: Solid
Analysis Batch: 50338

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	259.3		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 880-26268-6 MS
Matrix: Solid
Analysis Batch: 50338

Client Sample ID: SB-3-S-2'-20230322
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	121		251	380.5		mg/Kg		103	90 - 110		

Lab Sample ID: 880-26268-6 MSD
Matrix: Solid
Analysis Batch: 50338

Client Sample ID: SB-3-S-2'-20230322
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	121		251	380.9		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

GC VOA

Prep Batch: 49940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-1	SB-1-S-0.5'-20230322	Total/NA	Solid	5030B	
880-26268-2	SB-1-S-2'-20230322	Total/NA	Solid	5030B	
880-26268-3	SB-2-S-0.5'-20230322	Total/NA	Solid	5030B	
880-26268-4	SB-2-S-2'-20230322	Total/NA	Solid	5030B	
880-26268-5	SB-3-S-0.5'-20230322	Total/NA	Solid	5030B	
880-26268-6	SB-3-S-2'-20230322	Total/NA	Solid	5030B	
880-26268-7	SB-4-S-0.5'-20230322	Total/NA	Solid	5030B	
880-26268-8	SB-4-S-2'-20230322	Total/NA	Solid	5030B	
MB 880-49940/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-49940/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-49940/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 50015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8021B	49940
880-26268-2	SB-1-S-2'-20230322	Total/NA	Solid	8021B	49940
880-26268-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8021B	49940
880-26268-4	SB-2-S-2'-20230322	Total/NA	Solid	8021B	49940
880-26268-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8021B	49940
880-26268-6	SB-3-S-2'-20230322	Total/NA	Solid	8021B	49940
880-26268-7	SB-4-S-0.5'-20230322	Total/NA	Solid	8021B	49940
880-26268-8	SB-4-S-2'-20230322	Total/NA	Solid	8021B	49940
MB 880-49940/5-A	Method Blank	Total/NA	Solid	8021B	49940
MB 880-50015/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-49940/1-A	Lab Control Sample	Total/NA	Solid	8021B	49940
LCSD 880-49940/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49940

GC Semi VOA

Prep Batch: 49771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8015NM Prep	
880-26268-2	SB-1-S-2'-20230322	Total/NA	Solid	8015NM Prep	
880-26268-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8015NM Prep	
880-26268-4	SB-2-S-2'-20230322	Total/NA	Solid	8015NM Prep	
880-26268-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8015NM Prep	
880-26268-6	SB-3-S-2'-20230322	Total/NA	Solid	8015NM Prep	
880-26268-7	SB-4-S-0.5'-20230322	Total/NA	Solid	8015NM Prep	
880-26268-8	SB-4-S-2'-20230322	Total/NA	Solid	8015NM Prep	
MB 880-49771/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49771/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49771/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8015B NM	49771
880-26268-2	SB-1-S-2'-20230322	Total/NA	Solid	8015B NM	49771
880-26268-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8015B NM	49771
880-26268-4	SB-2-S-2'-20230322	Total/NA	Solid	8015B NM	49771
880-26268-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8015B NM	49771
880-26268-6	SB-3-S-2'-20230322	Total/NA	Solid	8015B NM	49771

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

GC Semi VOA (Continued)

Analysis Batch: 49783 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-7	SB-4-S-0.5'-20230322	Total/NA	Solid	8015B NM	49771
880-26268-8	SB-4-S-2'-20230322	Total/NA	Solid	8015B NM	49771
MB 880-49771/1-A	Method Blank	Total/NA	Solid	8015B NM	49771
LCS 880-49771/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49771
LCSD 880-49771/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49771

Analysis Batch: 49936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8015 NM	
880-26268-2	SB-1-S-2'-20230322	Total/NA	Solid	8015 NM	
880-26268-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8015 NM	
880-26268-4	SB-2-S-2'-20230322	Total/NA	Solid	8015 NM	
880-26268-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8015 NM	
880-26268-6	SB-3-S-2'-20230322	Total/NA	Solid	8015 NM	
880-26268-7	SB-4-S-0.5'-20230322	Total/NA	Solid	8015 NM	
880-26268-8	SB-4-S-2'-20230322	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-1	SB-1-S-0.5'-20230322	Soluble	Solid	DI Leach	
880-26268-2	SB-1-S-2'-20230322	Soluble	Solid	DI Leach	
880-26268-3	SB-2-S-0.5'-20230322	Soluble	Solid	DI Leach	
880-26268-4	SB-2-S-2'-20230322	Soluble	Solid	DI Leach	
880-26268-5	SB-3-S-0.5'-20230322	Soluble	Solid	DI Leach	
880-26268-6	SB-3-S-2'-20230322	Soluble	Solid	DI Leach	
880-26268-7	SB-4-S-0.5'-20230322	Soluble	Solid	DI Leach	
880-26268-8	SB-4-S-2'-20230322	Soluble	Solid	DI Leach	
MB 880-50160/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50160/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50160/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-26268-6 MS	SB-3-S-2'-20230322	Soluble	Solid	DI Leach	
880-26268-6 MSD	SB-3-S-2'-20230322	Soluble	Solid	DI Leach	

Analysis Batch: 50338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26268-1	SB-1-S-0.5'-20230322	Soluble	Solid	300.0	50160
880-26268-2	SB-1-S-2'-20230322	Soluble	Solid	300.0	50160
880-26268-3	SB-2-S-0.5'-20230322	Soluble	Solid	300.0	50160
880-26268-4	SB-2-S-2'-20230322	Soluble	Solid	300.0	50160
880-26268-5	SB-3-S-0.5'-20230322	Soluble	Solid	300.0	50160
880-26268-6	SB-3-S-2'-20230322	Soluble	Solid	300.0	50160
880-26268-7	SB-4-S-0.5'-20230322	Soluble	Solid	300.0	50160
880-26268-8	SB-4-S-2'-20230322	Soluble	Solid	300.0	50160
MB 880-50160/1-A	Method Blank	Soluble	Solid	300.0	50160
LCS 880-50160/2-A	Lab Control Sample	Soluble	Solid	300.0	50160
LCSD 880-50160/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50160
880-26268-6 MS	SB-3-S-2'-20230322	Soluble	Solid	300.0	50160
880-26268-6 MSD	SB-3-S-2'-20230322	Soluble	Solid	300.0	50160

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-1-S-0.5'-20230322
Lab Sample ID: 880-26268-1

Date Collected: 03/22/23 12:00
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50015	04/01/23 05:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 13:03	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50338	04/04/23 21:38	SMC	EET MID

Client Sample ID: SB-1-S-2'-20230322
Lab Sample ID: 880-26268-2

Date Collected: 03/22/23 12:10
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	50015	04/01/23 08:45	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 14:28	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50338	04/04/23 21:43	SMC	EET MID

Client Sample ID: SB-2-S-0.5'-20230322
Lab Sample ID: 880-26268-3

Date Collected: 03/22/23 10:25
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50015	04/01/23 06:01	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 13:24	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50338	04/04/23 21:47	SMC	EET MID

Client Sample ID: SB-2-S-2'-20230322
Lab Sample ID: 880-26268-4

Date Collected: 03/22/23 10:50
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50015	04/01/23 06:22	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 13:45	SM	EET MID

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-2-S-2'-20230322
Lab Sample ID: 880-26268-4
Date Collected: 03/22/23 10:50
Matrix: Solid
Date Received: 03/23/23 08:20

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	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50338	04/04/23 21:52	SMC	EET MID

Client Sample ID: SB-3-S-0.5'-20230322
Lab Sample ID: 880-26268-5
Date Collected: 03/22/23 11:33
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.95 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50015	04/01/23 06:42	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 14:07	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 21:57	SMC	EET MID

Client Sample ID: SB-3-S-2'-20230322
Lab Sample ID: 880-26268-6
Date Collected: 03/22/23 11:50
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50015	04/01/23 07:03	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 12:41	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 22:02	SMC	EET MID

Client Sample ID: SB-4-S-0.5'-20230322
Lab Sample ID: 880-26268-7
Date Collected: 03/22/23 09:55
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50015	04/01/23 07:23	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 14:49	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 22:16	SMC	EET MID

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Client Sample ID: SB-4-S-2'-20230322

Lab Sample ID: 880-26268-8

Date Collected: 03/22/23 10:10
Matrix: Solid
Date Received: 03/23/23 08:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	5 mL	49940	03/30/23 12:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50015	04/01/23 07:44	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49936	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 15:10	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 22:21	SMC	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Job ID: 880-26268-1
Project/Site: Lovington Field Assessment
SDG: WLU Water Inj Station

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5030B	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: ARCADIS U.S. Inc
Project/Site: Lovington Field Assessment

Job ID: 880-26268-1
SDG: WLU Water Inj Station

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-26268-1	SB-1-S-0.5'-20230322	Solid	03/22/23 12:00	03/23/23 08:20
880-26268-2	SB-1-S-2'-20230322	Solid	03/22/23 12:10	03/23/23 08:20
880-26268-3	SB-2-S-0.5'-20230322	Solid	03/22/23 10:25	03/23/23 08:20
880-26268-4	SB-2-S-2'-20230322	Solid	03/22/23 10:50	03/23/23 08:20
880-26268-5	SB-3-S-0.5'-20230322	Solid	03/22/23 11:33	03/23/23 08:20
880-26268-6	SB-3-S-2'-20230322	Solid	03/22/23 11:50	03/23/23 08:20
880-26268-7	SB-4-S-0.5'-20230322	Solid	03/22/23 09:55	03/23/23 08:20
880-26268-8	SB-4-S-2'-20230322	Solid	03/22/23 10:10	03/23/23 08:20

Eurofins Midland
1211 W Florida Ave
Midland, TX 79701
Phone (432) 704-5440

Chain of Custody Record

262268

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4/5/2023

Client Information	Sampler: Daniel Mibes	Lab PM: Builes John	Carrier Tracking No(s):	COC No.: 880-5477-716 1
Client Contact: Douglas Jordan	Phone: 432-999-2988	E-Mail: John Builes@et eurofinsus com	State of Origin: NM	Page: Page ~~1 of 2~~ 1 of 1
Company: ARCADIS U S Inc	PWSID:			Job #:
Address: 10205 Westheimer Rd Suite 800	Due Date Requested:			
City: Houston	TAT Requested (days): Standard			
State Zip: TX, 77042	Compliance Project: Δ Yes Δ No			
Phone: 713-953-4739(Tel)	PO #: PN 30172230 -0002 C			
Email: douglas jordan@arcadis.com	WO #:			
Project Name: Lovington WLU Water Inj Station	Project #: 88001697			
Site	SSOW#:			

Analysis Requested

880-26268 Chain of Custody

Preservation Codes: F Ice; J - DI Water; K - EDTA; L EDA; 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, 8015MOD_NM, 8021B	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
SB-1-5-0.5'-20230322	3-22-23	1205	G	Solid			X	1	402
SB-1-5-2'-20230322		1210		Solid			X	1	
SB-2-5-0.5-20230322		1025		Solid			X	1	
SB-2-5-2'-20230322		1050		Solid			X	1	
SB-3-5-0.5-20230322		1130		Solid			X	1	
SB-3-5-2'-20230322		1150		Solid			X	1	
SB-4-5-0.5-20230322		0955		Solid			X	1	
SB-4-5-2'-20230322	3-22-23	1010	G	Solid			X	1	
				~~Solid~~					
				Solid 3-22-23					
				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)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	3-23-23/0820	Arcadis		3/23/23 0820	
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: 0.6 | 0.3 | -0.3

Ver: 01/16/2019

Received by OCD: 7/23/2024 9:19:52 AM

Released to Imaging: 7/25/2024 2:27:38 PM

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 880-26268-1
SDG Number: WLU Water Inj Station

Login Number: 26268
List Number: 1
Creator: Teel, Brianna

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	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Morgan Jordan
ARCADIS US Inc
1004 North Big Spring
Suite 300
Midland, Texas 79701

Generated 2/14/2024 10:43:34 AM Revision 1

JOB DESCRIPTION

WLU Water Injection Station
Lovington, NM

JOB NUMBER

880-38324-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

Released to Imaging: 7/23/2024 2:27:56 PM

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

Generated
2/14/2024 10:43:34 AM
Revision 1

Authorized for release by
John Builes, Project Manager
John.Builes@et.eurofinsus.com
(561)558-4549

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Definitions/Glossary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

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, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
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: ARCADIS US Inc
Project: WLU Water Injection Station

Job ID: 880-38324-1

Job ID: 880-38324-1 Eurofins Midland

Job Narrative
880-38324-1

REVISION

The report being provided is a revision of the original report sent on 2/5/2024. The report (revision 1) is being revised due to Revised report to add additional analysis.

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 1/23/2024 1:05 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 1.5°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SB-5-S-1'-240118 (880-38324-1), SB-5-S-2'-240118 (880-38324-2), SB-5-S-4'-240118 (880-38324-3), SB-6-S-1'-240118 (880-38324-4), SB-6-S-2'-240118 (880-38324-5), SB-6-S-4'-240118 (880-38324-6), SB-7-S-1'-240118 (880-38324-7), SB-7-S-2'-240118 (880-38324-8), SB-7-S-4'-240118 (880-38324-9), SB-8-S-1'-240118 (880-38324-10), SB-8-S-2'-240118 (880-38324-11), SB-8-S-4'-240118 (880-38324-12), SB-9-S-1'-240118 (880-38324-13), SB-9-S-2'-240118 (880-38324-14), SB-9-S-3'-240118 (880-38324-15), SB-10-S-1'-240118 (880-38324-16), SB-10-S-2'-240118 (880-38324-17), SB-10-S-4'-240118 (880-38324-18), SB-11-S-1'-240118 (880-38324-19), SB-11-S-2'-240118 (880-38324-20) and SB-11-S-4.5'-240118 (880-38324-21).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: SB-10-S-2'-240118 (880-38324-17). 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
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-71570 and analytical batch 880-71727 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SB-5-S-1'-240118 (880-38324-1), SB-5-S-2'-240118 (880-38324-2), SB-6-S-2'-240118 (880-38324-5), SB-7-S-1'-240118 (880-38324-7), SB-7-S-2'-240118 (880-38324-8), SB-8-S-2'-240118 (880-38324-11), SB-9-S-2'-240118 (880-38324-14) and (880-38323-A-2-B). 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: SB-10-S-2'-240118 (880-38324-17), SB-11-S-1'-240118 (880-38324-19) and SB-11-S-2'-240118 (880-38324-20). 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 880-71570 and analytical batch 880-71727 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 RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-71570 and analytical batch 880-71727 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Case Narrative

Client: ARCADIS US Inc
Project: WLU Water Injection Station

Job ID: 880-38324-1

Job ID: 880-38324-1 (Continued)

Eurofins Midland

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 880-73009 and analytical batch 880-73035 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.

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-5-S-1'-240118

Lab Sample ID: 880-38324-1
Date Collected: 01/18/24 10:00
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		01/26/24 11:33	01/31/24 14:42	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		01/26/24 11:33	01/31/24 14:42	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		01/26/24 11:33	01/31/24 14:42	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		01/26/24 11:33	01/31/24 14:42	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		01/26/24 11:33	01/31/24 14:42	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		01/26/24 11:33	01/31/24 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*01/26/24 11:33*	*01/31/24 14:42*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*01/26/24 11:33*	*01/31/24 14:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			01/31/24 14:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**137**		50.5	15.2	mg/Kg			01/27/24 12:51	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	**33.4**	**J *1**	50.5	15.2	mg/Kg		01/25/24 09:22	01/27/24 12:51	1
Diesel Range Organics (Over C10-C28)	**104**	**B**	50.5	15.2	mg/Kg		01/25/24 09:22	01/27/24 12:51	1
Oil Range Organics (Over C28-C36)	<15.2	U	50.5	15.2	mg/Kg		01/25/24 09:22	01/27/24 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 12:51*	*1*
o-Terphenyl	*116*		*70 - 130*	*01/25/24 09:22*	*01/27/24 12:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**485**	**F1**	5.03	0.397	mg/Kg			02/13/24 11:30	1

Client Sample ID: SB-5-S-2'-240118

Lab Sample ID: 880-38324-2
Date Collected: 01/18/24 10:10
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		01/26/24 11:33	01/31/24 15:03	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		01/26/24 11:33	01/31/24 15:03	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		01/26/24 11:33	01/31/24 15:03	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		01/26/24 11:33	01/31/24 15:03	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		01/26/24 11:33	01/31/24 15:03	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		01/26/24 11:33	01/31/24 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*01/26/24 11:33*	*01/31/24 15:03*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*01/26/24 11:33*	*01/31/24 15:03*	*1*

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-5-S-2'-240118
Lab Sample ID: 880-38324-2
Date Collected: 01/18/24 10:10
Matrix: Solid
Date Received: 01/23/24 13:05

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00404	0.00102	mg/Kg			01/31/24 15:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**77.3**		50.5	15.1	mg/Kg			01/27/24 13:13	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	**32.4**	**J *1**	50.5	15.1	mg/Kg		01/25/24 09:22	01/27/24 13:13	1
Diesel Range Organics (Over C10-C28)	**44.9**	**J B**	50.5	15.1	mg/Kg		01/25/24 09:22	01/27/24 13:13	1
Oil Range Organics (Over C28-C36)	<15.1	U	50.5	15.1	mg/Kg		01/25/24 09:22	01/27/24 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 13:13*	*1*
o-Terphenyl	*117*		*70 - 130*	*01/25/24 09:22*	*01/27/24 13:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1660**		25.3	1.99	mg/Kg			02/13/24 11:50	5

Client Sample ID: SB-5-S-4'-240118
Lab Sample ID: 880-38324-3
Date Collected: 01/18/24 10:20
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2090**		25.2	1.99	mg/Kg			02/02/24 13:53	5

Client Sample ID: SB-6-S-1'-240118
Lab Sample ID: 880-38324-4
Date Collected: 01/19/24 09:00
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1250**		25.3	1.99	mg/Kg			02/02/24 14:08	5

Client Sample ID: SB-6-S-2'-240118
Lab Sample ID: 880-38324-5
Date Collected: 01/19/24 09:05
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		01/26/24 11:33	01/31/24 16:27	1
Toluene	**0.000524**	**J**	0.00199	0.000454	mg/Kg		01/26/24 11:33	01/31/24 16:27	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		01/26/24 11:33	01/31/24 16:27	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		01/26/24 11:33	01/31/24 16:27	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		01/26/24 11:33	01/31/24 16:27	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		01/26/24 11:33	01/31/24 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*01/26/24 11:33*	*01/31/24 16:27*	*1*

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-6-S-2'-240118
Lab Sample ID: 880-38324-5
Date Collected: 01/19/24 09:05
Matrix: Solid
Date Received: 01/23/24 13:05

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	82		70 - 130	01/26/24 11:33	01/31/24 16:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			01/31/24 16:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**66.1**		49.7	14.9	mg/Kg			01/27/24 13:35	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	**35.8**	**J *1**	49.7	14.9	mg/Kg		01/25/24 09:22	01/27/24 13:35	1
Diesel Range Organics (Over C10-C28)	**30.3**	**J B**	49.7	14.9	mg/Kg		01/25/24 09:22	01/27/24 13:35	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.7	14.9	mg/Kg		01/25/24 09:22	01/27/24 13:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	138	S1+	70 - 130	01/25/24 09:22	01/27/24 13:35	1
o-Terphenyl	110		70 - 130	01/25/24 09:22	01/27/24 13:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3140**		24.9	1.97	mg/Kg			02/13/24 11:57	5

Client Sample ID: SB-6-S-4'-240118
Lab Sample ID: 880-38324-6
Date Collected: 01/19/24 09:10
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2980**		25.3	1.99	mg/Kg			02/02/24 14:13	5

Client Sample ID: SB-7-S-1'-240118
Lab Sample ID: 880-38324-7
Date Collected: 01/19/24 09:20
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		01/26/24 11:33	01/31/24 16:47	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		01/26/24 11:33	01/31/24 16:47	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		01/26/24 11:33	01/31/24 16:47	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		01/26/24 11:33	01/31/24 16:47	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		01/26/24 11:33	01/31/24 16:47	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		01/26/24 11:33	01/31/24 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130	01/26/24 11:33	01/31/24 16:47	1
1,4-Difluorobenzene (Surr)	82		70 - 130	01/26/24 11:33	01/31/24 16:47	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-7-S-1'-240118

Lab Sample ID: 880-38324-7
Date Collected: 01/19/24 09:20
Matrix: Solid
Date Received: 01/23/24 13:05

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			01/31/24 16:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**139**		49.9	15.0	mg/Kg			01/27/24 13:56	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	**36.7**	**J *1**	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 13:56	1
Diesel Range Organics (Over C10-C28)	**102**	**B**	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 13:56	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*143*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 13:56*	*1*
o-Terphenyl	*119*		*70 - 130*	*01/25/24 09:22*	*01/27/24 13:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**496**		25.0	1.97	mg/Kg			02/13/24 12:04	5

Client Sample ID: SB-7-S-2'-240118

Lab Sample ID: 880-38324-8
Date Collected: 01/19/24 09:25
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		01/26/24 11:33	01/31/24 17:08	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		01/26/24 11:33	01/31/24 17:08	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		01/26/24 11:33	01/31/24 17:08	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		01/26/24 11:33	01/31/24 17:08	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		01/26/24 11:33	01/31/24 17:08	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		01/26/24 11:33	01/31/24 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*01/26/24 11:33*	*01/31/24 17:08*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*01/26/24 11:33*	*01/31/24 17:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			01/31/24 17:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**173**		49.8	14.9	mg/Kg			01/27/24 14:18	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	**30.3**	**J *1**	49.8	14.9	mg/Kg		01/25/24 09:22	01/27/24 14:18	1
Diesel Range Organics (Over C10-C28)	**143**	**B**	49.8	14.9	mg/Kg		01/25/24 09:22	01/27/24 14:18	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-7-S-2'-240118
Lab Sample ID: 880-38324-8
Date Collected: 01/19/24 09:25
Matrix: Solid
Date Received: 01/23/24 13:05

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)	<14.9	U	49.8	14.9	mg/Kg		01/25/24 09:22	01/27/24 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 14:18*	*1*
o-Terphenyl	*113*		*70 - 130*	*01/25/24 09:22*	*01/27/24 14:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**166**		4.97	0.393	mg/Kg			02/13/24 12:11	1

Client Sample ID: SB-7-S-4'-240118
Lab Sample ID: 880-38324-9
Date Collected: 01/19/24 09:30
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**119**		5.03	0.397	mg/Kg			02/02/24 14:18	1

Client Sample ID: SB-8-S-1'-240118
Lab Sample ID: 880-38324-10
Date Collected: 01/19/24 09:50
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2070**		25.0	1.97	mg/Kg			02/02/24 14:23	5

Client Sample ID: SB-8-S-2'-240118
Lab Sample ID: 880-38324-11
Date Collected: 01/19/24 09:55
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		01/26/24 11:33	01/31/24 17:28	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		01/26/24 11:33	01/31/24 17:28	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		01/26/24 11:33	01/31/24 17:28	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		01/26/24 11:33	01/31/24 17:28	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		01/26/24 11:33	01/31/24 17:28	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		01/26/24 11:33	01/31/24 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*01/26/24 11:33*	*01/31/24 17:28*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*01/26/24 11:33*	*01/31/24 17:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			01/31/24 17:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**116**		50.2	15.0	mg/Kg			01/27/24 14:40	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-8-S-2'-240118
Lab Sample ID: 880-38324-11
Date Collected: 01/19/24 09:55
Matrix: Solid
Date Received: 01/23/24 13:05

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	41.8	J *1	50.2	15.0	mg/Kg		01/25/24 09:22	01/27/24 14:40	1
Diesel Range Organics (Over C10-C28)	74.2	B	50.2	15.0	mg/Kg		01/25/24 09:22	01/27/24 14:40	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.2	15.0	mg/Kg		01/25/24 09:22	01/27/24 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 14:40*	*1*
o-Terphenyl	*109*		*70 - 130*	*01/25/24 09:22*	*01/27/24 14:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2620		25.1	1.98	mg/Kg			02/13/24 12:31	5

Client Sample ID: SB-8-S-4'-240118
Lab Sample ID: 880-38324-12
Date Collected: 01/19/24 10:00
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2130		24.9	1.96	mg/Kg			02/02/24 14:28	5

Client Sample ID: SB-9-S-1'-240118
Lab Sample ID: 880-38324-13
Date Collected: 01/19/24 10:10
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3150		24.8	1.96	mg/Kg			02/02/24 14:33	5

Client Sample ID: SB-9-S-2'-240118
Lab Sample ID: 880-38324-14
Date Collected: 01/19/24 10:15
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		01/26/24 11:33	01/31/24 17:49	1
Toluene	0.000550	J	0.00199	0.000454	mg/Kg		01/26/24 11:33	01/31/24 17:49	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		01/26/24 11:33	01/31/24 17:49	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		01/26/24 11:33	01/31/24 17:49	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		01/26/24 11:33	01/31/24 17:49	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		01/26/24 11:33	01/31/24 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*01/26/24 11:33*	*01/31/24 17:49*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*01/26/24 11:33*	*01/31/24 17:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			01/31/24 17:49	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-9-S-2'-240118
Lab Sample ID: 880-38324-14
Date Collected: 01/19/24 10:15
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	101		50.2	15.0	mg/Kg			01/27/24 15:02	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	45.3	J *1	50.2	15.0	mg/Kg		01/25/24 09:22	01/27/24 15:02	1
Diesel Range Organics (Over C10-C28)	55.6	B	50.2	15.0	mg/Kg		01/25/24 09:22	01/27/24 15:02	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.2	15.0	mg/Kg		01/25/24 09:22	01/27/24 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 15:02*	*1*
o-Terphenyl	*108*		*70 - 130*	*01/25/24 09:22*	*01/27/24 15:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2290		25.1	1.98	mg/Kg			02/13/24 12:38	5

Client Sample ID: SB-9-S-3'-240118
Lab Sample ID: 880-38324-15
Date Collected: 01/19/24 10:20
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1080		5.02	0.397	mg/Kg			02/02/24 14:47	1

Client Sample ID: SB-10-S-1'-240118
Lab Sample ID: 880-38324-16
Date Collected: 01/19/24 10:40
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10800		100	7.92	mg/Kg			02/02/24 14:52	20

Client Sample ID: SB-10-S-2'-240118
Lab Sample ID: 880-38324-17
Date Collected: 01/19/24 10:45
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		01/26/24 11:33	01/31/24 18:09	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		01/26/24 11:33	01/31/24 18:09	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		01/26/24 11:33	01/31/24 18:09	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		01/26/24 11:33	01/31/24 18:09	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		01/26/24 11:33	01/31/24 18:09	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		01/26/24 11:33	01/31/24 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*01/26/24 11:33*	*01/31/24 18:09*	*1*
1,4-Difluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*01/26/24 11:33*	*01/31/24 18:09*	*1*

