Chris Brand
Environmental Remediation/ Facility Decom Advisor

VIA ELECTRONIC MAIL

January 10, 2025

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

Re: West Lovington Unit #072
2025 Work Plan
Incident No. nTO1424541014
Case No. 1RP-3298

Dear Whom it May Concern:

Please find enclosed for your files, copies of the following:
West Lovington Unit #072 Work Plan

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

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. West Lovington Unit #072 Work Plan

cc. Scott Foord – Arcadis
Morgan Jordan – Arcadis

Chris Brand
Environmental Remediation/ Facility Decom Advisor
6301 Deauville Blvd, Midland, TX 79706
Mobile 661 401 0359
chrisbrand@chevron.com

ARCADIS

Chevron Environmental Management Company

2025 Work Plan

West Lovington Unit #072

Lea County, New Mexico

Incident # nTO1424541014

January 2025

2025 Work Plan

West Lovington Unit #072
Incident # nTO1424541014
Lea County, New Mexico

January 2025

Prepared By:
Arcadis U.S., Inc.
1330 Post Oak Blvd., Suite 2250
Houston
Texas 77056
Phone: 713 953 4800

Prepared For:
Chris Brand
Project Manager
CEMC
6301 Deauville Blvd.
Midland, TX 79706

Scott Foord, PG
Program Manager

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2025 Work Plan
West Lovington Unit #072

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 West Lovington Unit #072 (Site) located at 32.864039, -103.363912. 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 owned land approximately 5.40 miles south of the City of Lovington in Unit F, Section 4, 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 # nTO1424541014

According to the Initial C-141 Form, on November 13, 2013, the well was shut in for 24-hours for chemical treatment. While the well was shut in, the well reached a higher bottom hole pressure than the stuffing box rating and the rams did not hold, leading to a stuffing box leak of approximately 0.55 barrels (bbls) of oil and 10 bbls of produced water at the Site. The spill area was approximately 108 feet (ft) by 18 ft according to the Initial C-141 Form that was submitted on November 23, 2013. The Initial C-141 Form was approved on September 2, 2014, and assigned remediation permit number 1RP-3298 and incident number nTO1424541014. 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 USGS databases, USGS well 325144103214701 located approximately 0.18 miles northwest 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 is 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 1,000 feet and 0.50 miles;
- Distance to occupied permanent residence, school, hospital, institution, or church: Between 0.50 and 1 mile;
- Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes: Between 500 and 1,000 feet;
- Distance to other fresh water well or spring: Between 0.50 and 1 mile;

- Distance to incorporated municipal boundaries or a defined municipal fresh water well field: Between 1 and 5 miles;
- Distance to wetland: Between 500 and 1,000 feet;
- 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 at 66.80 feet bgs within USGS well 325144103214701 located approximately 0.18 miles northwest 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 January 2024, April 2024, and December 2024, Arcadis performed site assessment activities to evaluate soil impacts stemming from the release. A total of eighteen (18) sample points (SB-1 through SB-18) were advanced to depths ranging from the surface to 11 feet bgs inside and surrounding the release area to evaluate the vertical and horizontal extents of the release. Additionally in December 2024, soil samples were collected at four (4) additional locations across the well pad (T-1 through T-4). 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 samples were analyzed for TPH by United States Environmental Protection Agency (EPA) Method 8015, modified BTEX by EPA Method 8021B, and chloride by EPA method 300.0. There were no reported concentrations in soil samples analyzed for BTEX. Soil samples analyzed for TPH were reported with concentrations ranging from 47.1 J mg/kg (S-7) to 94.9 mg/kg (S-4). Soil samples analyzed for chloride were reported with concentrations ranging from 4.87 J mg/kg (S-9) to 7,720 mg/kg (S-1).

Vertical and horizontal delineation 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.**

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 15,000 square feet. In accordance with NMAC 19.15.29.12(D)(1)(b), CEMC proposes the following alternative confirmation sampling plan as a **variance request** to adhere with NMOCD requirements. Five-point composite confirmation soil samples will be collected from the excavation floor and sidewalls at 400 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).

An estimated 2,250 cubic yards of soil will be removed and transported to the Gandy Marley Landfill located in Roswell, New Mexico, which is listed as an NMOCD approved disposal facility.

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 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. The pad area, approximately 30,000 square feet, will be reclaimed to original condition and re-seeded following remediation/reclamation activities.

The proposed remediation/reclamation activities will be implemented within 90 days following approval of this work plan by the NMOCD. The anticipated schedule includes 30 days to prepare and schedule 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/reclamation activities, a final closure request report describing the activities, and a separate revegetation report will be submitted to the NMOCD and SLO 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

Table 1
Soil Analytical Results
Chevron Environmental Management Company
WLU 72

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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 Standard			**10**	**--**	**--**	**--**	**50**	**--**	**--**	**1,000**	**--**	**2,500**	**10,000**
Restoration Requirements			**10**	--	--	--	**50**	--	--	--	--	**100**	**600**
SB-1	1	01/17/24	--	--	--	--	--	--	--	--	--	--	***7,720 F1***
	2	01/17/24	<0.000383	<0.000453	<0.000562	<0.00100	<0.00100	30.6 J *1	38.8 J	69.4 J *1	<15.1	69.4	***1,550***
SB-2	1	01/17/24	--	--	--	--	--	--	--	--	--	--	***1,880***
	2	01/17/24	--	--	--	--	--	--	--	--	--	--	***1,140***
	4	01/17/24	<0.000384	<0.000455	<0.00101	<0.00101	<0.00101	47.7 J *1	28.5 J	76.2 J *1	<15.0	76.2	***1,190***
	6	01/17/24	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	48.3 J *1	45.4 J	93.7 J *1	<15.1	93.7	989
SB-3	1	01/17/24	--	--	--	--	--	--	--	--	--	--	***1,300***
	2	01/17/24	<0.000383	<0.000454	<0.000563	<0.00101	<0.00101	29.9 J *1	23.1 J	53.0 J *1	<15.0	53.0	**2,530**
SB-4	1	01/17/24	--	--	--	--	--	--	--	--	--	--	***1,160***
	2	01/17/24	<0.000383	<0.000453	0.000817	<0.00100	<0.00100	40.0 J B	54.9 B	94.9 J B	<14.9	94.9	**1,300**
SB-5	1	01/17/24	--	--	--	--	--	--	--	--	--	--	***1,740***
	2	01/17/24	<0.00384	<0.000455	<0.000564	<0.00101	<0.00101	31.0 J B	38.0 J B	69.0 J B	<15.1	69.0	***660***
SB-6	1	01/17/24	--	--	--	--	--	--	--	--	--	--	***1,320***
	2	01/17/24	<0.000387	<0.000459	<0.000568	<0.00102	<0.00102	30.7 J B	25.1 J B	55.8 J B	<15.0	55.8	**1,370**
SB-7	1	01/17/24	--	--	--	--	--	--	--	--	--	--	121
	2	01/17/24	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	30.6 J B	16.5 J B	47.1 J B	<14.9	47.1 J	**1,200**
SB-8	2-3'	04/15/24	--	--	--	--	--	--	--	--	--	--	***1,440***
	6-7'	04/15/24	--	--	--	--	--	--	--	--	--	--	1,070
	8-9'	04/15/24	--	--	--	--	--	--	--	--	--	--	576
SB-9	0-1'	04/15/24	--	--	--	--	--	--	--	--	--	--	4.87 J
	2-3'	04/15/24	--	--	--	--	--	--	--	--	--	--	68.9
SB-10	0-1'	04/15/24	--	--	--	--	--	--	--	--	--	--	5.82
	2-3'	04/15/24	--	--	--	--	--	--	--	--	--	--	190
SB-11	0-1'	04/15/24	--	--	--	--	--	--	--	--	--	--	213
	2-3'	04/15/24	--	--	--	--	--	--	--	--	--	--	322
SB-12	0-1'	04/15/24	--	--	--	--	--	--	--	--	--	--	***937***
	2-3'	04/15/24	--	--	--	--	--	--	--	--	--	--	**617**
SB-13	4-5'	04/15/24	--	--	--	--	--	--	--	--	--	--	1,710
	8-9'	04/15/24	--	--	--	--	--	--	--	--	--	--	1,640 F1
	10-11'	04/15/24	--	--	--	--	--	--	--	--	--	--	354
SB-14	1	12/19/24	<0.00199	<0.00199	<0.00199 F1	<0.00398 F1	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	127
SB-15	1	12/19/24	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	<49.7 F1	<49.7	<49.7 F1	<49.7	<49.7	128
SB-16	1	12/19/24	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<49.7	<49.7	<49.7	<49.7	<49.7	308
SB-17	1	12/19/24	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	137
T-1	1	12/20/24	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	116
T-2	1	12/20/24	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	99.1
T-3	1	12/20/24	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	289
T-4	1	12/20/24	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	463

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.

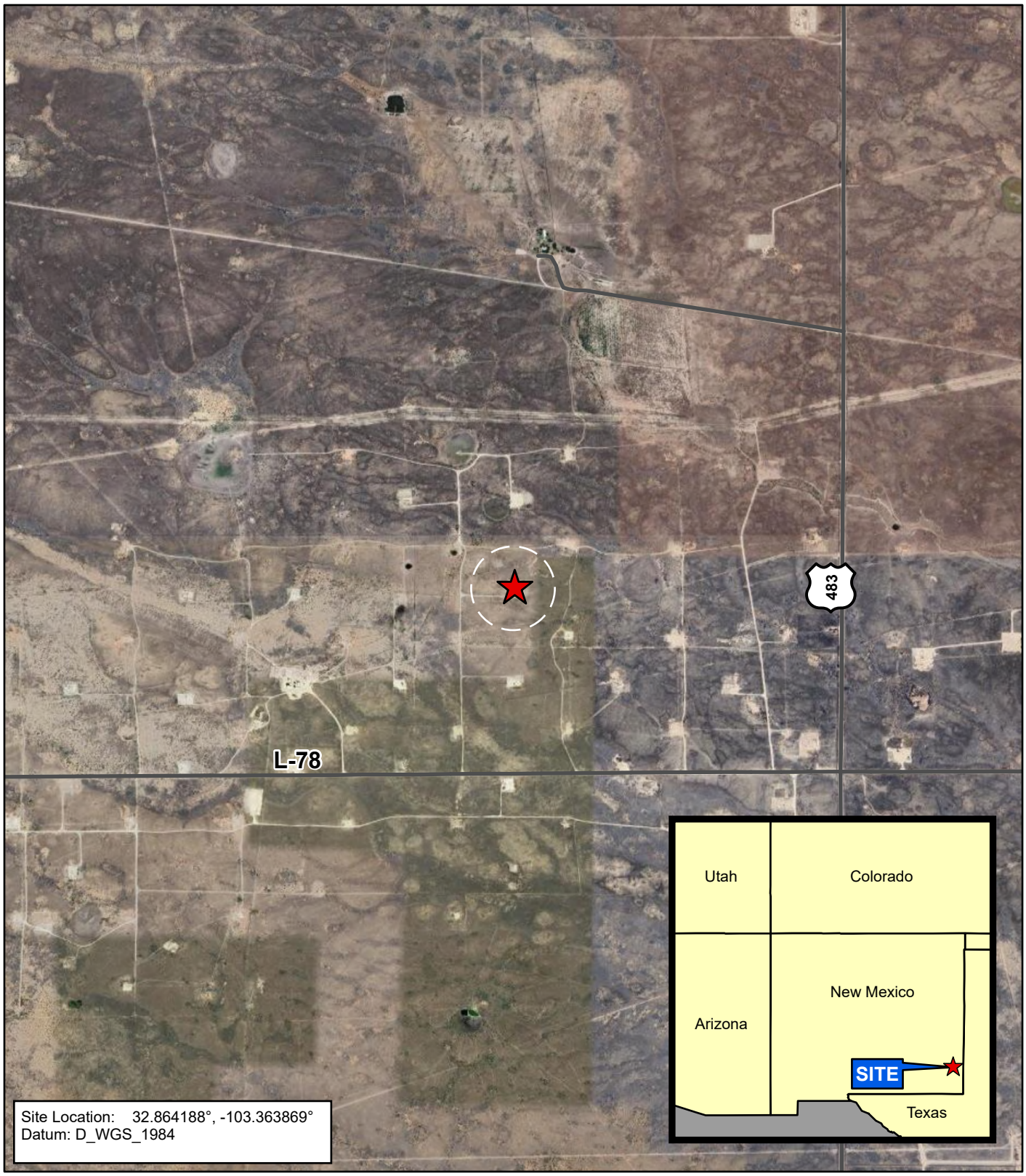
B: Compound was found in the blank and sample.

*+: Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) is outside acceptace limits, high biased.

*1 : LCS/LCSD RPD exceeds control limits.
F1: Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) recovery exceeds control limits.

'<' indicates the analyte was not detected at or above the Method Detection Limit (MDL)
"--": Not analyzed/Not available
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 #072
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: amirm1212 ; Client (Project #)
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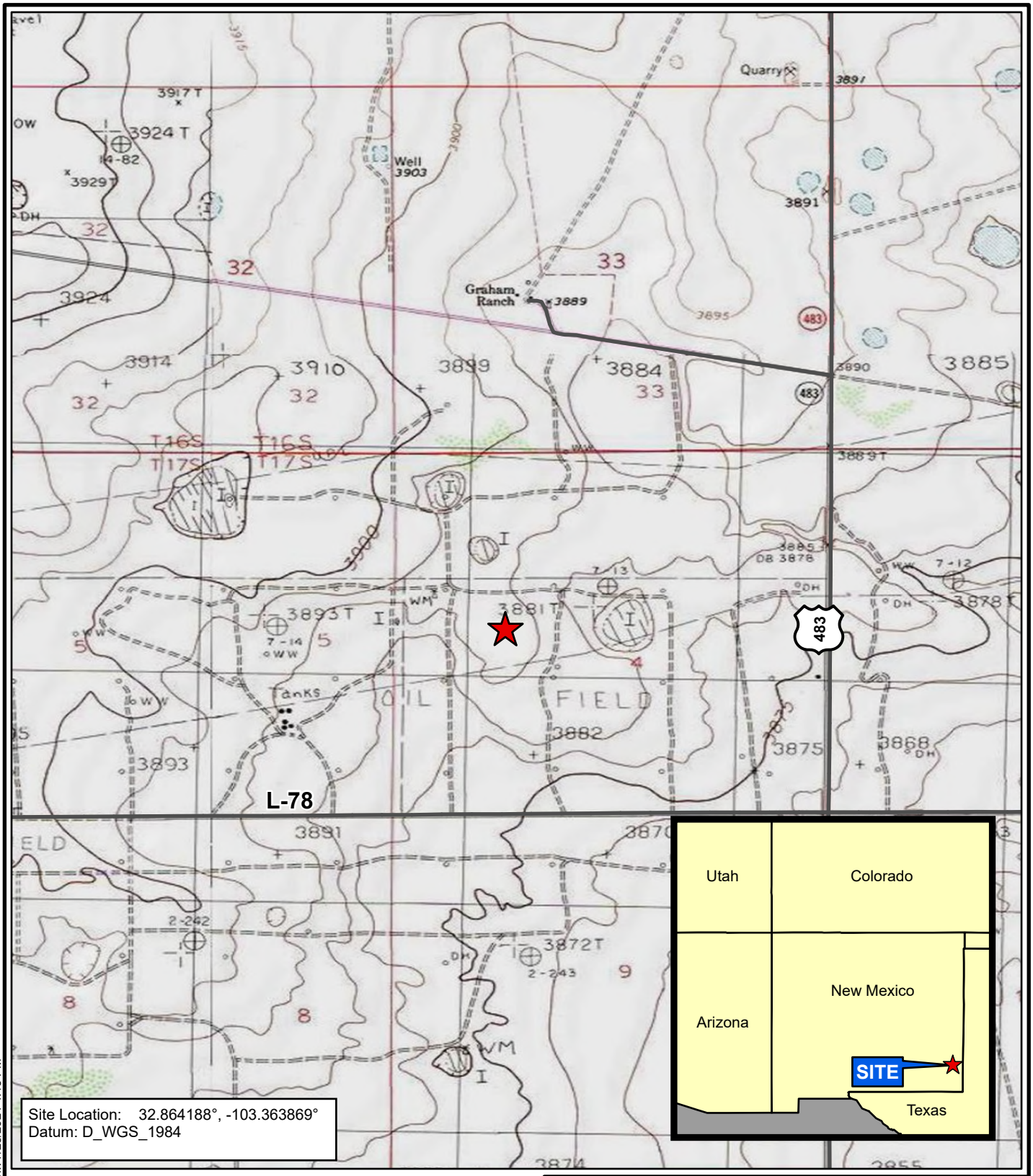


