Chris Brand
Environmental Remediation/ Facility Decom Advisor

VIA ELECTRONIC MAIL

June 4, 2024

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

Re: Lovington San Andres Unit #024
Soil Remediation Work Plan
Incident No. nPAC0706832335
Case No. 1RP-1216

Dear Whom it May Concern:

Please find enclosed for your files, copies of the following:
Lovington San Andres Unit #24 Soil Remediation Work Plan

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

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

Sincerely,

Chris Brand

Encl. 2024 Work Plan
Lovington San Andres Unit #24

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

2024 Work Plan

Lovington San Andres Unit #024

Lea County, New Mexico

Incident # nPAC0706832335

June 2024

2024 Work Plan

Lovington San Andres Unit #024
Incident # nPAC0706832335

Lea County, New Mexico

June 2024

Prepared By:
Arcadis U.S., Inc.
10205 Westheimer Road, Suite 800
Houston
Texas 77042
Phone: 713 953 4800
Fax: 713 977 4620

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

Scott Foord, PG
Program Manager

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2024 Work Plan
Lovington San Andres Unit #024

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 Lovington San Andres Unit #024 (Site) located at coordinates: 32.872957, -103.301778. 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 City of Lovington owned land approximately 5.40 miles southeast of the City of Lovington in Unit P, Section 36, Township 16 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 # nPAC0706832335

According to the Initial C-141 Form, on February 14, 2007, an injection line leak that was caused by internal corrosion released approximately 200 barrels (bbls) of produced water at the Site. The well was shut in and isolated. The affected area was approximately 200 feet (ft) by 40 ft. According to the Initial C-141 Form submitted on February 15, 2007, the volume recovered was approximately 30 bbls of standing fluid. The Initial C-141 Form was approved with conditions and assigned remediation permit number 1RP-1216 and incident number nPAC0706832335. 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) database, there are several groundwater monitoring wells located approximately 0.30 miles south of the Site associated with the Chevron Lovington Water Plant Site (OGRID No. 4323 - Case No. 1RP-394) with depth to groundwater verified at greater than 100 ft below ground surface (bgs). The Site is within the City of Lovington municipal well field, therefore the most stringent NMOCD closure criteria will be applied.

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 100 and 500 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 0.5mile;
- Distance to occupied permanent residence, school, hospital, institution, or church: Between 1 and 5 miles;
- Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes: Between 0.50 and 1 mile;
- Distance to any other fresh water well or spring: Between 1,000 feet and 0.50 miles;

- Distance to incorporated municipal boundaries or a defined municipal fresh water well field: 0 feet, overlying, or within area;
- Distance to wetland: Between 300 and 500 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? Yes

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 and within soil greater than 4 feet bgs due to the Site location being within the City of Lovington municipal well field boundaries:

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

5 Site Assessment Activities

In March 2023, and February and April 2024, Arcadis performed site assessment activities to evaluate soil impacts stemming from the release. A total of sixteen (16) sample points (SB-1 through SB-16) were advanced to depths ranging from the surface to 13 feet bgs inside and surrounding the release area to evaluate the horizontal and vertical extents of the release. Soil sample locations are shown on **Figure 3**. Soil samples were collected for chemical analyses, placed directly into laboratory-provided sample containers, stored on ice, and transported under the proper chain-of-custody protocol to Eurofins Laboratories in Midland, Texas.

The soil samples were analyzed for BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH by EPA Method 8015, and chloride by EPA method 300.0. One soil sample analyzed for BTEX was reported with a concentration of 0.000397 J mg/kg (SB-1). Soil samples analyzed for TPH were reported with concentrations ranging from 39.8 J mg/kg (SB-1) to 83.9 mg/kg (SB-4). Soil samples analyzed for chloride were reported with concentrations ranging from 2.90 J mg/kg (SB-15) to 2,570 mg/kg (SB-6).

Horizontal delineation was completed during assessment activities. Vertical assessment to depths of 13 feet bgs was conducted in the area of concern during recent assessment activities and will be continued during remediation activities until laboratory analyses confirm soil concentrations below applicable NMAC 19.15.29.12

constituent screening limits. 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 assessments, including analytical methods, results, and chain-of-custody documents, are attached in **Appendix B.** NMOCD correspondence is shown in **Appendix C.**

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 area 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 16,000 square feet. An estimated 3,000 cubic yards of soil will be removed and transported to the R360 CRI Facility, which is listed as an NMOCD approved disposal facility.

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

Backfill material will be verified to be non-waste containing prior to backfilling the remediated area by obtaining analytical data from the backfill material supplier (R360) if available, or by collecting a five-point composite sample and analyzing for BTEX by EPA Method 8260, TPH for GRO, DRO, and ORO by EPA Method 8015, and chloride by EPA Method 300.0. Following completion of excavation activities and confirmation that the backfill material is non-waste containing, the areas will be backfilled with the clean material and graded to match the original surface conditions and drainage. Approximately 16,000 square feet of the area of concern located within the pasture area will be reclaimed to original condition and re-seeded following remediation activities.

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

7 Work Plan Approval Request

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

Tables

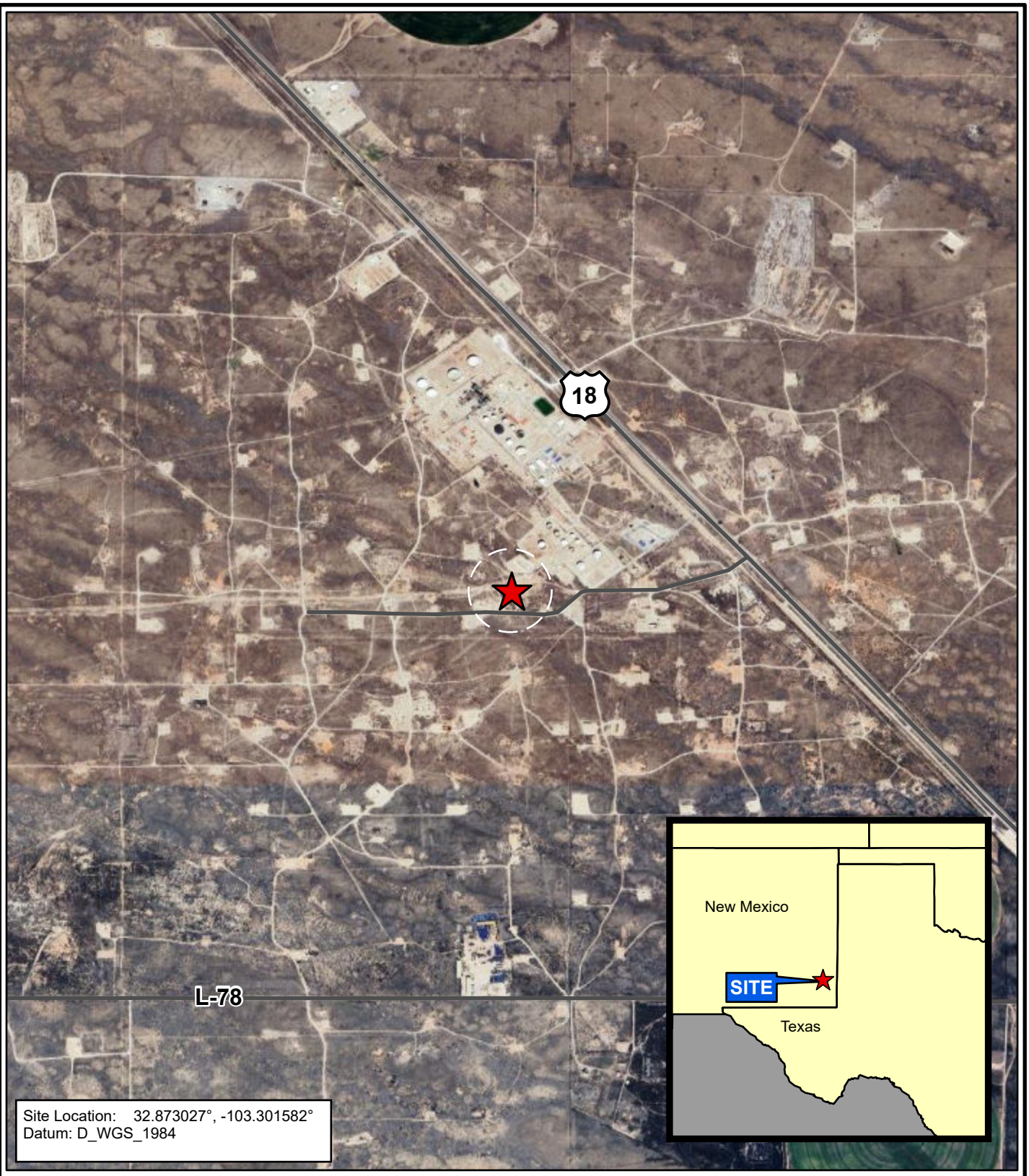
Table 1
Soil Analytical Results
Chevron Environmental Management Company
LSAU 24

ARCADIS

Sample I.D.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH GRO + DRO	TPH MRO	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Standards			10	--	--	--	50	--	--	1,000	--	100	600
Restoration Requirements			10	--	--	--	50	--	--	--	--	100	600
SB-1	0-0.5'	03/29/23	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	20.4 J	19.4 J	39.8 J	<15.0	39.8 J	***1300***
	2'	03/29/23	0.000397 J	<0.000459	<0.000568	<0.000346	0.000397 J	32.9 J	19.4 J	52.3 J	<14.9	52.3	***1070***
SB-2	0-0.5'	03/29/23	<0.000383	<0.000453	<0.000562	<0.000342	<0.000342	24.5 J	24.1 J	48.6 J	<15.0	48.6 J	***1320***
	2'	03/29/23	<0.000384	<0.000455	<0.000564	<0.000343	<0.000343	19.9 J	21.4 J	41.3 J	<15.0	41.3 J	***1470***
SB-3	0-0.5'	03/29/23	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	25.1 J	57.7	82.8 J	<14.9	82.8	***1050***
	2'	03/29/23	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	22.4 J	46.5 J	68.9 J	<14.9	68.9	***815***
SB-4	0-0.5'	03/29/23	< 0.000387	<0.000459	<0.000568	<0.000346	<0.000346	41.7 J	26.7 J	68.4 J	<15.0	68.4	96.4
	2'	03/29/23	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	41.1 J	42.8 J	83.9 J	<15.0	83.9	64.6
SB-5	1'	02/09/24	--	--	--	--	--	--	--	--	--	--	98.4
	2'	02/09/24	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	49.4 J B	23.9 J	73.3 J B	<15.0	73.3	89.4
SB-6	1'	02/09/24	--	--	--	--	--	--	--	--	--	--	***625***
	2'	02/09/24	<0.000388	<0.000460	<0.000570	<0.00102	<0.00102	49.1 J B	25.1 J	74.2 J B	<15.1	74.2	***2,570***
SB-7	1'	02/09/24	--	--	--	--	--	--	--	--	--	--	96.8
	2'	02/09/24	<0.000386	<0.000457	<0.000566	<0.00101	<0.00101	34.4 J B	33.9 J	68.3 J B	<15.0	68.3	76.6
SB-8	1'	02/16/24	--	--	--	--	--	--	--	--	--	--	67.7
	2'	02/16/24	<0.000387	<0.000458	<0.000567	<0.00101	<0.00101	45.8 J B	27.9 J	73.7 J B	<15.0	73.7	42.8
SB-9	1'	02/16/24	--	--	--	--	--	--	--	--	--	--	75.7
	2'	02/16/24	<0.000389	<0.000461	<0.000571	<0.00102	<0.00102	45.7 J B	32.5 J	78.2 J B	<15.0	78.2	574
SB-10	1'	02/16/24	--	--	--	--	--	--	--	--	--	--	64.6
	2'	02/16/24	<0.000384	<0.000455	<0.000564	<0.00101	<0.00101	45.8 J B	30.0 J	75.8 J B	<15.1	75.8	17.7
SB-11	1'	02/16/24	--	--	--	--	--	--	--	--	--	--	78.6
	2'	02/16/24	<0.000381	<0.000451	<0.000559	<0.00100	<0.00100	46.4 J B	34.8 J	81.2 J B	<15.1	81.2	***2,310***
SB-12	1'	02/16/24	--	--	--	--	--	--	--	--	--	--	443
	2'	02/16/24	<0.000385	<0.000456	<0.000565	<0.00101	<0.00101	48.7 J B	32.2 J	80.9 J B	<15.0	80.9	***626***
SB-13	0-1'	04/19/24	--	--	--	--	--	--	--	--	--	--	4.19 J
	2-3'	04/19/24	--	--	--	--	--	--	--	--	--	--	29.8
SB-14	4-5'	04/19/24	--	--	--	--	--	--	--	--	--	--	**1,920**
	10-11'	04/19/24	--	--	--	--	--	--	--	--	--	--	**1,100**
	12-13'	04/19/24	--	--	--	--	--	--	--	--	--	--	**780**
SB-15	0-1'	04/19/24	--	--	--	--	--	--	--	--	--	--	2.90 J
	2-3'	04/19/24	--	--	--	--	--	--	--	--	--	--	26.6
SB-16	2-3'	04/19/24	--	--	--	--	--	--	--	--	--	--	6.08
	4-5'	04/19/24	--	--	--	--	--	--	--	--	--	--	399