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-10-S-2'-240118
Lab Sample ID: 880-38324-17
Date Collected: 01/19/24 10:45
Matrix: Solid
Date Received: 01/23/24 13:05

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			01/31/24 18:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**75.6**		50.5	15.2	mg/Kg			01/27/24 15:46	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	**44.3**	**J *1**	50.5	15.2	mg/Kg		01/25/24 09:22	01/27/24 15:46	1
Diesel Range Organics (Over C10-C28)	**31.3**	**J B**	50.5	15.2	mg/Kg		01/25/24 09:22	01/27/24 15:46	1
Oil Range Organics (Over C28-C36)	<15.2	U	50.5	15.2	mg/Kg		01/25/24 09:22	01/27/24 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 15:46*	*1*
o-Terphenyl	*105*		*70 - 130*	*01/25/24 09:22*	*01/27/24 15:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3660**		25.0	1.98	mg/Kg			02/13/24 12:45	5

Client Sample ID: SB-10-S-4'-240118
Lab Sample ID: 880-38324-18
Date Collected: 01/19/24 10:50
Matrix: Solid
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2410**		24.9	1.97	mg/Kg			02/02/24 15:07	5

Client Sample ID: SB-11-S-1'-240118
Lab Sample ID: 880-38324-19
Date Collected: 01/19/24 11:10
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		01/26/24 11:33	01/31/24 18:30	1
Toluene	**0.000479**	**J**	0.00200	0.000455	mg/Kg		01/26/24 11:33	01/31/24 18:30	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		01/26/24 11:33	01/31/24 18:30	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		01/26/24 11:33	01/31/24 18:30	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		01/26/24 11:33	01/31/24 18:30	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		01/26/24 11:33	01/31/24 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*01/26/24 11:33*	*01/31/24 18:30*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*01/26/24 11:33*	*01/31/24 18:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			01/31/24 18:30	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-11-S-1'-240118
Lab Sample ID: 880-38324-19
Date Collected: 01/19/24 11:10
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	91.7		49.9	15.0	mg/Kg			01/27/24 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	40.3	J *1	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 16:08	1
Diesel Range Organics (Over C10-C28)	51.4	B	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 16:08	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 16:08*	*1*
o-Terphenyl	*108*		*70 - 130*	*01/25/24 09:22*	*01/27/24 16:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2130		24.8	1.96	mg/Kg			02/13/24 12:51	5

Client Sample ID: SB-11-S-2'-240118
Lab Sample ID: 880-38324-20
Date Collected: 01/19/24 11:15
Matrix: Solid
Date Received: 01/23/24 13:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		01/26/24 11:33	01/31/24 18:50	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		01/26/24 11:33	01/31/24 18:50	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		01/26/24 11:33	01/31/24 18:50	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		01/26/24 11:33	01/31/24 18:50	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		01/26/24 11:33	01/31/24 18:50	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		01/26/24 11:33	01/31/24 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*01/26/24 11:33*	*01/31/24 18:50*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*01/26/24 11:33*	*01/31/24 18:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			01/31/24 18:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	68.7		49.9	15.0	mg/Kg			01/27/24 16:30	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	38.9	J *1	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 16:30	1
Diesel Range Organics (Over C10-C28)	29.8	J B	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 16:30	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		01/25/24 09:22	01/27/24 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 16:30*	*1*

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-11-S-2'-240118

Lab Sample ID: 880-38324-20
Matrix: Solid

Date Collected: 01/19/24 11:15
Date Received: 01/23/24 13:05

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	107		70 - 130	01/25/24 09:22	01/27/24 16:30	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2970		25.1	1.98	mg/Kg			02/13/24 12:58	5

Client Sample ID: SB-11-S-4.5'-240118

Lab Sample ID: 880-38324-21
Matrix: Solid

Date Collected: 01/19/24 11:20
Date Received: 01/23/24 13:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600		25.0	1.98	mg/Kg			02/02/24 15:12	5

Surrogate Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

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)
880-38324-1	SB-5-S-1'-240118	77	83
880-38324-2	SB-5-S-2'-240118	86	82
880-38324-5	SB-6-S-2'-240118	79	82
880-38324-7	SB-7-S-1'-240118	78	82
880-38324-8	SB-7-S-2'-240118	81	77
880-38324-11	SB-8-S-2'-240118	82	85
880-38324-14	SB-9-S-2'-240118	79	82
880-38324-17	SB-10-S-2'-240118	82	64 S1-
880-38324-19	SB-11-S-1'-240118	81	78
880-38324-20	SB-11-S-2'-240118	82	78
LCS 880-71692/1-A	Lab Control Sample	112	102
LCSD 880-71692/2-A	Lab Control Sample Dup	104	94
MB 880-71692/5-A	Method Blank	79	79

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)
880-38324-1	SB-5-S-1'-240118	148 S1+	116
880-38324-2	SB-5-S-2'-240118	148 S1+	117
880-38324-5	SB-6-S-2'-240118	138 S1+	110
880-38324-7	SB-7-S-1'-240118	143 S1+	119
880-38324-8	SB-7-S-2'-240118	147 S1+	113
880-38324-11	SB-8-S-2'-240118	137 S1+	109
880-38324-14	SB-9-S-2'-240118	135 S1+	108
880-38324-17	SB-10-S-2'-240118	132 S1+	105
880-38324-19	SB-11-S-1'-240118	136 S1+	108
880-38324-20	SB-11-S-2'-240118	133 S1+	107
LCS 880-71570/2-A	Lab Control Sample	86	76
LCSD 880-71570/3-A	Lab Control Sample Dup	95	90
MB 880-71570/1-A	Method Blank	167 S1+	139 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-71692/5-A
Matrix: Solid
Analysis Batch: 72000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		01/26/24 11:33	01/31/24 11:14	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		01/26/24 11:33	01/31/24 11:14	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		01/26/24 11:33	01/31/24 11:14	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		01/26/24 11:33	01/31/24 11:14	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		01/26/24 11:33	01/31/24 11:14	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		01/26/24 11:33	01/31/24 11:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*01/26/24 11:33*	*01/31/24 11:14*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*01/26/24 11:33*	*01/31/24 11:14*	*1*

Lab Sample ID: LCS 880-71692/1-A
Matrix: Solid
Analysis Batch: 72000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 71692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1010		mg/Kg		101	70 - 130
Toluene	0.100	0.09485		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09005		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1985		mg/Kg		99	70 - 130
o-Xylene	0.100	0.1164		mg/Kg		116	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-71692/2-A
Matrix: Solid
Analysis Batch: 72000

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71692

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09042		mg/Kg		90	70 - 130	11	35
Toluene	0.100	0.09201		mg/Kg		92	70 - 130	3	35
Ethylbenzene	0.100	0.09967		mg/Kg		100	70 - 130	10	35
m-Xylene & p-Xylene	0.200	0.2074		mg/Kg		104	70 - 130	4	35
o-Xylene	0.100	0.09905		mg/Kg		99	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

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

Lab Sample ID: MB 880-71570/1-A
Matrix: Solid
Analysis Batch: 71727

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71570

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		01/25/24 09:22	01/27/24 08:06	1
Diesel Range Organics (Over C10-C28)	21.62	J	50.0	15.0	mg/Kg		01/25/24 09:22	01/27/24 08:06	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		01/25/24 09:22	01/27/24 08:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*167*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 08:06*	*1*
o-Terphenyl	*139*	*S1+*	*70 - 130*	*01/25/24 09:22*	*01/27/24 08:06*	*1*

Lab Sample ID: LCS 880-71570/2-A
Matrix: Solid
Analysis Batch: 71727

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 71570

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	921.3		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	1000	916.2		mg/Kg		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*76*		*70 - 130*

Lab Sample ID: LCSD 880-71570/3-A
Matrix: Solid
Analysis Batch: 71727

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71570

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1162	*1	mg/Kg		116	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	1000	920.9		mg/Kg		92	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72189/1-A
Matrix: Solid
Analysis Batch: 72228

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			02/02/24 13:09	1

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-72189/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72228

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	248.5		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-72189/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72228

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	249.2		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 880-38324-13 MS — **Client Sample ID: SB-9-S-1'-240118**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72228

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3150		1240	4438		mg/Kg		104	90 - 110		

Lab Sample ID: 880-38324-13 MSD — **Client Sample ID: SB-9-S-1'-240118**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72228

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3150		1240	4434		mg/Kg		104	90 - 110	0	20

Lab Sample ID: MB 880-73009/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 73035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			02/13/24 11:10	1

Lab Sample ID: LCS 880-73009/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 73035

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.0		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-73009/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 73035

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	248.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-38324-1 MS — **Client Sample ID: SB-5-S-1'-240118**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 73035

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	485	F1	252	673.3	F1	mg/Kg		75	90 - 110		

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-38324-1 MSD
Matrix: Solid
Analysis Batch: 73035

Client Sample ID: SB-5-S-1'-240118
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	485	F1	252	673.8	F1	mg/Kg		75	90 - 110	0	20

QC Association Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

GC VOA

Prep Batch: 71692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Total/NA	Solid	5030B	
880-38324-2	SB-5-S-2'-240118	Total/NA	Solid	5030B	
880-38324-5	SB-6-S-2'-240118	Total/NA	Solid	5030B	
880-38324-7	SB-7-S-1'-240118	Total/NA	Solid	5030B	
880-38324-8	SB-7-S-2'-240118	Total/NA	Solid	5030B	
880-38324-11	SB-8-S-2'-240118	Total/NA	Solid	5030B	
880-38324-14	SB-9-S-2'-240118	Total/NA	Solid	5030B	
880-38324-17	SB-10-S-2'-240118	Total/NA	Solid	5030B	
880-38324-19	SB-11-S-1'-240118	Total/NA	Solid	5030B	
880-38324-20	SB-11-S-2'-240118	Total/NA	Solid	5030B	
MB 880-71692/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-71692/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-71692/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 72000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Total/NA	Solid	8021B	71692
880-38324-2	SB-5-S-2'-240118	Total/NA	Solid	8021B	71692
880-38324-5	SB-6-S-2'-240118	Total/NA	Solid	8021B	71692
880-38324-7	SB-7-S-1'-240118	Total/NA	Solid	8021B	71692
880-38324-8	SB-7-S-2'-240118	Total/NA	Solid	8021B	71692
880-38324-11	SB-8-S-2'-240118	Total/NA	Solid	8021B	71692
880-38324-14	SB-9-S-2'-240118	Total/NA	Solid	8021B	71692
880-38324-17	SB-10-S-2'-240118	Total/NA	Solid	8021B	71692
880-38324-19	SB-11-S-1'-240118	Total/NA	Solid	8021B	71692
880-38324-20	SB-11-S-2'-240118	Total/NA	Solid	8021B	71692
MB 880-71692/5-A	Method Blank	Total/NA	Solid	8021B	71692
LCS 880-71692/1-A	Lab Control Sample	Total/NA	Solid	8021B	71692
LCSD 880-71692/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	71692

Analysis Batch: 72110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Total/NA	Solid	Total BTEX	
880-38324-2	SB-5-S-2'-240118	Total/NA	Solid	Total BTEX	
880-38324-5	SB-6-S-2'-240118	Total/NA	Solid	Total BTEX	
880-38324-7	SB-7-S-1'-240118	Total/NA	Solid	Total BTEX	
880-38324-8	SB-7-S-2'-240118	Total/NA	Solid	Total BTEX	
880-38324-11	SB-8-S-2'-240118	Total/NA	Solid	Total BTEX	
880-38324-14	SB-9-S-2'-240118	Total/NA	Solid	Total BTEX	
880-38324-17	SB-10-S-2'-240118	Total/NA	Solid	Total BTEX	
880-38324-19	SB-11-S-1'-240118	Total/NA	Solid	Total BTEX	
880-38324-20	SB-11-S-2'-240118	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 71570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Total/NA	Solid	8015NM Prep	
880-38324-2	SB-5-S-2'-240118	Total/NA	Solid	8015NM Prep	
880-38324-5	SB-6-S-2'-240118	Total/NA	Solid	8015NM Prep	
880-38324-7	SB-7-S-1'-240118	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

GC Semi VOA (Continued)

Prep Batch: 71570 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-8	SB-7-S-2'-240118	Total/NA	Solid	8015NM Prep	
880-38324-11	SB-8-S-2'-240118	Total/NA	Solid	8015NM Prep	
880-38324-14	SB-9-S-2'-240118	Total/NA	Solid	8015NM Prep	
880-38324-17	SB-10-S-2'-240118	Total/NA	Solid	8015NM Prep	
880-38324-19	SB-11-S-1'-240118	Total/NA	Solid	8015NM Prep	
880-38324-20	SB-11-S-2'-240118	Total/NA	Solid	8015NM Prep	
MB 880-71570/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-71570/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-71570/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 71727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Total/NA	Solid	8015B NM	71570
880-38324-2	SB-5-S-2'-240118	Total/NA	Solid	8015B NM	71570
880-38324-5	SB-6-S-2'-240118	Total/NA	Solid	8015B NM	71570
880-38324-7	SB-7-S-1'-240118	Total/NA	Solid	8015B NM	71570
880-38324-8	SB-7-S-2'-240118	Total/NA	Solid	8015B NM	71570
880-38324-11	SB-8-S-2'-240118	Total/NA	Solid	8015B NM	71570
880-38324-14	SB-9-S-2'-240118	Total/NA	Solid	8015B NM	71570
880-38324-17	SB-10-S-2'-240118	Total/NA	Solid	8015B NM	71570
880-38324-19	SB-11-S-1'-240118	Total/NA	Solid	8015B NM	71570
880-38324-20	SB-11-S-2'-240118	Total/NA	Solid	8015B NM	71570
MB 880-71570/1-A	Method Blank	Total/NA	Solid	8015B NM	71570
LCS 880-71570/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	71570
LCSD 880-71570/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	71570

Analysis Batch: 71919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Total/NA	Solid	8015 NM	
880-38324-2	SB-5-S-2'-240118	Total/NA	Solid	8015 NM	
880-38324-5	SB-6-S-2'-240118	Total/NA	Solid	8015 NM	
880-38324-7	SB-7-S-1'-240118	Total/NA	Solid	8015 NM	
880-38324-8	SB-7-S-2'-240118	Total/NA	Solid	8015 NM	
880-38324-11	SB-8-S-2'-240118	Total/NA	Solid	8015 NM	
880-38324-14	SB-9-S-2'-240118	Total/NA	Solid	8015 NM	
880-38324-17	SB-10-S-2'-240118	Total/NA	Solid	8015 NM	
880-38324-19	SB-11-S-1'-240118	Total/NA	Solid	8015 NM	
880-38324-20	SB-11-S-2'-240118	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 72189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-3	SB-5-S-4'-240118	Soluble	Solid	DI Leach	
880-38324-4	SB-6-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-6	SB-6-S-4'-240118	Soluble	Solid	DI Leach	
880-38324-9	SB-7-S-4'-240118	Soluble	Solid	DI Leach	
880-38324-10	SB-8-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-12	SB-8-S-4'-240118	Soluble	Solid	DI Leach	
880-38324-13	SB-9-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-15	SB-9-S-3'-240118	Soluble	Solid	DI Leach	

QC Association Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

HPLC/IC (Continued)

Leach Batch: 72189 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-16	SB-10-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-18	SB-10-S-4'-240118	Soluble	Solid	DI Leach	
880-38324-21	SB-11-S-4.5'-240118	Soluble	Solid	DI Leach	
MB 880-72189/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72189/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72189/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-38324-13 MS	SB-9-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-13 MSD	SB-9-S-1'-240118	Soluble	Solid	DI Leach	

Analysis Batch: 72228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-3	SB-5-S-4'-240118	Soluble	Solid	300.0	72189
880-38324-4	SB-6-S-1'-240118	Soluble	Solid	300.0	72189
880-38324-6	SB-6-S-4'-240118	Soluble	Solid	300.0	72189
880-38324-9	SB-7-S-4'-240118	Soluble	Solid	300.0	72189
880-38324-10	SB-8-S-1'-240118	Soluble	Solid	300.0	72189
880-38324-12	SB-8-S-4'-240118	Soluble	Solid	300.0	72189
880-38324-13	SB-9-S-1'-240118	Soluble	Solid	300.0	72189
880-38324-15	SB-9-S-3'-240118	Soluble	Solid	300.0	72189
880-38324-16	SB-10-S-1'-240118	Soluble	Solid	300.0	72189
880-38324-18	SB-10-S-4'-240118	Soluble	Solid	300.0	72189
880-38324-21	SB-11-S-4.5'-240118	Soluble	Solid	300.0	72189
MB 880-72189/1-A	Method Blank	Soluble	Solid	300.0	72189
LCS 880-72189/2-A	Lab Control Sample	Soluble	Solid	300.0	72189
LCSD 880-72189/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72189
880-38324-13 MS	SB-9-S-1'-240118	Soluble	Solid	300.0	72189
880-38324-13 MSD	SB-9-S-1'-240118	Soluble	Solid	300.0	72189

Leach Batch: 73009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-2	SB-5-S-2'-240118	Soluble	Solid	DI Leach	
880-38324-5	SB-6-S-2'-240118	Soluble	Solid	DI Leach	
880-38324-7	SB-7-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-8	SB-7-S-2'-240118	Soluble	Solid	DI Leach	
880-38324-11	SB-8-S-2'-240118	Soluble	Solid	DI Leach	
880-38324-14	SB-9-S-2'-240118	Soluble	Solid	DI Leach	
880-38324-17	SB-10-S-2'-240118	Soluble	Solid	DI Leach	
880-38324-19	SB-11-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-20	SB-11-S-2'-240118	Soluble	Solid	DI Leach	
MB 880-73009/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73009/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-73009/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-38324-1 MS	SB-5-S-1'-240118	Soluble	Solid	DI Leach	
880-38324-1 MSD	SB-5-S-1'-240118	Soluble	Solid	DI Leach	

Analysis Batch: 73035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-1	SB-5-S-1'-240118	Soluble	Solid	300.0	73009
880-38324-2	SB-5-S-2'-240118	Soluble	Solid	300.0	73009
880-38324-5	SB-6-S-2'-240118	Soluble	Solid	300.0	73009

QC Association Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

HPLC/IC (Continued)

Analysis Batch: 73035 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38324-7	SB-7-S-1'-240118	Soluble	Solid	300.0	73009
880-38324-8	SB-7-S-2'-240118	Soluble	Solid	300.0	73009
880-38324-11	SB-8-S-2'-240118	Soluble	Solid	300.0	73009
880-38324-14	SB-9-S-2'-240118	Soluble	Solid	300.0	73009
880-38324-17	SB-10-S-2'-240118	Soluble	Solid	300.0	73009
880-38324-19	SB-11-S-1'-240118	Soluble	Solid	300.0	73009
880-38324-20	SB-11-S-2'-240118	Soluble	Solid	300.0	73009
MB 880-73009/1-A	Method Blank	Soluble	Solid	300.0	73009
LCS 880-73009/2-A	Lab Control Sample	Soluble	Solid	300.0	73009
LCSD 880-73009/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73009
880-38324-1 MS	SB-5-S-1'-240118	Soluble	Solid	300.0	73009
880-38324-1 MSD	SB-5-S-1'-240118	Soluble	Solid	300.0	73009

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-5-S-1'-240118
Lab Sample ID: 880-38324-1

Date Collected: 01/18/24 10:00
Matrix: Solid
Date Received: 01/23/24 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 14:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 14:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 12:51	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 12:51	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		1			73035	02/13/24 11:30	CH	EET MID

Client Sample ID: SB-5-S-2'-240118
Lab Sample ID: 880-38324-2

Date Collected: 01/18/24 10:10
Matrix: Solid
Date Received: 01/23/24 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.95 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 15:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 15:03	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 13:13	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 13:13	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 11:50	CH	EET MID

Client Sample ID: SB-5-S-4'-240118
Lab Sample ID: 880-38324-3

Date Collected: 01/18/24 10:20
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 13:53	CH	EET MID

Client Sample ID: SB-6-S-1'-240118
Lab Sample ID: 880-38324-4

Date Collected: 01/19/24 09:00
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 14:08	CH	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-6-S-2'-240118
Lab Sample ID: 880-38324-5

Date Collected: 01/19/24 09:05
Date Received: 01/23/24 13:05
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 16:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 16:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 13:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 13:35	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 11:57	CH	EET MID

Client Sample ID: SB-6-S-4'-240118
Lab Sample ID: 880-38324-6

Date Collected: 01/19/24 09:10
Date Received: 01/23/24 13:05
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			4.95 g	50 mL	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 14:13	CH	EET MID

Client Sample ID: SB-7-S-1'-240118
Lab Sample ID: 880-38324-7

Date Collected: 01/19/24 09:20
Date Received: 01/23/24 13:05
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 16:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 16:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 13:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 13:56	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 12:04	CH	EET MID

Client Sample ID: SB-7-S-2'-240118
Lab Sample ID: 880-38324-8

Date Collected: 01/19/24 09:25
Date Received: 01/23/24 13:05
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 17:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 17:08	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 14:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 14:18	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		1			73035	02/13/24 12:11	CH	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-7-S-4'-240118
Lab Sample ID: 880-38324-9
Date Collected: 01/19/24 09:30
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	72228	02/02/24 14:18	CH	EET MID

Client Sample ID: SB-8-S-1'-240118
Lab Sample ID: 880-38324-10
Date Collected: 01/19/24 09:50
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 14:23	CH	EET MID

Client Sample ID: SB-8-S-2'-240118
Lab Sample ID: 880-38324-11
Date Collected: 01/19/24 09:55
Matrix: Solid
Date Received: 01/23/24 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 17:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 17:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 14:40	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 14:40	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 12:31	CH	EET MID

Client Sample ID: SB-8-S-4'-240118
Lab Sample ID: 880-38324-12
Date Collected: 01/19/24 10:00
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 14:28	CH	EET MID

Client Sample ID: SB-9-S-1'-240118
Lab Sample ID: 880-38324-13
Date Collected: 01/19/24 10:10
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 14:33	CH	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-9-S-2'-240118
Lab Sample ID: 880-38324-14

Date Collected: 01/19/24 10:15
Matrix: Solid
Date Received: 01/23/24 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 17:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 17:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 15:02	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 15:02	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 12:38	CH	EET MID

Client Sample ID: SB-9-S-3'-240118
Lab Sample ID: 880-38324-15

Date Collected: 01/19/24 10:20
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	72228	02/02/24 14:47	CH	EET MID

Client Sample ID: SB-10-S-1'-240118
Lab Sample ID: 880-38324-16

Date Collected: 01/19/24 10:40
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	72228	02/02/24 14:52	CH	EET MID

Client Sample ID: SB-10-S-2'-240118
Lab Sample ID: 880-38324-17

Date Collected: 01/19/24 10:45
Matrix: Solid
Date Received: 01/23/24 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 18:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 18:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 15:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 15:46	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 12:45	CH	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Client Sample ID: SB-10-S-4'-240118
Lab Sample ID: 880-38324-18

Date Collected: 01/19/24 10:50
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 15:07	CH	EET MID

Client Sample ID: SB-11-S-1'-240118
Lab Sample ID: 880-38324-19

Date Collected: 01/19/24 11:10
Matrix: Solid
Date Received: 01/23/24 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 18:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 18:30	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 16:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 16:08	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 12:51	CH	EET MID

Client Sample ID: SB-11-S-2'-240118
Lab Sample ID: 880-38324-20

Date Collected: 01/19/24 11:15
Matrix: Solid
Date Received: 01/23/24 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 g	5 mL	71692	01/26/24 11:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72000	01/31/24 18:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72110	01/31/24 18:50	SM	EET MID
Total/NA	Analysis	8015 NM		1			71919	01/27/24 16:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	71570	01/25/24 09:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71727	01/27/24 16:30	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	73009	02/13/24 09:35	SA	EET MID
Soluble	Analysis	300.0		5			73035	02/13/24 12:58	CH	EET MID

Client Sample ID: SB-11-S-4.5'-240118
Lab Sample ID: 880-38324-21

Date Collected: 01/19/24 11:20
Matrix: Solid
Date Received: 01/23/24 13:05

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	72189	02/02/24 09:16	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	72228	02/02/24 15:12	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5030B	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.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: ARCADIS US Inc
Project/Site: WLU Water Injection Station

Job ID: 880-38324-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-38324-1	SB-5-S-1'-240118	Solid	01/18/24 10:00	01/23/24 13:05
880-38324-2	SB-5-S-2'-240118	Solid	01/18/24 10:10	01/23/24 13:05
880-38324-3	SB-5-S-4'-240118	Solid	01/18/24 10:20	01/23/24 13:05
880-38324-4	SB-6-S-1'-240118	Solid	01/19/24 09:00	01/23/24 13:05
880-38324-5	SB-6-S-2'-240118	Solid	01/19/24 09:05	01/23/24 13:05
880-38324-6	SB-6-S-4'-240118	Solid	01/19/24 09:10	01/23/24 13:05
880-38324-7	SB-7-S-1'-240118	Solid	01/19/24 09:20	01/23/24 13:05
880-38324-8	SB-7-S-2'-240118	Solid	01/19/24 09:25	01/23/24 13:05
880-38324-9	SB-7-S-4'-240118	Solid	01/19/24 09:30	01/23/24 13:05
880-38324-10	SB-8-S-1'-240118	Solid	01/19/24 09:50	01/23/24 13:05
880-38324-11	SB-8-S-2'-240118	Solid	01/19/24 09:55	01/23/24 13:05
880-38324-12	SB-8-S-4'-240118	Solid	01/19/24 10:00	01/23/24 13:05
880-38324-13	SB-9-S-1'-240118	Solid	01/19/24 10:10	01/23/24 13:05
880-38324-14	SB-9-S-2'-240118	Solid	01/19/24 10:15	01/23/24 13:05
880-38324-15	SB-9-S-3'-240118	Solid	01/19/24 10:20	01/23/24 13:05
880-38324-16	SB-10-S-1'-240118	Solid	01/19/24 10:40	01/23/24 13:05
880-38324-17	SB-10-S-2'-240118	Solid	01/19/24 10:45	01/23/24 13:05
880-38324-18	SB-10-S-4'-240118	Solid	01/19/24 10:50	01/23/24 13:05
880-38324-19	SB-11-S-1'-240118	Solid	01/19/24 11:10	01/23/24 13:05
880-38324-20	SB-11-S-2'-240118	Solid	01/19/24 11:15	01/23/24 13:05
880-38324-21	SB-11-S-4.5'-240118	Solid	01/19/24 11:20	01/23/24 13:05