Site Location: 32.864188°, -103.363869°
Datum: D_WGS_1984

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

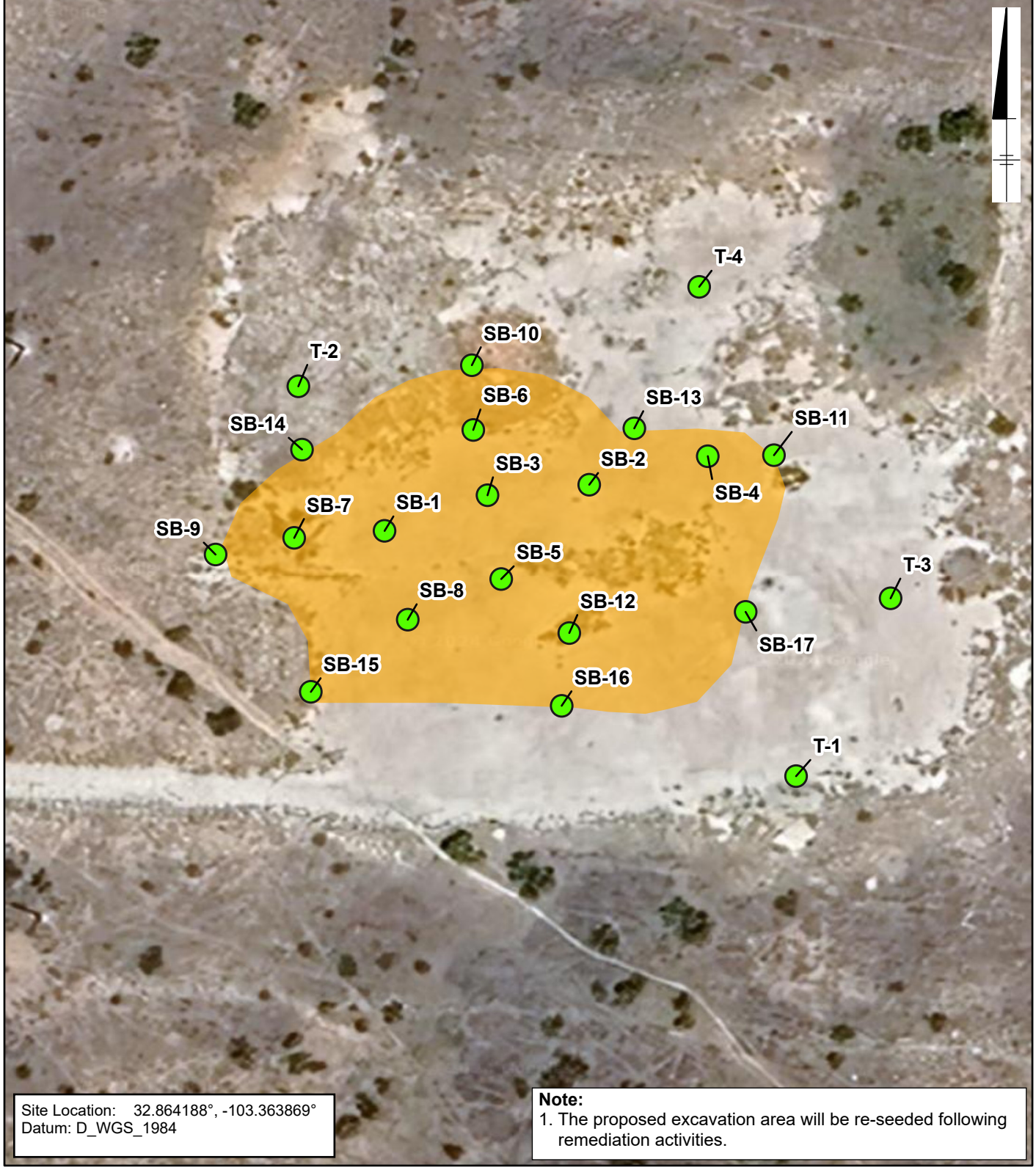
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
WEST LOVINGTON UNIT #072
LEA COUNTY, NEW MEXICO

TOPOGRAPHIC MAP

ARCADIS

FIGURE 2

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: amirm1212 ; Client (Project #) T:_ENV\Upstream\WLU_72_Pro\WLU_72.aprx 7/28/2024 4:15 PM



Site Location: 32.864188°, -103.363869°
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 50 100 Feet

GRAPHIC SCALE

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
WEST LOVINGTON UNIT #072
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: joym8537 ; Client (Project #)
T:\ ENV\UpstreamWLU_72\ ProWLU_72.aprx 1/7/2025 3:42 PM

Appendix A

Initial C-141 Form Incident # nTO1424541014

HOBBS OCD
SEP 02 2014
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Chevron USA Inc.	Contact David A. Pagano
Address 15 Smith Rd., Midland, TX, 79705	Telephone No. wk: 575-396-4414X275 cell: 505-787-9816
Facility Name: West Lovington Unit No. 72	Facility Type: Production Well

Surface Owner **NA**	Mineral Owner **State of New Mexico**	API No. 3002530964

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	4	17S	36E	2600	N	1350	W	Lea

Latitude = 32.863975° Longitude = -103.363827°

NATURE OF RELEASE

Type of Release Spill to Land	Volume of Release 0.55 bbl oil & 10.0 bbl produced water	Volume Recovered 0mcf
Source of Release West Suction Tank	Date and Hour of Occurrence 11/13/13 2:00PM	Date and Hour of Discovery 11/13/13 2:00PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? James Trujillo	Date and Hour 11/14/13 10:30AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

Well was shut in for 24 hour chemical treatment. While the well was shut in, well reached higher bottom hole pressure than stuffing box rating and the BOP rams did not hold leading to a stuffing box leak.

Describe Area Affected and Cleanup Action Taken.*

Spill area was approx. 108' by 18' area rectangular are to the West of the well head and a 24. Vacuum Truck called out to vacuum up standing fluids and backhoe excavated top layer of soil approx. 12-18". Vacuum Truck Recovered 9.5 bbls of fluid. Next step is to take samples to determine effectiveness of local remediation and possibly turn remediation over to the Chevron Environmental Management Company.

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: David Pagano	OIL CONSERVATION DIVISION	
Printed Name: David A. Pagano	Approved by Environmental Specialist: [signature]	
Title: Health & Environmental Specialist	Approval Date: 9-2-14	Expiration Date: 11-2-14
E-mail Address: dpgn@chevron.com	Conditions of Approval: Site Samples required. Delineate & remediate area as per NMOCD guides. Submit final C-141 by 11-2-14	Attached ☐
Date: 11/23/13 Phone: 505-787-9816		IRP-3298

* Attach Additional Sheets If Necessary

ogrid 241333
nTO1424541014
pTO1424541197

SEP 05 2014

Appendix B

Photo Log

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident No.
West Lovington Unit #072	Lea County, NM	nTO1424541014

Photo No.	Date:
1	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.
West Lovington Unit #072	Lea County, NM	nTO1424541014

Photo No.	Date:
2	5/02/2024

Direction Photo Taken:

Facing West

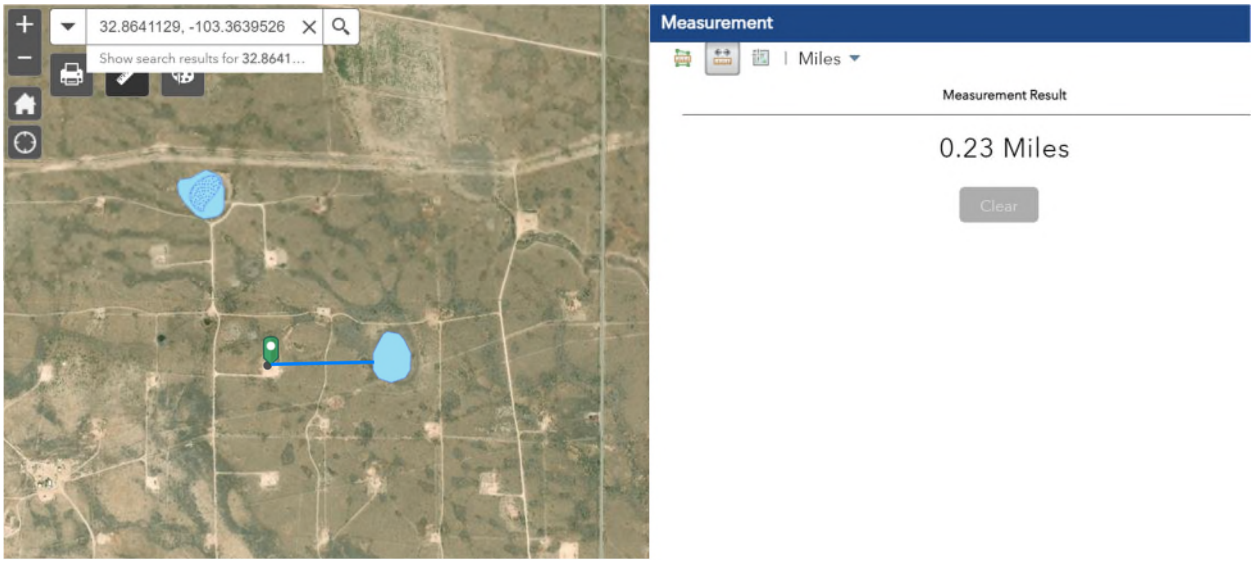
Description:

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).

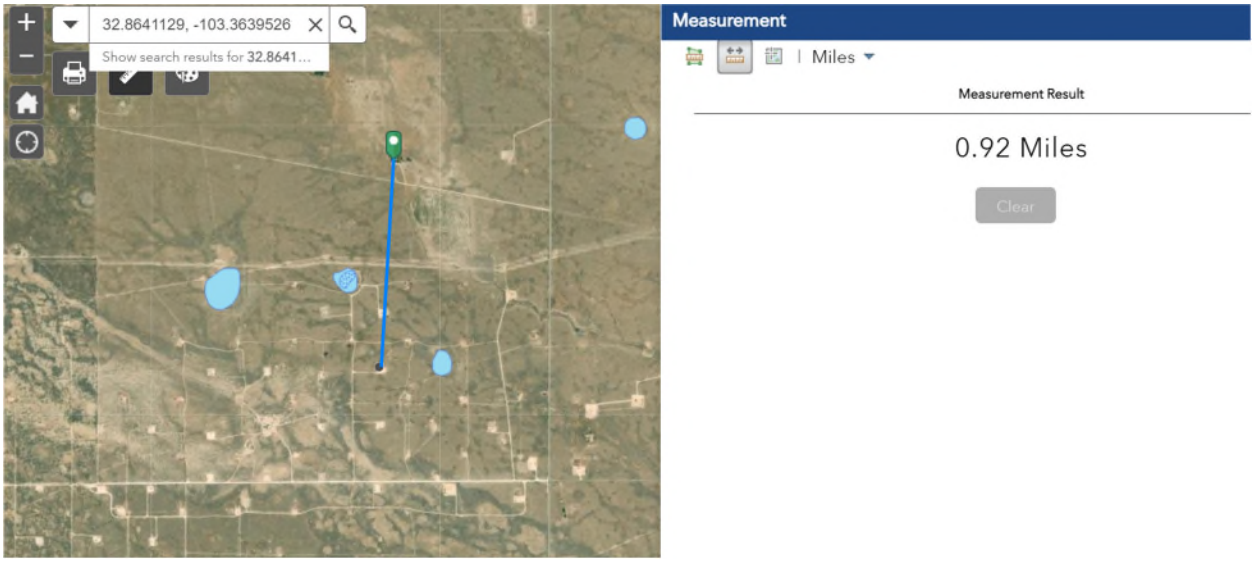
Appendix C

Site Characterization Data

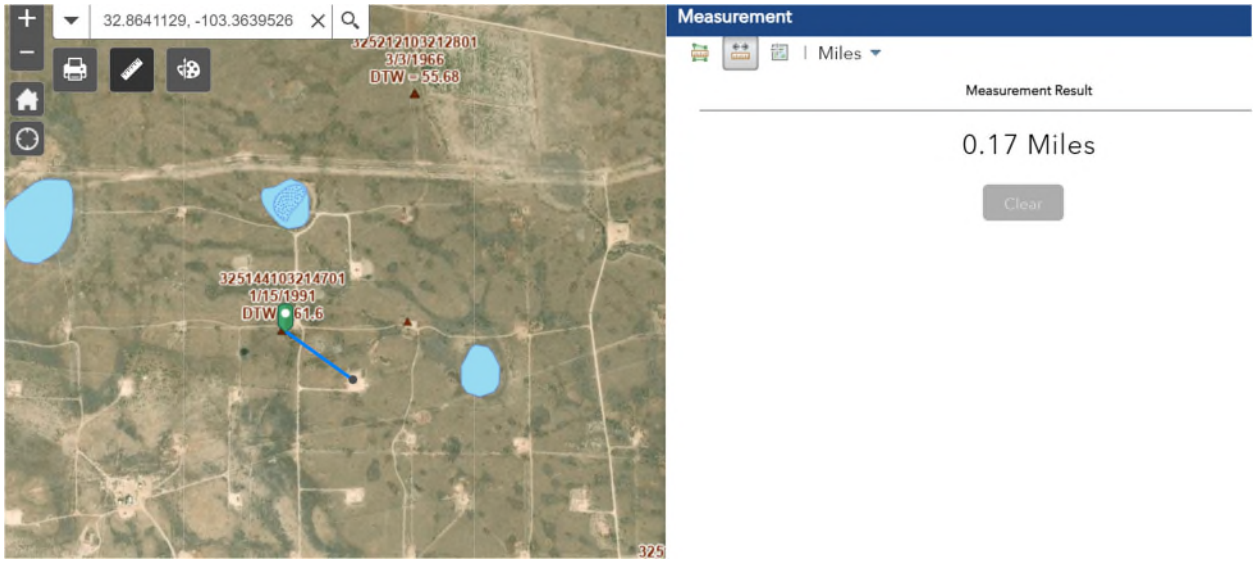
Distance to lakebed, sinkhole, or playa lake.



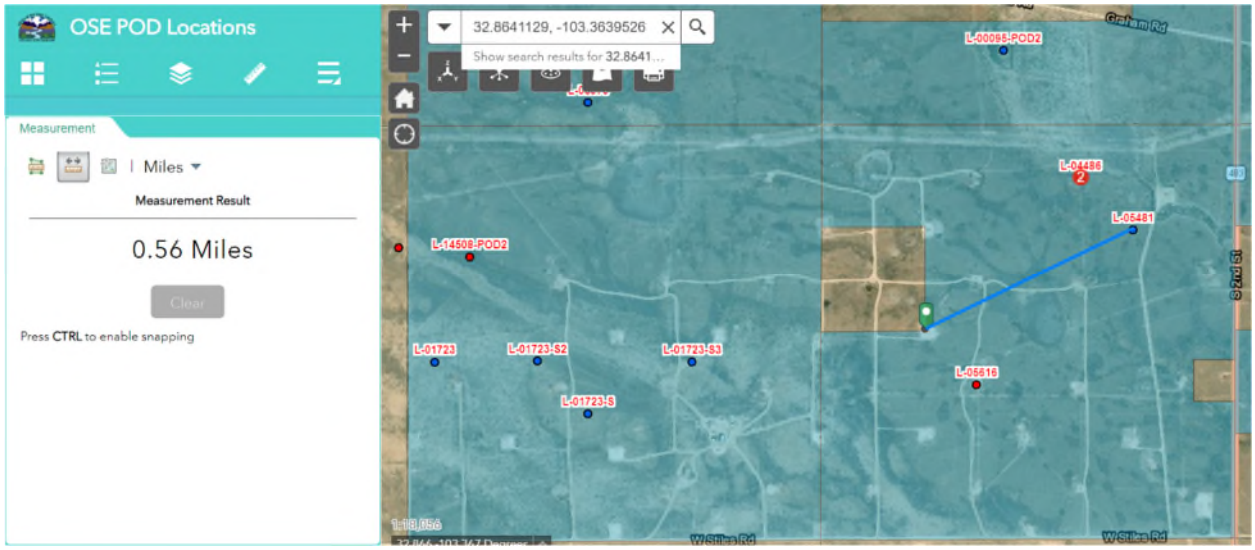
Distance to occupied permanent residence, school, hospital, institution, or church.