Legend:
BOLD = Analytes exceeding Restoration Requirements and NMAC Standard
J: Result is less than the Reporting Limit but greater than or equal to the MDL and the concentration is an approximate value
'<' indicates the analyte was not detected at or above the Method Detection Limit (MDL)
mg/kg: Milligram per Kilogram
BTEX : Benzene, Toluene, Ethylbenzene, and Total Xylenes
NMAC : New Mexico Administration Code. Criteria based off groundwater depth of greater than 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

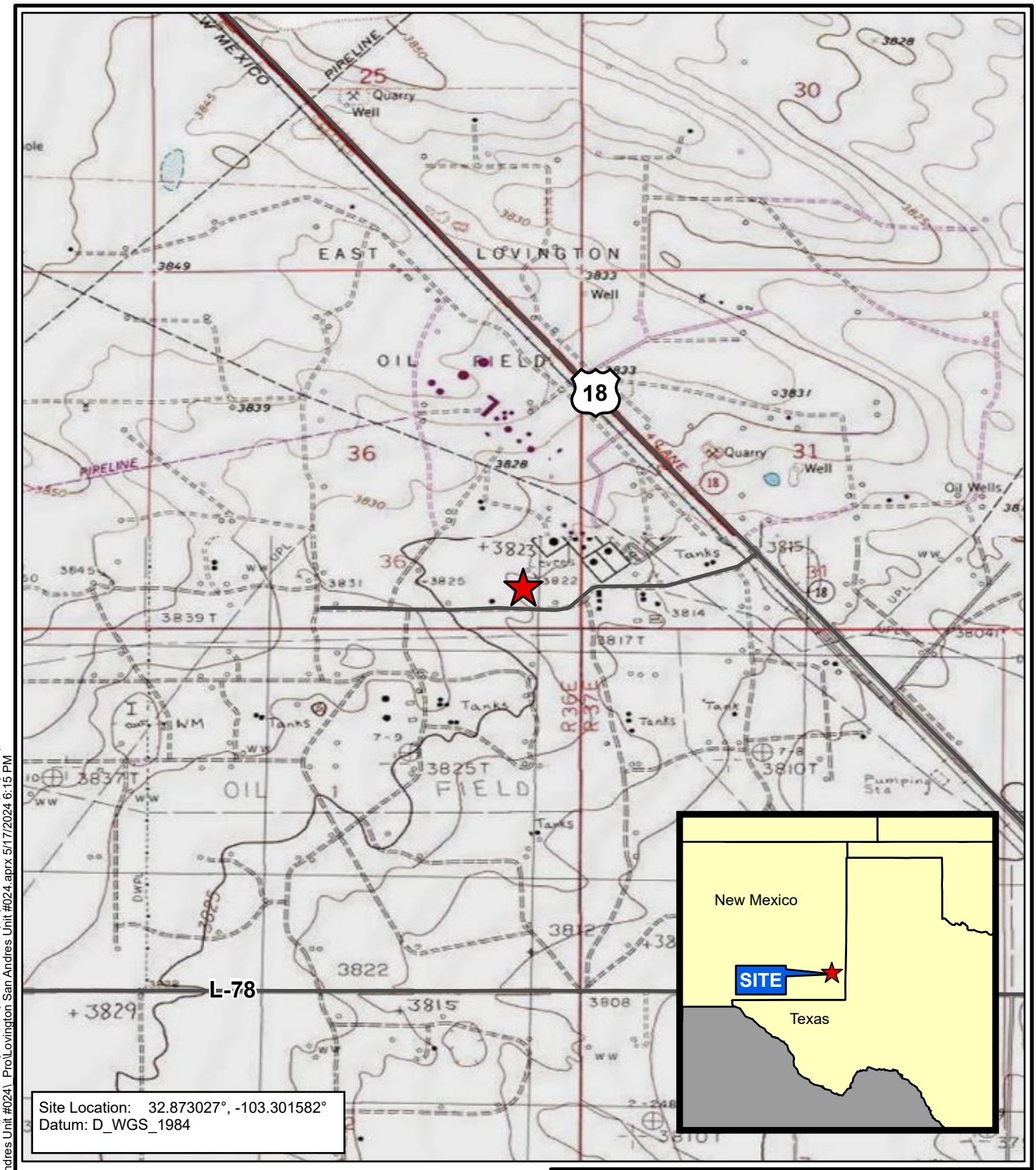
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LOVINGTON SAN ANDRES UNIT #024
LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

ARCADIS

FIGURE 1

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: yadavs0264 : Client (Project #)
T:_ENV\Chevron\Upstream\Lovington San Andres Unit #024_Pro\Lovington San Andres Unit #024.aprx 5/17/2024 6:15 PM



Legend

Site Location

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

0 2,000 4,000 Feet
GRAPHIC SCALE

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LOVINGTON SAN ANDRES UNIT #024
LEA COUNTY, NEW MEXICO

TOPOGRAPHIC MAP

ARCADIS

FIGURE 2

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: yadavs0264 : Client (Project #) T:_ENV\Chevron\Upstream\Lovington San Andres Unit #024_Pro\Lovington San Andres Unit #024.aprx 5/17/2024 6:15 PM

Site Location: 32.873027°, -103.301582°
Datum: D_WGS_1984

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

Legend

- Previous Assessment Sample Location
- Pipeline

Proposed Excavation

- Proposed Excavation Area 15 ft
- Proposed Excavation Area 4 ft

0 50 100 Feet
GRAPHIC SCALE

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LOVINGTON SAN ANDRES UNIT #024
LEA COUNTY, NEW MEXICO

PROPOSED EXCAVATION AND SAMPLE LOCATION MAP

ARCADIS

FIGURE 3

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: avi00976 ; Client (Project #)
T:_ENV\Upstream\Lovington San Andres Unit #024_Pro\Lovington San Andres Unit #024.aprx 5/31/2024 11:28 AM

Appendix A

Initial C-141 Form Incident # nPAC0706832335

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Chevron Midcontinent LP	Contact Larry Ridenour
Address HCR 60 Box 423 Lovington, NM 88260	Telephone No. 505-396-4414 x102
Facility Name Lovington San Andres Unit #24	Facility Type Injection well

Surface Owner City of Lovington	Mineral Owner State	Lease No. B7845 API # 30-025-03781-0000

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	36	16S	36E	660	South	660	East	Lea

62'

Latitude N 32 deg 52 min 23.6 sec **Longitude** W 103 deg 18 min 5.3 sec

NATURE OF RELEASE

Type of Release produced water	Volume of Release 200 bbls	Volume Recovered 30 bbls
Source of Release injection line	Date and Hour of Occurrence 2/14/07 3:45 AM	Date and Hour of Discovery 2/14/07 7:45 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Pat Caperton (left message on answering machine)	
By Whom? Larry Ridenour	Date and Hour 2/14/07 9:15 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Line not excavated yet. Expect root cause will be internal corrosion. Well was shut in and line was isolated.

Chlorides 35 302

Describe Area Affected and Cleanup Action Taken.*
Affected area approximately 200' x 40'.

Affected area was marked with flags. One call will be done and top 1 foot of soil will be removed before doing any boring and sampling and testing for chlorides. Soil will be hauled to Sundance. Once the soil has been removed delineation will be done to determine extent of soil that will still need to be removed. Results of the delineation will be shared with the NMOCD along with a plan of remediation based on delineation results. Contaminated soil will be replaced with fresh soil.

MAR 2007 Received Hobbs OCD

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

Signature: Larry D Ridenour

Printed Name: Larry D. Ridenour

Title: Operations Representative

E-mail Address: LRidenour@Chevron.com

Date: 2/15/07 Phone: 505-396-4414 x102

OIL CONSERVATION DIVISION

Approved by District ~~Supervisor~~: ENVIRO ENGR

Approval Date: 3-5-07 Expiration Date: 5-5-07

Conditions of Approval:
1. SAMPLE AREA ASAP & SUBMIT TO OCD
2. REMEDIATION PLAN TO BE SUBMITTED BY EXPIRATION DATE

Attached ☐

* Attach Additional Sheets If Necessary

incident-nPAC0706832335

application-pPAC0706832463 RP# 1216

Appendix B

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/10/2023 9:43:01 AM

JOB DESCRIPTION

Lovington LPAU-24

JOB NUMBER

880-26570-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

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
4/10/2023 9:43:01 AM

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

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Laboratory Job ID: 880-26570-1

Table of Contents

Definitions/Glossary

Client: ARCADIS U.S. Inc Job ID: 880-26570-1
Project/Site: Lovington LPAU-24

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Job ID: 880-26570-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-26570-1

Receipt
The samples were received on 3/29/2023 5:53 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 4.0°C

Receipt Exceptions
The following samples analyzed for method <TPH 8015> were received and analyzed from an unpreserved bulk soil jar.