Released to Imaging: 7/25/2024 2:27:38 PM

Received by OCD: 7/23/2024 9:19:52 AM

Eurofins Midland
1211 W Florida Ave
Midland TX 79701
Phone (432) 704-5440

Chain of Custody Record

880-38324 Chain of Custody

Client Information	Sampler: Heath Boyd	Lab PM: Builes John	Carrier Tracking No(
Client Contact: Mr Morgan Jordan	Phone: 575-942-0292	E-Mail: John Builes@et.eurofinsus com	State of Origin: NM
Company: ARCADIS US Inc	PWSID:		Job #:
Address: 1004 North Big Spring Suite 300	Due Date Requested:		
City: Midland	TAT Requested (days): Standard		
State, Zip: TX 79701	Compliance Project: Δ Yes Δ No		
Phone: 281-644-9437(Tel)	PO #: Purchase Order Requested		
Email: douglas jordan@arcadis com	WO #:		
Project Name: WLU Water Injection Station	Project #: ~~88002626~~ 30209634		
Site: Lovington, NM	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~~, 8015MOD_NM, 8021B	300_ORGFM_28D	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N			
SB-5-S-1'-240118	1/18/24	1000	G	Solid			X	X		
SB-5-S-2'-240118		1010		Solid			X	X		
SB-5-S-4'-240118		1020		Solid				X		
SB-6-S-1'-240118	1/19/24	900		Solid				X		
SB-6-S-2'-240119		905		Solid			X	X		
SB-6-S-4'-240119		910		Solid				X		
SB-7-S-1'-240119		920		Solid			X	X		
SB-7-S-2'-240119		925		Solid			X	X		
SB-7-S-4'-240119		930		Solid				X		
SB-8-S-1'-240119		950		Solid				X		
SB-8-S-2'-240119		955		Solid			X	X		

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
[signature]	1/22/24 1555	Arcadis	Mariaul Carrillo	1-22 24 3:55	
			Mariaul Carrillo		
			[signature]	1/23/24 1305	

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		1.3/1.5

Ver: 01/16/2019

Released to Imaging: 7/25/2024 2:27:38 PM

Received by OCD: 7/23/2024 9:19:52 AM

Eurofins Midland
1211 W Florida Ave
Midland TX 79701
Phone (432) 704-5440

Chain of Custody Record

Loc: 880
38324

Environment Testing

63
2 of 2

Client Information			
Client Contact: Mr Morgan Jordan	Sampler: Heath Boyd	Lab PM: Builes, John	Carrier Tracking No(s)
	Phone: 575-390-4618	E-Mail: John Builes@et.eurofinsus com	State of Origin: NM
Company: ARCADIS US Inc	PWSID		
Address: 1004 North Big Spring Suite 300	Due Date Requested		
City: Midland	TAT Requested (days)		
State Zip: TX, 79701	Compliance Project: Δ Yes Δ No		
Phone: 281-644-9437(Tel)	PO #: Purchase Order Requested		
Email: douglas jordan@arcadis com	WO #:		
Project Name: WLU Water Injection Station	Project #: ~~88002020~~ 30209634		
Site: Lovington, NM	SSOW#:		

Job #:

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~~ 8015MOD_NM, 8021B	300_ORGFM_28D	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N			
SB-8-S-4'-240119	1/19/24	1000	G	Solid				X		
SB-9-S-1'-240119		1010		Solid				X		
SB-9-S-2'-240119		1015		Solid			X	X		
SB-9-S-3'-240119		1020		Solid				X		
SB-10-S-1'-240119		1040		Solid				X		
SB-10-S-2'-240119		1045		Solid			X	X		
SB-10-S-4'-240119		1050		Solid				X		
SB-11-S-1'-240119		1110		Solid			X	X		
SB-11-S-2'-240119		1115		Solid			X	X		
SB-11-S-4.5'-240119	X	1120	X	Solid				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)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/22/24 1555	Arcadis	Maricruz Carrillo	1-22-24 3 55	
Relinquished by:	Date/Time:	Company	Received by: Maricruz Carrillo	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 1/23/24 1308	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: ARCADIS US Inc

Job Number: 880-38324-1
SDG Number: Lovington, NM

Login Number: 38324
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: Mr. Morgan Jordan
Arcadis U.S., Inc.
1004 North Big Spring
Suite 300
Midland, Texas 79701

Generated 4/18/2024 1:04:19 PM

JOB DESCRIPTION

WATER INJECION ST.
Lovington, NM

JOB NUMBER

880-42091-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

Released to Imaging: 7/23/2024 2:27:58 PM

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

Generated
4/18/2024 1:04:19 PM

Authorized for release by
John Builes, Project Manager
John.Builes@et.eurofinsus.com
(561)558-4549

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Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
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
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.

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: Arcadis U.S., Inc.
Project: WATER INJECION ST.

Job ID: 880-42091-1

Job ID: 880-42091-1 Eurofins Midland

Job Narrative
880-42091-1

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 4/10/2024 1:41 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 1.3°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SB-19-4'-5' (880-42091-1), SB-19-6'-7' (880-42091-2), SB-19-8'-9' (880-42091-3), SB-20-4'-5' (880-42091-4), SB-20-8'-9' (880-42091-5), SB-20-10'-11' (880-42091-6), SB-21-0'-1' (880-42091-7), SB-21-2'-3' (880-42091-8), SB-22-0'-1' (880-42091-9), SB-22-2'-3' (880-42091-10), SB-23-0'-1' (880-42091-11), SB-23-2'-3' (880-42091-12), SB-24-0'-1' (880-42091-13), SB-24-2'-3' (880-42091-14), SB-25-0'-1' (880-42091-15), SB-25-2'-3' (880-42091-16), SB-26-0'-1' (880-42091-17), SB-26-2'-3' (880-42091-18), SB-27-0'-1' (880-42091-19) and SB-27-2'-3' (880-42091-20).

GC VOA
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: Surrogate recovery for the following samples were outside control limits: SB-19-8'-9' (880-42091-3), SB-20-4'-5' (880-42091-4) and (880-42065-A-1-C MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SB-26-2'-3' (880-42091-18), (880-42091-A-12-B MS) and (880-42091-A-12-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-77844 and analytical batch 880-77779 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-77844 and analytical batch 880-77779 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.

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 - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-77960 and analytical batch 880-78208 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.

SB-25-2'-3' (880-42091-16), SB-26-0'-1' (880-42091-17), SB-26-2'-3' (880-42091-18), SB-27-0'-1' (880-42091-19) and SB-27-2'-3' (880-42091-20)

Method 300_ORGFM_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-77959 and analytical batch 880-78031 were outside control limits for one or more analytes. See QC Sample Results for detail.

Case Narrative

Client: Arcadis U.S., Inc.
Project: WATER INJECION ST.

Job ID: 880-42091-1

Job ID: 880-42091-1 (Continued)

Eurofins Midland

Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

SB-19-4'-5' (880-42091-1), SB-19-6'-7' (880-42091-2), SB-19-8'-9' (880-42091-3), SB-20-4'-5' (880-42091-4) and SB-20-8'-9' (880-42091-5)

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-19-4'-5'

Lab Sample ID: 880-42091-1
Date Collected: 04/08/24 08:55
Matrix: Solid
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/10/24 15:04	04/11/24 14:57	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/10/24 15:04	04/11/24 14:57	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/10/24 15:04	04/11/24 14:57	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:04	04/11/24 14:57	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/10/24 15:04	04/11/24 14:57	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:04	04/11/24 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*04/10/24 15:04*	*04/11/24 14:57*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*04/10/24 15:04*	*04/11/24 14:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			04/11/24 14:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.0	15.0	mg/Kg			04/10/24 20:29	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	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 20:29	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 20:29	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 20:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*04/10/24 10:28*	*04/10/24 20:29*	*1*
o-Terphenyl	*107*		*70 - 130*	*04/10/24 10:28*	*04/10/24 20:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**858**		5.04	0.398	mg/Kg			04/12/24 12:53	1

Client Sample ID: SB-19-6'-7'

Lab Sample ID: 880-42091-2
Date Collected: 04/08/24 09:10
Matrix: Solid
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/10/24 15:04	04/11/24 15:17	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/10/24 15:04	04/11/24 15:17	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/10/24 15:04	04/11/24 15:17	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/10/24 15:04	04/11/24 15:17	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/10/24 15:04	04/11/24 15:17	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/10/24 15:04	04/11/24 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*04/10/24 15:04*	*04/11/24 15:17*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/10/24 15:04*	*04/11/24 15:17*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-19-6'-7'

Lab Sample ID: 880-42091-2
Date Collected: 04/08/24 09:10
Matrix: Solid
Date Received: 04/10/24 13:41

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			04/11/24 15:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**41.6**	**J**	49.9	15.0	mg/Kg			04/10/24 21:10	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	**23.0**	**J**	49.9	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:10	1
Diesel Range Organics (Over C10-C28)	**18.6**	**J**	49.9	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:10	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*04/10/24 10:28*	*04/10/24 21:10*	*1*
o-Terphenyl	*108*		*70 - 130*	*04/10/24 10:28*	*04/10/24 21:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1040**		4.99	0.394	mg/Kg			04/12/24 12:59	1

Client Sample ID: SB-19-8'-9'

Lab Sample ID: 880-42091-3
Date Collected: 04/08/24 09:25
Matrix: Solid
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		04/10/24 15:04	04/11/24 15:53	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/10/24 15:04	04/11/24 15:53	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/10/24 15:04	04/11/24 15:53	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:04	04/11/24 15:53	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/10/24 15:04	04/11/24 15:53	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:04	04/11/24 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*04/10/24 15:04*	*04/11/24 15:53*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*04/10/24 15:04*	*04/11/24 15:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			04/11/24 15:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**48.7**	**J**	49.9	15.0	mg/Kg			04/10/24 21:31	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	**33.6**	**J**	49.9	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:31	1
Diesel Range Organics (Over C10-C28)	**15.1**	**J**	49.9	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:31	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-19-8'-9'

Lab Sample ID: 880-42091-3
Matrix: Solid
Date Collected: 04/08/24 09:25
Date Received: 04/10/24 13:41

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)	<15.0	U	49.9	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*152*	*S1+*	*70 - 130*	*04/10/24 10:28*	*04/10/24 21:31*	*1*
o-Terphenyl	*125*		*70 - 130*	*04/10/24 10:28*	*04/10/24 21:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**939**		5.03	0.397	mg/Kg			04/12/24 13:05	1

Client Sample ID: SB-20-4'-5'

Lab Sample ID: 880-42091-4
Matrix: Solid
Date Collected: 04/08/24 10:10
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/10/24 15:04	04/11/24 16:13	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		04/10/24 15:04	04/11/24 16:13	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		04/10/24 15:04	04/11/24 16:13	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		04/10/24 15:04	04/11/24 16:13	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		04/10/24 15:04	04/11/24 16:13	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		04/10/24 15:04	04/11/24 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*04/10/24 15:04*	*04/11/24 16:13*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/10/24 15:04*	*04/11/24 16:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			04/11/24 16:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**21.0**	**J**	50.0	15.0	mg/Kg			04/10/24 21:52	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	**21.0**	**J**	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:52	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:52	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*04/10/24 10:28*	*04/10/24 21:52*	*1*
o-Terphenyl	*108*		*70 - 130*	*04/10/24 10:28*	*04/10/24 21:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2580**		24.9	1.97	mg/Kg			04/12/24 13:12	5

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-20-8'-9'

Lab Sample ID: 880-42091-5
Date Collected: 04/08/24 10:50
Matrix: Solid
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/10/24 15:04	04/11/24 16:56	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		04/10/24 15:04	04/11/24 16:56	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		04/10/24 15:04	04/11/24 16:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		04/10/24 15:04	04/11/24 16:56	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		04/10/24 15:04	04/11/24 16:56	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		04/10/24 15:04	04/11/24 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*04/10/24 15:04*	*04/11/24 16:56*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*04/10/24 15:04*	*04/11/24 16:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			04/11/24 16:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**32.4**	**J**	49.8	14.9	mg/Kg			04/10/24 22:13	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	**32.4**	**J**	49.8	14.9	mg/Kg		04/10/24 10:28	04/10/24 22:13	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		04/10/24 10:28	04/10/24 22:13	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		04/10/24 10:28	04/10/24 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*04/10/24 10:28*	*04/10/24 22:13*	*1*
o-Terphenyl	*103*		*70 - 130*	*04/10/24 10:28*	*04/10/24 22:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**313**		4.99	0.394	mg/Kg			04/12/24 13:18	1

Client Sample ID: SB-20-10'-11'

Lab Sample ID: 880-42091-6
Date Collected: 04/08/24 11:15
Matrix: Solid
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/10/24 15:04	04/11/24 17:16	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/10/24 15:04	04/11/24 17:16	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/10/24 15:04	04/11/24 17:16	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:04	04/11/24 17:16	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/10/24 15:04	04/11/24 17:16	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:04	04/11/24 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*04/10/24 15:04*	*04/11/24 17:16*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*04/10/24 15:04*	*04/11/24 17:16*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-20-10'-11'

Lab Sample ID: 880-42091-6
Matrix: Solid

Date Collected: 04/08/24 11:15
Date Received: 04/10/24 13:41

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			04/11/24 17:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**21.2**	**J**	50.1	15.0	mg/Kg			04/10/24 22:34	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	**21.2**	**J**	50.1	15.0	mg/Kg		04/10/24 10:28	04/10/24 22:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.1	15.0	mg/Kg		04/10/24 10:28	04/10/24 22:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.1	15.0	mg/Kg		04/10/24 10:28	04/10/24 22:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/10/24 10:28*	*04/10/24 22:34*	*1*
o-Terphenyl	*103*		*70 - 130*	*04/10/24 10:28*	*04/10/24 22:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**162**		5.04	0.398	mg/Kg			04/12/24 13:25	1

Client Sample ID: SB-21-0'-1'

Lab Sample ID: 880-42091-7
Matrix: Solid

Date Collected: 04/08/24 11:50
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		04/10/24 15:04	04/11/24 17:37	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		04/10/24 15:04	04/11/24 17:37	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		04/10/24 15:04	04/11/24 17:37	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		04/10/24 15:04	04/11/24 17:37	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		04/10/24 15:04	04/11/24 17:37	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		04/10/24 15:04	04/11/24 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*04/10/24 15:04*	*04/11/24 17:37*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/10/24 15:04*	*04/11/24 17:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			04/11/24 17:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**40.8**	**J**	50.0	15.0	mg/Kg			04/10/24 22:55	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	**15.0**	**J**	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 22:55	1
Diesel Range Organics (Over C10-C28)	**25.8**	**J**	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 22:55	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-21-0'-1'

Lab Sample ID: 880-42091-7
Date Collected: 04/08/24 11:50
Matrix: Solid
Date Received: 04/10/24 13:41

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)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*04/10/24 10:28*	*04/10/24 22:55*	*1*
o-Terphenyl	*98*		*70 - 130*	*04/10/24 10:28*	*04/10/24 22:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.4**		5.02	0.397	mg/Kg			04/12/24 13:44	1

Client Sample ID: SB-21-2'-3'

Lab Sample ID: 880-42091-8
Date Collected: 04/08/24 11:55
Matrix: Solid
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/10/24 15:04	04/11/24 17:57	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/10/24 15:04	04/11/24 17:57	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/10/24 15:04	04/11/24 17:57	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/10/24 15:04	04/11/24 17:57	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/10/24 15:04	04/11/24 17:57	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/10/24 15:04	04/11/24 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*04/10/24 15:04*	*04/11/24 17:57*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/10/24 15:04*	*04/11/24 17:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			04/11/24 17:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**40.8**	**J**	49.8	14.9	mg/Kg			04/10/24 23:16	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	**23.8**	**J**	49.8	14.9	mg/Kg		04/10/24 10:28	04/10/24 23:16	1
Diesel Range Organics (Over C10-C28)	**17.0**	**J**	49.8	14.9	mg/Kg		04/10/24 10:28	04/10/24 23:16	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		04/10/24 10:28	04/10/24 23:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*04/10/24 10:28*	*04/10/24 23:16*	*1*
o-Terphenyl	*111*		*70 - 130*	*04/10/24 10:28*	*04/10/24 23:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.74**	**J**	4.98	0.393	mg/Kg			04/12/24 13:50	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-22-0'-1'

Lab Sample ID: 880-42091-9
Matrix: Solid

Date Collected: 04/08/24 12:15
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		04/10/24 15:04	04/11/24 18:18	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/10/24 15:04	04/11/24 18:18	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/10/24 15:04	04/11/24 18:18	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:04	04/11/24 18:18	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/10/24 15:04	04/11/24 18:18	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:04	04/11/24 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*04/10/24 15:04*	*04/11/24 18:18*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/10/24 15:04*	*04/11/24 18:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			04/11/24 18:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**36.6**	**J**	50.0	15.0	mg/Kg			04/10/24 23:38	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	**19.6**	**J**	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 23:38	1
Diesel Range Organics (Over C10-C28)	**17.0**	**J**	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 23:38	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*04/10/24 10:28*	*04/10/24 23:38*	*1*
o-Terphenyl	*103*		*70 - 130*	*04/10/24 10:28*	*04/10/24 23:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.21**	**J**	5.00	0.395	mg/Kg			04/12/24 14:09	1

Client Sample ID: SB-22-2'-3'

Lab Sample ID: 880-42091-10
Matrix: Solid

Date Collected: 04/08/24 12:20
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/10/24 15:04	04/11/24 18:38	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		04/10/24 15:04	04/11/24 18:38	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		04/10/24 15:04	04/11/24 18:38	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		04/10/24 15:04	04/11/24 18:38	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		04/10/24 15:04	04/11/24 18:38	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		04/10/24 15:04	04/11/24 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*04/10/24 15:04*	*04/11/24 18:38*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/10/24 15:04*	*04/11/24 18:38*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-22-2'-3'

Lab Sample ID: 880-42091-10
Matrix: Solid

Date Collected: 04/08/24 12:20
Date Received: 04/10/24 13:41

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			04/11/24 18:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<15.0	U	50.1	15.0	mg/Kg			04/10/24 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	<15.0	U	50.1	15.0	mg/Kg		04/10/24 10:28	04/10/24 23:59	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.1	15.0	mg/Kg		04/10/24 10:28	04/10/24 23:59	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.1	15.0	mg/Kg		04/10/24 10:28	04/10/24 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*04/10/24 10:28*	*04/10/24 23:59*	*1*
o-Terphenyl	*97*		*70 - 130*	*04/10/24 10:28*	*04/10/24 23:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**268**		5.02	0.397	mg/Kg			04/12/24 14:15	1

Client Sample ID: SB-23-0'-1'

Lab Sample ID: 880-42091-11
Matrix: Solid

Date Collected: 04/08/24 12:45
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000499**	**J**	0.00198	0.000381	mg/Kg		04/12/24 08:26	04/12/24 13:33	1
Toluene	**0.00322**		0.00198	0.000451	mg/Kg		04/12/24 08:26	04/12/24 13:33	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		04/12/24 08:26	04/12/24 13:33	1
m-Xylene & p-Xylene	**0.00105**	**J**	0.00396	0.00100	mg/Kg		04/12/24 08:26	04/12/24 13:33	1
o-Xylene	**0.000449**	**J**	0.00198	0.000341	mg/Kg		04/12/24 08:26	04/12/24 13:33	1
Xylenes, Total	**0.00150**	**J**	0.00396	0.00100	mg/Kg		04/12/24 08:26	04/12/24 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*04/12/24 08:26*	*04/12/24 13:33*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*04/12/24 08:26*	*04/12/24 13:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00522**		0.00396	0.00100	mg/Kg			04/12/24 13:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**33.7**	**J**	49.9	15.0	mg/Kg			04/11/24 00:20	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	**16.8**	**J**	49.9	15.0	mg/Kg		04/10/24 10:28	04/11/24 00:20	1
Diesel Range Organics (Over C10-C28)	**16.9**	**J**	49.9	15.0	mg/Kg		04/10/24 10:28	04/11/24 00:20	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-23-0'-1'

Lab Sample ID: 880-42091-11
Date Collected: 04/08/24 12:45
Matrix: Solid
Date Received: 04/10/24 13:41

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)	<15.0	U	49.9	15.0	mg/Kg		04/10/24 10:28	04/11/24 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*04/10/24 10:28*	*04/11/24 00:20*	*1*
o-Terphenyl	*102*		*70 - 130*	*04/10/24 10:28*	*04/11/24 00:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.23**	**J**	4.98	0.393	mg/Kg			04/12/24 14:22	1

Client Sample ID: SB-23-2'-3'

Lab Sample ID: 880-42091-12
Date Collected: 04/08/24 12:50
Matrix: Solid
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		04/12/24 08:26	04/12/24 13:54	1
Toluene	**0.00258**		0.00202	0.000461	mg/Kg		04/12/24 08:26	04/12/24 13:54	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		04/12/24 08:26	04/12/24 13:54	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		04/12/24 08:26	04/12/24 13:54	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		04/12/24 08:26	04/12/24 13:54	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		04/12/24 08:26	04/12/24 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*04/12/24 08:26*	*04/12/24 13:54*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*04/12/24 08:26*	*04/12/24 13:54*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00258**	**J**	0.00404	0.00102	mg/Kg			04/12/24 13:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**64.3**		50.0	15.0	mg/Kg			04/10/24 16:38	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	**35.0**	**J**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 16:38	1
Diesel Range Organics (Over C10-C28)	**29.3**	**J F1 *1**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 16:38	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*04/10/24 14:23*	*04/10/24 16:38*	*1*
o-Terphenyl	*118*		*70 - 130*	*04/10/24 14:23*	*04/10/24 16:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.6**		5.03	0.397	mg/Kg			04/12/24 14:28	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-24-0'-1'

Lab Sample ID: 880-42091-13
Matrix: Solid

Date Collected: 04/08/24 13:10
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/12/24 08:26	04/12/24 14:14	1
Toluene	**0.00244**		0.00201	0.000458	mg/Kg		04/12/24 08:26	04/12/24 14:14	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		04/12/24 08:26	04/12/24 14:14	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		04/12/24 08:26	04/12/24 14:14	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		04/12/24 08:26	04/12/24 14:14	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		04/12/24 08:26	04/12/24 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*04/12/24 08:26*	*04/12/24 14:14*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*04/12/24 08:26*	*04/12/24 14:14*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00244**	**J**	0.00402	0.00101	mg/Kg			04/12/24 14:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**65.0**		50.1	15.0	mg/Kg			04/10/24 17:42	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	**36.6**	**J**	50.1	15.0	mg/Kg		04/10/24 14:23	04/10/24 17:42	1
Diesel Range Organics (Over C10-C28)	**28.4**	**J *1**	50.1	15.0	mg/Kg		04/10/24 14:23	04/10/24 17:42	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.1	15.0	mg/Kg		04/10/24 14:23	04/10/24 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*04/10/24 14:23*	*04/10/24 17:42*	*1*
o-Terphenyl	*127*		*70 - 130*	*04/10/24 14:23*	*04/10/24 17:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.43**	**J**	4.98	0.393	mg/Kg			04/12/24 14:34	1

Client Sample ID: SB-24-2'-3'

Lab Sample ID: 880-42091-14
Matrix: Solid

Date Collected: 04/08/24 13:15
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/12/24 08:26	04/12/24 14:35	1
Toluene	**0.00228**		0.00201	0.000459	mg/Kg		04/12/24 08:26	04/12/24 14:35	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		04/12/24 08:26	04/12/24 14:35	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		04/12/24 08:26	04/12/24 14:35	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		04/12/24 08:26	04/12/24 14:35	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		04/12/24 08:26	04/12/24 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*04/12/24 08:26*	*04/12/24 14:35*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*04/12/24 08:26*	*04/12/24 14:35*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-24-2'-3'

Lab Sample ID: 880-42091-14
Matrix: Solid

Date Collected: 04/08/24 13:15
Date Received: 04/10/24 13:41

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00228	J	0.00402	0.00102	mg/Kg			04/12/24 14:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	47.5	J	50.0	15.0	mg/Kg			04/10/24 18:03	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	22.9	J	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 18:03	1
Diesel Range Organics (Over C10-C28)	24.6	J *1	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 18:03	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/10/24 14:23*	*04/10/24 18:03*	*1*
o-Terphenyl	*124*		*70 - 130*	*04/10/24 14:23*	*04/10/24 18:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.32	J	5.00	0.395	mg/Kg			04/12/24 14:41	1

Client Sample ID: SB-25-0'-1'

Lab Sample ID: 880-42091-15
Matrix: Solid

Date Collected: 04/08/24 13:40
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		04/12/24 08:26	04/12/24 14:55	1
Toluene	0.00256		0.00200	0.000457	mg/Kg		04/12/24 08:26	04/12/24 14:55	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/12/24 08:26	04/12/24 14:55	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/12/24 08:26	04/12/24 14:55	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/12/24 08:26	04/12/24 14:55	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/12/24 08:26	04/12/24 14:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*04/12/24 08:26*	*04/12/24 14:55*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/12/24 08:26*	*04/12/24 14:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00256	J	0.00401	0.00101	mg/Kg			04/12/24 14:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	51.7		50.2	15.1	mg/Kg			04/10/24 18:24	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	28.1	J	50.2	15.1	mg/Kg		04/10/24 14:23	04/10/24 18:24	1
Diesel Range Organics (Over C10-C28)	23.6	J *1	50.2	15.1	mg/Kg		04/10/24 14:23	04/10/24 18:24	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-25-0'-1'

Lab Sample ID: 880-42091-15
Matrix: Solid

Date Collected: 04/08/24 13:40
Date Received: 04/10/24 13:41

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)	<15.1	U	50.2	15.1	mg/Kg		04/10/24 14:23	04/10/24 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*04/10/24 14:23*	*04/10/24 18:24*	*1*
o-Terphenyl	*122*		*70 - 130*	*04/10/24 14:23*	*04/10/24 18:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**128**		5.02	0.397	mg/Kg			04/12/24 14:47	1

Client Sample ID: SB-25-2'-3'