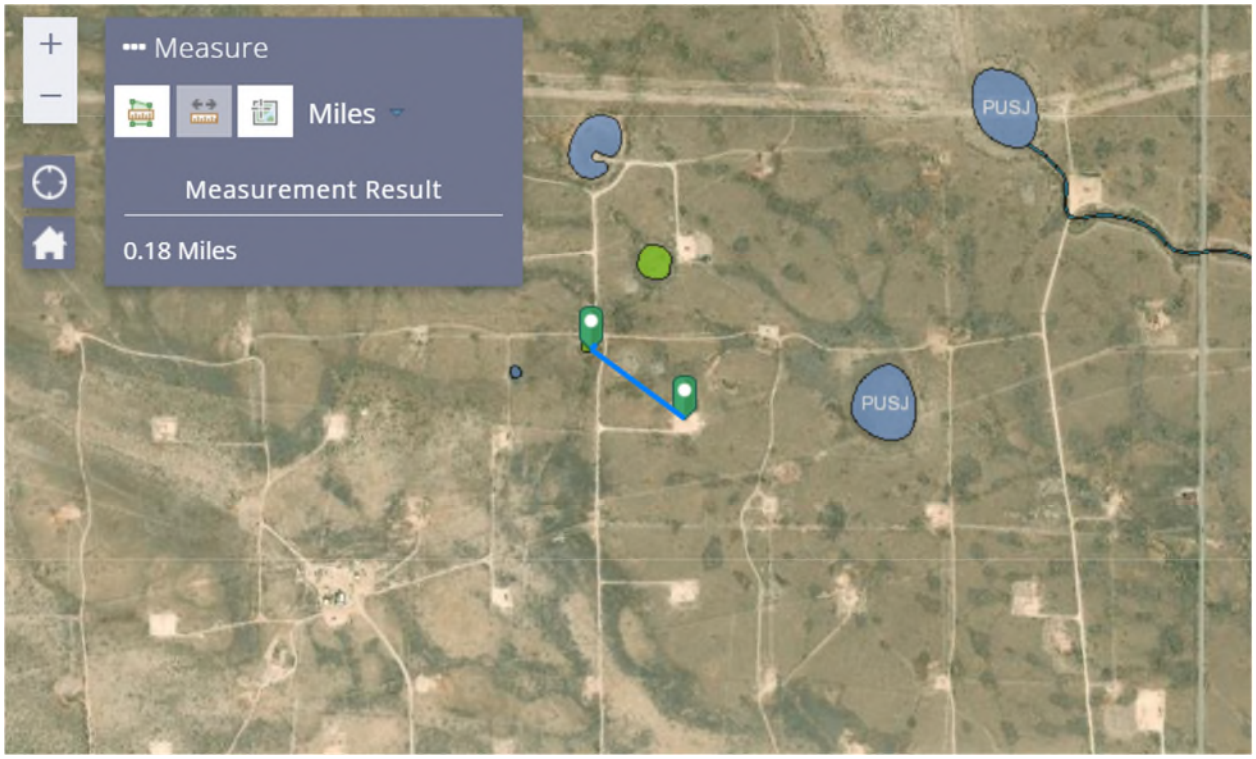
Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes (USGS well 325144103214701).



Distance to any other fresh water well or spring (L-05481).



Distance to a wetland.



Appendix D

Laboratory Analytical Reports

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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 2/1/2024 1:43:29 PM

JOB DESCRIPTION

WLU 72
Lovington, NM

JOB NUMBER

880-38218-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

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

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

Authorization

Generated
2/1/2024 1:43:29 PM

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

Client: ARCADIS US Inc
Project/Site: WLU 72

Laboratory Job ID: 880-38218-1
SDG: Lovington, NM

Table of Contents

Definitions/Glossary

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
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.
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 72

Job ID: 880-38218-1

Job ID: 880-38218-1 Eurofins Midland

Job Narrative
880-38218-1

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 1/22/2024 9:18 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.7°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SB-1-S-1'-240117 (880-38218-1), SB-1-S-2'-240117 (880-38218-2), SB-2-S-1'-240117 (880-38218-3), SB-2-S-2'-240117 (880-38218-4), SB-2-S-4'-240117 (880-38218-5), SB-2-S-6'-240117 (880-38218-6), SB-3-S-1'-240117 (880-38218-7), SB-3-S-2'-240117 (880-38218-8), SB-4-S-1'-240117 (880-38218-9), SB-4-S-2'-240117 (880-38218-10), SB-5-S-1'-240117 (880-38218-11), SB-5-S-2'-240117 (880-38218-12), SB-6-S-1'-240117 (880-38218-13), SB-6-S-2'-240117 (880-38218-14), SB-7-S-1'-240117 (880-38218-15) and SB-7-S-2'-240117 (880-38218-16).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-71518 and 880-71629 and analytical batch 880-71762 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SB-4-S-2'-240117 (880-38218-10). 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-2-S-4'-240117 (880-38218-5), SB-2-S-6'-240117 (880-38218-6) and SB-3-S-2'-240117 (880-38218-8). 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 880-71450 and analytical batch 880-71766 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-71509 and analytical batch 880-71993 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-71509 and analytical batch 880-71993 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-71344 and analytical batch 880-71383 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.

Eurofins Midland

Case Narrative

Client: ARCADIS US Inc
Project: WLU 72

Job ID: 880-38218-1

Job ID: 880-38218-1 (Continued) Eurofins Midland

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 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-1-S-1'-240117

Lab Sample ID: 880-38218-1
Matrix: Solid
Date Collected: 01/17/24 11:40
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7720	F1	50.2	3.97	mg/Kg			01/22/24 22:26	10

Client Sample ID: SB-1-S-2'-240117

Lab Sample ID: 880-38218-2
Matrix: Solid
Date Collected: 01/17/24 11:50
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 05:32	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		01/25/24 17:53	01/29/24 05:32	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		01/25/24 17:53	01/29/24 05:32	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		01/25/24 17:53	01/29/24 05:32	1
o-Xylene	0.000567	J	0.00199	0.000342	mg/Kg		01/25/24 17:53	01/29/24 05:32	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		01/25/24 17:53	01/29/24 05:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*01/25/24 17:53*	*01/29/24 05:32*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*01/25/24 17:53*	*01/29/24 05:32*	*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			01/29/24 05:32	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		50.3	15.1	mg/Kg			01/30/24 02:51	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	30.6	J *1	50.3	15.1	mg/Kg		01/23/24 13:07	01/30/24 02:51	1
Diesel Range Organics (Over C10-C28)	38.8	J	50.3	15.1	mg/Kg		01/23/24 13:07	01/30/24 02:51	1
OII Range Organics (Over C28-C36)	<15.1	U	50.3	15.1	mg/Kg		01/23/24 13:07	01/30/24 02:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*01/23/24 13:07*	*01/30/24 02:51*	*1*
o-Terphenyl	*104*		*70 - 130*	*01/23/24 13:07*	*01/30/24 02:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1550		24.9	1.97	mg/Kg			01/22/24 22:42	5

Client Sample ID: SB-2-S-1'-240117

Lab Sample ID: 880-38218-3
Matrix: Solid
Date Collected: 01/17/24 12:10
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1880		25.2	1.99	mg/Kg			01/22/24 22:47	5

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-2-S-2'-240117
Lab Sample ID: 880-38218-4
Date Collected: 01/17/24 12:20
Matrix: Solid
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1140**		5.03	0.397	mg/Kg			01/22/24 22:52	1

Client Sample ID: SB-2-S-4'-240117
Lab Sample ID: 880-38218-5
Date Collected: 01/17/24 12:30
Matrix: Solid
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 05:53	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		01/25/24 17:53	01/29/24 05:53	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		01/25/24 17:53	01/29/24 05:53	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		01/25/24 17:53	01/29/24 05:53	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		01/25/24 17:53	01/29/24 05:53	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		01/25/24 17:53	01/29/24 05:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*01/25/24 17:53*	*01/29/24 05:53*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*01/25/24 17:53*	*01/29/24 05:53*	*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			01/29/24 05:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**76.2**		49.9	15.0	mg/Kg			01/30/24 03:12	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	**47.7**	**J *1**	49.9	15.0	mg/Kg		01/23/24 13:07	01/30/24 03:12	1
Diesel Range Organics (Over C10-C28)	**28.5**	**J**	49.9	15.0	mg/Kg		01/23/24 13:07	01/30/24 03:12	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		01/23/24 13:07	01/30/24 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*154*	*S1+*	*70 - 130*	*01/23/24 13:07*	*01/30/24 03:12*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*01/23/24 13:07*	*01/30/24 03:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1190**		4.99	0.394	mg/Kg			01/22/24 22:57	1

Client Sample ID: SB-2-S-6'-240117
Lab Sample ID: 880-38218-6
Date Collected: 01/17/24 12:40
Matrix: Solid
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 06:13	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		01/25/24 17:53	01/29/24 06:13	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		01/25/24 17:53	01/29/24 06:13	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-2-S-6'-240117

Lab Sample ID: 880-38218-6
Matrix: Solid
Date Collected: 01/17/24 12:40
Date Received: 01/22/24 09:18

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		01/25/24 17:53	01/29/24 06:13	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		01/25/24 17:53	01/29/24 06:13	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		01/25/24 17:53	01/29/24 06:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*01/25/24 17:53*	*01/29/24 06:13*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*01/25/24 17:53*	*01/29/24 06:13*	*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			01/29/24 06:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**93.7**		50.2	15.1	mg/Kg			01/30/24 03:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**48.3**	**J *1**	50.2	15.1	mg/Kg		01/23/24 13:07	01/30/24 03:33	1
Diesel Range Organics (Over C10-C28)	**45.4**	**J**	50.2	15.1	mg/Kg		01/23/24 13:07	01/30/24 03:33	1
OII Range Organics (Over C28-C36)	<15.1	U	50.2	15.1	mg/Kg		01/23/24 13:07	01/30/24 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*149*	*S1+*	*70 - 130*	*01/23/24 13:07*	*01/30/24 03:33*	*1*
o-Terphenyl	*121*		*70 - 130*	*01/23/24 13:07*	*01/30/24 03:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**989**		5.00	0.395	mg/Kg			01/22/24 23:13	1

Client Sample ID: SB-3-S-1'-240117

Lab Sample ID: 880-38218-7
Matrix: Solid
Date Collected: 01/17/24 13:00
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1300**		25.0	1.98	mg/Kg			01/22/24 23:18	5

Client Sample ID: SB-3-S-2'-240117

Lab Sample ID: 880-38218-8
Matrix: Solid
Date Collected: 01/17/24 13:10
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 06:34	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		01/25/24 17:53	01/29/24 06:34	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		01/25/24 17:53	01/29/24 06:34	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		01/25/24 17:53	01/29/24 06:34	1
o-Xylene	**0.000349**	**J**	0.00199	0.000343	mg/Kg		01/25/24 17:53	01/29/24 06:34	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		01/25/24 17:53	01/29/24 06:34	1

Eurofins Midland

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-3-S-2'-240117

Lab Sample ID: 880-38218-8
Matrix: Solid
Date Collected: 01/17/24 13:10
Date Received: 01/22/24 09:18

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*01/25/24 17:53*	*01/29/24 06:34*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*01/25/24 17:53*	*01/29/24 06:34*	*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			01/29/24 06:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**53.0**		49.9	15.0	mg/Kg			01/30/24 03:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**29.9**	**J *1**	49.9	15.0	mg/Kg		01/23/24 13:07	01/30/24 03:54	1
Diesel Range Organics (Over C10-C28)	**23.1**	**J**	49.9	15.0	mg/Kg		01/23/24 13:07	01/30/24 03:54	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		01/23/24 13:07	01/30/24 03:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*145*	*S1+*	*70 - 130*	*01/23/24 13:07*	*01/30/24 03:54*	*1*
o-Terphenyl	*120*		*70 - 130*	*01/23/24 13:07*	*01/30/24 03:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2530**		25.3	1.99	mg/Kg			01/22/24 23:23	5

Client Sample ID: SB-4-S-1'-240117

Lab Sample ID: 880-38218-9
Matrix: Solid
Date Collected: 01/17/24 13:30
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1160**		5.02	0.397	mg/Kg			01/22/24 23:28	1

Client Sample ID: SB-4-S-2'-240117

Lab Sample ID: 880-38218-10
Matrix: Solid
Date Collected: 01/17/24 13:40
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 06:54	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		01/25/24 17:53	01/29/24 06:54	1
Ethylbenzene	**0.000817**	**J**	0.00199	0.000562	mg/Kg		01/25/24 17:53	01/29/24 06:54	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		01/25/24 17:53	01/29/24 06:54	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		01/25/24 17:53	01/29/24 06:54	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		01/25/24 17:53	01/29/24 06:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*239*	*S1+*	*70 - 130*	*01/25/24 17:53*	*01/29/24 06:54*	*1*
1,4-Difluorobenzene (Surr)	*179*	*S1+*	*70 - 130*	*01/25/24 17:53*	*01/29/24 06:54*	*1*

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-4-S-2'-240117

Lab Sample ID: 880-38218-10
Matrix: Solid
Date Collected: 01/17/24 13:40
Date Received: 01/22/24 09:18

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			01/29/24 06:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**94.9**		49.6	14.9	mg/Kg			01/31/24 17:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**40.0**	**J B**	49.6	14.9	mg/Kg		01/24/24 10:27	01/31/24 17:22	1
Diesel Range Organics (Over C10-C28)	**54.9**	**B**	49.6	14.9	mg/Kg		01/24/24 10:27	01/31/24 17:22	1
OII Range Organics (Over C28-C36)	<14.9	U	49.6	14.9	mg/Kg		01/24/24 10:27	01/31/24 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*01/24/24 10:27*	*01/31/24 17:22*	*1*
o-Terphenyl	*100*		*70 - 130*	*01/24/24 10:27*	*01/31/24 17:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1300**		24.9	1.97	mg/Kg			01/22/24 23:33	5

Client Sample ID: SB-5-S-1'-240117

Lab Sample ID: 880-38218-11
Matrix: Solid
Date Collected: 01/17/24 14:00
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1740**		24.8	1.96	mg/Kg			01/22/24 23:39	5

Client Sample ID: SB-5-S-2'-240117

Lab Sample ID: 880-38218-12
Matrix: Solid
Date Collected: 01/17/24 14:10
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 07:14	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		01/25/24 17:53	01/29/24 07:14	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		01/25/24 17:53	01/29/24 07:14	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		01/25/24 17:53	01/29/24 07:14	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		01/25/24 17:53	01/29/24 07:14	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		01/25/24 17:53	01/29/24 07:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*01/25/24 17:53*	*01/29/24 07:14*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*01/25/24 17:53*	*01/29/24 07:14*	*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			01/29/24 07:14	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-5-S-2'-240117

Lab Sample ID: 880-38218-12
Matrix: Solid
Date Collected: 01/17/24 14:10
Date Received: 01/22/24 09:18

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	69.0		50.5	15.1	mg/Kg			01/31/24 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	31.0	J B	50.5	15.1	mg/Kg		01/24/24 10:27	01/31/24 17:43	1
Diesel Range Organics (Over C10-C28)	38.0	J B	50.5	15.1	mg/Kg		01/24/24 10:27	01/31/24 17:43	1
Oil Range Organics (Over C28-C36)	<15.1	U	50.5	15.1	mg/Kg		01/24/24 10:27	01/31/24 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*01/24/24 10:27*	*01/31/24 17:43*	*1*
o-Terphenyl	*95*		*70 - 130*	*01/24/24 10:27*	*01/31/24 17:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	660		5.01	0.396	mg/Kg			01/22/24 23:54	1

Client Sample ID: SB-6-S-1'-240117

Lab Sample ID: 880-38218-13
Matrix: Solid
Date Collected: 01/17/24 14:40
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1320		25.1	1.98	mg/Kg			01/22/24 23:59	5

Client Sample ID: SB-6-S-2'-240117

Lab Sample ID: 880-38218-14
Matrix: Solid
Date Collected: 01/17/24 14:50
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 07:35	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		01/25/24 17:53	01/29/24 07:35	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		01/25/24 17:53	01/29/24 07:35	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		01/25/24 17:53	01/29/24 07:35	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		01/25/24 17:53	01/29/24 07:35	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		01/25/24 17:53	01/29/24 07:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*01/25/24 17:53*	*01/29/24 07:35*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*01/25/24 17:53*	*01/29/24 07:35*	*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			01/29/24 07:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	55.8		49.9	15.0	mg/Kg			01/31/24 18:03	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-6-S-2'-240117

Lab Sample ID: 880-38218-14
Matrix: Solid
Date Collected: 01/17/24 14:50
Date Received: 01/22/24 09:18

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	30.7	J B	49.9	15.0	mg/Kg		01/24/24 10:27	01/31/24 18:03	1
Diesel Range Organics (Over C10-C28)	25.1	J B	49.9	15.0	mg/Kg		01/24/24 10:27	01/31/24 18:03	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		01/24/24 10:27	01/31/24 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*01/24/24 10:27*	*01/31/24 18:03*	*1*
o-Terphenyl	*98*		*70 - 130*	*01/24/24 10:27*	*01/31/24 18:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1370		24.9	1.96	mg/Kg			01/23/24 00:15	5