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SB-1-S-0.5-20230329 (880-26570-7), SB-1-S-2-20230329 (880-26570-8) and (880-26569-A-1-F). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

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

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Client Sample ID: SB-4-S-0-0.5-20230329

Lab Sample ID: 880-26570-1

Date Collected: 03/29/23 12:48
Matrix: Solid
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		04/06/23 15:16	04/09/23 09:22	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		04/06/23 15:16	04/09/23 09:22	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		04/06/23 15:16	04/09/23 09:22	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		04/06/23 15:16	04/09/23 09:22	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		04/06/23 15:16	04/09/23 09:22	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		04/06/23 15:16	04/09/23 09:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*04/06/23 15:16*	*04/09/23 09:22*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*04/06/23 15:16*	*04/09/23 09:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**68.4**		50.0	15.0	mg/Kg			04/03/23 10:23	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	**41.7**	**J**	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 17:20	1
Diesel Range Organics (Over C10-C28)	**26.7**	**J**	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 17:20	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*03/31/23 16:59*	*04/01/23 17:20*	*1*
o-Terphenyl	*109*		*70 - 130*	*03/31/23 16:59*	*04/01/23 17:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**96.4**		5.00	0.395	mg/Kg			04/07/23 04:30	1

Client Sample ID: SB-4-S-2-20230329

Lab Sample ID: 880-26570-2

Date Collected: 03/29/23 12:52
Matrix: Solid
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		04/06/23 15:16	04/09/23 10:45	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/06/23 15:16	04/09/23 10:45	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/06/23 15:16	04/09/23 10:45	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/06/23 15:16	04/09/23 10:45	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/06/23 15:16	04/09/23 10:45	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/06/23 15:16	04/09/23 10:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*04/06/23 15:16*	*04/09/23 10:45*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/06/23 15:16*	*04/09/23 10:45*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**83.9**		49.9	15.0	mg/Kg			04/03/23 10:23	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Client Sample ID: SB-4-S-2-20230329

Lab Sample ID: 880-26570-2
Matrix: Solid
Date Collected: 03/29/23 12:52
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	41.1	J	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 17:40	1
Diesel Range Organics (Over C10-C28)	42.8	J	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 17:40	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 17:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*03/31/23 16:59*	*04/01/23 17:40*	*1*
o-Terphenyl	*114*		*70 - 130*	*03/31/23 16:59*	*04/01/23 17:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.6		5.00	0.395	mg/Kg			04/07/23 04:34	1

Client Sample ID: SB-3-S-0.5-20230329

Lab Sample ID: 880-26570-3
Matrix: Solid
Date Collected: 03/29/23 12:56
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/06/23 15:16	04/09/23 11:05	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/06/23 15:16	04/09/23 11:05	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/06/23 15:16	04/09/23 11:05	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/06/23 15:16	04/09/23 11:05	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/06/23 15:16	04/09/23 11:05	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/06/23 15:16	04/09/23 11:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*04/06/23 15:16*	*04/09/23 11:05*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*04/06/23 15:16*	*04/09/23 11:05*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	82.8		49.8	14.9	mg/Kg			04/03/23 10:23	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	25.1	J	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 18:01	1
Diesel Range Organics (Over C10-C28)	57.7		49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 18:01	1
OII Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*03/31/23 16:59*	*04/01/23 18:01*	*1*
o-Terphenyl	*107*		*70 - 130*	*03/31/23 16:59*	*04/01/23 18:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1050		4.97	0.393	mg/Kg			04/07/23 04:39	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Client Sample ID: SB-3-S-2-20230329

Lab Sample ID: 880-26570-4

Date Collected: 03/29/23 13:00
Matrix: Solid
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		04/06/23 15:16	04/09/23 11:26	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		04/06/23 15:16	04/09/23 11:26	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		04/06/23 15:16	04/09/23 11:26	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		04/06/23 15:16	04/09/23 11:26	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		04/06/23 15:16	04/09/23 11:26	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		04/06/23 15:16	04/09/23 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*04/06/23 15:16*	*04/09/23 11:26*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/06/23 15:16*	*04/09/23 11:26*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**68.9**		49.8	14.9	mg/Kg			04/03/23 10:23	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	**22.4**	**J**	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 18:22	1
Diesel Range Organics (Over C10-C28)	**46.5**	**J**	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 18:22	1
OII Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*03/31/23 16:59*	*04/01/23 18:22*	*1*
o-Terphenyl	*107*		*70 - 130*	*03/31/23 16:59*	*04/01/23 18:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**815**		4.96	0.392	mg/Kg			04/07/23 04:53	1

Client Sample ID: SB-2-S-0.5-20230329

Lab Sample ID: 880-26570-5

Date Collected: 03/29/23 13:06
Matrix: Solid
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		04/06/23 15:16	04/09/23 11:46	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/06/23 15:16	04/09/23 11:46	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/06/23 15:16	04/09/23 11:46	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/06/23 15:16	04/09/23 11:46	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/06/23 15:16	04/09/23 11:46	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/06/23 15:16	04/09/23 11:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*04/06/23 15:16*	*04/09/23 11:46*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*04/06/23 15:16*	*04/09/23 11:46*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**48.6**	**J**	50.0	15.0	mg/Kg			04/03/23 10:23	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Client Sample ID: SB-2-S-0.5-20230329

Lab Sample ID: 880-26570-5
Matrix: Solid
Date Collected: 03/29/23 13:06
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	24.5	J	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 18:43	1
Diesel Range Organics (Over C10-C28)	24.1	J	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 18:43	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*03/31/23 16:59*	*04/01/23 18:43*	*1*
o-Terphenyl	*112*		*70 - 130*	*03/31/23 16:59*	*04/01/23 18:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1320		5.01	0.396	mg/Kg			04/07/23 04:57	1

Client Sample ID: SB-2-S-2-20230329

Lab Sample ID: 880-26570-6
Matrix: Solid
Date Collected: 03/29/23 13:08
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		04/06/23 15:16	04/09/23 12:07	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/06/23 15:16	04/09/23 12:07	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/06/23 15:16	04/09/23 12:07	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/06/23 15:16	04/09/23 12:07	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/06/23 15:16	04/09/23 12:07	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/06/23 15:16	04/09/23 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/06/23 15:16*	*04/09/23 12:07*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/06/23 15:16*	*04/09/23 12:07*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	41.3	J	49.9	15.0	mg/Kg			04/03/23 10:23	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	19.9	J	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 19:04	1
Diesel Range Organics (Over C10-C28)	21.4	J	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 19:04	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*03/31/23 16:59*	*04/01/23 19:04*	*1*
o-Terphenyl	*108*		*70 - 130*	*03/31/23 16:59*	*04/01/23 19:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1470		25.2	1.99	mg/Kg			04/07/23 05:02	5

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Client Sample ID: SB-1-S-0.5-20230329

Lab Sample ID: 880-26570-7

Date Collected: 03/29/23 13:13
Matrix: Solid
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000386	U	0.00200	0.000386	mg/Kg		04/06/23 15:16	04/09/23 12:27	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/06/23 15:16	04/09/23 12:27	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/06/23 15:16	04/09/23 12:27	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/06/23 15:16	04/09/23 12:27	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/06/23 15:16	04/09/23 12:27	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/06/23 15:16	04/09/23 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*04/06/23 15:16*	*04/09/23 12:27*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*04/06/23 15:16*	*04/09/23 12:27*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**39.8**	**J**	49.9	15.0	mg/Kg			04/03/23 10:23	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	**20.4**	**J**	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 19:25	1
Diesel Range Organics (Over C10-C28)	**19.4**	**J**	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 19:25	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 16:59	04/01/23 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*03/31/23 16:59*	*04/01/23 19:25*	*1*
o-Terphenyl	*110*		*70 - 130*	*03/31/23 16:59*	*04/01/23 19:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1300**		4.97	0.393	mg/Kg			04/07/23 05:06	1

Client Sample ID: SB-1-S-2-20230329

Lab Sample ID: 880-26570-8

Date Collected: 03/29/23 13:15
Matrix: Solid
Date Received: 03/29/23 17:53

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.000397**	**J**	0.00201	0.000387	mg/Kg		04/06/23 15:16	04/09/23 12:48	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		04/06/23 15:16	04/09/23 12:48	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		04/06/23 15:16	04/09/23 12:48	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		04/06/23 15:16	04/09/23 12:48	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		04/06/23 15:16	04/09/23 12:48	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		04/06/23 15:16	04/09/23 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*04/06/23 15:16*	*04/09/23 12:48*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*04/06/23 15:16*	*04/09/23 12:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**52.3**		49.8	14.9	mg/Kg			04/03/23 10:23	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Client Sample ID: SB-1-S-2-20230329

Date Collected: 03/29/23 13:15
Date Received: 03/29/23 17:53

Lab Sample ID: 880-26570-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	32.9	J	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 19:45	1
Diesel Range Organics (Over C10-C28)	19.4	J	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 19:45	1
OII Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 16:59	04/01/23 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*03/31/23 16:59*	*04/01/23 19:45*	*1*
o-Terphenyl	*106*		*70 - 130*	*03/31/23 16:59*	*04/01/23 19:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1070		5.02	0.397	mg/Kg			04/07/23 05:11	1

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-26570-1	SB-4-S-0-0.5-20230329	70	77
880-26570-2	SB-4-S-2-20230329	93	105
880-26570-3	SB-3-S-0.5-20230329	97	99
880-26570-4	SB-3-S-2-20230329	95	102
880-26570-5	SB-2-S-0.5-20230329	87	73
880-26570-6	SB-2-S-2-20230329	102	102
880-26570-7	SB-1-S-0.5-20230329	67 S1-	76
880-26570-8	SB-1-S-2-20230329	60 S1-	99
LCS 880-50528/1-A	Lab Control Sample	111	114
LCSD 880-50528/2-A	Lab Control Sample Dup	108	119
MB 880-50516/5-A	Method Blank	77	73
MB 880-50528/5-A	Method Blank	72	78

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-26570-1	SB-4-S-0-0.5-20230329	111	109
880-26570-2	SB-4-S-2-20230329	116	114
880-26570-3	SB-3-S-0.5-20230329	109	107
880-26570-4	SB-3-S-2-20230329	106	107
880-26570-5	SB-2-S-0.5-20230329	117	112
880-26570-6	SB-2-S-2-20230329	110	108
880-26570-7	SB-1-S-0.5-20230329	113	110
880-26570-8	SB-1-S-2-20230329	110	106
LCS 880-50055/2-A	Lab Control Sample	125	118
LCSD 880-50055/3-A	Lab Control Sample Dup	129	119
MB 880-50055/1-A	Method Blank	110	112

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-50516/5-A
Matrix: Solid
Analysis Batch: 50706

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/06/23 12:06	04/08/23 19:21	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/06/23 12:06	04/08/23 19:21	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/06/23 12:06	04/08/23 19:21	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/06/23 12:06	04/08/23 19:21	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/06/23 12:06	04/08/23 19:21	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/06/23 12:06	04/08/23 19:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*04/06/23 12:06*	*04/08/23 19:21*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*04/06/23 12:06*	*04/08/23 19:21*	*1*

Lab Sample ID: MB 880-50528/5-A
Matrix: Solid
Analysis Batch: 50706

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/06/23 15:16	04/09/23 05:55	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/06/23 15:16	04/09/23 05:55	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/06/23 15:16	04/09/23 05:55	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/06/23 15:16	04/09/23 05:55	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/06/23 15:16	04/09/23 05:55	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/06/23 15:16	04/09/23 05:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*04/06/23 15:16*	*04/09/23 05:55*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*04/06/23 15:16*	*04/09/23 05:55*	*1*

Lab Sample ID: LCS 880-50528/1-A
Matrix: Solid
Analysis Batch: 50706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1092		mg/Kg		109	70 - 130
Toluene	0.100	0.09997		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.09356		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1959		mg/Kg		98	70 - 130
o-Xylene	0.100	0.1000		mg/Kg		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: LCSD 880-50528/2-A
Matrix: Solid
Analysis Batch: 50706

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50528

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1238		mg/Kg		124	70 - 130	13	35

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

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

Lab Sample ID: LCSD 880-50528/2-A
Matrix: Solid
Analysis Batch: 50706

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50528

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1114		mg/Kg		111	70 - 130	11	35
Ethylbenzene			0.100	0.1059		mg/Kg		106	70 - 130	12	35
m-Xylene & p-Xylene			0.200	0.2186		mg/Kg		109	70 - 130	11	35
o-Xylene			0.100	0.1114		mg/Kg		111	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*

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

Lab Sample ID: MB 880-50055/1-A
Matrix: Solid
Analysis Batch: 50074

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50055

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 08:57	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 08:57	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 16:59	04/01/23 08:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*03/31/23 16:59*	*04/01/23 08:57*	*1*
o-Terphenyl	*112*		*70 - 130*	*03/31/23 16:59*	*04/01/23 08:57*	*1*

Lab Sample ID: LCS 880-50055/2-A
Matrix: Solid
Analysis Batch: 50074

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50055

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	931.7		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)			1000	874.4		mg/Kg		87	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

Lab Sample ID: LCSD 880-50055/3-A
Matrix: Solid
Analysis Batch: 50074

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50055

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	973.6		mg/Kg		97	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	891.8		mg/Kg		89	70 - 130	2	20

Eurofins Midland

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

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

Lab Sample ID: LCSD 880-50055/3-A
Matrix: Solid
Analysis Batch: 50074

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50055

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*129*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50416/1-A
Matrix: Solid
Analysis Batch: 50618