Lab Sample ID: 880-42091-16
Matrix: Solid

Date Collected: 04/08/24 13:45
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00146**	**J**	0.00200	0.000385	mg/Kg		04/12/24 08:26	04/12/24 15:16	1
Toluene	**0.00355**		0.00200	0.000456	mg/Kg		04/12/24 08:26	04/12/24 15:16	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/12/24 08:26	04/12/24 15:16	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 08:26	04/12/24 15:16	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/12/24 08:26	04/12/24 15:16	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 08:26	04/12/24 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*04/12/24 08:26*	*04/12/24 15:16*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*04/12/24 08:26*	*04/12/24 15:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00501**		0.00400	0.00101	mg/Kg			04/12/24 15:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**66.5**		49.9	15.0	mg/Kg			04/10/24 18:44	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	**26.6**	**J**	49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 18:44	1
Diesel Range Organics (Over C10-C28)	**39.9**	**J *1**	49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 18:44	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*04/10/24 14:23*	*04/10/24 18:44*	*1*
o-Terphenyl	*129*		*70 - 130*	*04/10/24 14:23*	*04/10/24 18:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13.8**		5.04	0.398	mg/Kg			04/15/24 09:40	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-26-0'-1'

Lab Sample ID: 880-42091-17
Matrix: Solid

Date Collected: 04/08/24 14:05
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		04/14/24 08:13	04/15/24 16:15	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/14/24 08:13	04/15/24 16:15	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/14/24 08:13	04/15/24 16:15	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/14/24 08:13	04/15/24 16:15	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/14/24 08:13	04/15/24 16:15	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/14/24 08:13	04/15/24 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*04/14/24 08:13*	*04/15/24 16:15*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*04/14/24 08:13*	*04/15/24 16:15*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			04/15/24 16:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**76.3**		49.8	14.9	mg/Kg			04/10/24 19:05	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	**23.6**	**J**	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 19:05	1
Diesel Range Organics (Over C10-C28)	**52.7**	***1**	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 19:05	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*04/10/24 14:23*	*04/10/24 19:05*	*1*
o-Terphenyl	*120*		*70 - 130*	*04/10/24 14:23*	*04/10/24 19:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.03**		5.03	0.397	mg/Kg			04/15/24 09:46	1

Client Sample ID: SB-26-2'-3'

Lab Sample ID: 880-42091-18
Matrix: Solid

Date Collected: 04/08/24 14:10
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/14/24 08:13	04/15/24 16:36	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		04/14/24 08:13	04/15/24 16:36	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		04/14/24 08:13	04/15/24 16:36	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		04/14/24 08:13	04/15/24 16:36	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		04/14/24 08:13	04/15/24 16:36	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		04/14/24 08:13	04/15/24 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*04/14/24 08:13*	*04/15/24 16:36*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*04/14/24 08:13*	*04/15/24 16:36*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-26-2'-3'

Lab Sample ID: 880-42091-18
Matrix: Solid

Date Collected: 04/08/24 14:10
Date Received: 04/10/24 13:41

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			04/15/24 16:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**66.3**		49.7	14.9	mg/Kg			04/10/24 19:26	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	**37.0**	**J**	49.7	14.9	mg/Kg		04/10/24 14:23	04/10/24 19:26	1
Diesel Range Organics (Over C10-C28)	**29.3**	**J *1**	49.7	14.9	mg/Kg		04/10/24 14:23	04/10/24 19:26	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.7	14.9	mg/Kg		04/10/24 14:23	04/10/24 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 19:26*	*1*
o-Terphenyl	*150*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 19:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1.57**	**J**	4.98	0.393	mg/Kg			04/15/24 09:53	1

Client Sample ID: SB-27-0'-1'

Lab Sample ID: 880-42091-19
Matrix: Solid

Date Collected: 04/08/24 14:35
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000388	U	0.00202	0.000388	mg/Kg		04/14/24 08:13	04/15/24 16:56	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		04/14/24 08:13	04/15/24 16:56	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		04/14/24 08:13	04/15/24 16:56	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		04/14/24 08:13	04/15/24 16:56	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		04/14/24 08:13	04/15/24 16:56	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		04/14/24 08:13	04/15/24 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*04/14/24 08:13*	*04/15/24 16:56*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/14/24 08:13*	*04/15/24 16:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00403	0.00102	mg/Kg			04/15/24 16:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**507**		50.0	15.0	mg/Kg			04/10/24 21:31	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	**28.2**	**J**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:31	1
Diesel Range Organics (Over C10-C28)	**390**	***1**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:31	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-27-0'-1'

Lab Sample ID: 880-42091-19
Matrix: Solid

Date Collected: 04/08/24 14:35
Date Received: 04/10/24 13:41

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)	88.8		50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130	04/10/24 14:23	04/10/24 21:31	1
o-Terphenyl	122		70 - 130	04/10/24 14:23	04/10/24 21:31	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	89.6		5.03	0.397	mg/Kg			04/15/24 09:59	1

Client Sample ID: SB-27-2'-3'

Lab Sample ID: 880-42091-20
Matrix: Solid

Date Collected: 04/08/24 14:40
Date Received: 04/10/24 13:41

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		04/14/24 08:13	04/15/24 17:16	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/14/24 08:13	04/15/24 17:16	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/14/24 08:13	04/15/24 17:16	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/14/24 08:13	04/15/24 17:16	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/14/24 08:13	04/15/24 17:16	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/14/24 08:13	04/15/24 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	04/14/24 08:13	04/15/24 17:16	1
1,4-Difluorobenzene (Surr)	101		70 - 130	04/14/24 08:13	04/15/24 17:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			04/15/24 17:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	88.0		50.0	15.0	mg/Kg			04/10/24 19:47	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	35.5	J	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 19:47	1
Diesel Range Organics (Over C10-C28)	52.5	*1	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 19:47	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	04/10/24 14:23	04/10/24 19:47	1
o-Terphenyl	106		70 - 130	04/10/24 14:23	04/10/24 19:47	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.53	J	4.98	0.393	mg/Kg			04/15/24 10:18	1

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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)
880-42091-1	SB-19-4'-5'	122	101
880-42091-1 MS	SB-19-4'-5'	112	101
880-42091-1 MSD	SB-19-4'-5'	115	102
880-42091-2	SB-19-6'-7'	117	102
880-42091-3	SB-19-8'-9'	113	101
880-42091-4	SB-20-4'-5'	116	102
880-42091-5	SB-20-8'-9'	116	101
880-42091-6	SB-20-10'-11'	120	98
880-42091-7	SB-21-0'-1'	117	102
880-42091-8	SB-21-2'-3'	116	102
880-42091-9	SB-22-0'-1'	115	102
880-42091-10	SB-22-2'-3'	116	102
880-42091-11	SB-23-0'-1'	80	94
880-42091-11 MS	SB-23-0'-1'	110	92
880-42091-11 MSD	SB-23-0'-1'	104	95
880-42091-12	SB-23-2'-3'	94	94
880-42091-13	SB-24-0'-1'	89	91
880-42091-14	SB-24-2'-3'	92	95
880-42091-15	SB-25-0'-1'	87	90
880-42091-16	SB-25-2'-3'	91	99
880-42091-17	SB-26-0'-1'	120	101
880-42091-18	SB-26-2'-3'	120	100
880-42091-19	SB-27-0'-1'	119	102
880-42091-20	SB-27-2'-3'	119	101
LCS 880-77856/1-A	Lab Control Sample	105	99
LCS 880-77985/1-A	Lab Control Sample	98	93
LCS 880-78159/1-A	Lab Control Sample	113	99
LCSD 880-77856/2-A	Lab Control Sample Dup	105	99
LCSD 880-77985/2-A	Lab Control Sample Dup	110	93
LCSD 880-78159/2-A	Lab Control Sample Dup	112	99
MB 880-77856/5-A	Method Blank	116	101
MB 880-77985/5-A	Method Blank	71	95
MB 880-78159/5-A	Method Blank	120	100

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)
880-42091-1	SB-19-4'-5'	122	107
880-42091-2	SB-19-6'-7'	127	108
880-42091-3	SB-19-8'-9'	152 S1+	125
880-42091-4	SB-20-4'-5'	132 S1+	108
880-42091-5	SB-20-8'-9'	122	103
880-42091-6	SB-20-10'-11'	117	103

Surrogate Summary

Client: Arcadis U.S., Inc.
Job ID: 880-42091-1
Project/Site: WATER INJECION ST.
SDG: Lovington, NM

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)								
880-42091-7	SB-21-0'-1'	114	98								
880-42091-8	SB-21-2'-3'	125	111								
880-42091-9	SB-22-0'-1'	120	103								
880-42091-10	SB-22-2'-3'	123	97								
880-42091-11	SB-23-0'-1'	125	102								
880-42091-12	SB-23-2'-3'	113	118								
880-42091-12 MS	SB-23-2'-3'	144 S1+	135 S1+								
880-42091-12 MSD	SB-23-2'-3'	150 S1+	141 S1+								
880-42091-13	SB-24-0'-1'	118	127								
880-42091-14	SB-24-2'-3'	117	124								
880-42091-15	SB-25-0'-1'	110	122								
880-42091-16	SB-25-2'-3'	120	129								
880-42091-17	SB-26-0'-1'	111	120								
880-42091-18	SB-26-2'-3'	139 S1+	150 S1+								
880-42091-19	SB-27-0'-1'	117	122								
880-42091-20	SB-27-2'-3'	101	106								
LCS 880-77808/2-A	Lab Control Sample	102	107								
LCS 880-77844/2-A	Lab Control Sample	80	88								
LCSD 880-77808/3-A	Lab Control Sample Dup	83	83								
LCSD 880-77844/3-A	Lab Control Sample Dup	95	106								
MB 880-77808/1-A	Method Blank	107	92								
MB 880-77844/1-A	Method Blank	105	110								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-77856/5-A
Matrix: Solid
Analysis Batch: 77928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 77856

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/10/24 15:04	04/11/24 14:35	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/10/24 15:04	04/11/24 14:35	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/10/24 15:04	04/11/24 14:35	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/10/24 15:04	04/11/24 14:35	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/10/24 15:04	04/11/24 14:35	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/10/24 15:04	04/11/24 14:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*04/10/24 15:04*	*04/11/24 14:35*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*04/10/24 15:04*	*04/11/24 14:35*	*1*

Lab Sample ID: LCS 880-77856/1-A
Matrix: Solid
Analysis Batch: 77928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77856

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1073		mg/Kg		107	70 - 130
Toluene	0.100	0.1080		mg/Kg		108	70 - 130
Ethylbenzene	0.100	0.1038		mg/Kg		104	70 - 130
m-Xylene & p-Xylene	0.200	0.2114		mg/Kg		106	70 - 130
o-Xylene	0.100	0.1031		mg/Kg		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-77856/2-A
Matrix: Solid
Analysis Batch: 77928

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77856

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1101		mg/Kg		110	70 - 130	3	35
Toluene	0.100	0.1114		mg/Kg		111	70 - 130	3	35
Ethylbenzene	0.100	0.1074		mg/Kg		107	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2186		mg/Kg		109	70 - 130	3	35
o-Xylene	0.100	0.1064		mg/Kg		106	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-42091-1 MS
Matrix: Solid
Analysis Batch: 77928

Client Sample ID: SB-19-4'-5'
Prep Type: Total/NA
Prep Batch: 77856

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000383	U	0.0998	0.1112		mg/Kg		111	70 - 130
Toluene	<0.000454	U	0.0998	0.1099		mg/Kg		110	70 - 130

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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

Lab Sample ID: 880-42091-1 MS — **Client Sample ID: SB-19-4'-5'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77928 — **Prep Batch: 77856**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.000563	U	0.0998	0.1026		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	<0.00101	U	0.200	0.2085		mg/Kg		104	70 - 130
o-Xylene	<0.000343	U	0.0998	0.1030		mg/Kg		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-42091-1 MSD — **Client Sample ID: SB-19-4'-5'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77928 — **Prep Batch: 77856**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000383	U	0.100	0.1176		mg/Kg		117	70 - 130	6	35
Toluene	<0.000454	U	0.100	0.1177		mg/Kg		117	70 - 130	7	35
Ethylbenzene	<0.000563	U	0.100	0.1118		mg/Kg		112	70 - 130	9	35
m-Xylene & p-Xylene	<0.00101	U	0.200	0.2284		mg/Kg		114	70 - 130	9	35
o-Xylene	<0.000343	U	0.100	0.1131		mg/Kg		113	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-77985/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77789 — **Prep Batch: 77985**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/12/24 08:26	04/12/24 13:11	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/12/24 08:26	04/12/24 13:11	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/12/24 08:26	04/12/24 13:11	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 08:26	04/12/24 13:11	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/12/24 08:26	04/12/24 13:11	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 08:26	04/12/24 13:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*04/12/24 08:26*	*04/12/24 13:11*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*04/12/24 08:26*	*04/12/24 13:11*	*1*

Lab Sample ID: LCS 880-77985/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77789 — **Prep Batch: 77985**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09035		mg/Kg		90	70 - 130
Toluene	0.100	0.09539		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.1016		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.200	0.2036		mg/Kg		102	70 - 130

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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

Lab Sample ID: LCS 880-77985/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77789 — **Prep Batch: 77985**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	0.100	0.09955		mg/Kg		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-77985/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77789 — **Prep Batch: 77985**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08969		mg/Kg		90	70 - 130	1	35
Toluene	0.100	0.1019		mg/Kg		102	70 - 130	7	35
Ethylbenzene	0.100	0.1111		mg/Kg		111	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.2259		mg/Kg		113	70 - 130	10	35
o-Xylene	0.100	0.1113		mg/Kg		111	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-42091-11 MS — **Client Sample ID: SB-23-0'-1'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77789 — **Prep Batch: 77985**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.000499	J	0.0996	0.08270		mg/Kg		83	70 - 130
Toluene	0.00322		0.0996	0.09733		mg/Kg		94	70 - 130
Ethylbenzene	<0.000559	U	0.0996	0.1085		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.00105	J	0.199	0.2230		mg/Kg		111	70 - 130
o-Xylene	0.000449	J	0.0996	0.1098		mg/Kg		110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-42091-11 MSD — **Client Sample ID: SB-23-0'-1'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77789 — **Prep Batch: 77985**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.000499	J	0.101	0.08985		mg/Kg		89	70 - 130	8	35
Toluene	0.00322		0.101	0.09574		mg/Kg		92	70 - 130	2	35
Ethylbenzene	<0.000559	U	0.101	0.1034		mg/Kg		103	70 - 130	5	35
m-Xylene & p-Xylene	0.00105	J	0.202	0.2081		mg/Kg		103	70 - 130	7	35
o-Xylene	0.000449	J	0.101	0.1028		mg/Kg		102	70 - 130	7	35

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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

Lab Sample ID: 880-42091-11 MSD
Matrix: Solid
Analysis Batch: 77789

Client Sample ID: SB-23-0'-1'
Prep Type: Total/NA
Prep Batch: 77985

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: MB 880-78159/5-A
Matrix: Solid
Analysis Batch: 78124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78159

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/14/24 08:13	04/15/24 11:25	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/14/24 08:13	04/15/24 11:25	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/14/24 08:13	04/15/24 11:25	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/14/24 08:13	04/15/24 11:25	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/14/24 08:13	04/15/24 11:25	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/14/24 08:13	04/15/24 11:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	04/14/24 08:13	04/15/24 11:25	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/14/24 08:13	04/15/24 11:25	1

Lab Sample ID: LCS 880-78159/1-A
Matrix: Solid
Analysis Batch: 78124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78159

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1055		mg/Kg		105	70 - 130
Toluene	0.100	0.1062		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1026		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.2092		mg/Kg		105	70 - 130
o-Xylene	0.100	0.1035		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-78159/2-A
Matrix: Solid
Analysis Batch: 78124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78159

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1101		mg/Kg		110	70 - 130	4	35
Toluene	0.100	0.1112		mg/Kg		111	70 - 130	5	35
Ethylbenzene	0.100	0.1070		mg/Kg		107	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2177		mg/Kg		109	70 - 130	4	35
o-Xylene	0.100	0.1073		mg/Kg		107	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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

Lab Sample ID: LCSD 880-78159/2-A
Matrix: Solid
Analysis Batch: 78124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78159

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-77808/1-A
Matrix: Solid
Analysis Batch: 77780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 77808

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		04/10/24 10:28	04/10/24 09:36	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 09:36	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 10:28	04/10/24 09:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/10/24 10:28	04/10/24 09:36	1
o-Terphenyl	92		70 - 130	04/10/24 10:28	04/10/24 09:36	1

Lab Sample ID: LCS 880-77808/2-A
Matrix: Solid
Analysis Batch: 77780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1003		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	1000	984.7		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-77808/3-A
Matrix: Solid
Analysis Batch: 77780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77808

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	973.1		mg/Kg		97	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	941.9		mg/Kg		94	70 - 130	4	20

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

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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

Lab Sample ID: MB 880-77844/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77779 — **Prep Batch: 77844**

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		04/10/24 08:23	04/10/24 09:36	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 08:23	04/10/24 09:36	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 08:23	04/10/24 09:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*04/10/24 08:23*	*04/10/24 09:36*	*1*
o-Terphenyl	*110*		*70 - 130*	*04/10/24 08:23*	*04/10/24 09:36*	*1*

Lab Sample ID: LCS 880-77844/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77779 — **Prep Batch: 77844**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	939.9		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	798.6		mg/Kg		80	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Lab Sample ID: LCSD 880-77844/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77779 — **Prep Batch: 77844**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	952.2		mg/Kg		95	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	983.0	*1	mg/Kg		98	70 - 130	21	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 880-42091-12 MS — **Client Sample ID: SB-23-2'-3'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77779 — **Prep Batch: 77844**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	35.0	J	1000	1157		mg/Kg		112	70 - 130
Diesel Range Organics (Over C10-C28)	29.3	J F1 *1	1000	1353	F1	mg/Kg		132	70 - 130

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

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

Lab Sample ID: 880-42091-12 MS
Matrix: Solid
Analysis Batch: 77779

Client Sample ID: SB-23-2'-3'
Prep Type: Total/NA
Prep Batch: 77844

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	144	S1+	70 - 130
o-Terphenyl	135	S1+	70 - 130

Lab Sample ID: 880-42091-12 MSD
Matrix: Solid
Analysis Batch: 77779

Client Sample ID: SB-23-2'-3'
Prep Type: Total/NA
Prep Batch: 77844

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	35.0	J	1000	1134		mg/Kg		110	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	29.3	J F1 *1	1000	1423	F1	mg/Kg		139	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	150	S1+	70 - 130
o-Terphenyl	141	S1+	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-77959/1-A
Matrix: Solid
Analysis Batch: 78031

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			04/12/24 11:37	1

Lab Sample ID: LCS 880-77959/2-A
Matrix: Solid
Analysis Batch: 78031

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	239.0		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-77959/3-A
Matrix: Solid
Analysis Batch: 78031

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	239.9		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 880-42091-6 MS
Matrix: Solid
Analysis Batch: 78031

Client Sample ID: SB-20-10'-11'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	162		252	393.1		mg/Kg		92	90 - 110

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-42091-6 MSD
Matrix: Solid
Analysis Batch: 78031

Client Sample ID: SB-20-10'-11'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	162		252	393.3		mg/Kg		92	90 - 110	0	20

Lab Sample ID: MB 880-77960/1-A
Matrix: Solid
Analysis Batch: 78208

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			04/15/24 09:02	1

Lab Sample ID: LCS 880-77960/2-A
Matrix: Solid
Analysis Batch: 78208

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	237.8		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-77960/3-A
Matrix: Solid
Analysis Batch: 78208

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	239.0		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

GC VOA

Analysis Batch: 77789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-11	SB-23-0'-1'	Total/NA	Solid	8021B	77985
880-42091-12	SB-23-2'-3'	Total/NA	Solid	8021B	77985
880-42091-13	SB-24-0'-1'	Total/NA	Solid	8021B	77985
880-42091-14	SB-24-2'-3'	Total/NA	Solid	8021B	77985
880-42091-15	SB-25-0'-1'	Total/NA	Solid	8021B	77985
880-42091-16	SB-25-2'-3'	Total/NA	Solid	8021B	77985
MB 880-77985/5-A	Method Blank	Total/NA	Solid	8021B	77985
LCS 880-77985/1-A	Lab Control Sample	Total/NA	Solid	8021B	77985
LCSD 880-77985/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	77985
880-42091-11 MS	SB-23-0'-1'	Total/NA	Solid	8021B	77985
880-42091-11 MSD	SB-23-0'-1'	Total/NA	Solid	8021B	77985

Prep Batch: 77856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Total/NA	Solid	5030B	
880-42091-2	SB-19-6'-7'	Total/NA	Solid	5030B	
880-42091-3	SB-19-8'-9'	Total/NA	Solid	5030B	
880-42091-4	SB-20-4'-5'	Total/NA	Solid	5030B	
880-42091-5	SB-20-8'-9'	Total/NA	Solid	5030B	
880-42091-6	SB-20-10'-11'	Total/NA	Solid	5030B	
880-42091-7	SB-21-0'-1'	Total/NA	Solid	5030B	
880-42091-8	SB-21-2'-3'	Total/NA	Solid	5030B	
880-42091-9	SB-22-0'-1'	Total/NA	Solid	5030B	
880-42091-10	SB-22-2'-3'	Total/NA	Solid	5030B	
MB 880-77856/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-77856/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-77856/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
880-42091-1 MS	SB-19-4'-5'	Total/NA	Solid	5030B	
880-42091-1 MSD	SB-19-4'-5'	Total/NA	Solid	5030B	

Analysis Batch: 77928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Total/NA	Solid	8021B	77856
880-42091-2	SB-19-6'-7'	Total/NA	Solid	8021B	77856
880-42091-3	SB-19-8'-9'	Total/NA	Solid	8021B	77856
880-42091-4	SB-20-4'-5'	Total/NA	Solid	8021B	77856
880-42091-5	SB-20-8'-9'	Total/NA	Solid	8021B	77856
880-42091-6	SB-20-10'-11'	Total/NA	Solid	8021B	77856
880-42091-7	SB-21-0'-1'	Total/NA	Solid	8021B	77856
880-42091-8	SB-21-2'-3'	Total/NA	Solid	8021B	77856
880-42091-9	SB-22-0'-1'	Total/NA	Solid	8021B	77856
880-42091-10	SB-22-2'-3'	Total/NA	Solid	8021B	77856
MB 880-77856/5-A	Method Blank	Total/NA	Solid	8021B	77856
LCS 880-77856/1-A	Lab Control Sample	Total/NA	Solid	8021B	77856
LCSD 880-77856/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	77856
880-42091-1 MS	SB-19-4'-5'	Total/NA	Solid	8021B	77856
880-42091-1 MSD	SB-19-4'-5'	Total/NA	Solid	8021B	77856

Prep Batch: 77985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-11	SB-23-0'-1'	Total/NA	Solid	5030B	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

GC VOA (Continued)

Prep Batch: 77985 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-12	SB-23-2'-3'	Total/NA	Solid	5030B	
880-42091-13	SB-24-0'-1'	Total/NA	Solid	5030B	
880-42091-14	SB-24-2'-3'	Total/NA	Solid	5030B	
880-42091-15	SB-25-0'-1'	Total/NA	Solid	5030B	
880-42091-16	SB-25-2'-3'	Total/NA	Solid	5030B	
MB 880-77985/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-77985/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-77985/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
880-42091-11 MS	SB-23-0'-1'	Total/NA	Solid	5030B	
880-42091-11 MSD	SB-23-0'-1'	Total/NA	Solid	5030B	

Analysis Batch: 78074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Total/NA	Solid	Total BTEX	
880-42091-2	SB-19-6'-7'	Total/NA	Solid	Total BTEX	
880-42091-3	SB-19-8'-9'	Total/NA	Solid	Total BTEX	
880-42091-4	SB-20-4'-5'	Total/NA	Solid	Total BTEX	
880-42091-5	SB-20-8'-9'	Total/NA	Solid	Total BTEX	
880-42091-6	SB-20-10'-11'	Total/NA	Solid	Total BTEX	
880-42091-7	SB-21-0'-1'	Total/NA	Solid	Total BTEX	
880-42091-8	SB-21-2'-3'	Total/NA	Solid	Total BTEX	
880-42091-9	SB-22-0'-1'	Total/NA	Solid	Total BTEX	
880-42091-10	SB-22-2'-3'	Total/NA	Solid	Total BTEX	
880-42091-11	SB-23-0'-1'	Total/NA	Solid	Total BTEX	
880-42091-12	SB-23-2'-3'	Total/NA	Solid	Total BTEX	
880-42091-13	SB-24-0'-1'	Total/NA	Solid	Total BTEX	
880-42091-14	SB-24-2'-3'	Total/NA	Solid	Total BTEX	
880-42091-15	SB-25-0'-1'	Total/NA	Solid	Total BTEX	
880-42091-16	SB-25-2'-3'	Total/NA	Solid	Total BTEX	
880-42091-17	SB-26-0'-1'	Total/NA	Solid	Total BTEX	
880-42091-18	SB-26-2'-3'	Total/NA	Solid	Total BTEX	
880-42091-19	SB-27-0'-1'	Total/NA	Solid	Total BTEX	
880-42091-20	SB-27-2'-3'	Total/NA	Solid	Total BTEX	

Analysis Batch: 78124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-17	SB-26-0'-1'	Total/NA	Solid	8021B	78159
880-42091-18	SB-26-2'-3'	Total/NA	Solid	8021B	78159
880-42091-19	SB-27-0'-1'	Total/NA	Solid	8021B	78159
880-42091-20	SB-27-2'-3'	Total/NA	Solid	8021B	78159
MB 880-78159/5-A	Method Blank	Total/NA	Solid	8021B	78159
LCS 880-78159/1-A	Lab Control Sample	Total/NA	Solid	8021B	78159
LCSD 880-78159/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	78159

Prep Batch: 78159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-17	SB-26-0'-1'	Total/NA	Solid	5030B	
880-42091-18	SB-26-2'-3'	Total/NA	Solid	5030B	
880-42091-19	SB-27-0'-1'	Total/NA	Solid	5030B	
880-42091-20	SB-27-2'-3'	Total/NA	Solid	5030B	
MB 880-78159/5-A	Method Blank	Total/NA	Solid	5030B	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

GC VOA (Continued)

Prep Batch: 78159 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-78159/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-78159/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

GC Semi VOA

Analysis Batch: 77779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-12	SB-23-2'-3'	Total/NA	Solid	8015B NM	77844
880-42091-13	SB-24-0'-1'	Total/NA	Solid	8015B NM	77844
880-42091-14	SB-24-2'-3'	Total/NA	Solid	8015B NM	77844
880-42091-15	SB-25-0'-1'	Total/NA	Solid	8015B NM	77844
880-42091-16	SB-25-2'-3'	Total/NA	Solid	8015B NM	77844
880-42091-17	SB-26-0'-1'	Total/NA	Solid	8015B NM	77844
880-42091-18	SB-26-2'-3'	Total/NA	Solid	8015B NM	77844
880-42091-19	SB-27-0'-1'	Total/NA	Solid	8015B NM	77844
880-42091-20	SB-27-2'-3'	Total/NA	Solid	8015B NM	77844
MB 880-77844/1-A	Method Blank	Total/NA	Solid	8015B NM	77844
LCS 880-77844/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	77844
LCSD 880-77844/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	77844
880-42091-12 MS	SB-23-2'-3'	Total/NA	Solid	8015B NM	77844
880-42091-12 MSD	SB-23-2'-3'	Total/NA	Solid	8015B NM	77844