Client Sample ID: SB-7-S-1'-240117

Lab Sample ID: 880-38218-15
Matrix: Solid
Date Collected: 01/17/24 15:20
Date Received: 01/22/24 09:18

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	121		4.99	0.394	mg/Kg			01/23/24 00:20	1

Client Sample ID: SB-7-S-2'-240117

Lab Sample ID: 880-38218-16
Matrix: Solid
Date Collected: 01/17/24 15:30
Date Received: 01/22/24 09:18

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		01/25/24 17:53	01/29/24 07:55	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		01/25/24 17:53	01/29/24 07:55	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		01/25/24 17:53	01/29/24 07:55	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		01/25/24 17:53	01/29/24 07:55	1
o-Xylene	0.000934	J	0.00200	0.000345	mg/Kg		01/25/24 17:53	01/29/24 07:55	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		01/25/24 17:53	01/29/24 07:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*01/25/24 17:53*	*01/29/24 07:55*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*01/25/24 17:53*	*01/29/24 07:55*	*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			01/29/24 07:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	47.1	J	49.8	14.9	mg/Kg			01/31/24 18:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	30.6	J B	49.8	14.9	mg/Kg		01/24/24 10:27	01/31/24 18:23	1
Diesel Range Organics (Over C10-C28)	16.5	J B	49.8	14.9	mg/Kg		01/24/24 10:27	01/31/24 18:23	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-7-S-2'-240117
Date Collected: 01/17/24 15:30
Date Received: 01/22/24 09:18

Lab Sample ID: 880-38218-16
Matrix: Solid

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		01/24/24 10:27	01/31/24 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*01/24/24 10:27*	*01/31/24 18:23*	*1*
o-Terphenyl	*98*		*70 - 130*	*01/24/24 10:27*	*01/31/24 18:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**		5.03	0.397	mg/Kg			01/23/24 00:25	1

Surrogate Summary

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) BFB1 (70-130)	DFBZ1 (70-130)
880-38218-2	SB-1-S-2'-240117	88	103
880-38218-2 MS	SB-1-S-2'-240117	96	91
880-38218-2 MSD	SB-1-S-2'-240117	106	97
880-38218-5	SB-2-S-4'-240117	102	110
880-38218-6	SB-2-S-6'-240117	116	113
880-38218-8	SB-3-S-2'-240117	112	117
880-38218-10	SB-4-S-2'-240117	239 S1+	179 S1+
880-38218-12	SB-5-S-2'-240117	106	106
880-38218-14	SB-6-S-2'-240117	107	103
880-38218-16	SB-7-S-2'-240117	123	106
LCS 880-71629/1-A	Lab Control Sample	96	90
LCSD 880-71629/2-A	Lab Control Sample Dup	99	101
MB 880-71518/5-A	Method Blank	130	132 S1+
MB 880-71629/5-A	Method Blank	117	132 S1+

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) 1CO1 (70-130)	OTPH1 (70-130)
880-38218-2	SB-1-S-2'-240117	129	104
880-38218-5	SB-2-S-4'-240117	154 S1+	131 S1+
880-38218-6	SB-2-S-6'-240117	149 S1+	121
880-38218-8	SB-3-S-2'-240117	145 S1+	120
880-38218-10	SB-4-S-2'-240117	130	100
880-38218-12	SB-5-S-2'-240117	122	95
880-38218-14	SB-6-S-2'-240117	125	98
880-38218-16	SB-7-S-2'-240117	125	98
LCS 880-71450/2-A	Lab Control Sample	80	71
LCS 880-71509/2-A	Lab Control Sample	95	80
LCSD 880-71450/3-A	Lab Control Sample Dup	90	93
LCSD 880-71509/3-A	Lab Control Sample Dup	102	95
MB 880-71450/1-A	Method Blank	124	105
MB 880-71509/1-A	Method Blank	140 S1+	113

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-71518/5-A
Matrix: Solid
Analysis Batch: 71762

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71518

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		01/24/24 14:18	01/28/24 17:28	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		01/24/24 14:18	01/28/24 17:28	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		01/24/24 14:18	01/28/24 17:28	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		01/24/24 14:18	01/28/24 17:28	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		01/24/24 14:18	01/28/24 17:28	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		01/24/24 14:18	01/28/24 17:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*01/24/24 14:18*	*01/28/24 17:28*	*1*
1,4-Difluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*01/24/24 14:18*	*01/28/24 17:28*	*1*

Lab Sample ID: MB 880-71629/5-A
Matrix: Solid
Analysis Batch: 71762

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71629

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		01/25/24 17:53	01/29/24 05:04	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		01/25/24 17:53	01/29/24 05:04	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		01/25/24 17:53	01/29/24 05:04	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		01/25/24 17:53	01/29/24 05:04	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		01/25/24 17:53	01/29/24 05:04	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		01/25/24 17:53	01/29/24 05:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*01/25/24 17:53*	*01/29/24 05:04*	*1*
1,4-Difluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*01/25/24 17:53*	*01/29/24 05:04*	*1*

Lab Sample ID: LCS 880-71629/1-A
Matrix: Solid
Analysis Batch: 71762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 71629

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08742		mg/Kg		87	70 - 130
Toluene	0.100	0.08856		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08928		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1698		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08422		mg/Kg		84	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-71629/2-A
Matrix: Solid
Analysis Batch: 71762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71629

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08672		mg/Kg		87	70 - 130	1	35

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

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

Lab Sample ID: LCSD 880-71629/2-A
Matrix: Solid
Analysis Batch: 71762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71629

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.07950		mg/Kg		79	70 - 130	11	35
Ethylbenzene			0.100	0.08451		mg/Kg		85	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1645		mg/Kg		82	70 - 130	3	35
o-Xylene			0.100	0.08226		mg/Kg		82	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-38218-2 MS
Matrix: Solid
Analysis Batch: 71762

Client Sample ID: SB-1-S-2'-240117
Prep Type: Total/NA
Prep Batch: 71629

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000383	U	0.0996	0.07322		mg/Kg		74	70 - 130
Toluene	<0.000453	U	0.0996	0.07487		mg/Kg		75	70 - 130
Ethylbenzene	<0.000562	U	0.0996	0.07174		mg/Kg		72	70 - 130
m-Xylene & p-Xylene	<0.00100	U	0.199	0.1501		mg/Kg		75	70 - 130
o-Xylene	0.000567	J	0.0996	0.07537		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 880-38218-2 MSD
Matrix: Solid
Analysis Batch: 71762

Client Sample ID: SB-1-S-2'-240117
Prep Type: Total/NA
Prep Batch: 71629

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000383	U	0.0990	0.09573		mg/Kg		97	70 - 130	27	35
Toluene	<0.000453	U	0.0990	0.08782		mg/Kg		89	70 - 130	16	35
Ethylbenzene	<0.000562	U	0.0990	0.09267		mg/Kg		94	70 - 130	25	35
m-Xylene & p-Xylene	<0.00100	U	0.198	0.1987		mg/Kg		100	70 - 130	28	35
o-Xylene	0.000567	J	0.0990	0.09951		mg/Kg		100	70 - 130	28	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

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

Lab Sample ID: MB 880-71450/1-A
Matrix: Solid
Analysis Batch: 71766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71450

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		01/23/24 13:07	01/29/24 19:05	1

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

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

Lab Sample ID: MB 880-71450/1-A
Matrix: Solid
Analysis Batch: 71766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		01/23/24 13:07	01/29/24 19:05	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		01/23/24 13:07	01/29/24 19:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*01/23/24 13:07*	*01/29/24 19:05*	*1*
o-Terphenyl	*105*		*70 - 130*	*01/23/24 13:07*	*01/29/24 19:05*	*1*

Lab Sample ID: LCS 880-71450/2-A
Matrix: Solid
Analysis Batch: 71766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 71450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1170		mg/Kg		117	70 - 130
Diesel Range Organics (Over C10-C28)	1000	963.2		mg/Kg		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

Lab Sample ID: LCSD 880-71450/3-A
Matrix: Solid
Analysis Batch: 71766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71450

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	918.4	*1	mg/Kg		92	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	1000	1051		mg/Kg		105	70 - 130	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: MB 880-71509/1-A
Matrix: Solid
Analysis Batch: 71993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71509

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	16.34	J	50.0	15.0	mg/Kg		01/24/24 10:27	01/31/24 08:11	1
Diesel Range Organics (Over C10-C28)	18.55	J	50.0	15.0	mg/Kg		01/24/24 10:27	01/31/24 08:11	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		01/24/24 10:27	01/31/24 08:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*140*	*S1+*	*70 - 130*	*01/24/24 10:27*	*01/31/24 08:11*	*1*

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

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

Lab Sample ID: MB 880-71509/1-A
Matrix: Solid
Analysis Batch: 71993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71509

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	113		70 - 130	01/24/24 10:27	01/31/24 08:11	1

Lab Sample ID: LCS 880-71509/2-A
Matrix: Solid
Analysis Batch: 71993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 71509

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1097		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	1000	985.1		mg/Kg		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: LCSD 880-71509/3-A
Matrix: Solid
Analysis Batch: 71993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71509

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1063		mg/Kg		106	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	945.1		mg/Kg		95	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	95		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-71344/1-A
Matrix: Solid
Analysis Batch: 71383

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			01/22/24 22:11	1

Lab Sample ID: LCS 880-71344/2-A
Matrix: Solid
Analysis Batch: 71383

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.2		mg/Kg		101	90 - 110

QC Sample Results

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-71344/3-A
Matrix: Solid
Analysis Batch: 71383

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	255.7		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 880-38218-1 MS
Matrix: Solid
Analysis Batch: 71383

Client Sample ID: SB-1-S-1'-240117
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	7720	F1	2510	10500	F1	mg/Kg		111	90 - 110

Lab Sample ID: 880-38218-1 MSD
Matrix: Solid
Analysis Batch: 71383

Client Sample ID: SB-1-S-1'-240117
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7720	F1	2510	10480		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 880-38218-11 MS
Matrix: Solid
Analysis Batch: 71383

Client Sample ID: SB-5-S-1'-240117
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1740		1240	2986		mg/Kg		100	90 - 110

Lab Sample ID: 880-38218-11 MSD
Matrix: Solid
Analysis Batch: 71383

Client Sample ID: SB-5-S-1'-240117
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1740		1240	3017		mg/Kg		103	90 - 110	1	20

QC Association Summary

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

GC VOA

Prep Batch: 71518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-71518/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 71629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-2	SB-1-S-2'-240117	Total/NA	Solid	5030B	
880-38218-5	SB-2-S-4'-240117	Total/NA	Solid	5030B	
880-38218-6	SB-2-S-6'-240117	Total/NA	Solid	5030B	
880-38218-8	SB-3-S-2'-240117	Total/NA	Solid	5030B	
880-38218-10	SB-4-S-2'-240117	Total/NA	Solid	5030B	
880-38218-12	SB-5-S-2'-240117	Total/NA	Solid	5030B	
880-38218-14	SB-6-S-2'-240117	Total/NA	Solid	5030B	
880-38218-16	SB-7-S-2'-240117	Total/NA	Solid	5030B	
MB 880-71629/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-71629/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-71629/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
880-38218-2 MS	SB-1-S-2'-240117	Total/NA	Solid	5030B	
880-38218-2 MSD	SB-1-S-2'-240117	Total/NA	Solid	5030B	

Analysis Batch: 71762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-2	SB-1-S-2'-240117	Total/NA	Solid	8021B	71629
880-38218-5	SB-2-S-4'-240117	Total/NA	Solid	8021B	71629
880-38218-6	SB-2-S-6'-240117	Total/NA	Solid	8021B	71629
880-38218-8	SB-3-S-2'-240117	Total/NA	Solid	8021B	71629
880-38218-10	SB-4-S-2'-240117	Total/NA	Solid	8021B	71629
880-38218-12	SB-5-S-2'-240117	Total/NA	Solid	8021B	71629
880-38218-14	SB-6-S-2'-240117	Total/NA	Solid	8021B	71629
880-38218-16	SB-7-S-2'-240117	Total/NA	Solid	8021B	71629
MB 880-71518/5-A	Method Blank	Total/NA	Solid	8021B	71518
MB 880-71629/5-A	Method Blank	Total/NA	Solid	8021B	71629
LCS 880-71629/1-A	Lab Control Sample	Total/NA	Solid	8021B	71629
LCSD 880-71629/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	71629
880-38218-2 MS	SB-1-S-2'-240117	Total/NA	Solid	8021B	71629
880-38218-2 MSD	SB-1-S-2'-240117	Total/NA	Solid	8021B	71629

Analysis Batch: 71821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-2	SB-1-S-2'-240117	Total/NA	Solid	Total BTEX	
880-38218-5	SB-2-S-4'-240117	Total/NA	Solid	Total BTEX	
880-38218-6	SB-2-S-6'-240117	Total/NA	Solid	Total BTEX	
880-38218-8	SB-3-S-2'-240117	Total/NA	Solid	Total BTEX	
880-38218-10	SB-4-S-2'-240117	Total/NA	Solid	Total BTEX	
880-38218-12	SB-5-S-2'-240117	Total/NA	Solid	Total BTEX	
880-38218-14	SB-6-S-2'-240117	Total/NA	Solid	Total BTEX	
880-38218-16	SB-7-S-2'-240117	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 71450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-2	SB-1-S-2'-240117	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

GC Semi VOA (Continued)

Prep Batch: 71450 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-5	SB-2-S-4'-240117	Total/NA	Solid	8015NM Prep	
880-38218-6	SB-2-S-6'-240117	Total/NA	Solid	8015NM Prep	
880-38218-8	SB-3-S-2'-240117	Total/NA	Solid	8015NM Prep	
MB 880-71450/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-71450/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-71450/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 71509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-10	SB-4-S-2'-240117	Total/NA	Solid	8015NM Prep	
880-38218-12	SB-5-S-2'-240117	Total/NA	Solid	8015NM Prep	
880-38218-14	SB-6-S-2'-240117	Total/NA	Solid	8015NM Prep	
880-38218-16	SB-7-S-2'-240117	Total/NA	Solid	8015NM Prep	
MB 880-71509/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-71509/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-71509/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 71766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-2	SB-1-S-2'-240117	Total/NA	Solid	8015B NM	71450
880-38218-5	SB-2-S-4'-240117	Total/NA	Solid	8015B NM	71450
880-38218-6	SB-2-S-6'-240117	Total/NA	Solid	8015B NM	71450
880-38218-8	SB-3-S-2'-240117	Total/NA	Solid	8015B NM	71450
MB 880-71450/1-A	Method Blank	Total/NA	Solid	8015B NM	71450
LCS 880-71450/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	71450
LCSD 880-71450/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	71450

Analysis Batch: 71929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-2	SB-1-S-2'-240117	Total/NA	Solid	8015 NM	
880-38218-5	SB-2-S-4'-240117	Total/NA	Solid	8015 NM	
880-38218-6	SB-2-S-6'-240117	Total/NA	Solid	8015 NM	
880-38218-8	SB-3-S-2'-240117	Total/NA	Solid	8015 NM	
880-38218-10	SB-4-S-2'-240117	Total/NA	Solid	8015 NM	
880-38218-12	SB-5-S-2'-240117	Total/NA	Solid	8015 NM	
880-38218-14	SB-6-S-2'-240117	Total/NA	Solid	8015 NM	
880-38218-16	SB-7-S-2'-240117	Total/NA	Solid	8015 NM	

Analysis Batch: 71993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-10	SB-4-S-2'-240117	Total/NA	Solid	8015B NM	71509
880-38218-12	SB-5-S-2'-240117	Total/NA	Solid	8015B NM	71509
880-38218-14	SB-6-S-2'-240117	Total/NA	Solid	8015B NM	71509
880-38218-16	SB-7-S-2'-240117	Total/NA	Solid	8015B NM	71509
MB 880-71509/1-A	Method Blank	Total/NA	Solid	8015B NM	71509
LCS 880-71509/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	71509
LCSD 880-71509/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	71509

QC Association Summary

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

HPLC/IC

Leach Batch: 71344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-1	SB-1-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-2	SB-1-S-2'-240117	Soluble	Solid	DI Leach	
880-38218-3	SB-2-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-4	SB-2-S-2'-240117	Soluble	Solid	DI Leach	
880-38218-5	SB-2-S-4'-240117	Soluble	Solid	DI Leach	
880-38218-6	SB-2-S-6'-240117	Soluble	Solid	DI Leach	
880-38218-7	SB-3-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-8	SB-3-S-2'-240117	Soluble	Solid	DI Leach	
880-38218-9	SB-4-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-10	SB-4-S-2'-240117	Soluble	Solid	DI Leach	
880-38218-11	SB-5-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-12	SB-5-S-2'-240117	Soluble	Solid	DI Leach	
880-38218-13	SB-6-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-14	SB-6-S-2'-240117	Soluble	Solid	DI Leach	
880-38218-15	SB-7-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-16	SB-7-S-2'-240117	Soluble	Solid	DI Leach	
MB 880-71344/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-71344/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-71344/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-38218-1 MS	SB-1-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-1 MSD	SB-1-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-11 MS	SB-5-S-1'-240117	Soluble	Solid	DI Leach	
880-38218-11 MSD	SB-5-S-1'-240117	Soluble	Solid	DI Leach	