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			04/07/23 03:58	1

Lab Sample ID: LCS 880-50416/2-A
Matrix: Solid
Analysis Batch: 50618

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.7		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-50416/3-A
Matrix: Solid
Analysis Batch: 50618

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	246.4		mg/Kg		99	90 - 110	1	20

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

GC VOA

Prep Batch: 50516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-50516/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 50528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-1	SB-4-S-0-0.5-20230329	Total/NA	Solid	5030B	
880-26570-2	SB-4-S-2-20230329	Total/NA	Solid	5030B	
880-26570-3	SB-3-S-0.5-20230329	Total/NA	Solid	5030B	
880-26570-4	SB-3-S-2-20230329	Total/NA	Solid	5030B	
880-26570-5	SB-2-S-0.5-20230329	Total/NA	Solid	5030B	
880-26570-6	SB-2-S-2-20230329	Total/NA	Solid	5030B	
880-26570-7	SB-1-S-0.5-20230329	Total/NA	Solid	5030B	
880-26570-8	SB-1-S-2-20230329	Total/NA	Solid	5030B	
MB 880-50528/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-50528/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-50528/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 50706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-1	SB-4-S-0-0.5-20230329	Total/NA	Solid	8021B	50528
880-26570-2	SB-4-S-2-20230329	Total/NA	Solid	8021B	50528
880-26570-3	SB-3-S-0.5-20230329	Total/NA	Solid	8021B	50528
880-26570-4	SB-3-S-2-20230329	Total/NA	Solid	8021B	50528
880-26570-5	SB-2-S-0.5-20230329	Total/NA	Solid	8021B	50528
880-26570-6	SB-2-S-2-20230329	Total/NA	Solid	8021B	50528
880-26570-7	SB-1-S-0.5-20230329	Total/NA	Solid	8021B	50528
880-26570-8	SB-1-S-2-20230329	Total/NA	Solid	8021B	50528
MB 880-50516/5-A	Method Blank	Total/NA	Solid	8021B	50516
MB 880-50528/5-A	Method Blank	Total/NA	Solid	8021B	50528
LCS 880-50528/1-A	Lab Control Sample	Total/NA	Solid	8021B	50528
LCSD 880-50528/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	50528

GC Semi VOA

Prep Batch: 50055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-1	SB-4-S-0-0.5-20230329	Total/NA	Solid	8015NM Prep	
880-26570-2	SB-4-S-2-20230329	Total/NA	Solid	8015NM Prep	
880-26570-3	SB-3-S-0.5-20230329	Total/NA	Solid	8015NM Prep	
880-26570-4	SB-3-S-2-20230329	Total/NA	Solid	8015NM Prep	
880-26570-5	SB-2-S-0.5-20230329	Total/NA	Solid	8015NM Prep	
880-26570-6	SB-2-S-2-20230329	Total/NA	Solid	8015NM Prep	
880-26570-7	SB-1-S-0.5-20230329	Total/NA	Solid	8015NM Prep	
880-26570-8	SB-1-S-2-20230329	Total/NA	Solid	8015NM Prep	
MB 880-50055/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-50055/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50055/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-1	SB-4-S-0-0.5-20230329	Total/NA	Solid	8015B NM	50055
880-26570-2	SB-4-S-2-20230329	Total/NA	Solid	8015B NM	50055

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

GC Semi VOA (Continued)

Analysis Batch: 50074 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-3	SB-3-S-0.5-20230329	Total/NA	Solid	8015B NM	50055
880-26570-4	SB-3-S-2-20230329	Total/NA	Solid	8015B NM	50055
880-26570-5	SB-2-S-0.5-20230329	Total/NA	Solid	8015B NM	50055
880-26570-6	SB-2-S-2-20230329	Total/NA	Solid	8015B NM	50055
880-26570-7	SB-1-S-0.5-20230329	Total/NA	Solid	8015B NM	50055
880-26570-8	SB-1-S-2-20230329	Total/NA	Solid	8015B NM	50055
MB 880-50055/1-A	Method Blank	Total/NA	Solid	8015B NM	50055
LCS 880-50055/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50055
LCSD 880-50055/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50055

Analysis Batch: 50153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-1	SB-4-S-0-0.5-20230329	Total/NA	Solid	8015 NM	
880-26570-2	SB-4-S-2-20230329	Total/NA	Solid	8015 NM	
880-26570-3	SB-3-S-0.5-20230329	Total/NA	Solid	8015 NM	
880-26570-4	SB-3-S-2-20230329	Total/NA	Solid	8015 NM	
880-26570-5	SB-2-S-0.5-20230329	Total/NA	Solid	8015 NM	
880-26570-6	SB-2-S-2-20230329	Total/NA	Solid	8015 NM	
880-26570-7	SB-1-S-0.5-20230329	Total/NA	Solid	8015 NM	
880-26570-8	SB-1-S-2-20230329	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-1	SB-4-S-0-0.5-20230329	Soluble	Solid	DI Leach	
880-26570-2	SB-4-S-2-20230329	Soluble	Solid	DI Leach	
880-26570-3	SB-3-S-0.5-20230329	Soluble	Solid	DI Leach	
880-26570-4	SB-3-S-2-20230329	Soluble	Solid	DI Leach	
880-26570-5	SB-2-S-0.5-20230329	Soluble	Solid	DI Leach	
880-26570-6	SB-2-S-2-20230329	Soluble	Solid	DI Leach	
880-26570-7	SB-1-S-0.5-20230329	Soluble	Solid	DI Leach	
880-26570-8	SB-1-S-2-20230329	Soluble	Solid	DI Leach	
MB 880-50416/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50416/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50416/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 50618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26570-1	SB-4-S-0-0.5-20230329	Soluble	Solid	300.0	50416
880-26570-2	SB-4-S-2-20230329	Soluble	Solid	300.0	50416
880-26570-3	SB-3-S-0.5-20230329	Soluble	Solid	300.0	50416
880-26570-4	SB-3-S-2-20230329	Soluble	Solid	300.0	50416
880-26570-5	SB-2-S-0.5-20230329	Soluble	Solid	300.0	50416
880-26570-6	SB-2-S-2-20230329	Soluble	Solid	300.0	50416
880-26570-7	SB-1-S-0.5-20230329	Soluble	Solid	300.0	50416
880-26570-8	SB-1-S-2-20230329	Soluble	Solid	300.0	50416
MB 880-50416/1-A	Method Blank	Soluble	Solid	300.0	50416
LCS 880-50416/2-A	Lab Control Sample	Soluble	Solid	300.0	50416
LCSD 880-50416/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50416

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Client Sample ID: SB-4-S-0-0.5-20230329

Lab Sample ID: 880-26570-1

Date Collected: 03/29/23 12:48
Matrix: Solid
Date Received: 03/29/23 17:53

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	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 09:22	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 17:20	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50618	04/07/23 04:30	SMC	EET MID

Client Sample ID: SB-4-S-2-20230329

Lab Sample ID: 880-26570-2

Date Collected: 03/29/23 12:52
Matrix: Solid
Date Received: 03/29/23 17:53

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	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 10:45	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 17:40	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50618	04/07/23 04:34	SMC	EET MID

Client Sample ID: SB-3-S-0.5-20230329

Lab Sample ID: 880-26570-3

Date Collected: 03/29/23 12:56
Matrix: Solid
Date Received: 03/29/23 17:53

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	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 11:05	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 18:01	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50618	04/07/23 04:39	SMC	EET MID

Client Sample ID: SB-3-S-2-20230329

Lab Sample ID: 880-26570-4

Date Collected: 03/29/23 13:00
Matrix: Solid
Date Received: 03/29/23 17:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 11:26	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 18:22	SM	EET MID

Lab Chronicle

Client: ARCADIS U.S. Inc
Job ID: 880-26570-1
Project/Site: Lovington LPAU-24

Client Sample ID: SB-3-S-2-20230329
Lab Sample ID: 880-26570-4
Date Collected: 03/29/23 13:00
Matrix: Solid
Date Received: 03/29/23 17:53

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	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50618	04/07/23 04:53	SMC	EET MID

Client Sample ID: SB-2-S-0.5-20230329
Lab Sample ID: 880-26570-5
Date Collected: 03/29/23 13:06
Matrix: Solid
Date Received: 03/29/23 17:53

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	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 11:46	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 18:43	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50618	04/07/23 04:57	SMC	EET MID

Client Sample ID: SB-2-S-2-20230329
Lab Sample ID: 880-26570-6
Date Collected: 03/29/23 13:08
Matrix: Solid
Date Received: 03/29/23 17:53

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	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 12:07	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 19:04	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50618	04/07/23 05:02	SMC	EET MID

Client Sample ID: SB-1-S-0.5-20230329
Lab Sample ID: 880-26570-7
Date Collected: 03/29/23 13:13
Matrix: Solid
Date Received: 03/29/23 17:53

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	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 12:27	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 19:25	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50618	04/07/23 05:06	SMC	EET MID

Lab Chronicle

Client: ARCADIS U.S. Inc
Job ID: 880-26570-1
Project/Site: Lovington LPAU-24

Client Sample ID: SB-1-S-2-20230329
Lab Sample ID: 880-26570-8

Date Collected: 03/29/23 13:15
Matrix: Solid
Date Received: 03/29/23 17:53

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	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 12:48	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50153	04/03/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	50055	03/31/23 16:59	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50074	04/01/23 19:45	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50416	04/05/23 14:47	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50618	04/07/23 05:11	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Job ID: 880-26570-1
Project/Site: Lovington LPAU-24

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5030B	Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-24

Job ID: 880-26570-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-26570-1	SB-4-S-0-0.5-20230329	Solid	03/29/23 12:48	03/29/23 17:53
880-26570-2	SB-4-S-2-20230329	Solid	03/29/23 12:52	03/29/23 17:53
880-26570-3	SB-3-S-0.5-20230329	Solid	03/29/23 12:56	03/29/23 17:53
880-26570-4	SB-3-S-2-20230329	Solid	03/29/23 13:00	03/29/23 17:53
880-26570-5	SB-2-S-0.5-20230329	Solid	03/29/23 13:06	03/29/23 17:53
880-26570-6	SB-2-S-2-20230329	Solid	03/29/23 13:08	03/29/23 17:53
880-26570-7	SB-1-S-0.5-20230329	Solid	03/29/23 13:13	03/29/23 17:53
880-26570-8	SB-1-S-2-20230329	Solid	03/29/23 13:15	03/29/23 17:53

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

Chain of Custody Record

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26570

Client Information	Sampler: Jerry Shoemaker	Lab PM: Builes John	Carrier Tracking No(s):	COC No: 880-5478-717 2
Client Contact: Douglas Jordan	Phone: 432-288-0376	E-Mail: John.Builes@et.eurofinsus.com	State of Origin:	Page: Page 3 of 3
Company: ARCADIS U S. Inc	PWSID:			Job #:
Address: 10205 Westheimer Rd Suite 800	Due Date Requested:			
City: Houston	TAT Requested (days): Standard			
State, Zip: TX 77042	Compliance Project: Δ Yes Δ No			
Phone: 713-953-4739(Tel)	PO #: PN 30172230 00003C			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: Lovington [redacted] 23A4 - 24	Project #: 88001697			
Site:	SSOW#:			

Analysis Requested

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:

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-4-S-0-0.5-20230329	03/29/23	1248	G	Solid			X		
SB-4-S-2-20230329	03/29/23	1252	G	Solid			X		
SB-3-S-0-0.5-20230329	03/29/23	1256	G	Solid			X		
SB-3-S-2-20230329	03/29/23	1300	G	Solid			X		
SB-2-S-0-0.5-20230329	03/29/23	1306	G	Solid			X		
SB-2-S-2-20230329	03/29/23	1309	G	Solid			X		
SB-1-S-0-0.5-20230329	03/29/23	1313	G	Solid			X		
SB-1-S-2-20230329	03/29/23	1315	G	Solid			X		
				Solid					

880-26570 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested I II, III IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Jerry Shoemaker	03/29/23 / 1745	ARCADIS	[signature]	3/29/23	
2	Relinquished by	Date/Time	Company	Received by	Date/Time: 1746	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks: 4.3/4.0

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc Job Number: 880-26570-1

Login Number: 26570 **List Source: Eurofins Midland**
List Number: 1
Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 2/20/2024 1:48:52 PM

JOB DESCRIPTION

LSAU 24
Lovington, NM

JOB NUMBER

880-39214-1

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
2/20/2024 1:48:52 PM

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

Client: ARCADIS US Inc
Project/Site: LSAU 24

Laboratory Job ID: 880-39214-1
SDG: Lovington, NM

Table of Contents

Definitions/Glossary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: ARCADIS US Inc
Project: LSAU 24

Job ID: 880-39214-1

Job ID: 880-39214-1 Eurofins Midland

Job Narrative
880-39214-1

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 2/12/2024 8:49 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 1.2°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SB-5-S-1'-240209 (880-39214-1), SB-5-S-2'-240209 (880-39214-2), SB-6-S-1'-240209 (880-39214-3), SB-6-S-2'-240209 (880-39214-4), SB-7-S-1'-240209 (880-39214-5) and SB-7-S-2'-240209 (880-39214-6).