Analysis Batch: 77780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Total/NA	Solid	8015B NM	77808
880-42091-2	SB-19-6'-7'	Total/NA	Solid	8015B NM	77808
880-42091-3	SB-19-8'-9'	Total/NA	Solid	8015B NM	77808
880-42091-4	SB-20-4'-5'	Total/NA	Solid	8015B NM	77808
880-42091-5	SB-20-8'-9'	Total/NA	Solid	8015B NM	77808
880-42091-6	SB-20-10'-11'	Total/NA	Solid	8015B NM	77808
880-42091-7	SB-21-0'-1'	Total/NA	Solid	8015B NM	77808
880-42091-8	SB-21-2'-3'	Total/NA	Solid	8015B NM	77808
880-42091-9	SB-22-0'-1'	Total/NA	Solid	8015B NM	77808
880-42091-10	SB-22-2'-3'	Total/NA	Solid	8015B NM	77808
880-42091-11	SB-23-0'-1'	Total/NA	Solid	8015B NM	77808
MB 880-77808/1-A	Method Blank	Total/NA	Solid	8015B NM	77808
LCS 880-77808/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	77808
LCSD 880-77808/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	77808

Prep Batch: 77808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Total/NA	Solid	8015NM Prep	
880-42091-2	SB-19-6'-7'	Total/NA	Solid	8015NM Prep	
880-42091-3	SB-19-8'-9'	Total/NA	Solid	8015NM Prep	
880-42091-4	SB-20-4'-5'	Total/NA	Solid	8015NM Prep	
880-42091-5	SB-20-8'-9'	Total/NA	Solid	8015NM Prep	
880-42091-6	SB-20-10'-11'	Total/NA	Solid	8015NM Prep	
880-42091-7	SB-21-0'-1'	Total/NA	Solid	8015NM Prep	
880-42091-8	SB-21-2'-3'	Total/NA	Solid	8015NM Prep	
880-42091-9	SB-22-0'-1'	Total/NA	Solid	8015NM Prep	
880-42091-10	SB-22-2'-3'	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

GC Semi VOA (Continued)

Prep Batch: 77808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-11	SB-23-0'-1'	Total/NA	Solid	8015NM Prep	
MB 880-77808/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-77808/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-77808/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 77844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-12	SB-23-2'-3'	Total/NA	Solid	8015NM Prep	
880-42091-13	SB-24-0'-1'	Total/NA	Solid	8015NM Prep	
880-42091-14	SB-24-2'-3'	Total/NA	Solid	8015NM Prep	
880-42091-15	SB-25-0'-1'	Total/NA	Solid	8015NM Prep	
880-42091-16	SB-25-2'-3'	Total/NA	Solid	8015NM Prep	
880-42091-17	SB-26-0'-1'	Total/NA	Solid	8015NM Prep	
880-42091-18	SB-26-2'-3'	Total/NA	Solid	8015NM Prep	
880-42091-19	SB-27-0'-1'	Total/NA	Solid	8015NM Prep	
880-42091-20	SB-27-2'-3'	Total/NA	Solid	8015NM Prep	
MB 880-77844/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-77844/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-77844/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-42091-12 MS	SB-23-2'-3'	Total/NA	Solid	8015NM Prep	
880-42091-12 MSD	SB-23-2'-3'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 77911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Total/NA	Solid	8015 NM	
880-42091-2	SB-19-6'-7'	Total/NA	Solid	8015 NM	
880-42091-3	SB-19-8'-9'	Total/NA	Solid	8015 NM	
880-42091-4	SB-20-4'-5'	Total/NA	Solid	8015 NM	
880-42091-5	SB-20-8'-9'	Total/NA	Solid	8015 NM	
880-42091-6	SB-20-10'-11'	Total/NA	Solid	8015 NM	
880-42091-7	SB-21-0'-1'	Total/NA	Solid	8015 NM	
880-42091-8	SB-21-2'-3'	Total/NA	Solid	8015 NM	
880-42091-9	SB-22-0'-1'	Total/NA	Solid	8015 NM	
880-42091-10	SB-22-2'-3'	Total/NA	Solid	8015 NM	
880-42091-11	SB-23-0'-1'	Total/NA	Solid	8015 NM	
880-42091-12	SB-23-2'-3'	Total/NA	Solid	8015 NM	
880-42091-13	SB-24-0'-1'	Total/NA	Solid	8015 NM	
880-42091-14	SB-24-2'-3'	Total/NA	Solid	8015 NM	
880-42091-15	SB-25-0'-1'	Total/NA	Solid	8015 NM	
880-42091-16	SB-25-2'-3'	Total/NA	Solid	8015 NM	
880-42091-17	SB-26-0'-1'	Total/NA	Solid	8015 NM	
880-42091-18	SB-26-2'-3'	Total/NA	Solid	8015 NM	
880-42091-19	SB-27-0'-1'	Total/NA	Solid	8015 NM	
880-42091-20	SB-27-2'-3'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 77959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Soluble	Solid	DI Leach	
880-42091-2	SB-19-6'-7'	Soluble	Solid	DI Leach	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

HPLC/IC (Continued)

Leach Batch: 77959 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-3	SB-19-8'-9'	Soluble	Solid	DI Leach	
880-42091-4	SB-20-4'-5'	Soluble	Solid	DI Leach	
880-42091-5	SB-20-8'-9'	Soluble	Solid	DI Leach	
880-42091-6	SB-20-10'-11'	Soluble	Solid	DI Leach	
880-42091-7	SB-21-0'-1'	Soluble	Solid	DI Leach	
880-42091-8	SB-21-2'-3'	Soluble	Solid	DI Leach	
880-42091-9	SB-22-0'-1'	Soluble	Solid	DI Leach	
880-42091-10	SB-22-2'-3'	Soluble	Solid	DI Leach	
880-42091-11	SB-23-0'-1'	Soluble	Solid	DI Leach	
880-42091-12	SB-23-2'-3'	Soluble	Solid	DI Leach	
880-42091-13	SB-24-0'-1'	Soluble	Solid	DI Leach	
880-42091-14	SB-24-2'-3'	Soluble	Solid	DI Leach	
880-42091-15	SB-25-0'-1'	Soluble	Solid	DI Leach	
MB 880-77959/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-77959/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-77959/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-42091-6 MS	SB-20-10'-11'	Soluble	Solid	DI Leach	
880-42091-6 MSD	SB-20-10'-11'	Soluble	Solid	DI Leach	

Leach Batch: 77960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-16	SB-25-2'-3'	Soluble	Solid	DI Leach	
880-42091-17	SB-26-0'-1'	Soluble	Solid	DI Leach	
880-42091-18	SB-26-2'-3'	Soluble	Solid	DI Leach	
880-42091-19	SB-27-0'-1'	Soluble	Solid	DI Leach	
880-42091-20	SB-27-2'-3'	Soluble	Solid	DI Leach	
MB 880-77960/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-77960/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-77960/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 78031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-1	SB-19-4'-5'	Soluble	Solid	300.0	77959
880-42091-2	SB-19-6'-7'	Soluble	Solid	300.0	77959
880-42091-3	SB-19-8'-9'	Soluble	Solid	300.0	77959
880-42091-4	SB-20-4'-5'	Soluble	Solid	300.0	77959
880-42091-5	SB-20-8'-9'	Soluble	Solid	300.0	77959
880-42091-6	SB-20-10'-11'	Soluble	Solid	300.0	77959
880-42091-7	SB-21-0'-1'	Soluble	Solid	300.0	77959
880-42091-8	SB-21-2'-3'	Soluble	Solid	300.0	77959
880-42091-9	SB-22-0'-1'	Soluble	Solid	300.0	77959
880-42091-10	SB-22-2'-3'	Soluble	Solid	300.0	77959
880-42091-11	SB-23-0'-1'	Soluble	Solid	300.0	77959
880-42091-12	SB-23-2'-3'	Soluble	Solid	300.0	77959
880-42091-13	SB-24-0'-1'	Soluble	Solid	300.0	77959
880-42091-14	SB-24-2'-3'	Soluble	Solid	300.0	77959
880-42091-15	SB-25-0'-1'	Soluble	Solid	300.0	77959
MB 880-77959/1-A	Method Blank	Soluble	Solid	300.0	77959
LCS 880-77959/2-A	Lab Control Sample	Soluble	Solid	300.0	77959
LCSD 880-77959/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	77959
880-42091-6 MS	SB-20-10'-11'	Soluble	Solid	300.0	77959

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

HPLC/IC (Continued)

Analysis Batch: 78031 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-6 MSD	SB-20-10'-11'	Soluble	Solid	300.0	77959

Analysis Batch: 78208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42091-16	SB-25-2'-3'	Soluble	Solid	300.0	77960
880-42091-17	SB-26-0'-1'	Soluble	Solid	300.0	77960
880-42091-18	SB-26-2'-3'	Soluble	Solid	300.0	77960
880-42091-19	SB-27-0'-1'	Soluble	Solid	300.0	77960
880-42091-20	SB-27-2'-3'	Soluble	Solid	300.0	77960
MB 880-77960/1-A	Method Blank	Soluble	Solid	300.0	77960
LCS 880-77960/2-A	Lab Control Sample	Soluble	Solid	300.0	77960
LCSD 880-77960/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	77960

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-19-4'-5'

Lab Sample ID: 880-42091-1
Matrix: Solid
Date Collected: 04/08/24 08:55
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 14:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 14:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 20:29	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 20:29	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 12:53	SMC	EET MID

Client Sample ID: SB-19-6'-7'

Lab Sample ID: 880-42091-2
Matrix: Solid
Date Collected: 04/08/24 09:10
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 15:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 21:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 21:10	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 12:59	SMC	EET MID

Client Sample ID: SB-19-8'-9'

Lab Sample ID: 880-42091-3
Matrix: Solid
Date Collected: 04/08/24 09:25
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 15:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 21:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 21:31	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 13:05	SMC	EET MID

Client Sample ID: SB-20-4'-5'

Lab Sample ID: 880-42091-4
Matrix: Solid
Date Collected: 04/08/24 10:10
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 16:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 16:13	SM	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-20-4'-5'

Lab Sample ID: 880-42091-4
Date Collected: 04/08/24 10:10
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			77911	04/10/24 21:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 21:52	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78031	04/12/24 13:12	SMC	EET MID

Client Sample ID: SB-20-8'-9'

Lab Sample ID: 880-42091-5
Date Collected: 04/08/24 10:50
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.98 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 16:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 16:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 22:13	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 22:13	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 13:18	SMC	EET MID

Client Sample ID: SB-20-10'-11'

Lab Sample ID: 880-42091-6
Date Collected: 04/08/24 11:15
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 17:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 22:34	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 22:34	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 13:25	SMC	EET MID

Client Sample ID: SB-21-0'-1'

Lab Sample ID: 880-42091-7
Date Collected: 04/08/24 11:50
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 17:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 17:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 22:55	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 22:55	AJ	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-21-0'-1'

Lab Sample ID: 880-42091-7
Matrix: Solid
Date Collected: 04/08/24 11:50
Date Received: 04/10/24 13:41

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	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 13:44	SMC	EET MID

Client Sample ID: SB-21-2'-3'

Lab Sample ID: 880-42091-8
Matrix: Solid
Date Collected: 04/08/24 11:55
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 17:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 17:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 23:16	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 23:16	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 13:50	SMC	EET MID

Client Sample ID: SB-22-0'-1'

Lab Sample ID: 880-42091-9
Matrix: Solid
Date Collected: 04/08/24 12:15
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 18:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 18:18	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 23:38	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 23:38	AJ	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 14:09	SMC	EET MID

Client Sample ID: SB-22-2'-3'

Lab Sample ID: 880-42091-10
Matrix: Solid
Date Collected: 04/08/24 12:20
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 g	5 mL	77856	04/10/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77928	04/11/24 18:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/11/24 18:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 23:59	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/10/24 23:59	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 14:15	SMC	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-23-0'-1'

Lab Sample ID: 880-42091-11
Date Collected: 04/08/24 12:45
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	77985	04/12/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77789	04/12/24 13:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/12/24 13:33	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/11/24 00:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	77808	04/10/24 10:28	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77780	04/11/24 00:20	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 14:22	SMC	EET MID

Client Sample ID: SB-23-2'-3'

Lab Sample ID: 880-42091-12
Date Collected: 04/08/24 12:50
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.95 g	5 mL	77985	04/12/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77789	04/12/24 13:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/12/24 13:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 16:38	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 16:38	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 14:28	SMC	EET MID

Client Sample ID: SB-24-0'-1'

Lab Sample ID: 880-42091-13
Date Collected: 04/08/24 13:10
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.98 g	5 mL	77985	04/12/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77789	04/12/24 14:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/12/24 14:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 17:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 17:42	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 14:34	SMC	EET MID

Client Sample ID: SB-24-2'-3'

Lab Sample ID: 880-42091-14
Date Collected: 04/08/24 13:15
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 g	5 mL	77985	04/12/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77789	04/12/24 14:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/12/24 14:35	SM	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-24-2'-3'

Lab Sample ID: 880-42091-14
Date Collected: 04/08/24 13:15
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			77911	04/10/24 18:03	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 18:03	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 14:41	SMC	EET MID

Client Sample ID: SB-25-0'-1'

Lab Sample ID: 880-42091-15
Date Collected: 04/08/24 13:40
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	5 mL	77985	04/12/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77789	04/12/24 14:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/12/24 14:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 18:24	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 18:24	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	77959	04/11/24 14:46	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78031	04/12/24 14:47	SMC	EET MID

Client Sample ID: SB-25-2'-3'

Lab Sample ID: 880-42091-16
Date Collected: 04/08/24 13:45
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.00 g	5 mL	77985	04/12/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77789	04/12/24 15:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/12/24 15:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 18:44	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 18:44	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 09:40	SMC	EET MID

Client Sample ID: SB-26-0'-1'

Lab Sample ID: 880-42091-17
Date Collected: 04/08/24 14:05
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	5 mL	78159	04/14/24 08:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78124	04/15/24 16:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/15/24 16:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 19:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 19:05	SM	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Client Sample ID: SB-26-0'-1'

Lab Sample ID: 880-42091-17
Date Collected: 04/08/24 14:05
Matrix: Solid
Date Received: 04/10/24 13:41

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	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 09:46	SMC	EET MID

Client Sample ID: SB-26-2'-3'

Lab Sample ID: 880-42091-18
Date Collected: 04/08/24 14:10
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.98 g	5 mL	78159	04/14/24 08:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78124	04/15/24 16:36	SM	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/15/24 16:36	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 19:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 19:26	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 09:53	SMC	EET MID

Client Sample ID: SB-27-0'-1'

Lab Sample ID: 880-42091-19
Date Collected: 04/08/24 14:35
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.96 g	5 mL	78159	04/14/24 08:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78124	04/15/24 16:56	SM	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/15/24 16:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 21:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 21:31	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 09:59	SMC	EET MID

Client Sample ID: SB-27-2'-3'

Lab Sample ID: 880-42091-20
Date Collected: 04/08/24 14:40
Matrix: Solid
Date Received: 04/10/24 13:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	78159	04/14/24 08:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78124	04/15/24 17:16	SM	EET MID
Total/NA	Analysis	Total BTEX		1			78074	04/15/24 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			77911	04/10/24 19:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 19:47	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 10:18	SMC	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5030B	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.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECION ST.

Job ID: 880-42091-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-42091-1	SB-19-4'-5'	Solid	04/08/24 08:55	04/10/24 13:41
880-42091-2	SB-19-6'-7'	Solid	04/08/24 09:10	04/10/24 13:41
880-42091-3	SB-19-8'-9'	Solid	04/08/24 09:25	04/10/24 13:41
880-42091-4	SB-20-4'-5'	Solid	04/08/24 10:10	04/10/24 13:41
880-42091-5	SB-20-8'-9'	Solid	04/08/24 10:50	04/10/24 13:41
880-42091-6	SB-20-10'-11'	Solid	04/08/24 11:15	04/10/24 13:41
880-42091-7	SB-21-0'-1'	Solid	04/08/24 11:50	04/10/24 13:41
880-42091-8	SB-21-2'-3'	Solid	04/08/24 11:55	04/10/24 13:41
880-42091-9	SB-22-0'-1'	Solid	04/08/24 12:15	04/10/24 13:41
880-42091-10	SB-22-2'-3'	Solid	04/08/24 12:20	04/10/24 13:41
880-42091-11	SB-23-0'-1'	Solid	04/08/24 12:45	04/10/24 13:41
880-42091-12	SB-23-2'-3'	Solid	04/08/24 12:50	04/10/24 13:41
880-42091-13	SB-24-0'-1'	Solid	04/08/24 13:10	04/10/24 13:41
880-42091-14	SB-24-2'-3'	Solid	04/08/24 13:15	04/10/24 13:41
880-42091-15	SB-25-0'-1'	Solid	04/08/24 13:40	04/10/24 13:41
880-42091-16	SB-25-2'-3'	Solid	04/08/24 13:45	04/10/24 13:41
880-42091-17	SB-26-0'-1'	Solid	04/08/24 14:05	04/10/24 13:41
880-42091-18	SB-26-2'-3'	Solid	04/08/24 14:10	04/10/24 13:41
880-42091-19	SB-27-0'-1'	Solid	04/08/24 14:35	04/10/24 13:41
880-42091-20	SB-27-2'-3'	Solid	04/08/24 14:40	04/10/24 13:41

Released to Imaging: 7/25/2024 2:27:38 PM

Received by OCD: 7/23/2024 9:19:52 AM

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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

880-42091 Chain of Custody

Project Manager:	Morgan Jordan	Bill to: (if different)	
Company Name:	Arcadis	Company Name:	
Address:	1004 N Big Springs Suite 300	Address:	
City, State ZIP:	Midland, Tx 79701	City, State ZIP:	
Phone:	281-644-9437	Email:	Douglas.Jordan@Arcadis.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:	Water Injection St.	Turn Around	☑ Routine ☐ Rush
Project Number:	30209634	Due Date:	
Project Location	Lovington, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Heath Boyd		
PO #			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR8
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-.1
Sample Custody Seals.	Yes No (N/A)	Temperature Reading:	1.4
Total Containers:		Corrected Temperature:	1.5

ANALYSIS REQUEST

Preservative Codes

None NO — DI Water: H_2O
Cool Cool — MeOH Me
HCL. HC — HNO_3 HN
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	8021B	8015 MOD. ext	300.0 - CHLORIDE, COD	Sample Comments
SB-19-4'-5'	S	4/8/24	855		G	1		X	X	X	
SB-19-6'-7'			910			1		X	X	X	
SB-19-8'-9'			925			1		X	X	X	
SB-20-4'-5'			1010			1		X	X	X	
SB-20-8'-9'			1050			1		X	X	X	
SB-20-10'-11'			1115			1		X	X	X	
SB-21-0'-1'			1150			1		X	X	X	
SB-21-2'-3'			1155			1		X	X	X	
SB-22-0'-1'			1215			1		X	X	X	
SB-22-2'-3'	X	X	1220		X	1		X	X	X	

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	Dallely Gonzales	4/9/24	2	[illegible]	4/10/24 1400
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Released to Imaging: 7/25/2024 2:27:38 PM

Received by OCD: 7/23/2024 9:19:52 AM

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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

Work Order No: _____ Loc: 880 **42091**

www.xenco.com Pac

Project Manager:	Morgan Jordan	Bill to. (if different)	
Company Name:	Arcadis	Company Name:	
Address.	1004 N Big Springs Suite [redacted]	Address.	
City, State ZIP:	Midland, Tx 79701	City, State ZIP:	
Phone:	281-644-9437	Email.	[redacted]. Jordan@Arcadis.com

Work Order Comment

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:	Water Injection St.	Turn Around	☑ Routine ☐ Rush
Project Number:	30209634		
Project Location:	Lovington, NM	Due Date:	
Sampler's Name:	Heath Boyd	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:		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Temperature Reading:		
Total Containers.		Corrected Temperature:		

ANALYSIS REQUEST

Preservative Codes: None NO; DI Water H_2O; Cool Cool; MeOH Me; HCL. HC; HNO_3 HN; 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	8021B	8015 MOD_Ext	300_ORGFM_28D	Sample Comments
SB-23-0-1'	S	4/8/24	1245		G	1		X	X	X	
SB-23-2'-3'			1250			1		X	X	X	
SB-24-0-1'			1310			1		X	X	X	
SB-24-2'-3'			1315			1		X	X	X	
SB-25-0-1'			1340			1		X	X	X	
SB-25-2'-3'			1345			1		X	X	X	
SB-26-0-1'			1405			1		X	X	X	
SB-26-2'-3'			1410			1		X	X	X	
SB-27-0-1'			1435			1		X	X	X	
SB-27-2'-3'	X	X	1440		X	1		X	X	X	

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	Dallely Gonzales	04/9/24	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 880-42091-1
SDG Number: Lovington, NM

Login Number: 42091
List Number: 1
Creator: Vasquez, Julisa

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.	True	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
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: Mr. Morgan Jordan
Arcadis U.S., Inc.
1004 North Big Spring
Suite 300
Midland, Texas 79701

Generated 4/16/2024 5:21:53 PM

JOB DESCRIPTION

WATER INJECTION ST.
Lovington, NM

JOB NUMBER

880-42093-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

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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
John Builes, Project Manager
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Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

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
*1	LCS/LCSD RPD 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
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.

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: Arcadis U.S., Inc.
Project: WATER INJECTION ST.

Job ID: 880-42093-1

Job ID: 880-42093-1 Eurofins Midland

Job Narrative
880-42093-1

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 4/10/2024 2:01 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 1.3°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SB-12-0'-1' (880-42093-1), SB-12-2'-3' (880-42093-2), SB-13-0'-1' (880-42093-3), SB-13-2'-3' (880-42093-4), SB-14-3' (880-42093-5), SB-14-4'-5' (880-42093-6), SB-15-0'-1' (880-42093-7), SB-15-2'-3' (880-42093-8), SB-16-0'-1' (880-42093-9), SB-16-2'-3' (880-42093-10), SB-17-0'-1' (880-42093-11), SB-17-2'-3' (880-42093-12), SB-18-0'-1' (880-42093-13) and SB-18-2'-3' (880-42093-14).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SB-18-0'-1' (880-42093-13) and SB-18-2'-3' (880-42093-14). 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
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SB-12-2'-3' (880-42093-2), SB-14-3' (880-42093-5), SB-14-4'-5' (880-42093-6), SB-15-2'-3' (880-42093-8), SB-16-0'-1' (880-42093-9), SB-16-2'-3' (880-42093-10), SB-17-0'-1' (880-42093-11), (880-42091-A-12-B MS) and (880-42091-A-12-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-77844 and analytical batch 880-77779 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SB-18-2'-3' (880-42093-14). 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.

HPLC/IC
Method 300_ORGFM_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-77960 and analytical batch 880-78208 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.