Analysis Batch: 71383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38218-1	SB-1-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-2	SB-1-S-2'-240117	Soluble	Solid	300.0	71344
880-38218-3	SB-2-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-4	SB-2-S-2'-240117	Soluble	Solid	300.0	71344
880-38218-5	SB-2-S-4'-240117	Soluble	Solid	300.0	71344
880-38218-6	SB-2-S-6'-240117	Soluble	Solid	300.0	71344
880-38218-7	SB-3-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-8	SB-3-S-2'-240117	Soluble	Solid	300.0	71344
880-38218-9	SB-4-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-10	SB-4-S-2'-240117	Soluble	Solid	300.0	71344
880-38218-11	SB-5-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-12	SB-5-S-2'-240117	Soluble	Solid	300.0	71344
880-38218-13	SB-6-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-14	SB-6-S-2'-240117	Soluble	Solid	300.0	71344
880-38218-15	SB-7-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-16	SB-7-S-2'-240117	Soluble	Solid	300.0	71344
MB 880-71344/1-A	Method Blank	Soluble	Solid	300.0	71344
LCS 880-71344/2-A	Lab Control Sample	Soluble	Solid	300.0	71344
LCSD 880-71344/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	71344
880-38218-1 MS	SB-1-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-1 MSD	SB-1-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-11 MS	SB-5-S-1'-240117	Soluble	Solid	300.0	71344
880-38218-11 MSD	SB-5-S-1'-240117	Soluble	Solid	300.0	71344

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-1-S-1'-240117
Lab Sample ID: 880-38218-1
Date Collected: 01/17/24 11:40
Matrix: Solid
Date Received: 01/22/24 09:18

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	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	71383	01/22/24 22:26	SMC	EET MID

Client Sample ID: SB-1-S-2'-240117
Lab Sample ID: 880-38218-2
Date Collected: 01/17/24 11:50
Matrix: Solid
Date Received: 01/22/24 09:18

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	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 05:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 05:32	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/30/24 02:51	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	71450	01/23/24 13:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/30/24 02:51	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/22/24 22:42	SMC	EET MID

Client Sample ID: SB-2-S-1'-240117
Lab Sample ID: 880-38218-3
Date Collected: 01/17/24 12:10
Matrix: Solid
Date Received: 01/22/24 09:18

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	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/22/24 22:47	SMC	EET MID

Client Sample ID: SB-2-S-2'-240117
Lab Sample ID: 880-38218-4
Date Collected: 01/17/24 12:20
Matrix: Solid
Date Received: 01/22/24 09:18

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	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71383	01/22/24 22:52	SMC	EET MID

Client Sample ID: SB-2-S-4'-240117
Lab Sample ID: 880-38218-5
Date Collected: 01/17/24 12:30
Matrix: Solid
Date Received: 01/22/24 09:18

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	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 05:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 05:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/30/24 03:12	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	71450	01/23/24 13:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/30/24 03:12	SM	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-2-S-4'-240117
Date Collected: 01/17/24 12:30
Date Received: 01/22/24 09:18

Lab Sample ID: 880-38218-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71383	01/22/24 22:57	SMC	EET MID

Client Sample ID: SB-2-S-6'-240117
Date Collected: 01/17/24 12:40
Date Received: 01/22/24 09:18

Lab Sample ID: 880-38218-6
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			4.98 g	5 mL	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 06:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 06:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/30/24 03:33	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	71450	01/23/24 13:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/30/24 03:33	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71383	01/22/24 23:13	SMC	EET MID

Client Sample ID: SB-3-S-1'-240117
Date Collected: 01/17/24 13:00
Date Received: 01/22/24 09:18

Lab Sample ID: 880-38218-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.00 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/22/24 23:18	SMC	EET MID

Client Sample ID: SB-3-S-2'-240117
Date Collected: 01/17/24 13:10
Date Received: 01/22/24 09:18

Lab Sample ID: 880-38218-8
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	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 06:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 06:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/30/24 03:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	71450	01/23/24 13:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/30/24 03:54	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/22/24 23:23	SMC	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-4-S-1'-240117
Lab Sample ID: 880-38218-9
Date Collected: 01/17/24 13:30
Matrix: Solid
Date Received: 01/22/24 09:18

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	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71383	01/22/24 23:28	SMC	EET MID

Client Sample ID: SB-4-S-2'-240117
Lab Sample ID: 880-38218-10
Date Collected: 01/17/24 13:40
Matrix: Solid
Date Received: 01/22/24 09:18

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	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 06:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 06:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/31/24 17:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	71509	01/24/24 10:27	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71993	01/31/24 17:22	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/22/24 23:33	SMC	EET MID

Client Sample ID: SB-5-S-1'-240117
Lab Sample ID: 880-38218-11
Date Collected: 01/17/24 14:00
Matrix: Solid
Date Received: 01/22/24 09:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/22/24 23:39	SMC	EET MID

Client Sample ID: SB-5-S-2'-240117
Lab Sample ID: 880-38218-12
Date Collected: 01/17/24 14:10
Matrix: Solid
Date Received: 01/22/24 09:18

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	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 07:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 07:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/31/24 17:43	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	71509	01/24/24 10:27	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71993	01/31/24 17:43	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71383	01/22/24 23:54	SMC	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
SDG: Lovington, NM

Client Sample ID: SB-6-S-1'-240117

Lab Sample ID: 880-38218-13
Matrix: Solid
Date Collected: 01/17/24 14:40
Date Received: 01/22/24 09:18

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	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/22/24 23:59	SMC	EET MID

Client Sample ID: SB-6-S-2'-240117

Lab Sample ID: 880-38218-14
Matrix: Solid
Date Collected: 01/17/24 14:50
Date Received: 01/22/24 09:18

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	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 07:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 07:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/31/24 18:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	71509	01/24/24 10:27	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71993	01/31/24 18:03	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71383	01/23/24 00:15	SMC	EET MID

Client Sample ID: SB-7-S-1'-240117

Lab Sample ID: 880-38218-15
Matrix: Solid
Date Collected: 01/17/24 15:20
Date Received: 01/22/24 09:18

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	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71383	01/23/24 00:20	SMC	EET MID

Client Sample ID: SB-7-S-2'-240117

Lab Sample ID: 880-38218-16
Matrix: Solid
Date Collected: 01/17/24 15:30
Date Received: 01/22/24 09:18

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	71629	01/25/24 17:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71762	01/29/24 07:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71821	01/29/24 07:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			71929	01/31/24 18:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	71509	01/24/24 10:27	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71993	01/31/24 18:23	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	71344	01/22/24 14:57	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71383	01/23/24 00:25	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 US Inc
Project/Site: WLU 72

Job ID: 880-38218-1
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 72

Job ID: 880-38218-1
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 72

Job ID: 880-38218-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-38218-1	SB-1-S-1'-240117	Solid	01/17/24 11:40	01/22/24 09:18
880-38218-2	SB-1-S-2'-240117	Solid	01/17/24 11:50	01/22/24 09:18
880-38218-3	SB-2-S-1'-240117	Solid	01/17/24 12:10	01/22/24 09:18
880-38218-4	SB-2-S-2'-240117	Solid	01/17/24 12:20	01/22/24 09:18
880-38218-5	SB-2-S-4'-240117	Solid	01/17/24 12:30	01/22/24 09:18
880-38218-6	SB-2-S-6'-240117	Solid	01/17/24 12:40	01/22/24 09:18
880-38218-7	SB-3-S-1'-240117	Solid	01/17/24 13:00	01/22/24 09:18
880-38218-8	SB-3-S-2'-240117	Solid	01/17/24 13:10	01/22/24 09:18
880-38218-9	SB-4-S-1'-240117	Solid	01/17/24 13:30	01/22/24 09:18
880-38218-10	SB-4-S-2'-240117	Solid	01/17/24 13:40	01/22/24 09:18
880-38218-11	SB-5-S-1'-240117	Solid	01/17/24 14:00	01/22/24 09:18
880-38218-12	SB-5-S-2'-240117	Solid	01/17/24 14:10	01/22/24 09:18
880-38218-13	SB-6-S-1'-240117	Solid	01/17/24 14:40	01/22/24 09:18
880-38218-14	SB-6-S-2'-240117	Solid	01/17/24 14:50	01/22/24 09:18
880-38218-15	SB-7-S-1'-240117	Solid	01/17/24 15:20	01/22/24 09:18
880-38218-16	SB-7-S-2'-240117	Solid	01/17/24 15:30	01/22/24 09:18

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

Chain of Custody Record

880-38218 Chain of Custody

Client Information	Sampler: Heath Boyd	Lab PM: Builes John	Carrier Track:
Client Contact: Mr Morgan Jordan	Phone: 575-390-4618	E-Mail: John.Builes@et.eurofinsus.com	State of Orig: NM
Company: ARCADIS US Inc	PWSID:	Analysis Requested	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 72	Project #: ~~88002020~~ 30209673 Task 3		
Site: Lovington, NM	SSOW#:		

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-1-S-1'-240117	1/17/24	1140	G	Solid				X		
SB-1-S-2'-240117		1150		Solid			X	X		
SB-2-S-1'-240117		1210		Solid				X		
SB-2-S-2'-240117		1220		Solid				X		
SB-2-S-4'-240117		1230		Solid			X	X		
SB-2-S-6'-240117		1240		Solid			X	X		
SB-3-S-1'-240117		1300		Solid				X		
SB-3-S-2'-240117		1310		Solid			X	X		
SB-4-S-1'-240117		1330		Solid				X		
SB-4-S-2'-240117		1340		Solid			X	X		
SB-5-S-1'-240117	X	1400	X	Solid				X		

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G Amchlor	S - H2SO4
H Ascorbic Acid	T - TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V MCAA
K EDTA	W pH 4-5
L EDA	Y Trizma
	Z other (specify)

Other:

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:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	1/19/24 1510	Arcadis	Nadira Gonzalez	3:09 PM 1-19-24	
Relinquished by: Nadira Gonzalez	Date/Time:	Company	Received by:	Date/Time: 1/22/24 918	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.
		2.5/2.7

Ver: 01/16/2019

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

Chain of Custody Record

Loc: 880
38218
Environment Testing

Client Information	Sampler: Heath Boyd	Lab PM: Builes John	Carrier Tracking No(s)
Client Contact: Mr Morgan Jordan	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): 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: ~~WLW Water Injection Station~~ WLW 72	Project #: 88002020 (23) 30209673 Task 3		
Site: Lovington, NM	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	~~300_ORGFM_28D~~, 8015MOD_NM, 8021B	300_ORGFM_28D	Total Number of containers	Special Instructions/Note.
			Preservation Code:		X	X	N		X	
SB-5-S-2'-240117	1/17/24	1410	G	Solid			X	X		
SB-6-S-1'-240117	|	1440	|	Solid				X		
SB-6-S-2'-240117	|	1450	|	Solid			X	X		
SB-7-S-1'-240117	|	1520	|	Solid				X		
SB-7-S-2'-240117	X	1530	X	Solid			X	X		
				Solid						
				Solid						
				Solid						
				Solid						
				Solid						
				Solid						

Preservation Codes
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K - EDTA, L EDA
M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other:

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]	1/19/24 1510	Arcadis	Yadira Gonzalez	3:08 pm 1-19-24	
Yadira Gonzalez			[signature]	1/22/24 918	

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: 880-38218-1
SDG Number: Lovington, NM

Login Number: 38218
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 4/24/2024 12:16:32 PM

JOB DESCRIPTION

WLU 72
Lovington, NM

JOB NUMBER

880-42364-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

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
4/24/2024 12:16:32 PM

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

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Laboratory Job ID: 880-42364-1
SDG: Lovington, NM

Table of Contents

Definitions/Glossary

Client: Arcadis U.S., Inc. Job ID: 880-42364-1
Project/Site: WLU 72 SDG: Lovington, NM

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
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: WLU 72

Job ID: 880-42364-1

Job ID: 880-42364-1 Eurofins Midland

Job Narrative
880-42364-1

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 4/17/2024 1:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C.

HPLC/IC
Method 300_ORGFM_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-78641 and analytical batch 880-78710 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 - 8 - 2' -3' (880-42364-1), SB - 8 - 6' -7' (880-42364-2), (880-42362-A-8-A), (880-42362-A-8-B MS) and (880-42362-A-8-C MSD)

Method 300_ORGFM_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-78642 and analytical batch 880-78705 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 - 13 - 8' -9' (880-42364-13), SB - 13 - 10' -11' (880-42364-14), (880-42364-A-13-B MS) and (880-42364-A-13-C MSD)

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: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Client Sample ID: SB - 8 - 2' -3'
Lab Sample ID: 880-42364-1
Date Collected: 04/15/24 09:50
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1440		25.0	1.97	mg/Kg			04/19/24 14:46	5

Client Sample ID: SB - 8 - 6' -7'
Lab Sample ID: 880-42364-2
Date Collected: 04/15/24 19:10
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1070		5.00	0.395	mg/Kg			04/19/24 14:51	1

Client Sample ID: SB - 8 - 8' -9'
Lab Sample ID: 880-42364-3
Date Collected: 04/15/24 10:20
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	576		4.98	0.393	mg/Kg			04/20/24 00:23	1

Client Sample ID: SB - 9 - 0 -1'
Lab Sample ID: 880-42364-4
Date Collected: 04/15/24 10:50
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.87	J	4.98	0.393	mg/Kg			04/20/24 00:37	1

Client Sample ID: SB - 9 - 2' -3'
Lab Sample ID: 880-42364-5
Date Collected: 04/15/24 10:55
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68.9		4.95	0.391	mg/Kg			04/20/24 00:42	1

Client Sample ID: SB - 10 - 0 -1'
Lab Sample ID: 880-42364-6
Date Collected: 04/15/24 11:05
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.82		4.98	0.393	mg/Kg			04/20/24 00:47	1

Client Sample ID: SB - 10 - 2' -3'
Lab Sample ID: 880-42364-7
Date Collected: 04/15/24 11:10
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		4.96	0.392	mg/Kg			04/20/24 00:51	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Client Sample ID: SB - 11 - 0 -1'
Lab Sample ID: 880-42364-8
Date Collected: 04/15/24 11:35
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	213		4.97	0.393	mg/Kg			04/20/24 01:06	1

Client Sample ID: SB - 11 - 2' -3'
Lab Sample ID: 880-42364-9
Date Collected: 04/15/24 11:40
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	322		4.95	0.391	mg/Kg			04/20/24 01:11	1

Client Sample ID: SB - 12 - 0 -1'
Lab Sample ID: 880-42364-10
Date Collected: 04/15/24 12:40
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	937		4.99	0.394	mg/Kg			04/20/24 01:16	1

Client Sample ID: SB - 12 - 2' -3'
Lab Sample ID: 880-42364-11
Date Collected: 04/15/24 12:50
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	617		5.00	0.395	mg/Kg			04/20/24 01:21	1

Client Sample ID: SB - 13 - 4' -5'
Lab Sample ID: 880-42364-12
Date Collected: 04/15/24 13:40
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1710		24.8	1.96	mg/Kg			04/20/24 01:25	5

Client Sample ID: SB - 13 - 8' -9'
Lab Sample ID: 880-42364-13
Date Collected: 04/15/24 14:20
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1640	F1	24.8	1.96	mg/Kg			04/20/24 01:30	5

Client Sample ID: SB - 13 - 10' -11'
Lab Sample ID: 880-42364-14
Date Collected: 04/15/24 14:40
Matrix: Solid
Date Received: 04/17/24 13:00

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	345		4.97	0.393	mg/Kg			04/20/24 01:45	1

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-78642/1-A
Matrix: Solid
Analysis Batch: 78705

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			04/20/24 00:08	1

Lab Sample ID: LCS 880-78642/2-A
Matrix: Solid
Analysis Batch: 78705

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.3		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-78642/3-A
Matrix: Solid
Analysis Batch: 78705

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	254.1		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 880-42364-3 MS
Matrix: Solid
Analysis Batch: 78705

Client Sample ID: SB - 8 - 8' -9'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	576		249	826.0		mg/Kg		100	90 - 110		

Lab Sample ID: 880-42364-3 MSD
Matrix: Solid
Analysis Batch: 78705

Client Sample ID: SB - 8 - 8' -9'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	576		249	825.0		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 880-42364-13 MS
Matrix: Solid
Analysis Batch: 78705

Client Sample ID: SB - 13 - 8' -9'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1640	F1	1240	3130	F1	mg/Kg		120	90 - 110		