GC VOA
Method 8021B: The method blank for preparation batch 880-73270 and analytical batch 880-73430 contained o-Xylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-72933 and analytical batch 880-73312 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-72933 and analytical batch 880-73312 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Client Sample ID: SB-5-S-1'-240209

Lab Sample ID: 880-39214-1
Matrix: Solid
Date Collected: 02/09/24 10:40
Date Received: 02/12/24 08:49

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98.4		4.97	0.393	mg/Kg			02/12/24 17:57	1

Client Sample ID: SB-5-S-2'-240209

Lab Sample ID: 880-39214-2
Matrix: Solid
Date Collected: 02/09/24 10:50
Date Received: 02/12/24 08:49

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		02/15/24 14:47	02/19/24 22:42	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		02/15/24 14:47	02/19/24 22:42	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		02/15/24 14:47	02/19/24 22:42	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		02/15/24 14:47	02/19/24 22:42	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		02/15/24 14:47	02/19/24 22:42	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		02/15/24 14:47	02/19/24 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*02/15/24 14:47*	*02/19/24 22:42*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*02/15/24 14:47*	*02/19/24 22:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			02/19/24 22:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	73.3		50.1	15.0	mg/Kg			02/17/24 02:40	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	49.4	J B	50.1	15.0	mg/Kg		02/12/24 14:48	02/17/24 02:40	1
Diesel Range Organics (Over C10-C28)	23.9	J	50.1	15.0	mg/Kg		02/12/24 14:48	02/17/24 02:40	1
OII Range Organics (Over C28-C36)	<15.0	U	50.1	15.0	mg/Kg		02/12/24 14:48	02/17/24 02:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*02/12/24 14:48*	*02/17/24 02:40*	*1*
o-Terphenyl	*106*		*70 - 130*	*02/12/24 14:48*	*02/17/24 02:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	89.4		5.04	0.398	mg/Kg			02/12/24 18:11	1

Client Sample ID: SB-6-S-1'-240209

Lab Sample ID: 880-39214-3
Matrix: Solid
Date Collected: 02/09/24 11:20
Date Received: 02/12/24 08:49

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	625		5.02	0.397	mg/Kg			02/12/24 18:16	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Client Sample ID: SB-6-S-2'-240209

Lab Sample ID: 880-39214-4
Matrix: Solid
Date Collected: 02/09/24 11:30
Date Received: 02/12/24 08:49

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000388	U	0.00202	0.000388	mg/Kg		02/15/24 14:47	02/19/24 23:03	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		02/15/24 14:47	02/19/24 23:03	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		02/15/24 14:47	02/19/24 23:03	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		02/15/24 14:47	02/19/24 23:03	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		02/15/24 14:47	02/19/24 23:03	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		02/15/24 14:47	02/19/24 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*02/15/24 14:47*	*02/19/24 23:03*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*02/15/24 14:47*	*02/19/24 23:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00102	U	0.00403	0.00102	mg/Kg			02/19/24 23:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**74.2**		50.3	15.1	mg/Kg			02/17/24 03:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**49.1**	**J B**	50.3	15.1	mg/Kg		02/12/24 14:48	02/17/24 03:02	1
Diesel Range Organics (Over C10-C28)	**25.1**	**J**	50.3	15.1	mg/Kg		02/12/24 14:48	02/17/24 03:02	1
OII Range Organics (Over C28-C36)	<15.1	U	50.3	15.1	mg/Kg		02/12/24 14:48	02/17/24 03:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*02/12/24 14:48*	*02/17/24 03:02*	*1*
o-Terphenyl	*95*		*70 - 130*	*02/12/24 14:48*	*02/17/24 03:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2570**		25.2	1.99	mg/Kg			02/12/24 18:20	5

Client Sample ID: SB-7-S-1'-240209

Lab Sample ID: 880-39214-5
Matrix: Solid
Date Collected: 02/09/24 12:10
Date Received: 02/12/24 08:49

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**96.8**		4.98	0.393	mg/Kg			02/12/24 18:25	1

Client Sample ID: SB-7-S-2'-240209

Lab Sample ID: 880-39214-6
Matrix: Solid
Date Collected: 02/09/24 12:20
Date Received: 02/12/24 08:49

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		02/15/24 14:48	02/20/24 02:51	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		02/15/24 14:48	02/20/24 02:51	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		02/15/24 14:48	02/20/24 02:51	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Client Sample ID: SB-7-S-2'-240209
Date Collected: 02/09/24 12:20
Date Received: 02/12/24 08:49

Lab Sample ID: 880-39214-6
Matrix: Solid

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	0.00401	0.00101	mg/Kg		02/15/24 14:48	02/20/24 02:51	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		02/15/24 14:48	02/20/24 02:51	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		02/15/24 14:48	02/20/24 02:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*02/15/24 14:48*	*02/20/24 02:51*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*02/15/24 14:48*	*02/20/24 02:51*	*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			02/20/24 02:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**68.3**		50.2	15.0	mg/Kg			02/17/24 03:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**34.4**	**J B**	50.2	15.0	mg/Kg		02/12/24 14:48	02/17/24 03:25	1
Diesel Range Organics (Over C10-C28)	**33.9**	**J**	50.2	15.0	mg/Kg		02/12/24 14:48	02/17/24 03:25	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.2	15.0	mg/Kg		02/12/24 14:48	02/17/24 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*02/12/24 14:48*	*02/17/24 03:25*	*1*
o-Terphenyl	*107*		*70 - 130*	*02/12/24 14:48*	*02/17/24 03:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76.6**		4.96	0.392	mg/Kg			02/12/24 18:30	1

Surrogate Summary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-39214-2	SB-5-S-2'-240209	83	84										
880-39214-4	SB-6-S-2'-240209	86	72										
880-39214-6	SB-7-S-2'-240209	71	102										
LCS 880-73270/1-A	Lab Control Sample	110	99										
LCSD 880-73270/2-A	Lab Control Sample Dup	113	117										
MB 880-73246/5-A	Method Blank	78	88										
MB 880-73270/5-A	Method Blank	76	82										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-39214-2	SB-5-S-2'-240209	97	106										
880-39214-4	SB-6-S-2'-240209	89	95										
880-39214-6	SB-7-S-2'-240209	104	107										
LCS 880-72933/2-A	Lab Control Sample	101	104										
LCSD 880-72933/3-A	Lab Control Sample Dup	101	105										
MB 880-72933/1-A	Method Blank	225 S1+	256 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73246/5-A
Matrix: Solid
Analysis Batch: 73430

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/15/24 11:24	02/19/24 11:17	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/15/24 11:24	02/19/24 11:17	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/15/24 11:24	02/19/24 11:17	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/15/24 11:24	02/19/24 11:17	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		02/15/24 11:24	02/19/24 11:17	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/15/24 11:24	02/19/24 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*02/15/24 11:24*	*02/19/24 11:17*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*02/15/24 11:24*	*02/19/24 11:17*	*1*

Lab Sample ID: MB 880-73270/5-A
Matrix: Solid
Analysis Batch: 73430

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73270

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/15/24 14:47	02/19/24 22:00	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/15/24 14:47	02/19/24 22:00	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/15/24 14:47	02/19/24 22:00	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/15/24 14:47	02/19/24 22:00	1
o-Xylene	0.0003551	J	0.00200	0.000344	mg/Kg		02/15/24 14:47	02/19/24 22:00	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/15/24 14:47	02/19/24 22:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*02/15/24 14:47*	*02/19/24 22:00*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*02/15/24 14:47*	*02/19/24 22:00*	*1*

Lab Sample ID: LCS 880-73270/1-A
Matrix: Solid
Analysis Batch: 73430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73270

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08555		mg/Kg		86	70 - 130
Toluene	0.100	0.08465		mg/Kg		85	70 - 130
Ethylbenzene	0.100	0.09579		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	0.200	0.1961		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09597		mg/Kg		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-73270/2-A
Matrix: Solid
Analysis Batch: 73430

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73270

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1043		mg/Kg		104	70 - 130	20	35

QC Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

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

Lab Sample ID: LCSD 880-73270/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73430 — **Prep Batch: 73270**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08764		mg/Kg		88	70 - 130	3	35
Ethylbenzene			0.100	0.07190		mg/Kg		72	70 - 130	28	35
m-Xylene & p-Xylene			0.200	0.1725		mg/Kg		86	70 - 130	13	35
o-Xylene			0.100	0.1110		mg/Kg		111	70 - 130	15	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-72933/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73312 — **Prep Batch: 72933**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	22.77	J	50.0	15.0	mg/Kg		02/12/24 14:48	02/16/24 19:02	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		02/12/24 14:48	02/16/24 19:02	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		02/12/24 14:48	02/16/24 19:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*225*	*S1+*	*70 - 130*	*02/12/24 14:48*	*02/16/24 19:02*	*1*
o-Terphenyl	*256*	*S1+*	*70 - 130*	*02/12/24 14:48*	*02/16/24 19:02*	*1*

Lab Sample ID: LCS 880-72933/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73312 — **Prep Batch: 72933**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	997.5		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)			1000	994.2		mg/Kg		99	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: LCSD 880-72933/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73312 — **Prep Batch: 72933**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	951.4		mg/Kg		95	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	957.7		mg/Kg		96	70 - 130	4	20

QC Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

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

Lab Sample ID: LCSD 880-72933/3-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72933

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	105		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72841/1-A
Matrix: Solid
Analysis Batch: 72907

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			02/12/24 16:20	1

Lab Sample ID: LCS 880-72841/2-A
Matrix: Solid
Analysis Batch: 72907

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	236.3		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-72841/3-A
Matrix: Solid
Analysis Batch: 72907

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	237.4		mg/Kg		95	90 - 110	0	20

QC Association Summary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

GC VOA

Prep Batch: 73246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73246/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 73270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-2	SB-5-S-2'-240209	Total/NA	Solid	5030B	
880-39214-4	SB-6-S-2'-240209	Total/NA	Solid	5030B	
880-39214-6	SB-7-S-2'-240209	Total/NA	Solid	5030B	
MB 880-73270/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-73270/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-73270/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 73430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-2	SB-5-S-2'-240209	Total/NA	Solid	8021B	73270
880-39214-4	SB-6-S-2'-240209	Total/NA	Solid	8021B	73270
880-39214-6	SB-7-S-2'-240209	Total/NA	Solid	8021B	73270
MB 880-73246/5-A	Method Blank	Total/NA	Solid	8021B	73246
MB 880-73270/5-A	Method Blank	Total/NA	Solid	8021B	73270
LCS 880-73270/1-A	Lab Control Sample	Total/NA	Solid	8021B	73270
LCSD 880-73270/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73270