SB-12-0'-1' (880-42093-1), SB-12-2'-3' (880-42093-2), SB-13-0'-1' (880-42093-3) and SB-13-2'-3' (880-42093-4)

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-12-0'-1'

Lab Sample ID: 880-42093-1
Date Collected: 04/05/24 09:30
Matrix: Solid
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		04/10/24 15:00	04/10/24 16:56	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/10/24 15:00	04/10/24 16:56	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/10/24 15:00	04/10/24 16:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/10/24 15:00	04/10/24 16:56	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/10/24 15:00	04/10/24 16:56	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/10/24 15:00	04/10/24 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*04/10/24 15:00*	*04/10/24 16:56*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*04/10/24 15:00*	*04/10/24 16:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			04/10/24 16:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**98.8**		50.0	15.0	mg/Kg			04/10/24 20:08	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	**41.6**	**J**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 20:08	1
Diesel Range Organics (Over C10-C28)	**57.2**	***1**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 20:08	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*04/10/24 14:23*	*04/10/24 20:08*	*1*
o-Terphenyl	*116*		*70 - 130*	*04/10/24 14:23*	*04/10/24 20:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1120**		25.1	1.98	mg/Kg			04/15/24 10:24	5

Client Sample ID: SB-12-2'-3'

Lab Sample ID: 880-42093-2
Date Collected: 04/05/24 09:35
Matrix: Solid
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/10/24 15:00	04/10/24 18:17	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/10/24 15:00	04/10/24 18:17	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/10/24 15:00	04/10/24 18:17	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:00	04/10/24 18:17	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/10/24 15:00	04/10/24 18:17	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:00	04/10/24 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*04/10/24 15:00*	*04/10/24 18:17*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*04/10/24 15:00*	*04/10/24 18:17*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-12-2'-3'

Lab Sample ID: 880-42093-2
Matrix: Solid

Date Collected: 04/05/24 09:35
Date Received: 04/10/24 14:01

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			04/10/24 18:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**69.4**		49.8	14.9	mg/Kg			04/10/24 20:29	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	**38.7**	**J**	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 20:29	1
Diesel Range Organics (Over C10-C28)	**30.7**	**J *1**	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 20:29	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 20:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 20:29*	*1*
o-Terphenyl	*141*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 20:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		25.0	1.97	mg/Kg			04/15/24 10:30	5

Client Sample ID: SB-13-0'-1'

Lab Sample ID: 880-42093-3
Matrix: Solid

Date Collected: 04/05/24 10:00
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		04/10/24 15:00	04/10/24 18:38	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/10/24 15:00	04/10/24 18:38	1
Ethylbenzene	**0.000669**	**J**	0.00200	0.000564	mg/Kg		04/10/24 15:00	04/10/24 18:38	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:00	04/10/24 18:38	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/10/24 15:00	04/10/24 18:38	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:00	04/10/24 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*04/10/24 15:00*	*04/10/24 18:38*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*04/10/24 15:00*	*04/10/24 18:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			04/10/24 18:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**839**		50.0	15.0	mg/Kg			04/10/24 21:10	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	**30.3**	**J**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:10	1
Diesel Range Organics (Over C10-C28)	**673**	***1**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:10	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-13-0'-1'

Lab Sample ID: 880-42093-3
Matrix: Solid

Date Collected: 04/05/24 10:00
Date Received: 04/10/24 14:01

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)	136		50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*04/10/24 14:23*	*04/10/24 21:10*	*1*
o-Terphenyl	*125*		*70 - 130*	*04/10/24 14:23*	*04/10/24 21:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58.4		4.98	0.393	mg/Kg			04/15/24 10:37	1

Client Sample ID: SB-13-2'-3'

Lab Sample ID: 880-42093-4
Matrix: Solid

Date Collected: 04/05/24 10:05
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00112	J	0.00199	0.000383	mg/Kg		04/10/24 15:00	04/10/24 18:59	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/10/24 15:00	04/10/24 18:59	1
Ethylbenzene	0.0709		0.00199	0.000562	mg/Kg		04/10/24 15:00	04/10/24 18:59	1
m-Xylene & p-Xylene	0.0210		0.00398	0.00100	mg/Kg		04/10/24 15:00	04/10/24 18:59	1
o-Xylene	0.00346		0.00199	0.000342	mg/Kg		04/10/24 15:00	04/10/24 18:59	1
Xylenes, Total	0.0245		0.00398	0.00100	mg/Kg		04/10/24 15:00	04/10/24 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*04/10/24 15:00*	*04/10/24 18:59*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*04/10/24 15:00*	*04/10/24 18:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0965		0.00398	0.00100	mg/Kg			04/10/24 18:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	1170		49.9	15.0	mg/Kg			04/10/24 21:52	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	59.4		49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:52	1
Diesel Range Organics (Over C10-C28)	1030	*1	49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:52	1
Oil Range Organics (Over C28-C36)	80.4		49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*04/10/24 14:23*	*04/10/24 21:52*	*1*
o-Terphenyl	*128*		*70 - 130*	*04/10/24 14:23*	*04/10/24 21:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	403		5.03	0.397	mg/Kg			04/15/24 10:43	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-14-3'

Lab Sample ID: 880-42093-5
Matrix: Solid

Date Collected: 04/05/24 10:30
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000382	U	0.00198	0.000382	mg/Kg		04/10/24 15:00	04/10/24 19:19	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		04/10/24 15:00	04/10/24 19:19	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		04/10/24 15:00	04/10/24 19:19	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		04/10/24 15:00	04/10/24 19:19	1
o-Xylene	**0.00771**		0.00198	0.000341	mg/Kg		04/10/24 15:00	04/10/24 19:19	1
Xylenes, Total	**0.00771**		0.00397	0.00100	mg/Kg		04/10/24 15:00	04/10/24 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*04/10/24 15:00*	*04/10/24 19:19*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*04/10/24 15:00*	*04/10/24 19:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00771**		0.00397	0.00100	mg/Kg			04/10/24 19:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**110**		50.0	15.0	mg/Kg			04/10/24 22:34	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	**32.2**	**J**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 22:34	1
Diesel Range Organics (Over C10-C28)	**78.1**	***1**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 22:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 22:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 22:34*	*1*
o-Terphenyl	*143*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 22:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.8**		5.00	0.395	mg/Kg			04/15/24 10:49	1

Client Sample ID: SB-14-4'-5'

Lab Sample ID: 880-42093-6
Matrix: Solid

Date Collected: 04/05/24 10:35
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		04/10/24 15:00	04/10/24 19:39	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/10/24 15:00	04/10/24 19:39	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/10/24 15:00	04/10/24 19:39	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:00	04/10/24 19:39	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/10/24 15:00	04/10/24 19:39	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/10/24 15:00	04/10/24 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*04/10/24 15:00*	*04/10/24 19:39*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*04/10/24 15:00*	*04/10/24 19:39*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-14-4'-5'

Lab Sample ID: 880-42093-6
Matrix: Solid

Date Collected: 04/05/24 10:35
Date Received: 04/10/24 14:01

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00399	0.00101	mg/Kg			04/10/24 19:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**114**		49.9	15.0	mg/Kg			04/10/24 22:55	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	**48.1**	**J**	49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 22:55	1
Diesel Range Organics (Over C10-C28)	**65.9**	***1**	49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 22:55	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		04/10/24 14:23	04/10/24 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 22:55*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 22:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.6**		5.04	0.398	mg/Kg			04/15/24 11:08	1

Client Sample ID: SB-15-0'-1'

Lab Sample ID: 880-42093-7
Matrix: Solid

Date Collected: 04/05/24 11:00
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/10/24 15:00	04/10/24 20:00	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		04/10/24 15:00	04/10/24 20:00	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		04/10/24 15:00	04/10/24 20:00	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		04/10/24 15:00	04/10/24 20:00	1
o-Xylene	**0.000353**	**J**	0.00201	0.000346	mg/Kg		04/10/24 15:00	04/10/24 20:00	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		04/10/24 15:00	04/10/24 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*04/10/24 15:00*	*04/10/24 20:00*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/10/24 15:00*	*04/10/24 20:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00402	0.00102	mg/Kg			04/10/24 20:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**345**		49.8	14.9	mg/Kg			04/10/24 22:13	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	**31.0**	**J**	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 22:13	1
Diesel Range Organics (Over C10-C28)	**260**	***1**	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 22:13	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-15-0'-1'

Lab Sample ID: 880-42093-7
Matrix: Solid
Date Collected: 04/05/24 11:00
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	54.1		49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/10/24 14:23*	*04/10/24 22:13*	*1*
o-Terphenyl	*120*		*70 - 130*	*04/10/24 14:23*	*04/10/24 22:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1060		25.0	1.97	mg/Kg			04/15/24 11:15	5

Client Sample ID: SB-15-2'-3'

Lab Sample ID: 880-42093-8
Matrix: Solid
Date Collected: 04/05/24 11:05
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		04/10/24 15:00	04/10/24 20:20	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/10/24 15:00	04/10/24 20:20	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/10/24 15:00	04/10/24 20:20	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/10/24 15:00	04/10/24 20:20	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/10/24 15:00	04/10/24 20:20	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/10/24 15:00	04/10/24 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*04/10/24 15:00*	*04/10/24 20:20*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/10/24 15:00*	*04/10/24 20:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			04/10/24 20:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	98.7		49.8	14.9	mg/Kg			04/10/24 23:16	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	47.5	J	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 23:16	1
Diesel Range Organics (Over C10-C28)	51.2	*1	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 23:16	1
Oll Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		04/10/24 14:23	04/10/24 23:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 23:16*	*1*
o-Terphenyl	*149*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 23:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	957		5.04	0.398	mg/Kg			04/15/24 11:34	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-16-0'-1'

Lab Sample ID: 880-42093-9
Date Collected: 04/05/24 11:30
Matrix: Solid
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/10/24 15:00	04/10/24 20:41	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/10/24 15:00	04/10/24 20:41	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/10/24 15:00	04/10/24 20:41	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:00	04/10/24 20:41	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/10/24 15:00	04/10/24 20:41	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/10/24 15:00	04/10/24 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*04/10/24 15:00*	*04/10/24 20:41*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*04/10/24 15:00*	*04/10/24 20:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00398	0.00101	mg/Kg			04/10/24 20:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**101**		49.7	14.9	mg/Kg			04/10/24 23:38	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	**39.8**	**J**	49.7	14.9	mg/Kg		04/10/24 14:23	04/10/24 23:38	1
Diesel Range Organics (Over C10-C28)	**61.0**	***1**	49.7	14.9	mg/Kg		04/10/24 14:23	04/10/24 23:38	1
OII Range Organics (Over C28-C36)	<14.9	U	49.7	14.9	mg/Kg		04/10/24 14:23	04/10/24 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 23:38*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 23:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**323**		4.99	0.394	mg/Kg			04/15/24 11:40	1

Client Sample ID: SB-16-2'-3'

Lab Sample ID: 880-42093-10
Date Collected: 04/05/24 11:35
Matrix: Solid
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		04/10/24 15:00	04/10/24 21:01	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		04/10/24 15:00	04/10/24 21:01	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		04/10/24 15:00	04/10/24 21:01	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		04/10/24 15:00	04/10/24 21:01	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		04/10/24 15:00	04/10/24 21:01	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		04/10/24 15:00	04/10/24 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*04/10/24 15:00*	*04/10/24 21:01*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/10/24 15:00*	*04/10/24 21:01*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-16-2'-3'

Lab Sample ID: 880-42093-10
Date Collected: 04/05/24 11:35
Matrix: Solid
Date Received: 04/10/24 14:01

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			04/10/24 21:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**84.2**		50.0	15.0	mg/Kg			04/10/24 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	**40.7**	**J**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 23:59	1
Diesel Range Organics (Over C10-C28)	**43.5**	**J *1**	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 23:59	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 14:23	04/10/24 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*04/10/24 14:23*	*04/10/24 23:59*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/10/24 23:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**775**		5.03	0.397	mg/Kg			04/15/24 11:46	1

Client Sample ID: SB-17-0'-1'

Lab Sample ID: 880-42093-11
Date Collected: 04/05/24 12:00
Matrix: Solid
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/10/24 15:00	04/10/24 21:22	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/10/24 15:00	04/10/24 21:22	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/10/24 15:00	04/10/24 21:22	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/10/24 15:00	04/10/24 21:22	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/10/24 15:00	04/10/24 21:22	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/10/24 15:00	04/10/24 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*04/10/24 15:00*	*04/10/24 21:22*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*04/10/24 15:00*	*04/10/24 21:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			04/10/24 21:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**86.9**		50.0	15.0	mg/Kg			04/11/24 00:20	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	**42.1**	**J**	50.0	15.0	mg/Kg		04/10/24 14:23	04/11/24 00:20	1
Diesel Range Organics (Over C10-C28)	**44.8**	**J *1**	50.0	15.0	mg/Kg		04/10/24 14:23	04/11/24 00:20	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-17-0'-1'

Lab Sample ID: 880-42093-11
Date Collected: 04/05/24 12:00
Matrix: Solid
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 14:23	04/11/24 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*04/10/24 14:23*	*04/11/24 00:20*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*04/10/24 14:23*	*04/11/24 00:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.95**	**J**	4.98	0.393	mg/Kg			04/15/24 11:53	1

Client Sample ID: SB-17-2'-3'

Lab Sample ID: 880-42093-12
Date Collected: 04/05/24 12:05
Matrix: Solid
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/10/24 15:21	04/10/24 17:18	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		04/10/24 15:21	04/10/24 17:18	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		04/10/24 15:21	04/10/24 17:18	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		04/10/24 15:21	04/10/24 17:18	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		04/10/24 15:21	04/10/24 17:18	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		04/10/24 15:21	04/10/24 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*04/10/24 15:21*	*04/10/24 17:18*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*04/10/24 15:21*	*04/10/24 17:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00402	0.00101	mg/Kg			04/10/24 17:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**48.9**	**J**	50.0	15.0	mg/Kg			04/12/24 12:12	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	**24.6**	**J**	50.0	15.0	mg/Kg		04/12/24 11:39	04/12/24 12:12	1
Diesel Range Organics (Over C10-C28)	**24.3**	**J**	50.0	15.0	mg/Kg		04/12/24 11:39	04/12/24 12:12	1
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/12/24 11:39	04/12/24 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*04/12/24 11:39*	*04/12/24 12:12*	*1*
o-Terphenyl	*100*		*70 - 130*	*04/12/24 11:39*	*04/12/24 12:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1.60**	**J**	4.99	0.394	mg/Kg			04/15/24 11:59	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-18-0'-1'

Lab Sample ID: 880-42093-13
Matrix: Solid

Date Collected: 04/05/24 12:30
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000710	J	0.00199	0.000383	mg/Kg		04/10/24 15:21	04/10/24 17:38	1
Toluene	0.00129	J	0.00199	0.000454	mg/Kg		04/10/24 15:21	04/10/24 17:38	1
Ethylbenzene	0.00366		0.00199	0.000563	mg/Kg		04/10/24 15:21	04/10/24 17:38	1
m-Xylene & p-Xylene	0.00278	J	0.00398	0.00101	mg/Kg		04/10/24 15:21	04/10/24 17:38	1
o-Xylene	0.000668	J	0.00199	0.000343	mg/Kg		04/10/24 15:21	04/10/24 17:38	1
Xylenes, Total	0.00345	J	0.00398	0.00101	mg/Kg		04/10/24 15:21	04/10/24 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*141*	*S1+*	*70 - 130*	*04/10/24 15:21*	*04/10/24 17:38*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*04/10/24 15:21*	*04/10/24 17:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00911		0.00398	0.00101	mg/Kg			04/10/24 17:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	554		49.9	15.0	mg/Kg			04/12/24 18:25	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	<15.0	U	49.9	15.0	mg/Kg		04/12/24 11:39	04/12/24 18:25	1
Diesel Range Organics (Over C10-C28)	554		49.9	15.0	mg/Kg		04/12/24 11:39	04/12/24 18:25	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		04/12/24 11:39	04/12/24 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*04/12/24 11:39*	*04/12/24 18:25*	*1*
o-Terphenyl	*121*		*70 - 130*	*04/12/24 11:39*	*04/12/24 18:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	782		5.02	0.397	mg/Kg			04/15/24 12:05	1

Client Sample ID: SB-18-2'-3'

Lab Sample ID: 880-42093-14
Matrix: Solid

Date Collected: 04/05/24 12:35
Date Received: 04/10/24 14:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00169	J	0.00198	0.000381	mg/Kg		04/10/24 15:21	04/10/24 17:59	1
Toluene	0.0768		0.00198	0.000451	mg/Kg		04/10/24 15:21	04/10/24 17:59	1
Ethylbenzene	0.205		0.00198	0.000559	mg/Kg		04/10/24 15:21	04/10/24 17:59	1
m-Xylene & p-Xylene	0.0517		0.00396	0.00100	mg/Kg		04/10/24 15:21	04/10/24 17:59	1
o-Xylene	0.0835		0.00198	0.000341	mg/Kg		04/10/24 15:21	04/10/24 17:59	1
Xylenes, Total	0.135		0.00396	0.00100	mg/Kg		04/10/24 15:21	04/10/24 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*207*	*S1+*	*70 - 130*	*04/10/24 15:21*	*04/10/24 17:59*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/10/24 15:21*	*04/10/24 17:59*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-18-2'-3'

Lab Sample ID: 880-42093-14

Date Collected: 04/05/24 12:35
Matrix: Solid
Date Received: 04/10/24 14:01

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.419		0.00396	0.00100	mg/Kg			04/10/24 17:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5750		249	74.7	mg/Kg			04/12/24 18:46	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	174	J	249	74.7	mg/Kg		04/12/24 11:39	04/12/24 18:46	5
Diesel Range Organics (Over C10-C28)	5580		249	74.7	mg/Kg		04/12/24 11:39	04/12/24 18:46	5
Oil Range Organics (Over C28-C36)	<74.7	U	249	74.7	mg/Kg		04/12/24 11:39	04/12/24 18:46	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*04/12/24 11:39*	*04/12/24 18:46*	*5*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*04/12/24 11:39*	*04/12/24 18:46*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1540		24.9	1.97	mg/Kg			04/15/24 12:12	5

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

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

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-42093-1	SB-12-0'-1'	90	100
880-42093-2	SB-12-2'-3'	75	98
880-42093-3	SB-13-0'-1'	73	93
880-42093-4	SB-13-2'-3'	127	109
880-42093-5	SB-14-3'	77	89
880-42093-6	SB-14-4'-5'	91	88
880-42093-7	SB-15-0'-1'	93	92
880-42093-8	SB-15-2'-3'	98	92
880-42093-9	SB-16-0'-1'	79	93
880-42093-10	SB-16-2'-3'	99	90
880-42093-11	SB-17-0'-1'	80	95
880-42093-12	SB-17-2'-3'	111	88
880-42093-12 MS	SB-17-2'-3'	107	97
880-42093-12 MSD	SB-17-2'-3'	113	95
880-42093-13	SB-18-0'-1'	141 S1+	77
880-42093-14	SB-18-2'-3'	207 S1+	105
LCS 880-77815/1-A	Lab Control Sample	108	124
LCS 880-77862/1-A	Lab Control Sample	101	96
LCSD 880-77815/2-A	Lab Control Sample Dup	100	120
LCSD 880-77862/2-A	Lab Control Sample Dup	100	96
MB 880-77815/5-A	Method Blank	72	102
MB 880-77862/5-A	Method Blank	109	87

Percent Surrogate Recovery (Acceptance Limits)

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**

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-42093-1	SB-12-0'-1'	114	116
880-42093-2	SB-12-2'-3'	133 S1+	141 S1+
880-42093-3	SB-13-0'-1'	124	125
880-42093-4	SB-13-2'-3'	127	128
880-42093-5	SB-14-3'	131 S1+	143 S1+
880-42093-6	SB-14-4'-5'	139 S1+	153 S1+
880-42093-7	SB-15-0'-1'	117	120
880-42093-8	SB-15-2'-3'	135 S1+	149 S1+
880-42093-9	SB-16-0'-1'	135 S1+	146 S1+
880-42093-10	SB-16-2'-3'	130	135 S1+
880-42093-11	SB-17-0'-1'	125	131 S1+
880-42093-12	SB-17-2'-3'	85	100
880-42093-12 MS	SB-17-2'-3'	90	96
880-42093-12 MSD	SB-17-2'-3'	91	94
880-42093-13	SB-18-0'-1'	106	121
880-42093-14	SB-18-2'-3'	115	133 S1+
LCS 880-77844/2-A	Lab Control Sample	80	88

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Summary

Client: Arcadis U.S., Inc.
Job ID: 880-42093-1
Project/Site: WATER INJECTION ST.
SDG: Lovington, NM

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

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**								
LCS 880-78036/2-A	Lab Control Sample	71	89								
LCSD 880-77844/3-A	Lab Control Sample Dup	95	106								
LCSD 880-78036/3-A	Lab Control Sample Dup	76	97								
MB 880-77844/1-A	Method Blank	105	110								
MB 880-78036/1-A	Method Blank	91	104								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-77815/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77788 — **Prep Batch: 77815**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000388	U	0.00202	0.000388	mg/Kg		04/10/24 10:58	04/10/24 13:29	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		04/10/24 10:58	04/10/24 13:29	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		04/10/24 10:58	04/10/24 13:29	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		04/10/24 10:58	04/10/24 13:29	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		04/10/24 10:58	04/10/24 13:29	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		04/10/24 10:58	04/10/24 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*04/10/24 10:58*	*04/10/24 13:29*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/10/24 10:58*	*04/10/24 13:29*	*1*

Lab Sample ID: LCS 880-77815/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77788 — **Prep Batch: 77815**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08851		mg/Kg		89	70 - 130
Toluene	0.100	0.08671		mg/Kg		87	70 - 130
Ethylbenzene	0.100	0.1010		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2019		mg/Kg		101	70 - 130
o-Xylene	0.100	0.1003		mg/Kg		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*

Lab Sample ID: LCSD 880-77815/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77788 — **Prep Batch: 77815**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08436		mg/Kg		84	70 - 130	5	35
Toluene	0.100	0.08886		mg/Kg		89	70 - 130	2	35
Ethylbenzene	0.100	0.09249		mg/Kg		92	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.1837		mg/Kg		92	70 - 130	9	35
o-Xylene	0.100	0.09151		mg/Kg		92	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*

Lab Sample ID: MB 880-77862/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77790 — **Prep Batch: 77862**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/10/24 08:00	04/10/24 10:56	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/10/24 08:00	04/10/24 10:56	1

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

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

Lab Sample ID: MB 880-77862/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77790 — **Prep Batch: 77862**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/10/24 08:00	04/10/24 10:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/10/24 08:00	04/10/24 10:56	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/10/24 08:00	04/10/24 10:56	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/10/24 08:00	04/10/24 10:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/10/24 08:00*	*04/10/24 10:56*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*04/10/24 08:00*	*04/10/24 10:56*	*1*

Lab Sample ID: LCS 880-77862/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77790 — **Prep Batch: 77862**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09316		mg/Kg		93	70 - 130
Toluene	0.100	0.08679		mg/Kg		87	70 - 130
Ethylbenzene	0.100	0.08967		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1796		mg/Kg		90	70 - 130
o-Xylene	0.100	0.08946		mg/Kg		89	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-77862/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77790 — **Prep Batch: 77862**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09045		mg/Kg		90	70 - 130	3	35
Toluene	0.100	0.08379		mg/Kg		84	70 - 130	4	35
Ethylbenzene	0.100	0.08600		mg/Kg		86	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1731		mg/Kg		87	70 - 130	4	35
o-Xylene	0.100	0.08679		mg/Kg		87	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-42093-12 MS — **Client Sample ID: SB-17-2'-3'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77790 — **Prep Batch: 77862**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000387	U	0.0998	0.09629		mg/Kg		96	70 - 130
Toluene	<0.000458	U	0.0998	0.08582		mg/Kg		86	70 - 130
Ethylbenzene	<0.000567	U	0.0998	0.08365		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00101	U	0.200	0.1670		mg/Kg		84	70 - 130

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

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

Lab Sample ID: 880-42093-12 MS — **Client Sample ID: SB-17-2'-3'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77790 — **Prep Batch: 77862**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	<0.000345	U	0.0998	0.08191		mg/Kg		82	70 - 130

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

Lab Sample ID: 880-42093-12 MSD — **Client Sample ID: SB-17-2'-3'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77790 — **Prep Batch: 77862**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000387	U	0.100	0.09919		mg/Kg		99	70 - 130	3	35
Toluene	<0.000458	U	0.100	0.08773		mg/Kg		88	70 - 130	2	35
Ethylbenzene	<0.000567	U	0.100	0.08543		mg/Kg		85	70 - 130	2	35
m-Xylene & p-Xylene	<0.00101	U	0.200	0.1742		mg/Kg		87	70 - 130	4	35
o-Xylene	<0.000345	U	0.100	0.08695		mg/Kg		87	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-77844/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77779 — **Prep Batch: 77844**

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		04/10/24 08:23	04/10/24 09:36	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 08:23	04/10/24 09:36	1
OIl Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/10/24 08:23	04/10/24 09:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*04/10/24 08:23*	*04/10/24 09:36*	*1*
o-Terphenyl	*110*		*70 - 130*	*04/10/24 08:23*	*04/10/24 09:36*	*1*

Lab Sample ID: LCS 880-77844/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77779 — **Prep Batch: 77844**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	939.9		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	798.6		mg/Kg		80	70 - 130

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

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

Lab Sample ID: LCS 880-77844/2-A
Matrix: Solid
Analysis Batch: 77779

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77844

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	80		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: LCSD 880-77844/3-A
Matrix: Solid
Analysis Batch: 77779

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77844

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	952.2		mg/Kg		95	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	983.0	*1	mg/Kg		98	70 - 130	21	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	106		70 - 130

Lab Sample ID: MB 880-78036/1-A
Matrix: Solid
Analysis Batch: 77980

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78036

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		04/12/24 08:39	04/12/24 09:31	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		04/12/24 08:39	04/12/24 09:31	1
OIl Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/12/24 08:39	04/12/24 09:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	04/12/24 08:39	04/12/24 09:31	1
o-Terphenyl	104		70 - 130	04/12/24 08:39	04/12/24 09:31	1

Lab Sample ID: LCS 880-78036/2-A
Matrix: Solid
Analysis Batch: 77980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78036

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	778.0		mg/Kg		78	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	874.8		mg/Kg		87	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	71		70 - 130
o-Terphenyl	89		70 - 130

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

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

Lab Sample ID: LCSD 880-78036/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77980 — **Prep Batch: 78036**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	815.3		mg/Kg		82	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	940.2		mg/Kg		94	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*76*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 880-42093-12 MS — **Client Sample ID: SB-17-2'-3'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77980 — **Prep Batch: 78036**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	24.6	J	1000	966.3		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	24.3	J	1000	978.9		mg/Kg		95	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Lab Sample ID: 880-42093-12 MSD — **Client Sample ID: SB-17-2'-3'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 77980 — **Prep Batch: 78036**

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	24.6	J	1000	977.9		mg/Kg		95	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	24.3	J	1000	962.2		mg/Kg		94	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-77960/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78208

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			04/15/24 09:02	1

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-77960/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	237.8		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-77960/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	239.0		mg/Kg		96	90 - 110	1	20

Lab Sample ID: 880-42093-5 MS — **Client Sample ID: SB-14-3'**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.8		250	252.7		mg/Kg		97	90 - 110		

Lab Sample ID: 880-42093-5 MSD — **Client Sample ID: SB-14-3'**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78208

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.8		250	252.2		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

GC VOA

Analysis Batch: 77788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Total/NA	Solid	8021B	77815
880-42093-2	SB-12-2'-3'	Total/NA	Solid	8021B	77815
880-42093-3	SB-13-0'-1'	Total/NA	Solid	8021B	77815
880-42093-4	SB-13-2'-3'	Total/NA	Solid	8021B	77815
880-42093-5	SB-14-3'	Total/NA	Solid	8021B	77815
880-42093-6	SB-14-4'-5'	Total/NA	Solid	8021B	77815
880-42093-7	SB-15-0'-1'	Total/NA	Solid	8021B	77815
880-42093-8	SB-15-2'-3'	Total/NA	Solid	8021B	77815
880-42093-9	SB-16-0'-1'	Total/NA	Solid	8021B	77815
880-42093-10	SB-16-2'-3'	Total/NA	Solid	8021B	77815
880-42093-11	SB-17-0'-1'	Total/NA	Solid	8021B	77815
MB 880-77815/5-A	Method Blank	Total/NA	Solid	8021B	77815
LCS 880-77815/1-A	Lab Control Sample	Total/NA	Solid	8021B	77815
LCSD 880-77815/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	77815

Analysis Batch: 77790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-12	SB-17-2'-3'	Total/NA	Solid	8021B	77862
880-42093-13	SB-18-0'-1'	Total/NA	Solid	8021B	77862
880-42093-14	SB-18-2'-3'	Total/NA	Solid	8021B	77862
MB 880-77862/5-A	Method Blank	Total/NA	Solid	8021B	77862
LCS 880-77862/1-A	Lab Control Sample	Total/NA	Solid	8021B	77862
LCSD 880-77862/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	77862
880-42093-12 MS	SB-17-2'-3'	Total/NA	Solid	8021B	77862
880-42093-12 MSD	SB-17-2'-3'	Total/NA	Solid	8021B	77862