Lab Sample ID: 880-42364-13 MSD
Matrix: Solid
Analysis Batch: 78705

Client Sample ID: SB - 13 - 8' -9'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1640	F1	1240	3118	F1	mg/Kg		119	90 - 110	0	20

Lab Sample ID: MB 880-78641/1-A
Matrix: Solid
Analysis Batch: 78710

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			04/19/24 12:26	1

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 880-78641/2-A
Matrix: Solid
Analysis Batch: 78710

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	249.7		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-78641/3-A
Matrix: Solid
Analysis Batch: 78710

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	249.9		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

HPLC/IC

Leach Batch: 78641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42364-1	SB - 8 - 2' -3'	Soluble	Solid	DI Leach	
880-42364-2	SB - 8 - 6' -7'	Soluble	Solid	DI Leach	
MB 880-78641/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-78641/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-78641/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 78642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42364-3	SB - 8 - 8' -9'	Soluble	Solid	DI Leach	
880-42364-4	SB - 9 - 0 -1'	Soluble	Solid	DI Leach	
880-42364-5	SB - 9 - 2' -3'	Soluble	Solid	DI Leach	
880-42364-6	SB - 10 - 0 -1'	Soluble	Solid	DI Leach	
880-42364-7	SB - 10 - 2' -3'	Soluble	Solid	DI Leach	
880-42364-8	SB - 11 - 0 -1'	Soluble	Solid	DI Leach	
880-42364-9	SB - 11 - 2' -3'	Soluble	Solid	DI Leach	
880-42364-10	SB - 12 - 0 -1'	Soluble	Solid	DI Leach	
880-42364-11	SB - 12 - 2' -3'	Soluble	Solid	DI Leach	
880-42364-12	SB - 13 - 4' -5'	Soluble	Solid	DI Leach	
880-42364-13	SB - 13 - 8' -9'	Soluble	Solid	DI Leach	
880-42364-14	SB - 13 - 10' -11'	Soluble	Solid	DI Leach	
MB 880-78642/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-78642/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-78642/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-42364-3 MS	SB - 8 - 8' -9'	Soluble	Solid	DI Leach	
880-42364-3 MSD	SB - 8 - 8' -9'	Soluble	Solid	DI Leach	
880-42364-13 MS	SB - 13 - 8' -9'	Soluble	Solid	DI Leach	
880-42364-13 MSD	SB - 13 - 8' -9'	Soluble	Solid	DI Leach	

Analysis Batch: 78705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42364-3	SB - 8 - 8' -9'	Soluble	Solid	300.0	78642
880-42364-4	SB - 9 - 0 -1'	Soluble	Solid	300.0	78642
880-42364-5	SB - 9 - 2' -3'	Soluble	Solid	300.0	78642
880-42364-6	SB - 10 - 0 -1'	Soluble	Solid	300.0	78642
880-42364-7	SB - 10 - 2' -3'	Soluble	Solid	300.0	78642
880-42364-8	SB - 11 - 0 -1'	Soluble	Solid	300.0	78642
880-42364-9	SB - 11 - 2' -3'	Soluble	Solid	300.0	78642
880-42364-10	SB - 12 - 0 -1'	Soluble	Solid	300.0	78642
880-42364-11	SB - 12 - 2' -3'	Soluble	Solid	300.0	78642
880-42364-12	SB - 13 - 4' -5'	Soluble	Solid	300.0	78642
880-42364-13	SB - 13 - 8' -9'	Soluble	Solid	300.0	78642
880-42364-14	SB - 13 - 10' -11'	Soluble	Solid	300.0	78642
MB 880-78642/1-A	Method Blank	Soluble	Solid	300.0	78642
LCS 880-78642/2-A	Lab Control Sample	Soluble	Solid	300.0	78642
LCSD 880-78642/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	78642
880-42364-3 MS	SB - 8 - 8' -9'	Soluble	Solid	300.0	78642
880-42364-3 MSD	SB - 8 - 8' -9'	Soluble	Solid	300.0	78642
880-42364-13 MS	SB - 13 - 8' -9'	Soluble	Solid	300.0	78642
880-42364-13 MSD	SB - 13 - 8' -9'	Soluble	Solid	300.0	78642

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

HPLC/IC

Analysis Batch: 78710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42364-1	SB - 8 - 2' -3'	Soluble	Solid	300.0	78641
880-42364-2	SB - 8 - 6' -7'	Soluble	Solid	300.0	78641
MB 880-78641/1-A	Method Blank	Soluble	Solid	300.0	78641
LCS 880-78641/2-A	Lab Control Sample	Soluble	Solid	300.0	78641
LCSD 880-78641/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	78641

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Client Sample ID: SB - 8 - 2' -3'
Lab Sample ID: 880-42364-1
Date Collected: 04/15/24 09:50
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	78641	04/18/24 13:39	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78710	04/19/24 14:46	SMC	EET MID

Client Sample ID: SB - 8 - 6' -7'
Lab Sample ID: 880-42364-2
Date Collected: 04/15/24 19:10
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.00 g	50 mL	78641	04/18/24 13:39	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78710	04/19/24 14:51	SMC	EET MID

Client Sample ID: SB - 8 - 8' -9'
Lab Sample ID: 880-42364-3
Date Collected: 04/15/24 10:20
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 00:23	SMC	EET MID

Client Sample ID: SB - 9 - 0 -1'
Lab Sample ID: 880-42364-4
Date Collected: 04/15/24 10:50
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 00:37	SMC	EET MID

Client Sample ID: SB - 9 - 2' -3'
Lab Sample ID: 880-42364-5
Date Collected: 04/15/24 10:55
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 00:42	SMC	EET MID

Client Sample ID: SB - 10 - 0 -1'
Lab Sample ID: 880-42364-6
Date Collected: 04/15/24 11:05
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 00:47	SMC	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Client Sample ID: SB - 10 - 2' -3'
Lab Sample ID: 880-42364-7
Date Collected: 04/15/24 11:10
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 00:51	SMC	EET MID

Client Sample ID: SB - 11 - 0 -1'
Lab Sample ID: 880-42364-8
Date Collected: 04/15/24 11:35
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 01:06	SMC	EET MID

Client Sample ID: SB - 11 - 2' -3'
Lab Sample ID: 880-42364-9
Date Collected: 04/15/24 11:40
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 01:11	SMC	EET MID

Client Sample ID: SB - 12 - 0 -1'
Lab Sample ID: 880-42364-10
Date Collected: 04/15/24 12:40
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 01:16	SMC	EET MID

Client Sample ID: SB - 12 - 2' -3'
Lab Sample ID: 880-42364-11
Date Collected: 04/15/24 12:50
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.00 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 01:21	SMC	EET MID

Client Sample ID: SB - 13 - 4' -5'
Lab Sample ID: 880-42364-12
Date Collected: 04/15/24 13:40
Matrix: Solid
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78705	04/20/24 01:25	SMC	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Client Sample ID: SB - 13 - 8' -9'

Lab Sample ID: 880-42364-13
Matrix: Solid
Date Collected: 04/15/24 14:20
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78705	04/20/24 01:30	SMC	EET MID

Client Sample ID: SB - 13 - 10' -11'

Lab Sample ID: 880-42364-14
Matrix: Solid
Date Collected: 04/15/24 14:40
Date Received: 04/17/24 13:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	78642	04/18/24 13:41	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78705	04/20/24 01:45	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: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

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

Method Summary

Client: Arcadis U.S., Inc.
Project/Site: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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: WLU 72

Job ID: 880-42364-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-42364-1	SB - 8 - 2' -3'	Solid	04/15/24 09:50	04/17/24 13:00
880-42364-2	SB - 8 - 6' -7'	Solid	04/15/24 19:10	04/17/24 13:00
880-42364-3	SB - 8 - 8' -9'	Solid	04/15/24 10:20	04/17/24 13:00
880-42364-4	SB - 9 - 0 -1'	Solid	04/15/24 10:50	04/17/24 13:00
880-42364-5	SB - 9 - 2' -3'	Solid	04/15/24 10:55	04/17/24 13:00
880-42364-6	SB - 10 - 0 -1'	Solid	04/15/24 11:05	04/17/24 13:00
880-42364-7	SB - 10 - 2' -3'	Solid	04/15/24 11:10	04/17/24 13:00
880-42364-8	SB - 11 - 0 -1'	Solid	04/15/24 11:35	04/17/24 13:00
880-42364-9	SB - 11 - 2' -3'	Solid	04/15/24 11:40	04/17/24 13:00
880-42364-10	SB - 12 - 0 -1'	Solid	04/15/24 12:40	04/17/24 13:00
880-42364-11	SB - 12 - 2' -3'	Solid	04/15/24 12:50	04/17/24 13:00
880-42364-12	SB - 13 - 4' -5'	Solid	04/15/24 13:40	04/17/24 13:00
880-42364-13	SB - 13 - 8' -9'	Solid	04/15/24 14:20	04/17/24 13:00
880-42364-14	SB - 13 - 10' -11'	Solid	04/15/24 14:40	04/17/24 13:00

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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

880-42364 Chain of Custody

www.xenco.com Page 1 of 2

Project Manager:	Morgan Jordan	Bill to: (if different)	
Company Name:	Arcadis	Company Name:	
Address:	1004 N Big Spring 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:	WLH 72	Turn Around	
Project Number:	30209673	☑ Routine ☐ Rush	
Project Location	Lovington, NM	Due Date:	
Sampler's Name:	Heaven 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:	IR4	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.1	
Total Containers:		Corrected Temperature:	3.0	

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	Parameters: 300.0_ORGFM_28D	Sample Comments
SB-8-2'-3'	S	4/15/24	0950		G	1	X	
SB-8-6'-7'			1010			1	X	
SB-8-8'-9'			1020			1	X	
SB-9-0'-1'			1050			1	X	
SB-9-2'-3'			1055			1	X	
SB-10-0'-1'			1105			1	X	
SB-10-2-3			1110			1	X	
SB-11-0'-1'			1135			1	X	
SB-11-2'-3'			1140			1	X	
SB-12-0'-1'	X	X	1240		X	1	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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	E Carrillo	4/15/24 1655	2 Esperanza C		4/17/24 1300
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Loc: 880
42364

Work Order No: 4c

www.xenco.com Page c of c

Project Manager:	Morgan Jordan	Bill to: (if different)	
Company Name:	Arcadis	Company Name:	
Address:	1004 N Big Spring Suite 300	Address:	
City, State ZIP:	Midland, TX	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:	Will 72	Turn Around	☐ Routine ☐ Rush
Project Number:	30209673	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:	IR5	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-1	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	31	
Total Containers:		Corrected Temperature:	30	

ANALYSIS REQUEST

Parameters: 300_ORGFM_28D

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		Sample Comments
SB-12-2'-3'	S	4/15/24	1250		G	1	X	
SB-13-4'-5'			1340			1	X	
SB-13-8'-9'			1420			1	X	
SB-13-10'-11'	X	X	1440		X	1	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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	E Carrillo	4/15/24 1655	2 Esperanza C		4/17/24 1300
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 880-42364-1
SDG Number: Lovington, NM

Login Number: 42364
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: Justin Nixon
Arcadis US Inc.
1004 North Big Spring
Suite 300
Midland, Texas 79701

Generated 1/2/2025 2:59:46 PM

JOB DESCRIPTION

WCU 72

JOB NUMBER

890-7507-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

Eurofins Carlsbad

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
1/2/2025 2:59:46 PM

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

Client: Arcadis US Inc.
Project/Site: WCU 72

Laboratory Job ID: 890-7507-1

Table of Contents

Definitions/Glossary

Client: Arcadis US Inc. Job ID: 890-7507-1
Project/Site: WCU 72

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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 US Inc.
Project: WCU 72

Job ID: 890-7507-1

Job ID: 890-7507-1 Eurofins Carlsbad

Job Narrative
890-7507-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 12/20/2024 4:15 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 1.8°C.

GC VOA
Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-98692 and analytical batch 880-98598 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SB-15-1 (890-7507-2). Evidence of matrix interferences is not obvious.

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

Diesel Range Organics
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-99124/2-A) and (LCSD 880-99124/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-98962/2-A) and (LCSD 880-98962/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike (MS) recoveries for preparation batch 880-98962 and analytical batch 880-99128 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC
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: WCU 72

Job ID: 890-7507-1

Client Sample ID: SB-14-1

Lab Sample ID: 890-7507-1

Date Collected: 12/19/24 10:01
Matrix: Solid
Date Received: 12/20/24 16:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/23/24 13:46	12/24/24 08:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/23/24 13:46	12/24/24 08:56	1
Ethylbenzene	<0.00199	U F1	0.00199		mg/Kg		12/23/24 13:46	12/24/24 08:56	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		12/23/24 13:46	12/24/24 08:56	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/23/24 13:46	12/24/24 08:56	1
Xylenes, Total	<0.00398	U F1	0.00398		mg/Kg		12/23/24 13:46	12/24/24 08:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*12/23/24 13:46*	*12/24/24 08:56*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*12/23/24 13:46*	*12/24/24 08:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/24/24 08:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/31/24 15:18	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	<50.0	U	50.0		mg/Kg		12/30/24 19:16	12/31/24 15:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/30/24 19:16	12/31/24 15:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/30/24 19:16	12/31/24 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*12/30/24 19:16*	*12/31/24 15:18*	*1*
o-Terphenyl	*104*		*70 - 130*	*12/30/24 19:16*	*12/31/24 15:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**127**		10.0		mg/Kg			12/30/24 12:48	1

Client Sample ID: SB-15-1

Lab Sample ID: 890-7507-2

Date Collected: 12/19/24 10:40
Matrix: Solid
Date Received: 12/20/24 16:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		12/23/24 13:46	12/24/24 09:16	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/23/24 13:46	12/24/24 09:16	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/23/24 13:46	12/24/24 09:16	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		12/23/24 13:46	12/24/24 09:16	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/23/24 13:46	12/24/24 09:16	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		12/23/24 13:46	12/24/24 09:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*12/23/24 13:46*	*12/24/24 09:16*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*12/23/24 13:46*	*12/24/24 09:16*	*1*

Client Sample Results

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

Client Sample ID: SB-15-1

Lab Sample ID: 890-7507-2
Matrix: Solid
Date Collected: 12/19/24 10:40
Date Received: 12/20/24 16:15

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			12/24/24 09:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			12/31/24 20:51	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	<49.7	U F1	49.7		mg/Kg		12/27/24 13:55	12/31/24 20:51	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		12/27/24 13:55	12/31/24 20:51	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		12/27/24 13:55	12/31/24 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*12/27/24 13:55*	*12/31/24 20:51*	*1*
o-Terphenyl	*127*		*70 - 130*	*12/27/24 13:55*	*12/31/24 20:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**128**		9.92		mg/Kg			12/30/24 13:11	1

Client Sample ID: SB-16-1

Lab Sample ID: 890-7507-3
Matrix: Solid
Date Collected: 12/19/24 11:30
Date Received: 12/20/24 16:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 09:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 09:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 09:37	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/23/24 13:46	12/24/24 09:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 09:37	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/23/24 13:46	12/24/24 09:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*12/23/24 13:46*	*12/24/24 09:37*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*12/23/24 13:46*	*12/24/24 09:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/24/24 09:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			12/31/24 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	<49.7	U	49.7		mg/Kg		12/27/24 13:55	12/31/24 21:52	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		12/27/24 13:55	12/31/24 21:52	1

Client Sample Results

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

Client Sample ID: SB-16-1

Lab Sample ID: 890-7507-3
Matrix: Solid
Date Collected: 12/19/24 11:30
Date Received: 12/20/24 16:15

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)	<49.7	U	49.7		mg/Kg		12/27/24 13:55	12/31/24 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*12/27/24 13:55*	*12/31/24 21:52*	*1*
o-Terphenyl	*110*		*70 - 130*	*12/27/24 13:55*	*12/31/24 21:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**308**		10.1		mg/Kg			12/30/24 13:19	1

Client Sample ID: SB-17-1

Lab Sample ID: 890-7507-4
Matrix: Solid
Date Collected: 12/19/24 12:00
Date Received: 12/20/24 16:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/23/24 13:46	12/24/24 09:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/23/24 13:46	12/24/24 09:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/23/24 13:46	12/24/24 09:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/23/24 13:46	12/24/24 09:57	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/23/24 13:46	12/24/24 09:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/23/24 13:46	12/24/24 09:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*12/23/24 13:46*	*12/24/24 09:57*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*12/23/24 13:46*	*12/24/24 09:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/24/24 09:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			12/31/24 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	<49.8	U	49.8		mg/Kg		12/27/24 13:55	12/31/24 22:13	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		12/27/24 13:55	12/31/24 22:13	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/27/24 13:55	12/31/24 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*12/27/24 13:55*	*12/31/24 22:13*	*1*
o-Terphenyl	*109*		*70 - 130*	*12/27/24 13:55*	*12/31/24 22:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**137**		9.90		mg/Kg			12/30/24 13:27	1