Analysis Batch: 73685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-2	SB-5-S-2'-240209	Total/NA	Solid	Total BTEX	
880-39214-4	SB-6-S-2'-240209	Total/NA	Solid	Total BTEX	
880-39214-6	SB-7-S-2'-240209	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 72933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-2	SB-5-S-2'-240209	Total/NA	Solid	8015NM Prep	
880-39214-4	SB-6-S-2'-240209	Total/NA	Solid	8015NM Prep	
880-39214-6	SB-7-S-2'-240209	Total/NA	Solid	8015NM Prep	
MB 880-72933/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72933/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72933/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-2	SB-5-S-2'-240209	Total/NA	Solid	8015B NM	72933
880-39214-4	SB-6-S-2'-240209	Total/NA	Solid	8015B NM	72933
880-39214-6	SB-7-S-2'-240209	Total/NA	Solid	8015B NM	72933
MB 880-72933/1-A	Method Blank	Total/NA	Solid	8015B NM	72933
LCS 880-72933/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72933
LCSD 880-72933/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72933

Analysis Batch: 73559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-2	SB-5-S-2'-240209	Total/NA	Solid	8015 NM	
880-39214-4	SB-6-S-2'-240209	Total/NA	Solid	8015 NM	

QC Association Summary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

GC Semi VOA (Continued)

Analysis Batch: 73559 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-6	SB-7-S-2'-240209	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 72841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-1	SB-5-S-1'-240209	Soluble	Solid	DI Leach	
880-39214-2	SB-5-S-2'-240209	Soluble	Solid	DI Leach	
880-39214-3	SB-6-S-1'-240209	Soluble	Solid	DI Leach	
880-39214-4	SB-6-S-2'-240209	Soluble	Solid	DI Leach	
880-39214-5	SB-7-S-1'-240209	Soluble	Solid	DI Leach	
880-39214-6	SB-7-S-2'-240209	Soluble	Solid	DI Leach	
MB 880-72841/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72841/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72841/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 72907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39214-1	SB-5-S-1'-240209	Soluble	Solid	300.0	72841
880-39214-2	SB-5-S-2'-240209	Soluble	Solid	300.0	72841
880-39214-3	SB-6-S-1'-240209	Soluble	Solid	300.0	72841
880-39214-4	SB-6-S-2'-240209	Soluble	Solid	300.0	72841
880-39214-5	SB-7-S-1'-240209	Soluble	Solid	300.0	72841
880-39214-6	SB-7-S-2'-240209	Soluble	Solid	300.0	72841
MB 880-72841/1-A	Method Blank	Soluble	Solid	300.0	72841
LCS 880-72841/2-A	Lab Control Sample	Soluble	Solid	300.0	72841
LCSD 880-72841/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72841

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Client Sample ID: SB-5-S-1'-240209

Lab Sample ID: 880-39214-1
Matrix: Solid
Date Collected: 02/09/24 10:40
Date Received: 02/12/24 08:49

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	72841	02/12/24 08:59	SA	EET MID
Soluble	Analysis	300.0		1			72907	02/12/24 17:57	CH	EET MID

Client Sample ID: SB-5-S-2'-240209

Lab Sample ID: 880-39214-2
Matrix: Solid
Date Collected: 02/09/24 10:50
Date Received: 02/12/24 08:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	73270	02/15/24 14:47	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73430	02/19/24 22:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73685	02/19/24 22:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			73559	02/17/24 02:40	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	72933	02/12/24 14:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/17/24 02:40	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	72841	02/12/24 08:59	SA	EET MID
Soluble	Analysis	300.0		1			72907	02/12/24 18:11	CH	EET MID

Client Sample ID: SB-6-S-1'-240209

Lab Sample ID: 880-39214-3
Matrix: Solid
Date Collected: 02/09/24 11:20
Date Received: 02/12/24 08:49

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	72841	02/12/24 08:59	SA	EET MID
Soluble	Analysis	300.0		1			72907	02/12/24 18:16	CH	EET MID

Client Sample ID: SB-6-S-2'-240209

Lab Sample ID: 880-39214-4
Matrix: Solid
Date Collected: 02/09/24 11:30
Date Received: 02/12/24 08:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.96 g	5 mL	73270	02/15/24 14:47	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73430	02/19/24 23:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73685	02/19/24 23:03	SM	EET MID
Total/NA	Analysis	8015 NM		1			73559	02/17/24 03:02	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	72933	02/12/24 14:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/17/24 03:02	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	72841	02/12/24 08:59	SA	EET MID
Soluble	Analysis	300.0		5			72907	02/12/24 18:20	CH	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Client Sample ID: SB-7-S-1'-240209

Lab Sample ID: 880-39214-5

Date Collected: 02/09/24 12:10
Matrix: Solid
Date Received: 02/12/24 08:49

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	72841	02/12/24 08:59	SA	EET MID
Soluble	Analysis	300.0		1			72907	02/12/24 18:25	CH	EET MID

Client Sample ID: SB-7-S-2'-240209

Lab Sample ID: 880-39214-6

Date Collected: 02/09/24 12:20
Matrix: Solid
Date Received: 02/12/24 08:49

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	73270	02/15/24 14:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73430	02/20/24 02:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73685	02/20/24 02:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			73559	02/17/24 03:25	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	72933	02/12/24 14:48	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/17/24 03:25	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	72841	02/12/24 08:59	SA	EET MID
Soluble	Analysis	300.0		1			72907	02/12/24 18:30	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: LSAU 24

Job ID: 880-39214-1
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: LSAU 24

Job ID: 880-39214-1
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: LSAU 24

Job ID: 880-39214-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-39214-1	SB-5-S-1'-240209	Solid	02/09/24 10:40	02/12/24 08:49
880-39214-2	SB-5-S-2'-240209	Solid	02/09/24 10:50	02/12/24 08:49
880-39214-3	SB-6-S-1'-240209	Solid	02/09/24 11:20	02/12/24 08:49
880-39214-4	SB-6-S-2'-240209	Solid	02/09/24 11:30	02/12/24 08:49
880-39214-5	SB-7-S-1'-240209	Solid	02/09/24 12:10	02/12/24 08:49
880-39214-6	SB-7-S-2'-240209	Solid	02/09/24 12:20	02/12/24 08:49

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

Chain of Custody Record

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214

Client Information	Sampler: Heath Boyd	Lab PM: Builes John	Carrier Tracking No(s):	COC No: 880-8032-1136 12
Client Contact: Mr Morgan Jordan	Phone: 575-390-4618	E-Mail: John.Builes@et.eurofinsus.com	State of Origin: NM	Page: ~~Page 12 of 14~~ 1 of 1
Company: ARCADIS US Inc	PWSID:			Job #:
Address: 1004 North Big Spring Suite 300	Due Date Requested:			
City: Midland	TAT Requested (days): 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: CSAU 24	Project #: ~~88002020~~ 30209829			
Site: Lovington, NM	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	~~300_ORGFM_28D~~, 8015MOD_NM, 8021B	300_ORGFM_28D	Total Number of containers	Special Instructions/Note
			Preservation Code:				N			
SB-5-S-1'-240209	2/9/24	1040	G	Solid				X		
SB-5-S-2'-240209	"	1050	"	Solid			X	X		
SB-6-S-1'-240209	"	1120	"	Solid				X		
SB-6-S-2'-240209	"	1130	"	Solid			X	X		
SB-7-S-1'-240209	"	1210	"	Solid				X		
SB-7-S-2'-240209	X	1220	X	Solid			X	X		
				Solid						
				Solid						
				Solid						
				Solid						
				Solid						

880-39214 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	2/9/24 1620	Arcadis	Mariana Carrillo	2/9/24 4:20 PM	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 2/9/24 849	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.
		1.3/1.2

Login Sample Receipt Checklist

Client: ARCADIS US Inc

Job Number: 880-39214-1
SDG Number: Lovington, NM

Login Number: 39214
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	

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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 2/27/2024 12:21:21 PM

JOB DESCRIPTION

LSAU 24
Lovington NM

JOB NUMBER

880-39547-1

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
2/27/2024 12:21:21 PM

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

Client: ARCADIS US Inc
Project/Site: LSAU 24

Laboratory Job ID: 880-39547-1
SDG: Lovington NM

Table of Contents

Definitions/Glossary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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: LSAU 24

Job ID: 880-39547-1

Job ID: 880-39547-1 Eurofins Midland

Job Narrative
880-39547-1

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 2/19/2024 9:05 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 2.9°C.

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-73996/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-73993 recovered under the lower control limit for Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were ran within 12 hours of passing CCV; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SB-12-S-2'-240216 (880-39547-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-73897 and analytical batch 880-73993 was outside the control limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-73653 and analytical batch 880-73706 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SB-9-S-2'-240216 (880-39547-4), SB-11-S-2'-240216 (880-39547-8), SB-12-S-2'-240216 (880-39547-10), (880-39545-A-2-B), (880-39545-A-2-C MS) and (880-39545-A-2-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-73653 and analytical batch 880-73706 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-8-S-1'-240216

Lab Sample ID: 880-39547-1
Matrix: Solid
Date Collected: 02/16/24 09:00
Date Received: 02/19/24 09:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	67.7		5.02	0.397	mg/Kg			02/21/24 12:05	1

Client Sample ID: SB-8-S-2'-240216

Lab Sample ID: 880-39547-2
Matrix: Solid
Date Collected: 02/16/24 09:10
Date Received: 02/19/24 09:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		02/22/24 17:07	02/27/24 02:51	1
Toluene	<0.000458	U	0.00201	0.000458	mg/Kg		02/22/24 17:07	02/27/24 02:51	1
Ethylbenzene	<0.000567	U	0.00201	0.000567	mg/Kg		02/22/24 17:07	02/27/24 02:51	1
m-Xylene & p-Xylene	<0.00101	U	0.00402	0.00101	mg/Kg		02/22/24 17:07	02/27/24 02:51	1
o-Xylene	<0.000345	U	0.00201	0.000345	mg/Kg		02/22/24 17:07	02/27/24 02:51	1
Xylenes, Total	<0.00101	U	0.00402	0.00101	mg/Kg		02/22/24 17:07	02/27/24 02:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*02/22/24 17:07*	*02/27/24 02:51*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*02/22/24 17:07*	*02/27/24 02:51*	*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			02/27/24 02:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	73.7		50.0	15.0	mg/Kg			02/21/24 23:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	45.8	J B	50.0	15.0	mg/Kg		02/20/24 11:29	02/21/24 23:49	1
Diesel Range Organics (Over C10-C28)	27.9	J	50.0	15.0	mg/Kg		02/20/24 11:29	02/21/24 23:49	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		02/20/24 11:29	02/21/24 23:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*02/20/24 11:29*	*02/21/24 23:49*	*1*
o-Terphenyl	*115*		*70 - 130*	*02/20/24 11:29*	*02/21/24 23:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.8		5.05	0.399	mg/Kg			02/21/24 12:10	1

Client Sample ID: SB-9-S-1'-240216

Lab Sample ID: 880-39547-3
Matrix: Solid
Date Collected: 02/16/24 09:40
Date Received: 02/19/24 09:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	75.7		5.00	0.395	mg/Kg			02/21/24 12:15	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-9-S-2'-240216