Prep Batch: 77815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Total/NA	Solid	5030B	
880-42093-2	SB-12-2'-3'	Total/NA	Solid	5030B	
880-42093-3	SB-13-0'-1'	Total/NA	Solid	5030B	
880-42093-4	SB-13-2'-3'	Total/NA	Solid	5030B	
880-42093-5	SB-14-3'	Total/NA	Solid	5030B	
880-42093-6	SB-14-4'-5'	Total/NA	Solid	5030B	
880-42093-7	SB-15-0'-1'	Total/NA	Solid	5030B	
880-42093-8	SB-15-2'-3'	Total/NA	Solid	5030B	
880-42093-9	SB-16-0'-1'	Total/NA	Solid	5030B	
880-42093-10	SB-16-2'-3'	Total/NA	Solid	5030B	
880-42093-11	SB-17-0'-1'	Total/NA	Solid	5030B	
MB 880-77815/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-77815/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-77815/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Prep Batch: 77862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-12	SB-17-2'-3'	Total/NA	Solid	5030B	
880-42093-13	SB-18-0'-1'	Total/NA	Solid	5030B	
880-42093-14	SB-18-2'-3'	Total/NA	Solid	5030B	
MB 880-77862/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-77862/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-77862/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

GC VOA (Continued)

Prep Batch: 77862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-12 MS	SB-17-2'-3'	Total/NA	Solid	5030B	
880-42093-12 MSD	SB-17-2'-3'	Total/NA	Solid	5030B	

Analysis Batch: 77917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Total/NA	Solid	Total BTEX	
880-42093-2	SB-12-2'-3'	Total/NA	Solid	Total BTEX	
880-42093-3	SB-13-0'-1'	Total/NA	Solid	Total BTEX	
880-42093-4	SB-13-2'-3'	Total/NA	Solid	Total BTEX	
880-42093-5	SB-14-3'	Total/NA	Solid	Total BTEX	
880-42093-6	SB-14-4'-5'	Total/NA	Solid	Total BTEX	
880-42093-7	SB-15-0'-1'	Total/NA	Solid	Total BTEX	
880-42093-8	SB-15-2'-3'	Total/NA	Solid	Total BTEX	
880-42093-9	SB-16-0'-1'	Total/NA	Solid	Total BTEX	
880-42093-10	SB-16-2'-3'	Total/NA	Solid	Total BTEX	
880-42093-11	SB-17-0'-1'	Total/NA	Solid	Total BTEX	
880-42093-12	SB-17-2'-3'	Total/NA	Solid	Total BTEX	
880-42093-13	SB-18-0'-1'	Total/NA	Solid	Total BTEX	
880-42093-14	SB-18-2'-3'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 77779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Total/NA	Solid	8015B NM	77844
880-42093-2	SB-12-2'-3'	Total/NA	Solid	8015B NM	77844
880-42093-3	SB-13-0'-1'	Total/NA	Solid	8015B NM	77844
880-42093-4	SB-13-2'-3'	Total/NA	Solid	8015B NM	77844
880-42093-5	SB-14-3'	Total/NA	Solid	8015B NM	77844
880-42093-6	SB-14-4'-5'	Total/NA	Solid	8015B NM	77844
880-42093-7	SB-15-0'-1'	Total/NA	Solid	8015B NM	77844
880-42093-8	SB-15-2'-3'	Total/NA	Solid	8015B NM	77844
880-42093-9	SB-16-0'-1'	Total/NA	Solid	8015B NM	77844
880-42093-10	SB-16-2'-3'	Total/NA	Solid	8015B NM	77844
880-42093-11	SB-17-0'-1'	Total/NA	Solid	8015B NM	77844
MB 880-77844/1-A	Method Blank	Total/NA	Solid	8015B NM	77844
LCS 880-77844/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	77844
LCSD 880-77844/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	77844

Prep Batch: 77844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Total/NA	Solid	8015NM Prep	
880-42093-2	SB-12-2'-3'	Total/NA	Solid	8015NM Prep	
880-42093-3	SB-13-0'-1'	Total/NA	Solid	8015NM Prep	
880-42093-4	SB-13-2'-3'	Total/NA	Solid	8015NM Prep	
880-42093-5	SB-14-3'	Total/NA	Solid	8015NM Prep	
880-42093-6	SB-14-4'-5'	Total/NA	Solid	8015NM Prep	
880-42093-7	SB-15-0'-1'	Total/NA	Solid	8015NM Prep	
880-42093-8	SB-15-2'-3'	Total/NA	Solid	8015NM Prep	
880-42093-9	SB-16-0'-1'	Total/NA	Solid	8015NM Prep	
880-42093-10	SB-16-2'-3'	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

GC Semi VOA (Continued)

Prep Batch: 77844 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-11	SB-17-0'-1'	Total/NA	Solid	8015NM Prep	
MB 880-77844/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-77844/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-77844/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 77980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-12	SB-17-2'-3'	Total/NA	Solid	8015B NM	78036
880-42093-13	SB-18-0'-1'	Total/NA	Solid	8015B NM	78036
880-42093-14	SB-18-2'-3'	Total/NA	Solid	8015B NM	78036
MB 880-78036/1-A	Method Blank	Total/NA	Solid	8015B NM	78036
LCS 880-78036/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	78036
LCSD 880-78036/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	78036
880-42093-12 MS	SB-17-2'-3'	Total/NA	Solid	8015B NM	78036
880-42093-12 MSD	SB-17-2'-3'	Total/NA	Solid	8015B NM	78036

Analysis Batch: 78005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Total/NA	Solid	8015 NM	
880-42093-2	SB-12-2'-3'	Total/NA	Solid	8015 NM	
880-42093-3	SB-13-0'-1'	Total/NA	Solid	8015 NM	
880-42093-4	SB-13-2'-3'	Total/NA	Solid	8015 NM	
880-42093-5	SB-14-3'	Total/NA	Solid	8015 NM	
880-42093-6	SB-14-4'-5'	Total/NA	Solid	8015 NM	
880-42093-7	SB-15-0'-1'	Total/NA	Solid	8015 NM	
880-42093-8	SB-15-2'-3'	Total/NA	Solid	8015 NM	
880-42093-9	SB-16-0'-1'	Total/NA	Solid	8015 NM	
880-42093-10	SB-16-2'-3'	Total/NA	Solid	8015 NM	
880-42093-11	SB-17-0'-1'	Total/NA	Solid	8015 NM	
880-42093-12	SB-17-2'-3'	Total/NA	Solid	8015 NM	
880-42093-13	SB-18-0'-1'	Total/NA	Solid	8015 NM	
880-42093-14	SB-18-2'-3'	Total/NA	Solid	8015 NM	

Prep Batch: 78036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-12	SB-17-2'-3'	Total/NA	Solid	8015NM Prep	
880-42093-13	SB-18-0'-1'	Total/NA	Solid	8015NM Prep	
880-42093-14	SB-18-2'-3'	Total/NA	Solid	8015NM Prep	
MB 880-78036/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-78036/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-78036/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-42093-12 MS	SB-17-2'-3'	Total/NA	Solid	8015NM Prep	
880-42093-12 MSD	SB-17-2'-3'	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 77960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Soluble	Solid	DI Leach	
880-42093-2	SB-12-2'-3'	Soluble	Solid	DI Leach	
880-42093-3	SB-13-0'-1'	Soluble	Solid	DI Leach	

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

HPLC/IC (Continued)

Leach Batch: 77960 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-4	SB-13-2'-3'	Soluble	Solid	DI Leach	
880-42093-5	SB-14-3'	Soluble	Solid	DI Leach	
880-42093-6	SB-14-4'-5'	Soluble	Solid	DI Leach	
880-42093-7	SB-15-0'-1'	Soluble	Solid	DI Leach	
880-42093-8	SB-15-2'-3'	Soluble	Solid	DI Leach	
880-42093-9	SB-16-0'-1'	Soluble	Solid	DI Leach	
880-42093-10	SB-16-2'-3'	Soluble	Solid	DI Leach	
880-42093-11	SB-17-0'-1'	Soluble	Solid	DI Leach	
880-42093-12	SB-17-2'-3'	Soluble	Solid	DI Leach	
880-42093-13	SB-18-0'-1'	Soluble	Solid	DI Leach	
880-42093-14	SB-18-2'-3'	Soluble	Solid	DI Leach	
MB 880-77960/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-77960/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-77960/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-42093-5 MS	SB-14-3'	Soluble	Solid	DI Leach	
880-42093-5 MSD	SB-14-3'	Soluble	Solid	DI Leach	

Analysis Batch: 78208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42093-1	SB-12-0'-1'	Soluble	Solid	300.0	77960
880-42093-2	SB-12-2'-3'	Soluble	Solid	300.0	77960
880-42093-3	SB-13-0'-1'	Soluble	Solid	300.0	77960
880-42093-4	SB-13-2'-3'	Soluble	Solid	300.0	77960
880-42093-5	SB-14-3'	Soluble	Solid	300.0	77960
880-42093-6	SB-14-4'-5'	Soluble	Solid	300.0	77960
880-42093-7	SB-15-0'-1'	Soluble	Solid	300.0	77960
880-42093-8	SB-15-2'-3'	Soluble	Solid	300.0	77960
880-42093-9	SB-16-0'-1'	Soluble	Solid	300.0	77960
880-42093-10	SB-16-2'-3'	Soluble	Solid	300.0	77960
880-42093-11	SB-17-0'-1'	Soluble	Solid	300.0	77960
880-42093-12	SB-17-2'-3'	Soluble	Solid	300.0	77960
880-42093-13	SB-18-0'-1'	Soluble	Solid	300.0	77960
880-42093-14	SB-18-2'-3'	Soluble	Solid	300.0	77960
MB 880-77960/1-A	Method Blank	Soluble	Solid	300.0	77960
LCS 880-77960/2-A	Lab Control Sample	Soluble	Solid	300.0	77960
LCSD 880-77960/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	77960
880-42093-5 MS	SB-14-3'	Soluble	Solid	300.0	77960
880-42093-5 MSD	SB-14-3'	Soluble	Solid	300.0	77960

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-12-0'-1'

Lab Sample ID: 880-42093-1
Date Collected: 04/05/24 09:30
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 16:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 16:56	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 20:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 20:08	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78208	04/15/24 10:24	SMC	EET MID

Client Sample ID: SB-12-2'-3'

Lab Sample ID: 880-42093-2
Date Collected: 04/05/24 09:35
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 18:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 18:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 20:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 20:29	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78208	04/15/24 10:30	SMC	EET MID

Client Sample ID: SB-13-0'-1'

Lab Sample ID: 880-42093-3
Date Collected: 04/05/24 10:00
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 18:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 18:38	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 21:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 21:10	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 10:37	SMC	EET MID

Client Sample ID: SB-13-2'-3'

Lab Sample ID: 880-42093-4
Date Collected: 04/05/24 10:05
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 18:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 18:59	AJ	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-13-2'-3'

Lab Sample ID: 880-42093-4
Matrix: Solid
Date Collected: 04/05/24 10:05
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			78005	04/10/24 21:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 21:52	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 10:43	SMC	EET MID

Client Sample ID: SB-14-3'

Lab Sample ID: 880-42093-5
Matrix: Solid
Date Collected: 04/05/24 10:30
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.04 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 19:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 19:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 22:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 22:34	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 10:49	SMC	EET MID

Client Sample ID: SB-14-4'-5'

Lab Sample ID: 880-42093-6
Matrix: Solid
Date Collected: 04/05/24 10:35
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 19:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 19:39	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 22:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 22:55	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 11:08	SMC	EET MID

Client Sample ID: SB-15-0'-1'

Lab Sample ID: 880-42093-7
Matrix: Solid
Date Collected: 04/05/24 11:00
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 20:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 20:00	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 22:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 22:13	SM	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-15-0'-1'

Lab Sample ID: 880-42093-7
Date Collected: 04/05/24 11:00
Matrix: Solid
Date Received: 04/10/24 14:01

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	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78208	04/15/24 11:15	SMC	EET MID

Client Sample ID: SB-15-2'-3'

Lab Sample ID: 880-42093-8
Date Collected: 04/05/24 11:05
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 20:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 20:20	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 23:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 23:16	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 11:34	SMC	EET MID

Client Sample ID: SB-16-0'-1'

Lab Sample ID: 880-42093-9
Date Collected: 04/05/24 11:30
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 20:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 20:41	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 23:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 23:38	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 11:40	SMC	EET MID

Client Sample ID: SB-16-2'-3'

Lab Sample ID: 880-42093-10
Date Collected: 04/05/24 11:35
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 21:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 21:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/10/24 23:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/10/24 23:59	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 11:46	SMC	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-17-0'-1'

Lab Sample ID: 880-42093-11
Date Collected: 04/05/24 12:00
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	77815	04/10/24 15:00	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77788	04/10/24 21:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 21:22	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/11/24 00:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	77844	04/10/24 14:23	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77779	04/11/24 00:20	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 11:53	SMC	EET MID

Client Sample ID: SB-17-2'-3'

Lab Sample ID: 880-42093-12
Date Collected: 04/05/24 12:05
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.98 g	5 mL	77862	04/10/24 15:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77790	04/10/24 17:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 17:18	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/12/24 12:12	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	78036	04/12/24 11:39	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77980	04/12/24 12:12	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 11:59	SMC	EET MID

Client Sample ID: SB-18-0'-1'

Lab Sample ID: 880-42093-13
Date Collected: 04/05/24 12:30
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	77862	04/10/24 15:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77790	04/10/24 17:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 17:38	AJ	EET MID
Total/NA	Analysis	8015 NM		1			78005	04/12/24 18:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	78036	04/12/24 11:39	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	77980	04/12/24 18:25	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78208	04/15/24 12:05	SMC	EET MID

Client Sample ID: SB-18-2'-3'

Lab Sample ID: 880-42093-14
Date Collected: 04/05/24 12:35
Matrix: Solid
Date Received: 04/10/24 14:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	77862	04/10/24 15:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	77790	04/10/24 17:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			77917	04/10/24 17:59	AJ	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Client Sample ID: SB-18-2'-3'

Date Collected: 04/05/24 12:35
Date Received: 04/10/24 14:01

Lab Sample ID: 880-42093-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			78005	04/12/24 18:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	78036	04/12/24 11:39	AM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	77980	04/12/24 18:46	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	77960	04/11/24 14:49	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78208	04/15/24 12:12	SMC	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5030B	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.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: WATER INJECTION ST.

Job ID: 880-42093-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-42093-1	SB-12-0'-1'	Solid	04/05/24 09:30	04/10/24 14:01
880-42093-2	SB-12-2'-3'	Solid	04/05/24 09:35	04/10/24 14:01
880-42093-3	SB-13-0'-1'	Solid	04/05/24 10:00	04/10/24 14:01
880-42093-4	SB-13-2'-3'	Solid	04/05/24 10:05	04/10/24 14:01
880-42093-5	SB-14-3'	Solid	04/05/24 10:30	04/10/24 14:01
880-42093-6	SB-14-4'-5'	Solid	04/05/24 10:35	04/10/24 14:01
880-42093-7	SB-15-0'-1'	Solid	04/05/24 11:00	04/10/24 14:01
880-42093-8	SB-15-2'-3'	Solid	04/05/24 11:05	04/10/24 14:01
880-42093-9	SB-16-0'-1'	Solid	04/05/24 11:30	04/10/24 14:01
880-42093-10	SB-16-2'-3'	Solid	04/05/24 11:35	04/10/24 14:01
880-42093-11	SB-17-0'-1'	Solid	04/05/24 12:00	04/10/24 14:01
880-42093-12	SB-17-2'-3'	Solid	04/05/24 12:05	04/10/24 14:01
880-42093-13	SB-18-0'-1'	Solid	04/05/24 12:30	04/10/24 14:01
880-42093-14	SB-18-2'-3'	Solid	04/05/24 12:35	04/10/24 14:01

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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 880-42093 Chain of Custody

4/16/2024

Page 1 of 2

Project Manager:	Morgan Jordan	Bill to. (if different)	
Company Name	Arcadis	Company Name	
Address.	1004 N Big Springs Suite 300	Address	
City, State ZIP	Midland, TX 79701	City, State ZIP:	Douglas.Jordan@Arcadis.com
Phone	281-644-9437	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.	Water Injection St.	Turn Around	
Project Number:	30209634	☑ Routine ☐ Rush	
Project Location:	Lovington, NM	Due Date.	
Sampler's Name:	Hesta Boyd	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	IR8
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.1
Sample Custody Seals	Yes No N/A	Temperature Reading	1.4
Total Containers.		Corrected Temperature	1.5

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	8021B	8015 MRO-Ext	300_0-Chloride_ZBD
SB-12-0-1'	S	4/5/24	930		G	1	X	X	X
SB-12-2'-3'			935			1	X	X	X
SB-13-0-1'			1000			1	X	X	X
SB-13-2'-3'			1005			1	X	X	X
SB-14-0-1' 3'			1030			1	X	X	X
SB-14-2'-3' 4'-5'			1035			1	X	X	X
SB-15-0-1'			1100			1	X	X	X
SB-15-2'-3'			1105			1	X	X	X
SB-16-0-1'			1130			1	X	X	X
SB-16-2'-3'	X	X	1135		X	1	X	X	X

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 Comments

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
	Dalteiy Gonzales	4/9/24	2		4/10/24 14:19
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Received by OCD: 7/23/2024 9:19:52 AM

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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

Loc: 880
42093

Work Order No: _____

Page 2 of 2

Project Manager:	Morgan Jordan	Bill to (if different)	
Company Name	Arcadis	Company Name	
Address:	1004 N Big Springs Suite 300	Address.	
City, State ZIP:	Midland, TX 79701	City, State ZIP:	
Phone.	281-644-9437	Email:	Douglas.Jordan@Arcadis.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:	Water Injection	Turn Around	
Project Number:	30209634	☐ Routine ☐ Rush	
Project Location:	Lovington, NM	Due Date:	
Sampler's Name	Hector B.	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		
Cooler Custody Seals	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Temperature Reading		
Total Containers		Corrected Temperature		

ANALYSIS REQUEST

Parameters: 8021B, 8015MDD_NM, 300.0ZGFM_ZD, 8015

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	8021B	8015MDD_NM	300.0ZGFM_ZD	8015
SB-17-0-1'	S	4/5/24	1200		G	1	X	X	X	
SB-17-2'-3'	|	|	1205		|	1	X	X	X	
SB-18-0-1'	|	|	1230		|	1	X	X	X	
SB-18-2'-3'	X	X	1235		X	1	X	X	X	

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 Comments

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]	Dallely Gonzales	04/9/24	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Received by OCD: 7/23/2024 9:19:52 AM

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4/16/2024

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 880-42093-1
SDG Number: Lovington, NM

Login Number: 42093
List Number: 1
Creator: Vasquez, Julisa

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	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Morgan Jordan
Arcadis U.S., Inc.
1004 North Big Spring
Suite 300
Midland, Texas 79701

Generated 4/18/2024 10:53:46 PM

JOB DESCRIPTION

Water Injection Station
Lovington, NM

JOB NUMBER

880-42178-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

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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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4/18/2024 10:53:46 PM

Authorized for release by
John Builes, Project Manager
John.Builes@et.eurofinsus.com
(561)558-4549

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Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

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.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
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
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: Arcadis U.S., Inc.
Project: Water Injection Station

Job ID: 880-42178-1

Job ID: 880-42178-1 Eurofins Midland

Job Narrative
880-42178-1

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 4/12/2024 11:08 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.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SB-28-2'-3' (880-42178-1), SB-28-4'-5' (880-42178-2), SB-28-6'-7' (880-42178-3), SB-29-2'-3' (880-42178-4), SB-29-6'-7' (880-42178-5) and SB-29-8'-9' (880-42178-6).

GC VOA
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: Surrogate recovery for the following sample was outside control limits: (LCSD 880-78110/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-78110 and analytical batch 880-78118 contained Gasoline Range Organics (GRO)-C6-C10 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 laboratory control sample (LCS) associated with preparation batch 880-78110 and analytical batch 880-78118 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.

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.

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Client Sample ID: SB-28-2'-3'

Lab Sample ID: 880-42178-1
Matrix: Solid
Date Collected: 04/10/24 09:40
Date Received: 04/12/24 11:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		04/12/24 13:26	04/15/24 03:11	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		04/12/24 13:26	04/15/24 03:11	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		04/12/24 13:26	04/15/24 03:11	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		04/12/24 13:26	04/15/24 03:11	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		04/12/24 13:26	04/15/24 03:11	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		04/12/24 13:26	04/15/24 03:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*04/12/24 13:26*	*04/15/24 03:11*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*04/12/24 13:26*	*04/15/24 03:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			04/15/24 03:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**534**		49.9	15.0	mg/Kg			04/14/24 18:48	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	**34.7**	**J B *1**	49.9	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:48	1
Diesel Range Organics (Over C10-C28)	**432**	***+ *1**	49.9	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:48	1
Oil Range Organics (Over C28-C36)	**67.5**		49.9	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*04/13/24 10:43*	*04/14/24 18:48*	*1*
o-Terphenyl	*91*		*70 - 130*	*04/13/24 10:43*	*04/14/24 18:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1240**		25.0	1.97	mg/Kg			04/17/24 05:30	5

Client Sample ID: SB-28-4'-5'

Lab Sample ID: 880-42178-2
Matrix: Solid
Date Collected: 04/10/24 09:50
Date Received: 04/12/24 11:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000388	U	0.00202	0.000388	mg/Kg		04/12/24 13:26	04/15/24 04:44	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		04/12/24 13:26	04/15/24 04:44	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		04/12/24 13:26	04/15/24 04:44	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		04/12/24 13:26	04/15/24 04:44	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		04/12/24 13:26	04/15/24 04:44	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		04/12/24 13:26	04/15/24 04:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*04/12/24 13:26*	*04/15/24 04:44*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/12/24 13:26*	*04/15/24 04:44*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Client Sample ID: SB-28-4'-5'

Lab Sample ID: 880-42178-2
Matrix: Solid

Date Collected: 04/10/24 09:50
Date Received: 04/12/24 11:08

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00403	0.00102	mg/Kg			04/15/24 04:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**71.9**		49.8	14.9	mg/Kg			04/14/24 16:59	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	**47.6**	**J B *1**	49.8	14.9	mg/Kg		04/13/24 10:43	04/14/24 16:59	1
Diesel Range Organics (Over C10-C28)	**24.3**	**J *+ *1**	49.8	14.9	mg/Kg		04/13/24 10:43	04/14/24 16:59	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		04/13/24 10:43	04/14/24 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*04/13/24 10:43*	*04/14/24 16:59*	*1*
o-Terphenyl	*86*		*70 - 130*	*04/13/24 10:43*	*04/14/24 16:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1620**		25.1	1.98	mg/Kg			04/17/24 05:49	5

Client Sample ID: SB-28-6'-7'

Lab Sample ID: 880-42178-3
Matrix: Solid

Date Collected: 04/10/24 10:00
Date Received: 04/12/24 11:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		04/12/24 13:26	04/15/24 05:05	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/12/24 13:26	04/15/24 05:05	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/12/24 13:26	04/15/24 05:05	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/12/24 13:26	04/15/24 05:05	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/12/24 13:26	04/15/24 05:05	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/12/24 13:26	04/15/24 05:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*04/12/24 13:26*	*04/15/24 05:05*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/12/24 13:26*	*04/15/24 05:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00401	0.00101	mg/Kg			04/15/24 05:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**60.7**		49.7	14.9	mg/Kg			04/14/24 17:21	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	**35.8**	**J B *1**	49.7	14.9	mg/Kg		04/13/24 10:43	04/14/24 17:21	1
Diesel Range Organics (Over C10-C28)	**24.9**	**J *+ *1**	49.7	14.9	mg/Kg		04/13/24 10:43	04/14/24 17:21	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Client Sample ID: SB-28-6'-7'

Lab Sample ID: 880-42178-3
Matrix: Solid
Date Collected: 04/10/24 10:00
Date Received: 04/12/24 11:08

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)	<14.9	U	49.7	14.9	mg/Kg		04/13/24 10:43	04/14/24 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*04/13/24 10:43*	*04/14/24 17:21*	*1*
o-Terphenyl	*86*		*70 - 130*	*04/13/24 10:43*	*04/14/24 17:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**931**		5.02	0.397	mg/Kg			04/17/24 05:55	1

Client Sample ID: SB-29-2'-3'

Lab Sample ID: 880-42178-4
Matrix: Solid
Date Collected: 04/10/24 10:40
Date Received: 04/12/24 11:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000849**	**J**	0.00198	0.000382	mg/Kg		04/12/24 13:26	04/15/24 05:25	1
Toluene	<0.000452	U	0.00198	0.000452	mg/Kg		04/12/24 13:26	04/15/24 05:25	1
Ethylbenzene	<0.000561	U	0.00198	0.000561	mg/Kg		04/12/24 13:26	04/15/24 05:25	1
m-Xylene & p-Xylene	<0.00100	U	0.00397	0.00100	mg/Kg		04/12/24 13:26	04/15/24 05:25	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		04/12/24 13:26	04/15/24 05:25	1
Xylenes, Total	<0.00100	U	0.00397	0.00100	mg/Kg		04/12/24 13:26	04/15/24 05:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*04/12/24 13:26*	*04/15/24 05:25*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*04/12/24 13:26*	*04/15/24 05:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00397	0.00100	mg/Kg			04/15/24 05:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1410**		50.0	15.0	mg/Kg			04/14/24 18:27	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	**48.0**	**J B *1**	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:27	1
Diesel Range Organics (Over C10-C28)	**1190**	***+ *1**	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:27	1
Oil Range Organics (Over C28-C36)	**175**		50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*04/13/24 10:43*	*04/14/24 18:27*	*1*
o-Terphenyl	*91*		*70 - 130*	*04/13/24 10:43*	*04/14/24 18:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**907**		5.05	0.399	mg/Kg			04/17/24 06:02	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Client Sample ID: SB-29-6'-7'

Lab Sample ID: 880-42178-5
Matrix: Solid
Date Collected: 04/10/24 11:05
Date Received: 04/12/24 11:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/12/24 13:26	04/15/24 05:45	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/12/24 13:26	04/15/24 05:45	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/12/24 13:26	04/15/24 05:45	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 13:26	04/15/24 05:45	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/12/24 13:26	04/15/24 05:45	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 13:26	04/15/24 05:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*04/12/24 13:26*	*04/15/24 05:45*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/12/24 13:26*	*04/15/24 05:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			04/15/24 05:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**74.8**		49.6	14.9	mg/Kg			04/14/24 17:43	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	**46.5**	**J B *1**	49.6	14.9	mg/Kg		04/13/24 10:43	04/14/24 17:43	1
Diesel Range Organics (Over C10-C28)	**28.3**	**J *+ *1**	49.6	14.9	mg/Kg		04/13/24 10:43	04/14/24 17:43	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.6	14.9	mg/Kg		04/13/24 10:43	04/14/24 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*04/13/24 10:43*	*04/14/24 17:43*	*1*
o-Terphenyl	*106*		*70 - 130*	*04/13/24 10:43*	*04/14/24 17:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**146**		5.05	0.399	mg/Kg			04/17/24 06:08	1