Surrogate Summary

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-7507-1	SB-14-1	120	84
890-7507-1 MS	SB-14-1	100	96
890-7507-1 MSD	SB-14-1	99	98
890-7507-2	SB-15-1	133 S1+	89
890-7507-3	SB-16-1	118	93
890-7507-4	SB-17-1	115	92
LCS 880-98692/1-A	Lab Control Sample	89	101
LCSD 880-98692/2-A	Lab Control Sample Dup	94	102
MB 880-98645/5-A	Method Blank	117	87
MB 880-98692/5-A	Method Blank	109	85

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)
890-7507-1	SB-14-1	96	104
890-7507-2	SB-15-1	101	127
890-7507-2 MS	SB-15-1	89	94
890-7507-2 MSD	SB-15-1	85	90
890-7507-3	SB-16-1	91	110
890-7507-4	SB-17-1	89	109
LCS 880-98962/2-A	Lab Control Sample	136 S1+	148 S1+
LCS 880-99124/2-A	Lab Control Sample	124	134 S1+
LCSD 880-98962/3-A	Lab Control Sample Dup	149 S1+	165 S1+
LCSD 880-99124/3-A	Lab Control Sample Dup	128	137 S1+
MB 880-98962/1-A	Method Blank	95	110
MB 880-99124/1-A	Method Blank	122	125

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-98645/5-A
Matrix: Solid
Analysis Batch: 98598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 98645

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/23/24 11:18	12/23/24 21:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/23/24 11:18	12/23/24 21:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/23/24 11:18	12/23/24 21:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/23/24 11:18	12/23/24 21:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/23/24 11:18	12/23/24 21:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/23/24 11:18	12/23/24 21:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*12/23/24 11:18*	*12/23/24 21:57*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*12/23/24 11:18*	*12/23/24 21:57*	*1*

Lab Sample ID: MB 880-98692/5-A
Matrix: Solid
Analysis Batch: 98598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 98692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 08:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 08:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 08:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/23/24 13:46	12/24/24 08:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/23/24 13:46	12/24/24 08:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/23/24 13:46	12/24/24 08:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*12/23/24 13:46*	*12/24/24 08:34*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*12/23/24 13:46*	*12/24/24 08:34*	*1*

Lab Sample ID: LCS 880-98692/1-A
Matrix: Solid
Analysis Batch: 98598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 98692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09816		mg/Kg		98	70 - 130
Toluene	0.100	0.08648		mg/Kg		86	70 - 130
Ethylbenzene	0.100	0.08520		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	0.200	0.1668		mg/Kg		83	70 - 130
o-Xylene	0.100	0.08843		mg/Kg		88	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-98692/2-A
Matrix: Solid
Analysis Batch: 98598

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 98692

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1048		mg/Kg		105	70 - 130	7	35

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

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

Lab Sample ID: LCSD 880-98692/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 98598 — **Prep Batch: 98692**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09287		mg/Kg		93	70 - 130	7	35
Ethylbenzene			0.100	0.09428		mg/Kg		94	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1845		mg/Kg		92	70 - 130	10	35
o-Xylene			0.100	0.09757		mg/Kg		98	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-7507-1 MS — **Client Sample ID: SB-14-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 98598 — **Prep Batch: 98692**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0996	0.08326		mg/Kg		84	70 - 130
Toluene	<0.00199	U	0.0996	0.07126		mg/Kg		72	70 - 130
Ethylbenzene	<0.00199	U F1	0.0996	0.06726	F1	mg/Kg		68	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1335	F1	mg/Kg		67	70 - 130
o-Xylene	<0.00199	U	0.0996	0.07097		mg/Kg		71	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-7507-1 MSD — **Client Sample ID: SB-14-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 98598 — **Prep Batch: 98692**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.09537		mg/Kg		95	70 - 130	14	35
Toluene	<0.00199	U	0.101	0.08196		mg/Kg		81	70 - 130	14	35
Ethylbenzene	<0.00199	U F1	0.101	0.07962		mg/Kg		79	70 - 130	17	35
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1560		mg/Kg		77	70 - 130	16	35
o-Xylene	<0.00199	U	0.101	0.08096		mg/Kg		80	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-98962/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 99128 — **Prep Batch: 98962**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 19:49	1

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

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

Lab Sample ID: MB 880-98962/1-A
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 98962

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 19:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 19:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*12/27/24 13:55*	*12/31/24 19:49*	*1*
o-Terphenyl	*110*		*70 - 130*	*12/27/24 13:55*	*12/31/24 19:49*	*1*

Lab Sample ID: LCS 880-98962/2-A
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 98962

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	877.4		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	953.8		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*136*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-98962/3-A
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 98962

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	943.1		mg/Kg		94	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	1077		mg/Kg		108	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*149*	*S1+*	*70 - 130*
o-Terphenyl	*165*	*S1+*	*70 - 130*

Lab Sample ID: 890-7507-2 MS
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: SB-15-1
Prep Type: Total/NA
Prep Batch: 98962

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.7	U F1	993	730.9		mg/Kg		72	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.7	U	993	800.1		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

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

Lab Sample ID: 890-7507-2 MSD
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: SB-15-1
Prep Type: Total/NA
Prep Batch: 98962

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	<49.7	U F1	993	699.1	F1	mg/Kg		69	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.7	U	993	769.8		mg/Kg		78	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Lab Sample ID: MB 880-99124/1-A
Matrix: Solid
Analysis Batch: 99164

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 99124

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/30/24 19:16	12/31/24 08:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/30/24 19:16	12/31/24 08:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/30/24 19:16	12/31/24 08:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*12/30/24 19:16*	*12/31/24 08:42*	*1*
o-Terphenyl	*125*		*70 - 130*	*12/30/24 19:16*	*12/31/24 08:42*	*1*

Lab Sample ID: LCS 880-99124/2-A
Matrix: Solid
Analysis Batch: 99164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 99124

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1137		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1198		mg/Kg		120	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*134*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-99124/3-A
Matrix: Solid
Analysis Batch: 99164

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 99124

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1175		mg/Kg		117	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	1190		mg/Kg		119	70 - 130	1	20

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

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

Lab Sample ID: LCSD 880-99124/3-A
Matrix: Solid
Analysis Batch: 99164

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 99124

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*128*		*70 - 130*
o-Terphenyl	*137*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-98875/1-A
Matrix: Solid
Analysis Batch: 99025

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			12/30/24 10:03	1

Lab Sample ID: LCS 880-98875/2-A
Matrix: Solid
Analysis Batch: 99025

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	242.6		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-98875/3-A
Matrix: Solid
Analysis Batch: 99025

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	255.2		mg/Kg		102	90 - 110	5	20

QC Association Summary

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

GC VOA

Analysis Batch: 98598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Total/NA	Solid	8021B	98692
890-7507-2	SB-15-1	Total/NA	Solid	8021B	98692
890-7507-3	SB-16-1	Total/NA	Solid	8021B	98692
890-7507-4	SB-17-1	Total/NA	Solid	8021B	98692
MB 880-98645/5-A	Method Blank	Total/NA	Solid	8021B	98645
MB 880-98692/5-A	Method Blank	Total/NA	Solid	8021B	98692
LCS 880-98692/1-A	Lab Control Sample	Total/NA	Solid	8021B	98692
LCSD 880-98692/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	98692
890-7507-1 MS	SB-14-1	Total/NA	Solid	8021B	98692
890-7507-1 MSD	SB-14-1	Total/NA	Solid	8021B	98692

Prep Batch: 98645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-98645/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 98692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Total/NA	Solid	5035	
890-7507-2	SB-15-1	Total/NA	Solid	5035	
890-7507-3	SB-16-1	Total/NA	Solid	5035	
890-7507-4	SB-17-1	Total/NA	Solid	5035	
MB 880-98692/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-98692/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-98692/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-7507-1 MS	SB-14-1	Total/NA	Solid	5035	
890-7507-1 MSD	SB-14-1	Total/NA	Solid	5035	

Analysis Batch: 98828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Total/NA	Solid	Total BTEX	
890-7507-2	SB-15-1	Total/NA	Solid	Total BTEX	
890-7507-3	SB-16-1	Total/NA	Solid	Total BTEX	
890-7507-4	SB-17-1	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 98962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-2	SB-15-1	Total/NA	Solid	8015NM Prep	
890-7507-3	SB-16-1	Total/NA	Solid	8015NM Prep	
890-7507-4	SB-17-1	Total/NA	Solid	8015NM Prep	
MB 880-98962/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-98962/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-98962/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-7507-2 MS	SB-15-1	Total/NA	Solid	8015NM Prep	
890-7507-2 MSD	SB-15-1	Total/NA	Solid	8015NM Prep	

Prep Batch: 99124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Total/NA	Solid	8015NM Prep	
MB 880-99124/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

GC Semi VOA (Continued)

Prep Batch: 99124 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-99124/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-99124/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 99128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-2	SB-15-1	Total/NA	Solid	8015B NM	98962
890-7507-3	SB-16-1	Total/NA	Solid	8015B NM	98962
890-7507-4	SB-17-1	Total/NA	Solid	8015B NM	98962
MB 880-98962/1-A	Method Blank	Total/NA	Solid	8015B NM	98962
LCS 880-98962/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	98962
LCSD 880-98962/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	98962
890-7507-2 MS	SB-15-1	Total/NA	Solid	8015B NM	98962
890-7507-2 MSD	SB-15-1	Total/NA	Solid	8015B NM	98962

Analysis Batch: 99164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Total/NA	Solid	8015B NM	99124
MB 880-99124/1-A	Method Blank	Total/NA	Solid	8015B NM	99124
LCS 880-99124/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	99124
LCSD 880-99124/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	99124

Analysis Batch: 99222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Total/NA	Solid	8015 NM	
890-7507-2	SB-15-1	Total/NA	Solid	8015 NM	
890-7507-3	SB-16-1	Total/NA	Solid	8015 NM	
890-7507-4	SB-17-1	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 98875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Soluble	Solid	DI Leach	
890-7507-2	SB-15-1	Soluble	Solid	DI Leach	
890-7507-3	SB-16-1	Soluble	Solid	DI Leach	
890-7507-4	SB-17-1	Soluble	Solid	DI Leach	
MB 880-98875/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-98875/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-98875/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 99025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7507-1	SB-14-1	Soluble	Solid	300.0	98875
890-7507-2	SB-15-1	Soluble	Solid	300.0	98875
890-7507-3	SB-16-1	Soluble	Solid	300.0	98875
890-7507-4	SB-17-1	Soluble	Solid	300.0	98875
MB 880-98875/1-A	Method Blank	Soluble	Solid	300.0	98875
LCS 880-98875/2-A	Lab Control Sample	Soluble	Solid	300.0	98875
LCSD 880-98875/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	98875

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

Client Sample ID: SB-14-1

Lab Sample ID: 890-7507-1
Matrix: Solid
Date Collected: 12/19/24 10:01
Date Received: 12/20/24 16:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	98692	12/23/24 13:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	98598	12/24/24 08:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			98828	12/24/24 08:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			99222	12/31/24 15:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	99124	12/30/24 19:16	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99164	12/31/24 15:18	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 12:48	CH	EET MID

Client Sample ID: SB-15-1

Lab Sample ID: 890-7507-2
Matrix: Solid
Date Collected: 12/19/24 10:40
Date Received: 12/20/24 16:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	98692	12/23/24 13:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	98598	12/24/24 09:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			98828	12/24/24 09:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			99222	12/31/24 20:51	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	98962	12/27/24 13:55	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99128	12/31/24 20:51	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 13:11	CH	EET MID

Client Sample ID: SB-16-1

Lab Sample ID: 890-7507-3
Matrix: Solid
Date Collected: 12/19/24 11:30
Date Received: 12/20/24 16:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	98692	12/23/24 13:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	98598	12/24/24 09:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			98828	12/24/24 09:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			99222	12/31/24 21:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	98962	12/27/24 13:55	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99128	12/31/24 21:52	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 13:19	CH	EET MID

Client Sample ID: SB-17-1

Lab Sample ID: 890-7507-4
Matrix: Solid
Date Collected: 12/19/24 12:00
Date Received: 12/20/24 16:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	98692	12/23/24 13:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	98598	12/24/24 09:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			98828	12/24/24 09:57	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: WCU 72

Job ID: 890-7507-1

Client Sample ID: SB-17-1

Date Collected: 12/19/24 12:00
Date Received: 12/20/24 16:15

Lab Sample ID: 890-7507-4

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			99222	12/31/24 22:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	98962	12/27/24 13:55	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99128	12/31/24 22:13	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 13:27	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: WCU 72

Job ID: 890-7507-1

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	06-30-25

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: WCU 72

Job ID: 890-7507-1

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
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

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: WCU 72

Job ID: 890-7507-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-7507-1	SB-14-1	Solid	12/19/24 10:01	12/20/24 16:15
890-7507-2	SB-15-1	Solid	12/19/24 10:40	12/20/24 16:15
890-7507-3	SB-16-1	Solid	12/19/24 11:30	12/20/24 16:15
890-7507-4	SB-17-1	Solid	12/19/24 12:00	12/20/24 16:15

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Phone: 432-704-5440

Chain of Custody Record

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1/2/2025

Client Information	Sampler: Heath Boyd	Lab PM: Builes, John	Carrier Tracking No(s):	COC No: 880-10879-1579.5
Client Contact: Mr. Morgan Jordan	Phone: 575-942-0292	E-Mail: John.Builes@et.eurofinsus.com	State of Origin: NM	Page: ~~Page 5 of 27~~ 1 of 1
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: NM Sites WCU 72	Project #: 88002020 30237098.00004			
Site: Lea County, NM	SSOW#:			

Analysis Requested

890-7507 Chain of Custody

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-14-1'	12/19/24	1000	G	Solid			X		
SB-15-1'	1	1040	1	Solid			X		
SB-16-1'	1	1130	1	Solid			X		
SB-17-1'	X	1200	X	Solid			X		
				Solid					
				Solid					
				Solid					
				Solid					
				Solid					
				Solid					
				Solid					

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ~~Months~~

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/20/24 1410	Arcadis			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: -0.2 2.0 1.8

Ver: 05/06/2024

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Builes, John	Carrier Tracking No(s): N/A	COC No: 890-4447.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: John.Builes@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-7507-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 12/30/2024			
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: WCU 72	Project #: 89000100			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	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)	8021B/5035FP_Calc BTEX	Total_BTEX_GCV	8015MOD_NM/8015NM_S_Prep Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SB-14-1 (890-7507-1)	12/19/24	10:01 Mountain	G	Solid			X	X	X	X	X	1	
SB-15-1 (890-7507-2)	12/19/24	10:40 Mountain	G	Solid			X	X	X	X	X	1	
SB-16-1 (890-7507-3)	12/19/24	11:30 Mountain	G	Solid			X	X	X	X	X	1	
SB-17-1 (890-7507-4)	12/19/24	12:00 Mountain	G	Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification *Unconfirmed*	***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) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Arcadis US Inc. Job Number: 890-7507-1

Login Number: 7507 **List Source: Eurofins Carlsbad**
List Number: 1
Creator: Lopez, Abraham

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Arcadis US Inc. Job Number: 890-7507-1

Login Number: 7507 **List Source: Eurofins Midland**
List Number: 2 **List Creation: 12/23/24 10:01 AM**
Creator: Lee, Randell

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: Justin Nixon
Arcadis US Inc.
1004 North Big Spring
Suite 300
Midland, Texas 79701

Generated 1/2/2025 3:01:22 PM

JOB DESCRIPTION

WLC 72

JOB NUMBER

890-7508-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad

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
1/2/2025 3:01:22 PM

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

Client: Arcadis US Inc.
Project/Site: WLC 72

Laboratory Job ID: 890-7508-1

Table of Contents

Definitions/Glossary

Client: Arcadis US Inc. Job ID: 890-7508-1
Project/Site: WLC 72

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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 US Inc.
Project: WLC 72

Job ID: 890-7508-1

Job ID: 890-7508-1 Eurofins Carlsbad

Job Narrative
890-7508-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 12/20/2024 4:26 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 1.8°C.

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

Diesel Range Organics
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-98962/2-A) and (LCSD 880-98962/3-A). Evidence of matrix interferences is not obvious.