Lab Sample ID: 880-39547-4
Matrix: Solid
Date Collected: 02/16/24 09:50
Date Received: 02/19/24 09:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000389	U	0.00202	0.000389	mg/Kg		02/22/24 17:07	02/27/24 03:12	1
Toluene	<0.000461	U	0.00202	0.000461	mg/Kg		02/22/24 17:07	02/27/24 03:12	1
Ethylbenzene	<0.000571	U	0.00202	0.000571	mg/Kg		02/22/24 17:07	02/27/24 03:12	1
m-Xylene & p-Xylene	<0.00102	U	0.00404	0.00102	mg/Kg		02/22/24 17:07	02/27/24 03:12	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		02/22/24 17:07	02/27/24 03:12	1
Xylenes, Total	<0.00102	U	0.00404	0.00102	mg/Kg		02/22/24 17:07	02/27/24 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*02/22/24 17:07*	*02/27/24 03:12*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*02/22/24 17:07*	*02/27/24 03:12*	*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	0.00404	0.00102	mg/Kg			02/27/24 03:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**78.2**		49.9	15.0	mg/Kg			02/22/24 00:13	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	**45.7**	**J B**	49.9	15.0	mg/Kg		02/20/24 11:29	02/22/24 00:13	1
Diesel Range Organics (Over C10-C28)	**32.5**	**J**	49.9	15.0	mg/Kg		02/20/24 11:29	02/22/24 00:13	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		02/20/24 11:29	02/22/24 00:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*02/20/24 11:29*	*02/22/24 00:13*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*02/20/24 11:29*	*02/22/24 00:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**574**		24.9	1.97	mg/Kg			02/21/24 12:19	5

Client Sample ID: SB-10-S-1'-240216

Lab Sample ID: 880-39547-5
Matrix: Solid
Date Collected: 02/16/24 10:20
Date Received: 02/19/24 09:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64.6**		5.04	0.398	mg/Kg			02/21/24 12:24	1

Client Sample ID: SB-10-S-2'-240216

Lab Sample ID: 880-39547-6
Matrix: Solid
Date Collected: 02/16/24 10:30
Date Received: 02/19/24 09:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000384	U	0.00200	0.000384	mg/Kg		02/22/24 17:07	02/27/24 03:33	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		02/22/24 17:07	02/27/24 03:33	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		02/22/24 17:07	02/27/24 03:33	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-10-S-2'-240216

Lab Sample ID: 880-39547-6
Matrix: Solid
Date Collected: 02/16/24 10:30
Date Received: 02/19/24 09:05

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	0.00399	0.00101	mg/Kg		02/22/24 17:07	02/27/24 03:33	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		02/22/24 17:07	02/27/24 03:33	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		02/22/24 17:07	02/27/24 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*02/22/24 17:07*	*02/27/24 03:33*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*02/22/24 17:07*	*02/27/24 03:33*	*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			02/27/24 03:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**75.8**		50.3	15.1	mg/Kg			02/22/24 00:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**45.8**	**J B**	50.3	15.1	mg/Kg		02/20/24 11:29	02/22/24 00:36	1
Diesel Range Organics (Over C10-C28)	**30.0**	**J**	50.3	15.1	mg/Kg		02/20/24 11:29	02/22/24 00:36	1
OII Range Organics (Over C28-C36)	<15.1	U	50.3	15.1	mg/Kg		02/20/24 11:29	02/22/24 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*02/20/24 11:29*	*02/22/24 00:36*	*1*
o-Terphenyl	*123*		*70 - 130*	*02/20/24 11:29*	*02/22/24 00:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.7**		5.03	0.397	mg/Kg			02/21/24 12:38	1

Client Sample ID: SB-11-S-1'-240216

Lab Sample ID: 880-39547-7
Matrix: Solid
Date Collected: 02/16/24 11:00
Date Received: 02/19/24 09:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.6**		5.02	0.397	mg/Kg			02/21/24 12:43	1

Client Sample ID: SB-11-S-2'-240216

Lab Sample ID: 880-39547-8
Matrix: Solid
Date Collected: 02/16/24 11:10
Date Received: 02/19/24 09:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		02/22/24 17:07	02/27/24 03:54	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		02/22/24 17:07	02/27/24 03:54	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		02/22/24 17:07	02/27/24 03:54	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		02/22/24 17:07	02/27/24 03:54	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		02/22/24 17:07	02/27/24 03:54	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		02/22/24 17:07	02/27/24 03:54	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-11-S-2'-240216

Lab Sample ID: 880-39547-8
Matrix: Solid
Date Collected: 02/16/24 11:10
Date Received: 02/19/24 09:05

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		70 - 130	02/22/24 17:07	02/27/24 03:54	1
1,4-Difluorobenzene (Surr)	103		70 - 130	02/22/24 17:07	02/27/24 03:54	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00100	U	0.00396	0.00100	mg/Kg			02/27/24 03:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**81.2**		50.3	15.1	mg/Kg			02/22/24 00:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**46.4**	**J B**	50.3	15.1	mg/Kg		02/20/24 11:29	02/22/24 00:59	1
Diesel Range Organics (Over C10-C28)	**34.8**	**J**	50.3	15.1	mg/Kg		02/20/24 11:29	02/22/24 00:59	1
Oil Range Organics (Over C28-C36)	<15.1	U	50.3	15.1	mg/Kg		02/20/24 11:29	02/22/24 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	135	S1+	70 - 130	02/20/24 11:29	02/22/24 00:59	1
o-Terphenyl	143	S1+	70 - 130	02/20/24 11:29	02/22/24 00:59	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2310**		24.9	1.96	mg/Kg			02/21/24 12:57	5

Client Sample ID: SB-12-S-1'-240216

Lab Sample ID: 880-39547-9
Matrix: Solid
Date Collected: 02/16/24 11:40
Date Received: 02/19/24 09:05

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**443**		4.96	0.392	mg/Kg			02/21/24 13:01	1

Client Sample ID: SB-12-S-2'-240216

Lab Sample ID: 880-39547-10
Matrix: Solid
Date Collected: 02/16/24 11:50
Date Received: 02/19/24 09:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/22/24 17:07	02/27/24 05:24	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/22/24 17:07	02/27/24 05:24	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/22/24 17:07	02/27/24 05:24	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/22/24 17:07	02/27/24 05:24	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		02/22/24 17:07	02/27/24 05:24	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/22/24 17:07	02/27/24 05:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	02/22/24 17:07	02/27/24 05:24	1
1,4-Difluorobenzene (Surr)	104		70 - 130	02/22/24 17:07	02/27/24 05:24	1

Client Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-12-S-2'-240216

Lab Sample ID: 880-39547-10

Date Collected: 02/16/24 11:50
Matrix: Solid
Date Received: 02/19/24 09:05

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00101	U	0.00400	0.00101	mg/Kg			02/27/24 05:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**80.9**		50.1	15.0	mg/Kg			02/22/24 01:23	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	**48.7**	**J B**	50.1	15.0	mg/Kg		02/20/24 11:29	02/22/24 01:23	1
Diesel Range Organics (Over C10-C28)	**32.2**	**J**	50.1	15.0	mg/Kg		02/20/24 11:29	02/22/24 01:23	1
OII Range Organics (Over C28-C36)	<15.0	U	50.1	15.0	mg/Kg		02/20/24 11:29	02/22/24 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*02/20/24 11:29*	*02/22/24 01:23*	*1*
o-Terphenyl	*136*	*S1+*	*70 - 130*	*02/20/24 11:29*	*02/22/24 01:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**626**		4.96	0.392	mg/Kg			02/21/24 13:06	1

Surrogate Summary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-39547-2	SB-8-S-2'-240216	89	99
880-39547-4	SB-9-S-2'-240216	72	108
880-39547-6	SB-10-S-2'-240216	89	99
880-39547-8	SB-11-S-2'-240216	76	103
880-39547-10	SB-12-S-2'-240216	69 S1-	104
LCS 880-73897/1-A	Lab Control Sample	88	122
LCSD 880-73897/2-A	Lab Control Sample Dup	78	113
MB 880-73897/5-A	Method Blank	69 S1-	104
MB 880-73996/5-A	Method Blank	68 S1-	106

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-39547-2	SB-8-S-2'-240216	109	115
880-39547-4	SB-9-S-2'-240216	139 S1+	146 S1+
880-39547-6	SB-10-S-2'-240216	119	123
880-39547-8	SB-11-S-2'-240216	135 S1+	143 S1+
880-39547-10	SB-12-S-2'-240216	125	136 S1+
LCS 880-73653/2-A	Lab Control Sample	88	88
LCSD 880-73653/3-A	Lab Control Sample Dup	88	87
MB 880-73653/1-A	Method Blank	148 S1+	159 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73897/5-A
Matrix: Solid
Analysis Batch: 73993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73897

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/22/24 17:07	02/27/24 00:23	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/22/24 17:07	02/27/24 00:23	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/22/24 17:07	02/27/24 00:23	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/22/24 17:07	02/27/24 00:23	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		02/22/24 17:07	02/27/24 00:23	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/22/24 17:07	02/27/24 00:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*02/22/24 17:07*	*02/27/24 00:23*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*02/22/24 17:07*	*02/27/24 00:23*	*1*

Lab Sample ID: LCS 880-73897/1-A
Matrix: Solid
Analysis Batch: 73993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73897

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1213		mg/Kg		121	70 - 130		
Toluene			0.100	0.09931		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.09610		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1951		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09613		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*

Lab Sample ID: LCSD 880-73897/2-A
Matrix: Solid
Analysis Batch: 73993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73897

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1095		mg/Kg		110	70 - 130	10	35
Toluene			0.100	0.09718		mg/Kg		97	70 - 130	2	35
Ethylbenzene			0.100	0.08667		mg/Kg		87	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1731		mg/Kg		87	70 - 130	12	35
o-Xylene			0.100	0.08481		mg/Kg		85	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: MB 880-73996/5-A
Matrix: Solid
Analysis Batch: 73993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		02/26/24 08:29	02/26/24 11:16	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		02/26/24 08:29	02/26/24 11:16	1

QC Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

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

Lab Sample ID: MB 880-73996/5-A
Matrix: Solid
Analysis Batch: 73993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		02/26/24 08:29	02/26/24 11:16	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		02/26/24 08:29	02/26/24 11:16	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		02/26/24 08:29	02/26/24 11:16	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		02/26/24 08:29	02/26/24 11:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*02/26/24 08:29*	*02/26/24 11:16*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*02/26/24 08:29*	*02/26/24 11:16*	*1*

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

Lab Sample ID: MB 880-73653/1-A
Matrix: Solid
Analysis Batch: 73706

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	21.68	J	50.0	15.0	mg/Kg		02/20/24 11:29	02/21/24 20:15	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		02/20/24 11:29	02/21/24 20:15	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		02/20/24 11:29	02/21/24 20:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*02/20/24 11:29*	*02/21/24 20:15*	*1*
o-Terphenyl	*159*	*S1+*	*70 - 130*	*02/20/24 11:29*	*02/21/24 20:15*	*1*

Lab Sample ID: LCS 880-73653/2-A
Matrix: Solid
Analysis Batch: 73706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	944.0		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	979.2		mg/Kg		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Lab Sample ID: LCSD 880-73653/3-A
Matrix: Solid
Analysis Batch: 73706

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73653

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	964.6		mg/Kg		96	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	984.1		mg/Kg		98	70 - 130	1	20

QC Sample Results

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

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

Lab Sample ID: LCSD 880-73653/3-A
Matrix: Solid
Analysis Batch: 73706

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73653

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	87		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-73620/1-A
Matrix: Solid
Analysis Batch: 73698

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.395	U	5.00	0.395	mg/Kg			02/21/24 11:05	1

Lab Sample ID: LCS 880-73620/2-A
Matrix: Solid
Analysis Batch: 73698

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	234.1		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-73620/3-A
Matrix: Solid
Analysis Batch: 73698

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	235.2		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 880-39547-5 MS
Matrix: Solid
Analysis Batch: 73698

Client Sample ID: SB-10-S-1'-240216
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	64.6		252	310.6		mg/Kg		98	90 - 110		

Lab Sample ID: 880-39547-5 MSD
Matrix: Solid
Analysis Batch: 73698

Client Sample ID: SB-10-S-1'-240216
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	64.6		252	314.0		mg/Kg		99	90 - 110	1	20