Client Sample ID: SB-29-8'-9'

Lab Sample ID: 880-42178-6
Matrix: Solid
Date Collected: 04/10/24 11:20
Date Received: 04/12/24 11:08

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/12/24 13:26	04/15/24 06:06	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/12/24 13:26	04/15/24 06:06	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/12/24 13:26	04/15/24 06:06	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/12/24 13:26	04/15/24 06:06	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/12/24 13:26	04/15/24 06:06	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/12/24 13:26	04/15/24 06:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*04/12/24 13:26*	*04/15/24 06:06*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/12/24 13:26*	*04/15/24 06:06*	*1*

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Client Sample ID: SB-29-8'-9'

Lab Sample ID: 880-42178-6
Date Collected: 04/10/24 11:20
Matrix: Solid
Date Received: 04/12/24 11:08

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00398	0.00100	mg/Kg			04/15/24 06:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**61.6**		50.0	15.0	mg/Kg			04/14/24 18:05	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	**36.1**	**J B *1**	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:05	1
Diesel Range Organics (Over C10-C28)	**25.5**	**J *+ *1**	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:05	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*04/13/24 10:43*	*04/14/24 18:05*	*1*
o-Terphenyl	*92*		*70 - 130*	*04/13/24 10:43*	*04/14/24 18:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**206**		4.98	0.393	mg/Kg			04/17/24 06:27	1

Surrogate Summary

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

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

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-42178-1	SB-28-2'-3'	115	91
880-42178-2	SB-28-4'-5'	112	90
880-42178-3	SB-28-6'-7'	112	90
880-42178-4	SB-29-2'-3'	122	97
880-42178-5	SB-29-6'-7'	114	90
880-42178-6	SB-29-8'-9'	114	90
LCS 880-78046/1-A	Lab Control Sample	113	105
LCSD 880-78046/2-A	Lab Control Sample Dup	113	106
MB 880-78046/5-A	Method Blank	110	86

Percent Surrogate Recovery (Acceptance Limits)

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**

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-42178-1	SB-28-2'-3'	87	91
880-42178-2	SB-28-4'-5'	82	86
880-42178-3	SB-28-6'-7'	80	86
880-42178-4	SB-29-2'-3'	88	91
880-42178-5	SB-29-6'-7'	97	106
880-42178-6	SB-29-8'-9'	85	92
LCS 880-78110/2-A	Lab Control Sample	87	94
LCSD 880-78110/3-A	Lab Control Sample Dup	130	139 S1+
MB 880-78110/1-A	Method Blank	111	113

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-78046/5-A
Matrix: Solid
Analysis Batch: 78123

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/12/24 13:26	04/14/24 23:26	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/12/24 13:26	04/14/24 23:26	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/12/24 13:26	04/14/24 23:26	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 13:26	04/14/24 23:26	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/12/24 13:26	04/14/24 23:26	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/12/24 13:26	04/14/24 23:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*04/12/24 13:26*	*04/14/24 23:26*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*04/12/24 13:26*	*04/14/24 23:26*	*1*

Lab Sample ID: LCS 880-78046/1-A
Matrix: Solid
Analysis Batch: 78123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78046

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1159		mg/Kg		116	70 - 130
Toluene	0.100	0.1108		mg/Kg		111	70 - 130
Ethylbenzene	0.100	0.1121		mg/Kg		112	70 - 130
m-Xylene & p-Xylene	0.200	0.2231		mg/Kg		112	70 - 130
o-Xylene	0.100	0.1104		mg/Kg		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-78046/2-A
Matrix: Solid
Analysis Batch: 78123

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78046

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1201		mg/Kg		120	70 - 130	4	35
Toluene	0.100	0.1148		mg/Kg		115	70 - 130	4	35
Ethylbenzene	0.100	0.1166		mg/Kg		117	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2308		mg/Kg		115	70 - 130	3	35
o-Xylene	0.100	0.1143		mg/Kg		114	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

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

Lab Sample ID: MB 880-78110/1-A
Matrix: Solid
Analysis Batch: 78118

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	22.07	J	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 08:22	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 08:22	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		04/13/24 10:43	04/14/24 08:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*04/13/24 10:43*	*04/14/24 08:22*	*1*
o-Terphenyl	*113*		*70 - 130*	*04/13/24 10:43*	*04/14/24 08:22*	*1*

Lab Sample ID: LCS 880-78110/2-A
Matrix: Solid
Analysis Batch: 78118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78110

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	825.8		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	1000	885.4		mg/Kg		89	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Lab Sample ID: LCSD 880-78110/3-A
Matrix: Solid
Analysis Batch: 78118

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78110

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1268	*1	mg/Kg		127	70 - 130	42	20
Diesel Range Organics (Over C10-C28)	1000	1496	*+ *1	mg/Kg		150	70 - 130	51	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*130*		*70 - 130*
o-Terphenyl	*139*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-78295/1-A
Matrix: Solid
Analysis Batch: 78405

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			04/17/24 05:11	1

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-78295/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78405

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.5		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-78295/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78405

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	248.8		mg/Kg		100	90 - 110	1	20

Lab Sample ID: 880-42178-1 MS — **Client Sample ID: SB-28-2'-3'**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1240		1250	2499		mg/Kg		101	90 - 110		

Lab Sample ID: 880-42178-1 MSD — **Client Sample ID: SB-28-2'-3'**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 78405

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1240		1250	2469		mg/Kg		98	90 - 110	1	20

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

GC VOA

Prep Batch: 78046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Total/NA	Solid	5030B	
880-42178-2	SB-28-4'-5'	Total/NA	Solid	5030B	
880-42178-3	SB-28-6'-7'	Total/NA	Solid	5030B	
880-42178-4	SB-29-2'-3'	Total/NA	Solid	5030B	
880-42178-5	SB-29-6'-7'	Total/NA	Solid	5030B	
880-42178-6	SB-29-8'-9'	Total/NA	Solid	5030B	
MB 880-78046/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-78046/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-78046/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 78123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Total/NA	Solid	8021B	78046
880-42178-2	SB-28-4'-5'	Total/NA	Solid	8021B	78046
880-42178-3	SB-28-6'-7'	Total/NA	Solid	8021B	78046
880-42178-4	SB-29-2'-3'	Total/NA	Solid	8021B	78046
880-42178-5	SB-29-6'-7'	Total/NA	Solid	8021B	78046
880-42178-6	SB-29-8'-9'	Total/NA	Solid	8021B	78046
MB 880-78046/5-A	Method Blank	Total/NA	Solid	8021B	78046
LCS 880-78046/1-A	Lab Control Sample	Total/NA	Solid	8021B	78046
LCSD 880-78046/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	78046

Analysis Batch: 78269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Total/NA	Solid	Total BTEX	
880-42178-2	SB-28-4'-5'	Total/NA	Solid	Total BTEX	
880-42178-3	SB-28-6'-7'	Total/NA	Solid	Total BTEX	
880-42178-4	SB-29-2'-3'	Total/NA	Solid	Total BTEX	
880-42178-5	SB-29-6'-7'	Total/NA	Solid	Total BTEX	
880-42178-6	SB-29-8'-9'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 78110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Total/NA	Solid	8015NM Prep	
880-42178-2	SB-28-4'-5'	Total/NA	Solid	8015NM Prep	
880-42178-3	SB-28-6'-7'	Total/NA	Solid	8015NM Prep	
880-42178-4	SB-29-2'-3'	Total/NA	Solid	8015NM Prep	
880-42178-5	SB-29-6'-7'	Total/NA	Solid	8015NM Prep	
880-42178-6	SB-29-8'-9'	Total/NA	Solid	8015NM Prep	
MB 880-78110/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-78110/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-78110/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 78118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Total/NA	Solid	8015B NM	78110
880-42178-2	SB-28-4'-5'	Total/NA	Solid	8015B NM	78110
880-42178-3	SB-28-6'-7'	Total/NA	Solid	8015B NM	78110
880-42178-4	SB-29-2'-3'	Total/NA	Solid	8015B NM	78110

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

GC Semi VOA (Continued)

Analysis Batch: 78118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-5	SB-29-6'-7'	Total/NA	Solid	8015B NM	78110
880-42178-6	SB-29-8'-9'	Total/NA	Solid	8015B NM	78110
MB 880-78110/1-A	Method Blank	Total/NA	Solid	8015B NM	78110
LCS 880-78110/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	78110
LCSD 880-78110/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	78110

Analysis Batch: 78329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Total/NA	Solid	8015 NM	
880-42178-2	SB-28-4'-5'	Total/NA	Solid	8015 NM	
880-42178-3	SB-28-6'-7'	Total/NA	Solid	8015 NM	
880-42178-4	SB-29-2'-3'	Total/NA	Solid	8015 NM	
880-42178-5	SB-29-6'-7'	Total/NA	Solid	8015 NM	
880-42178-6	SB-29-8'-9'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 78295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Soluble	Solid	DI Leach	
880-42178-2	SB-28-4'-5'	Soluble	Solid	DI Leach	
880-42178-3	SB-28-6'-7'	Soluble	Solid	DI Leach	
880-42178-4	SB-29-2'-3'	Soluble	Solid	DI Leach	
880-42178-5	SB-29-6'-7'	Soluble	Solid	DI Leach	
880-42178-6	SB-29-8'-9'	Soluble	Solid	DI Leach	
MB 880-78295/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-78295/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-78295/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-42178-1 MS	SB-28-2'-3'	Soluble	Solid	DI Leach	
880-42178-1 MSD	SB-28-2'-3'	Soluble	Solid	DI Leach	

Analysis Batch: 78405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42178-1	SB-28-2'-3'	Soluble	Solid	300.0	78295
880-42178-2	SB-28-4'-5'	Soluble	Solid	300.0	78295
880-42178-3	SB-28-6'-7'	Soluble	Solid	300.0	78295
880-42178-4	SB-29-2'-3'	Soluble	Solid	300.0	78295
880-42178-5	SB-29-6'-7'	Soluble	Solid	300.0	78295
880-42178-6	SB-29-8'-9'	Soluble	Solid	300.0	78295
MB 880-78295/1-A	Method Blank	Soluble	Solid	300.0	78295
LCS 880-78295/2-A	Lab Control Sample	Soluble	Solid	300.0	78295
LCSD 880-78295/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	78295
880-42178-1 MS	SB-28-2'-3'	Soluble	Solid	300.0	78295
880-42178-1 MSD	SB-28-2'-3'	Soluble	Solid	300.0	78295

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Client Sample ID: SB-28-2'-3'

Lab Sample ID: 880-42178-1
Matrix: Solid
Date Collected: 04/10/24 09:40
Date Received: 04/12/24 11:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	78046	04/12/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78123	04/15/24 03:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78269	04/15/24 03:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			78329	04/14/24 18:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	78110	04/13/24 10:43	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	78118	04/14/24 18:48	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	78295	04/15/24 17:11	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78405	04/17/24 05:30	SMC	EET MID

Client Sample ID: SB-28-4'-5'

Lab Sample ID: 880-42178-2
Matrix: Solid
Date Collected: 04/10/24 09:50
Date Received: 04/12/24 11:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.96 g	5 mL	78046	04/12/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78123	04/15/24 04:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78269	04/15/24 04:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			78329	04/14/24 16:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	78110	04/13/24 10:43	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	78118	04/14/24 16:59	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	78295	04/15/24 17:11	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78405	04/17/24 05:49	SMC	EET MID

Client Sample ID: SB-28-6'-7'

Lab Sample ID: 880-42178-3
Matrix: Solid
Date Collected: 04/10/24 10:00
Date Received: 04/12/24 11:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	5 mL	78046	04/12/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78123	04/15/24 05:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78269	04/15/24 05:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			78329	04/14/24 17:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	78110	04/13/24 10:43	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	78118	04/14/24 17:21	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	78295	04/15/24 17:11	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78405	04/17/24 05:55	SMC	EET MID

Client Sample ID: SB-29-2'-3'

Lab Sample ID: 880-42178-4
Matrix: Solid
Date Collected: 04/10/24 10:40
Date Received: 04/12/24 11:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.04 g	5 mL	78046	04/12/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78123	04/15/24 05:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78269	04/15/24 05:25	SM	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Client Sample ID: SB-29-2'-3'

Lab Sample ID: 880-42178-4
Matrix: Solid
Date Collected: 04/10/24 10:40
Date Received: 04/12/24 11:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			78329	04/14/24 18:27	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	78110	04/13/24 10:43	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	78118	04/14/24 18:27	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	78295	04/15/24 17:11	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78405	04/17/24 06:02	SMC	EET MID

Client Sample ID: SB-29-6'-7'

Lab Sample ID: 880-42178-5
Matrix: Solid
Date Collected: 04/10/24 11:05
Date Received: 04/12/24 11:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.00 g	5 mL	78046	04/12/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78123	04/15/24 05:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78269	04/15/24 05:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			78329	04/14/24 17:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	78110	04/13/24 10:43	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	78118	04/14/24 17:43	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	78295	04/15/24 17:11	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78405	04/17/24 06:08	SMC	EET MID

Client Sample ID: SB-29-8'-9'

Lab Sample ID: 880-42178-6
Matrix: Solid
Date Collected: 04/10/24 11:20
Date Received: 04/12/24 11:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	78046	04/12/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	78123	04/15/24 06:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			78269	04/15/24 06:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			78329	04/14/24 18:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	78110	04/13/24 10:43	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	78118	04/14/24 18:05	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	78295	04/15/24 17:11	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78405	04/17/24 06:27	SMC	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5030B	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.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: Water Injection Station

Job ID: 880-42178-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-42178-1	SB-28-2'-3'	Solid	04/10/24 09:40	04/12/24 11:08
880-42178-2	SB-28-4'-5'	Solid	04/10/24 09:50	04/12/24 11:08
880-42178-3	SB-28-6'-7'	Solid	04/10/24 10:00	04/12/24 11:08
880-42178-4	SB-29-2'-3'	Solid	04/10/24 10:40	04/12/24 11:08
880-42178-5	SB-29-6'-7'	Solid	04/10/24 11:05	04/12/24 11:08
880-42178-6	SB-29-8'-9'	Solid	04/10/24 11:20	04/12/24 11:08

Released to Imaging: 7/25/2024 2:27:38 PM

Received by OCD: 7/23/2024 9:19:52 AM

Eurofins Midland
1211 W Florida Ave
Midland, TX 79701
Phone (432) 704-5440

Chain of Custody Record

880-42178 Chain of Custody

Client Information	Sampler: Heath Boyd	Lab PM: Builes, John	Carrier Tracking	
Client Contact: Mr Morgan Jordan	Phone: 575-942-0292	E-Mail: John.Builes@et.eurofinsus.com	State of Origin: NM	Page: Page ~~14 of 14~~ 1 of 1
Company: ARCADIS US Inc	PWSID:			Job #:
Address: 1004 North Big Spring Suite 300	Due Date Requested:			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701	Compliance Project: Δ Yes Δ No			
Phone: 281-644-9437(Tel)	PO #: Purchase Order Requested			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: Water Injection Station	Project #: ~~88002020(B)~~ 30209634			
Site: Lovington, NM	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, 8015MOD_NM, 8021B	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
SB-28-2'-3'	4/10/24	940	G	Solid			X		
SB-28-4'-5'		950					X		
SB-28-6'-7'		1000					X		
SB-29-2'-3'		1040					X		
SB-29-6'-7'		1105					X		
SB-29-8'-9'	X	1120	X	X			X		

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
[signature]	4/11/24 1430	Arcadis	[signature]	4/11/24 2:16	
[signature]	4/11/24 2:16		[signature]	4/12/24 1108	

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.
Cooler Temperature(s) °C and Other Remarks. 3.8/3.7

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 880-42178-1
SDG Number: Lovington, NM

Login Number: 42178
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	

Appendix E

NMOCD Correspondence

From: Jordan, Morgan
Sent: Monday, May 6, 2024 10:52 AM
To: Krueger, Lauren
Subject: FW: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Thank You,

Morgan Jordan | Project Manager | douglas.jordan@arcadis.com
Arcadis | Arcadis U.S., Inc.
98 San Jacinto Blvd, Suite 414 | Austin, TX | 78701 | USA
M. +1 281 644 9437

Connect with us! www.arcadis.com | LinkedIn | Twitter | Facebook

ARCADIS Design & Consultancy for natural and built assets

Be green, leave it on the screen.

From: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>
Sent: Thursday, May 2, 2024 12:54 PM
To: Foord, Scott <William.Foord@arcadis.com>
Cc: Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Arcadis Warning: Exercise caution with email messages from external sources such as this message. Always verify the sender and avoid clicking on links or scanning QR codes unless certain of their authenticity.

Good Afternoon Scott,

The incidents below have been granted a **final** 60 day extension of July 24, 2024. Please submit all reports via the OCD permitting portal by July 24, 2024.

1. Inc. No. nLWJ1016954547 – WLU East Test Sat (State Land) - Additional soil assessment activities completed in February and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
2. Inc. No. nPAC0614230052 & nPAC0718639351 – WLU Water Inj Station (State Land) - Additional soil assessment activities completed in January and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
3. Inc. No. nGRL1006731469 – WLU 41 (Private) - Additional soil assessment activities conducted in January and February 2024. Vertical delineation was not completed, additional assessment will be required and will be conducted within 30 days. A Site Characterization and Remediation Work Plan will be prepared and submitted to NMOCD following completion of assessment activities within the next 30 days.
4. Inc. No. nPAC0708526071 – WLU 47 (Private) - Additional soil assessment activities completed in January and February 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.

5. Inc. No. nPAC0617348887 – WLU 56 (Private) - The latest soil assessment was completed in March 2023 and a Site Characterization and Remediation Work Plan was submitted to NMOCD in December 2023. The 2023 Site Characterization and Remediation Work Plan was rejected and is currently being revised to address NMOCD comments for resubmittal to the Portal.
6. Inc. No. nTO1424533890 – Keel Fed Battery (BLM) - Closure request report was submitted in December of 2023 and denied by NMOCD on December 22, 2023. The Closure Request Report is currently being revised to address NMOCD comments and will be resubmitted to the Portal.
7. Inc. No. nKJ1515353221 – Moran 2-6 Tank Battery (State Land) – Closure request report was submitted in December of 2023 and denied by NMOCD on December 22, 2023. The Closure Request Report is currently being revised to address NMOCD comments and will be resubmitted to the Portal.

Ashley Maxwell • Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.635.5000 | Ashley.Maxwell@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

Please be advised that the new Digital C-141 is live as of December 1, 2023. Please review the new Digital C-141 submission Dec 1, 2023 Guidance document posted on the EMRND Website prior to submitting any C-141s. The guidance documents can be found at https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/or https://www.emnrd.nm.gov/ocd/ocd-forms/.

From: Foord, Scott <William.Foord@arcadis.com>
Sent: Thursday, May 2, 2024 11:02 AM
To: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>
Cc: Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Ashley,

Just following up. Please let me know if you have any questions or need anything additional information.

Thanks,
Scott
Direct 713-953-4853
Cell 281-725-7477

From: Foord, Scott
Sent: Monday, April 29, 2024 9:13 AM
To: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>
Cc: Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Ashley,

Please see responses below and let me know if you need any additional information.

1. Inc. No. nLWJ1016954547 – WLU East Test Sat (State Land) - Additional soil assessment activities completed in February and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
2. Inc. No. nPAC0614230052 & nPAC0718639351 – WLU Water Inj Station (State Land) - Additional soil assessment activities completed in January and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
3. Inc. No. nGRL1006731469 – WLU 41 (Private) - Additional soil assessment activities conducted in January and February 2024. Vertical delineation was not completed, additional assessment will be required and will be conducted within 30 days. A Site Characterization and Remediation Work Plan will be prepared and submitted to NMOCD following completion of assessment activities within the next 30 days.
4. Inc. No. nPAC0708526071 – WLU 47 (Private) - Additional soil assessment activities completed in January and February 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
5. Inc. No. nPAC0617348887 – WLU 56 (Private) - The latest soil assessment was completed in March 2023 and a Site Characterization and Remediation Work Plan was submitted to NMOCD in December 2023. The 2023 Site Characterization and Remediation Work Plan was rejected and is currently being revised to address NMOCD comments for resubmittal to the Portal.
6. Inc. No. nTO1424533890 – Keel Fed Battery (BLM) - Closure request report was submitted in December of 2023 and denied by NMOCD on December 22, 2023. The Closure Request Report is currently being revised to address NMOCD comments and will be resubmitted to the Portal.
7. Inc. No. nKJ1515353221 – Moran 2-6 Tank Battery (State Land) – Closure request report was submitted in December of 2023 and denied by NMOCD on December 22, 2023. The Closure Request Report is currently being revised to address NMOCD comments and will be resubmitted to the Portal.

Thanks,
Scott
Direct 713-953-4853
Cell 281-725-7477

From: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>
Sent: Wednesday, April 24, 2024 9:27 AM
To: Foord, Scott <William.Foord@arcadis.com>
Cc: Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Arcadis Warning: Exercise caution with email messages from external sources such as this message. Always verify the sender and avoid clicking on links or scanning QR codes unless certain of their authenticity.

Good Morning,

Please see the notes below for the requested extensions:

1. Inc. No. nLWJ1016954547 – WLU East Test Sat (State Land)-Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
2. Inc. No. nPAC0614230052 & nPAC0718639351 – WLU Water Inj Station (State Land)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.

3. Inc. No. nGRL1006731469 – WLU 41 (Private)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
4. Inc. No. nPAC0712954774 – WLU 47 (Private)-Incident nPAC0712954774 is a duplicate incident. Refer to incident NPAC0708526071 for current status.
5. Inc. No. nPAC0617348887 – WLU 56 (Private)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
6. Inc. No. nTO1424533890 – Keel Fed Battery (BLM)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
7. Inc. No. nKJ1515353221 – Moran 2-6 Tank Battery (State Land)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.

Ashley Maxwell • Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.635.5000 | Ashley.Maxwell@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

Please be advised that the new Digital C-141 is live as of December 1, 2023. Please review the new Digital C-141 submission Dec 1, 2023 Guidance document posted on the EMRND Website prior to submitting any C-141s. The guidance documents can be found at https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/or https://www.emnrd.nm.gov/ocd/ocd-forms/.

From: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Sent: Wednesday, April 24, 2024 8:04 AM
To: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>
Subject: Fw: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

FYI. All are under your review except for the second one.

Nelson V

From: Foord, Scott <William.Foord@arcadis.com>
Sent: Wednesday, April 3, 2024 3:43 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Brand, Chris M <Chrisbrand@chevron.com>; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>
Subject: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

We would like to please request 90-day extensions on the 4/30/2024 deadlines for the following sites. Additional assessments are currently ongoing and remediation work plans or closure requests will be submitted within that timeline. We are also working with the other agencies if applicable.

1. Inc. No. nLWJ1016954547 – WLU East Test Sat (State Land)
2. Inc. No. nPAC0614230052 & nPAC0718639351 – WLU Water Inj Station (State Land)

3. Inc. No. nGRL1006731469 – WLU 41 (Private)
4. Inc. No. nPAC0712954774 – WLU 47 (Private)
5. Inc. No. nPAC0617348887 – WLU 56 (Private)
6. Inc. No. nTO1424533890 – Keel Fed Battery (BLM)
7. Inc. No. nKJ1515353221 – Moran 2-6 Tank Battery (State Land)

Thanks,
Scott

Scott Foord PG, RSO, CPM
AFS Group Service Leader
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QUESTIONS

Action 366374

QUESTIONS

Operator: CHEVRON MIDCONTINENT, L.P. 6301 Deauville Blvd Midland, TX 79706	OGRID: 241333
	Action Number: 366374
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nPAC0614230052**
Incident Name	**NPAC0614230052 CHEVRON WEST LOVINGTON UNIT @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Received**
Incident Facility	**[fPAC0614229930] Chevron West Lovington Unit**

Location of Release Source *Please answer all the questions in this group.*	
Site Name	CHEVRON WEST LOVINGTON UNIT
Date Release Discovered	05/11/2006
Surface Owner	State

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	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Fitting | Produced Water | Released: 100 BBL | Recovered: 90 BBL | Lost: 10 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)	*Not answered.*

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QUESTIONS (continued)

Operator: CHEVRON MIDCONTINENT, L.P. 6301 Deauville Blvd Midland, TX 79706	OGRID: 241333
	Action Number: 366374
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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: Mark Torres Title: Well abandonment Engineer Email: marktorres@chevron.com Date: 07/23/2024

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QUESTIONS (continued)

Operator: CHEVRON MIDCONTINENT, L.P. 6301 Deauville Blvd Midland, TX 79706	OGRID: 241333
	Action Number: 366374
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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	Direct Measurement
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	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 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	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (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	Between 1 and 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)	10800
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	5750
GRO+DRO (EPA SW-846 Method 8015M)	5750
BTEX (EPA SW-846 Method 8021B or 8260B)	0.4
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	08/23/2024
On what date will (or did) the final sampling or liner inspection occur	08/24/2024
On what date will (or was) the remediation complete(d)	09/23/2024
What is the estimated surface area (in square feet) that will be reclaimed	149000
What is the estimated volume (in cubic yards) that will be reclaimed	22500
What is the estimated surface area (in square feet) that will be remediated	149000
What is the estimated volume (in cubic yards) that will be remediated	22500
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: CHEVRON MIDCONTINENT, L.P. 6301 Deauville Blvd Midland, TX 79706	OGRID: 241333
	Action Number: 366374
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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	R360 ARTESIA LLC LANDFARM [fEEM0112340644]
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)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
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: Mark Torres Title: Well abandonment Engineer Email: marktorres@chevron.com Date: 07/23/2024
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: CHEVRON MIDCONTINENT, L.P. 6301 Deauville Blvd Midland, TX 79706	OGRID: 241333
	Action Number: 366374
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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: CHEVRON MIDCONTINENT, L.P. 6301 Deauville Blvd Midland, TX 79706	OGRID: 241333
	Action Number: 366374
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

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	No

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CONDITIONS

Action 366374

CONDITIONS

Operator: CHEVRON MIDCONTINENT, L.P. 6301 Deauville Blvd Midland, TX 79706	OGRID: 241333
	Action Number: 366374
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation plan approved. As the site is no longer reasonably needed for production or subsequent drilling activities, the site must be reclaimed at the time of remediation. A reclamation report can be submitted with the remediation closure report OR separately immediately following the approval of the remediation closure report.	7/25/2024
bhall	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	7/25/2024
bhall	Submit a complete report through the OCD Permitting website by 10/25/2024.	7/25/2024