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 US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Client Sample ID: T-1-1

Lab Sample ID: 890-7508-1

Date Collected: 12/20/24 09:00
Matrix: Solid
Date Received: 12/20/24 16:26

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 19:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 19:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 19:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/23/24 12:14	12/30/24 19:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 19:45	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/23/24 12:14	12/30/24 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*12/23/24 12:14*	*12/30/24 19:45*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*12/23/24 12:14*	*12/30/24 19:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/30/24 19:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/31/24 22:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/27/24 13:55	12/31/24 22:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/27/24 13:55	12/31/24 22:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/27/24 13:55	12/31/24 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*12/27/24 13:55*	*12/31/24 22:33*	*1*
o-Terphenyl	*106*		*70 - 130*	*12/27/24 13:55*	*12/31/24 22:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**116**		9.90		mg/Kg			12/30/24 13:35	1

Client Sample ID: T-2-1

Lab Sample ID: 890-7508-2

Date Collected: 12/20/24 09:30
Matrix: Solid
Date Received: 12/20/24 16:26

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/23/24 12:14	12/30/24 20:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/23/24 12:14	12/30/24 20:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/23/24 12:14	12/30/24 20:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/23/24 12:14	12/30/24 20:06	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/23/24 12:14	12/30/24 20:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/23/24 12:14	12/30/24 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*12/23/24 12:14*	*12/30/24 20:06*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*12/23/24 12:14*	*12/30/24 20:06*	*1*

Client Sample Results

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Client Sample ID: T-2-1

Lab Sample ID: 890-7508-2
Matrix: Solid
Date Collected: 12/20/24 09:30
Date Received: 12/20/24 16:26

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/30/24 20:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			12/31/24 22:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		12/27/24 13:55	12/31/24 22:54	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		12/27/24 13:55	12/31/24 22:54	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/27/24 13:55	12/31/24 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*12/27/24 13:55*	*12/31/24 22:54*	*1*
o-Terphenyl	*116*		*70 - 130*	*12/27/24 13:55*	*12/31/24 22:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**99.1**		10.0		mg/Kg			12/30/24 13:43	1

Client Sample ID: T-3-1

Lab Sample ID: 890-7508-3
Matrix: Solid
Date Collected: 12/20/24 10:00
Date Received: 12/20/24 16:26

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		12/23/24 12:14	12/30/24 20:26	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/23/24 12:14	12/30/24 20:26	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/23/24 12:14	12/30/24 20:26	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/23/24 12:14	12/30/24 20:26	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/23/24 12:14	12/30/24 20:26	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/23/24 12:14	12/30/24 20:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*12/23/24 12:14*	*12/30/24 20:26*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*12/23/24 12:14*	*12/30/24 20:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			12/30/24 20:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/31/24 23:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/27/24 13:55	12/31/24 23:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/27/24 13:55	12/31/24 23:14	1

Client Sample Results

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Client Sample ID: T-3-1

Lab Sample ID: 890-7508-3
Matrix: Solid
Date Collected: 12/20/24 10:00
Date Received: 12/20/24 16:26

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)	<49.9	U	49.9		mg/Kg		12/27/24 13:55	12/31/24 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*12/27/24 13:55*	*12/31/24 23:14*	*1*
o-Terphenyl	*113*		*70 - 130*	*12/27/24 13:55*	*12/31/24 23:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**289**		10.0		mg/Kg			12/30/24 13:51	1

Client Sample ID: T-4-1

Lab Sample ID: 890-7508-4
Matrix: Solid
Date Collected: 12/20/24 10:30
Date Received: 12/20/24 16:26

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 20:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 20:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 20:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/23/24 12:14	12/30/24 20:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 20:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/23/24 12:14	12/30/24 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*12/23/24 12:14*	*12/30/24 20:47*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*12/23/24 12:14*	*12/30/24 20:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			12/30/24 20:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/31/24 23:34	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	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 23:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 23:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*12/27/24 13:55*	*12/31/24 23:34*	*1*
o-Terphenyl	*110*		*70 - 130*	*12/27/24 13:55*	*12/31/24 23:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**463**		10.1		mg/Kg			12/30/24 13:59	1

Surrogate Summary

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-7508-1	T-1-1	84	95										
890-7508-2	T-2-1	89	93										
890-7508-3	T-3-1	86	92										
890-7508-4	T-4-1	86	95										
LCS 880-98687/1-A	Lab Control Sample	88	104										
LCSD 880-98687/2-A	Lab Control Sample Dup	109	105										
MB 880-98687/5-A	Method Blank	82	91										

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)										
890-7508-1	T-1-1	85	106										
890-7508-2	T-2-1	98	116										
890-7508-3	T-3-1	92	113										
890-7508-4	T-4-1	88	110										
LCS 880-98962/2-A	Lab Control Sample	136 S1+	148 S1+										
LCSD 880-98962/3-A	Lab Control Sample Dup	149 S1+	165 S1+										
MB 880-98962/1-A	Method Blank	95	110										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-98687/5-A
Matrix: Solid
Analysis Batch: 99014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 98687

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 12:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 12:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 12:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/23/24 12:14	12/30/24 12:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/23/24 12:14	12/30/24 12:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/23/24 12:14	12/30/24 12:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*12/23/24 12:14*	*12/30/24 12:52*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*12/23/24 12:14*	*12/30/24 12:52*	*1*

Lab Sample ID: LCS 880-98687/1-A
Matrix: Solid
Analysis Batch: 99014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 98687

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.101	0.1062		mg/Kg		106	70 - 130		
Toluene			0.101	0.1064		mg/Kg		106	70 - 130		
Ethylbenzene			0.101	0.09583		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.201	0.1877		mg/Kg		94	70 - 130		
o-Xylene			0.101	0.09051		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-98687/2-A
Matrix: Solid
Analysis Batch: 99014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 98687

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.101	0.1123		mg/Kg		112	70 - 130	6	35
Toluene			0.101	0.1113		mg/Kg		111	70 - 130	5	35
Ethylbenzene			0.101	0.1113		mg/Kg		111	70 - 130	15	35
m-Xylene & p-Xylene			0.201	0.2417		mg/Kg		121	70 - 130	25	35
o-Xylene			0.101	0.1170		mg/Kg		116	70 - 130	26	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

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

Lab Sample ID: MB 880-98962/1-A
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 98962

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 19:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 19:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/27/24 13:55	12/31/24 19:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*12/27/24 13:55*	*12/31/24 19:49*	*1*
o-Terphenyl	*110*		*70 - 130*	*12/27/24 13:55*	*12/31/24 19:49*	*1*

Lab Sample ID: LCS 880-98962/2-A
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 98962

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	877.4		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	953.8		mg/Kg		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*136*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-98962/3-A
Matrix: Solid
Analysis Batch: 99128

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 98962

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	943.1		mg/Kg		94	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	1077		mg/Kg		108	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*149*	*S1+*	*70 - 130*
o-Terphenyl	*165*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-98875/1-A
Matrix: Solid
Analysis Batch: 99025

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			12/30/24 10:03	1

QC Sample Results

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-98875/2-A
Matrix: Solid
Analysis Batch: 99025

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	242.6		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-98875/3-A
Matrix: Solid
Analysis Batch: 99025

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	255.2		mg/Kg		102	90 - 110	5	20

QC Association Summary

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

GC VOA

Prep Batch: 98687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Total/NA	Solid	5035	
890-7508-2	T-2-1	Total/NA	Solid	5035	
890-7508-3	T-3-1	Total/NA	Solid	5035	
890-7508-4	T-4-1	Total/NA	Solid	5035	
MB 880-98687/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-98687/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-98687/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 99014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Total/NA	Solid	8021B	98687
890-7508-2	T-2-1	Total/NA	Solid	8021B	98687
890-7508-3	T-3-1	Total/NA	Solid	8021B	98687
890-7508-4	T-4-1	Total/NA	Solid	8021B	98687
MB 880-98687/5-A	Method Blank	Total/NA	Solid	8021B	98687
LCS 880-98687/1-A	Lab Control Sample	Total/NA	Solid	8021B	98687
LCSD 880-98687/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	98687

Analysis Batch: 99170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Total/NA	Solid	Total BTEX	
890-7508-2	T-2-1	Total/NA	Solid	Total BTEX	
890-7508-3	T-3-1	Total/NA	Solid	Total BTEX	
890-7508-4	T-4-1	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 98962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Total/NA	Solid	8015NM Prep	
890-7508-2	T-2-1	Total/NA	Solid	8015NM Prep	
890-7508-3	T-3-1	Total/NA	Solid	8015NM Prep	
890-7508-4	T-4-1	Total/NA	Solid	8015NM Prep	
MB 880-98962/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-98962/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-98962/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 99128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Total/NA	Solid	8015B NM	98962
890-7508-2	T-2-1	Total/NA	Solid	8015B NM	98962
890-7508-3	T-3-1	Total/NA	Solid	8015B NM	98962
890-7508-4	T-4-1	Total/NA	Solid	8015B NM	98962
MB 880-98962/1-A	Method Blank	Total/NA	Solid	8015B NM	98962
LCS 880-98962/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	98962
LCSD 880-98962/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	98962

Analysis Batch: 99341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Total/NA	Solid	8015 NM	
890-7508-2	T-2-1	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

GC Semi VOA (Continued)

Analysis Batch: 99341 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-3	T-3-1	Total/NA	Solid	8015 NM	
890-7508-4	T-4-1	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 98875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Soluble	Solid	DI Leach	
890-7508-2	T-2-1	Soluble	Solid	DI Leach	
890-7508-3	T-3-1	Soluble	Solid	DI Leach	
890-7508-4	T-4-1	Soluble	Solid	DI Leach	
MB 880-98875/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-98875/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-98875/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 99025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7508-1	T-1-1	Soluble	Solid	300.0	98875
890-7508-2	T-2-1	Soluble	Solid	300.0	98875
890-7508-3	T-3-1	Soluble	Solid	300.0	98875
890-7508-4	T-4-1	Soluble	Solid	300.0	98875
MB 880-98875/1-A	Method Blank	Soluble	Solid	300.0	98875
LCS 880-98875/2-A	Lab Control Sample	Soluble	Solid	300.0	98875
LCSD 880-98875/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	98875

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Client Sample ID: T-1-1
Date Collected: 12/20/24 09:00
Date Received: 12/20/24 16:26

Lab Sample ID: 890-7508-1
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	5035			5.01 g	5 mL	98687	12/23/24 12:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	99014	12/30/24 19:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			99170	12/30/24 19:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			99341	12/31/24 22:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	98962	12/27/24 13:55	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99128	12/31/24 22:33	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 13:35	CH	EET MID

Client Sample ID: T-2-1
Date Collected: 12/20/24 09:30
Date Received: 12/20/24 16:26

Lab Sample ID: 890-7508-2
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	5035			5.02 g	5 mL	98687	12/23/24 12:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	99014	12/30/24 20:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			99170	12/30/24 20:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			99341	12/31/24 22:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	98962	12/27/24 13:55	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99128	12/31/24 22:54	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 13:43	CH	EET MID

Client Sample ID: T-3-1
Date Collected: 12/20/24 10:00
Date Received: 12/20/24 16:26

Lab Sample ID: 890-7508-3
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	5035			4.98 g	5 mL	98687	12/23/24 12:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	99014	12/30/24 20:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			99170	12/30/24 20:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			99341	12/31/24 23:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	98962	12/27/24 13:55	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99128	12/31/24 23:14	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 13:51	CH	EET MID

Client Sample ID: T-4-1
Date Collected: 12/20/24 10:30
Date Received: 12/20/24 16:26

Lab Sample ID: 890-7508-4
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	5035			5.00 g	5 mL	98687	12/23/24 12:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	99014	12/30/24 20:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			99170	12/30/24 20:47	SM	EET MID

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: WLC 72

Job ID: 890-7508-1

Client Sample ID: T-4-1

Date Collected: 12/20/24 10:30
Date Received: 12/20/24 16:26

Lab Sample ID: 890-7508-4

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			99341	12/31/24 23:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	98962	12/27/24 13:55	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	99128	12/31/24 23:34	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	98875	12/26/24 16:05	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	99025	12/30/24 13:59	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: WLC 72

Job ID: 890-7508-1

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	06-30-25

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: WLC 72

Job ID: 890-7508-1

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
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

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: WLC 72

Job ID: 890-7508-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-7508-1	T-1-1	Solid	12/20/24 09:00	12/20/24 16:26
890-7508-2	T-2-1	Solid	12/20/24 09:30	12/20/24 16:26
890-7508-3	T-3-1	Solid	12/20/24 10:00	12/20/24 16:26
890-7508-4	T-4-1	Solid	12/20/24 10:30	12/20/24 16:26

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Phone: 432-704-5440

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Heath Boyd	Lab PM: Builes, John	Carrier Tracking No(s):	COC No: 880-10879-1579.4
Client Contact: Mr. Morgan Jordan	Phone: 575-942-0292	E-Mail: John.Builes@et.eurofinsus.com	State of Origin: NM	Page: Page 4 of 27 1 of 1
Company: ARCADIS US Inc	PWSID:	Analysis Requested		Job #:
Address: 1004 North Big Spring Suite 300	Due Date Requested:			Preservation Codes: N - None
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: NM Sites WLM 72	Project #: 88002020 30237098.00004			Other:
Site: Lea County, NM	SSOW#:			

890-7508 Chain of Custody

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		
T-1-1'	12/20/24	900	G	Solid			X		
T-2-1'		930		Solid			X		
T-3-1'		1000		Solid			X		
T-4-1'	X	1030	X	Solid			X		
				Solid					
				Solid					
				Solid					
				Solid					
				Solid					
				Solid					
				Solid					

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/20/24 1410	Arcadis		12/20	
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: -3.2 2.0 1.8

Ver: 05/06/2024

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Builes, John	Carrier Tracking No(s): N/A	COC No: 890-4448.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: John.Builes@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-7508-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 12/30/2024			Preservation Codes: -
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: WLC 72	Project #: 89000100			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	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)	8021B/5035FP_Calc BTEX	Total_BTEX_GCV	8015MOD_NM/8015NM_S_Prep Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
T-1-1 (890-7508-1)	12/20/24	09:00 Mountain	G	Solid			X	X	X	X	X	1	
T-2-1 (890-7508-2)	12/20/24	09:30 Mountain	G	Solid			X	X	X	X	X	1	
T-3-1 (890-7508-3)	12/20/24	10:00 Mountain	G	Solid			X	X	X	X	X	1	
T-4-1 (890-7508-4)	12/20/24	10:30 Mountain	G	Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/20 16:30				
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:

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Arcadis US Inc. Job Number: 890-7508-1

Login Number: 7508 **List Source: Eurofins Carlsbad**
List Number: 1
Creator: Lopez, Abraham

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Arcadis US Inc. Job Number: 890-7508-1

Login Number: 7508 **List Source: Eurofins Midland**
List Number: 2 **List Creation: 12/23/24 10:01 AM**
Creator: Lee, Randell

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	

Arcadis U.S., Inc.
1330 Post Oak Blvd., Suite 2250
Houston
Texas 77056
Phone: 713 953 4800
www.arcadis.com

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QUESTIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 420845
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nTO1424541014**
Incident Name	**NTO1424541014 WEST LOVINGTON UNIT #72 @ 30-025-30964**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-025-30964] WEST LOVINGTON UNIT #072**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	West Lovington Unit #72
Date Release Discovered	11/13/2013
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: Blow Out | Well | Produced Water | Released: 11 BBL | Recovered: 0 BBL | Lost: 11 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)	none

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 420845
	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	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
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: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 01/15/2025

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 420845
	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 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 500 and 1000 (ft.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
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)	7720
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	94.9
GRO+DRO	(EPA SW-846 Method 8015M)	94.9
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
On what estimated date will the remediation commence		02/17/2025
On what date will (or did) the final sampling or liner inspection occur		03/14/2025
On what date will (or was) the remediation complete(d)		04/14/2025
What is the estimated surface area (in square feet) that will be reclaimed		30000
What is the estimated volume (in cubic yards) that will be reclaimed		3375
What is the estimated surface area (in square feet) that will be remediated		15000
What is the estimated volume (in cubic yards) that will be remediated		2250
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)

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	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	GANDY MARLEY LANDFARM/LANDFILL [fEEM0112338393]
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: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 01/15/2025
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)

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	Action Number: 420845
	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)

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	Action Number: 420845
	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

Operator:	OGRID:
CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	4323
	Action Number: 420845
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
scwells	Remediation plan approved with conditions:	1/22/2025
scwells	Variance approved to collect confirmation base samples at a frequency of 400 ft2, while confirmation sidewall samples should be collected every 200 ft2.	1/22/2025
scwells	In addition to the proposed excavation, more delineation samples will need collected. Looking at historical Google Earth imagery taken on 2/13/2014, it looks as if the release flowed to the north and south of stuffing box location. OCD would like to see additional delineation samples to the south, east and southwest of SB-17, including one sample ~20 ft south of T-1. Due to this being a historical release, samples should be discrete and collected at surface, 1', 2', 3' and 4'.	1/22/2025
scwells	Submit remediation closure report to the OCD by 4/22/25.	1/22/2025