QC Association Summary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

GC VOA

Prep Batch: 73897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-2	SB-8-S-2'-240216	Total/NA	Solid	5030B	
880-39547-4	SB-9-S-2'-240216	Total/NA	Solid	5030B	
880-39547-6	SB-10-S-2'-240216	Total/NA	Solid	5030B	
880-39547-8	SB-11-S-2'-240216	Total/NA	Solid	5030B	
880-39547-10	SB-12-S-2'-240216	Total/NA	Solid	5030B	
MB 880-73897/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-73897/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-73897/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 73993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-2	SB-8-S-2'-240216	Total/NA	Solid	8021B	73897
880-39547-4	SB-9-S-2'-240216	Total/NA	Solid	8021B	73897
880-39547-6	SB-10-S-2'-240216	Total/NA	Solid	8021B	73897
880-39547-8	SB-11-S-2'-240216	Total/NA	Solid	8021B	73897
880-39547-10	SB-12-S-2'-240216	Total/NA	Solid	8021B	73897
MB 880-73897/5-A	Method Blank	Total/NA	Solid	8021B	73897
MB 880-73996/5-A	Method Blank	Total/NA	Solid	8021B	73996
LCS 880-73897/1-A	Lab Control Sample	Total/NA	Solid	8021B	73897
LCSD 880-73897/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73897

Prep Batch: 73996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73996/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 74152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-2	SB-8-S-2'-240216	Total/NA	Solid	Total BTEX	
880-39547-4	SB-9-S-2'-240216	Total/NA	Solid	Total BTEX	
880-39547-6	SB-10-S-2'-240216	Total/NA	Solid	Total BTEX	
880-39547-8	SB-11-S-2'-240216	Total/NA	Solid	Total BTEX	
880-39547-10	SB-12-S-2'-240216	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 73653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-2	SB-8-S-2'-240216	Total/NA	Solid	8015NM Prep	
880-39547-4	SB-9-S-2'-240216	Total/NA	Solid	8015NM Prep	
880-39547-6	SB-10-S-2'-240216	Total/NA	Solid	8015NM Prep	
880-39547-8	SB-11-S-2'-240216	Total/NA	Solid	8015NM Prep	
880-39547-10	SB-12-S-2'-240216	Total/NA	Solid	8015NM Prep	
MB 880-73653/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-73653/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-73653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-2	SB-8-S-2'-240216	Total/NA	Solid	8015B NM	73653
880-39547-4	SB-9-S-2'-240216	Total/NA	Solid	8015B NM	73653
880-39547-6	SB-10-S-2'-240216	Total/NA	Solid	8015B NM	73653

QC Association Summary

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

GC Semi VOA (Continued)

Analysis Batch: 73706 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-8	SB-11-S-2'-240216	Total/NA	Solid	8015B NM	73653
880-39547-10	SB-12-S-2'-240216	Total/NA	Solid	8015B NM	73653
MB 880-73653/1-A	Method Blank	Total/NA	Solid	8015B NM	73653
LCS 880-73653/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	73653
LCSD 880-73653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	73653

Analysis Batch: 73840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-2	SB-8-S-2'-240216	Total/NA	Solid	8015 NM	
880-39547-4	SB-9-S-2'-240216	Total/NA	Solid	8015 NM	
880-39547-6	SB-10-S-2'-240216	Total/NA	Solid	8015 NM	
880-39547-8	SB-11-S-2'-240216	Total/NA	Solid	8015 NM	
880-39547-10	SB-12-S-2'-240216	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 73620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-1	SB-8-S-1'-240216	Soluble	Solid	DI Leach	
880-39547-2	SB-8-S-2'-240216	Soluble	Solid	DI Leach	
880-39547-3	SB-9-S-1'-240216	Soluble	Solid	DI Leach	
880-39547-4	SB-9-S-2'-240216	Soluble	Solid	DI Leach	
880-39547-5	SB-10-S-1'-240216	Soluble	Solid	DI Leach	
880-39547-6	SB-10-S-2'-240216	Soluble	Solid	DI Leach	
880-39547-7	SB-11-S-1'-240216	Soluble	Solid	DI Leach	
880-39547-8	SB-11-S-2'-240216	Soluble	Solid	DI Leach	
880-39547-9	SB-12-S-1'-240216	Soluble	Solid	DI Leach	
880-39547-10	SB-12-S-2'-240216	Soluble	Solid	DI Leach	
MB 880-73620/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73620/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-73620/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-39547-5 MS	SB-10-S-1'-240216	Soluble	Solid	DI Leach	
880-39547-5 MSD	SB-10-S-1'-240216	Soluble	Solid	DI Leach	

Analysis Batch: 73698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-39547-1	SB-8-S-1'-240216	Soluble	Solid	300.0	73620
880-39547-2	SB-8-S-2'-240216	Soluble	Solid	300.0	73620
880-39547-3	SB-9-S-1'-240216	Soluble	Solid	300.0	73620
880-39547-4	SB-9-S-2'-240216	Soluble	Solid	300.0	73620
880-39547-5	SB-10-S-1'-240216	Soluble	Solid	300.0	73620
880-39547-6	SB-10-S-2'-240216	Soluble	Solid	300.0	73620
880-39547-7	SB-11-S-1'-240216	Soluble	Solid	300.0	73620
880-39547-8	SB-11-S-2'-240216	Soluble	Solid	300.0	73620
880-39547-9	SB-12-S-1'-240216	Soluble	Solid	300.0	73620
880-39547-10	SB-12-S-2'-240216	Soluble	Solid	300.0	73620
MB 880-73620/1-A	Method Blank	Soluble	Solid	300.0	73620
LCS 880-73620/2-A	Lab Control Sample	Soluble	Solid	300.0	73620
LCSD 880-73620/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73620
880-39547-5 MS	SB-10-S-1'-240216	Soluble	Solid	300.0	73620
880-39547-5 MSD	SB-10-S-1'-240216	Soluble	Solid	300.0	73620

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-8-S-1'-240216

Lab Sample ID: 880-39547-1
Matrix: Solid
Date Collected: 02/16/24 09:00
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 12:05	CH	EET MID

Client Sample ID: SB-8-S-2'-240216

Lab Sample ID: 880-39547-2
Matrix: Solid
Date Collected: 02/16/24 09:10
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.98 g	5 mL	73897	02/22/24 17:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73993	02/27/24 02:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74152	02/27/24 02:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			73840	02/21/24 23:49	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	73653	02/20/24 11:29	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73706	02/21/24 23:49	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 12:10	CH	EET MID

Client Sample ID: SB-9-S-1'-240216

Lab Sample ID: 880-39547-3
Matrix: Solid
Date Collected: 02/16/24 09:40
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.00 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 12:15	CH	EET MID

Client Sample ID: SB-9-S-2'-240216

Lab Sample ID: 880-39547-4
Matrix: Solid
Date Collected: 02/16/24 09:50
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.95 g	5 mL	73897	02/22/24 17:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73993	02/27/24 03:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74152	02/27/24 03:12	SM	EET MID
Total/NA	Analysis	8015 NM		1			73840	02/22/24 00:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	73653	02/20/24 11:29	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73706	02/22/24 00:13	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		5			73698	02/21/24 12:19	CH	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-10-S-1'-240216

Lab Sample ID: 880-39547-5
Matrix: Solid
Date Collected: 02/16/24 10:20
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 12:24	CH	EET MID

Client Sample ID: SB-10-S-2'-240216

Lab Sample ID: 880-39547-6
Matrix: Solid
Date Collected: 02/16/24 10:30
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	73897	02/22/24 17:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73993	02/27/24 03:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74152	02/27/24 03:33	SM	EET MID
Total/NA	Analysis	8015 NM		1			73840	02/22/24 00:36	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	73653	02/20/24 11:29	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73706	02/22/24 00:36	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 12:38	CH	EET MID

Client Sample ID: SB-11-S-1'-240216

Lab Sample ID: 880-39547-7
Matrix: Solid
Date Collected: 02/16/24 11:00
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 12:43	CH	EET MID

Client Sample ID: SB-11-S-2'-240216

Lab Sample ID: 880-39547-8
Matrix: Solid
Date Collected: 02/16/24 11:10
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	73897	02/22/24 17:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73993	02/27/24 03:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74152	02/27/24 03:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			73840	02/22/24 00:59	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	73653	02/20/24 11:29	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73706	02/22/24 00:59	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		5			73698	02/21/24 12:57	CH	EET MID

Lab Chronicle

Client: ARCADIS US Inc
Project/Site: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Client Sample ID: SB-12-S-1'-240216

Lab Sample ID: 880-39547-9
Matrix: Solid
Date Collected: 02/16/24 11:40
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 13:01	CH	EET MID

Client Sample ID: SB-12-S-2'-240216

Lab Sample ID: 880-39547-10
Matrix: Solid
Date Collected: 02/16/24 11:50
Date Received: 02/19/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.00 g	5 mL	73897	02/22/24 17:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73993	02/27/24 05:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74152	02/27/24 05:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			73840	02/22/24 01:23	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	73653	02/20/24 11:29	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73706	02/22/24 01:23	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	73620	02/20/24 09:47	SA	EET MID
Soluble	Analysis	300.0		1			73698	02/21/24 13:06	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: LSAU 24

Job ID: 880-39547-1
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: LSAU 24

Job ID: 880-39547-1
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: LSAU 24

Job ID: 880-39547-1
SDG: Lovington NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-39547-1	SB-8-S-1'-240216	Solid	02/16/24 09:00	02/19/24 09:05
880-39547-2	SB-8-S-2'-240216	Solid	02/16/24 09:10	02/19/24 09:05
880-39547-3	SB-9-S-1'-240216	Solid	02/16/24 09:40	02/19/24 09:05
880-39547-4	SB-9-S-2'-240216	Solid	02/16/24 09:50	02/19/24 09:05
880-39547-5	SB-10-S-1'-240216	Solid	02/16/24 10:20	02/19/24 09:05
880-39547-6	SB-10-S-2'-240216	Solid	02/16/24 10:30	02/19/24 09:05
880-39547-7	SB-11-S-1'-240216	Solid	02/16/24 11:00	02/19/24 09:05
880-39547-8	SB-11-S-2'-240216	Solid	02/16/24 11:10	02/19/24 09:05
880-39547-9	SB-12-S-1'-240216	Solid	02/16/24 11:40	02/19/24 09:05
880-39547-10	SB-12-S-2'-240216	Solid	02/16/24 11:50	02/19/24 09:05

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

Chain of Custody Record

880-39547 Chain of Custody

Client Information	Sampler: Heath Boyd	Lab PM: Builes, John	Carrier Tracking No(s):	Page 14 of 14 → 1 of 1
Client Contact: Mr Morgan Jordan	Phone: 575-942-0292	E-Mail: John.Builes@et.eurofinsus.com	State of Origin: NM	
Company: ARCADIS US Inc	PWSID:			Job #:
Address: 1004 North Big Spring Suite 300	Due Date Requested:			
City: Midland	TAT Requested (days): Standard			
State, Zip: TX, 79701	Compliance Project: Δ Yes Δ No			
Phone: 281-644-9437(Tel)	PO #: Purchase Order Requested			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: LSAU 24	Project #: ~~88082020~~ 30209829			
Site: Lovington, NM	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_0SGFM_28R, 8015MOD_NM, 8021B	300_0SGFM_28R	Total Number of Containers	Special Instructions/Note:
			Preservation Code:				N			
SB-8-S-1'-240216	2/16/24	900	G	Solid				X		
SB-8-S-2'-240216		910					X	X		
SB-9-S-1'-240216		940						X		
SB-9-S-2'-240216		950					X	X		
SB-10-S-1'-240216		1020						X		
SB-10-S-2'-240216		1030					X	X		
SB-11-S-1'-240216		1106						X		
SB-11-S-2'-240216		1110					X	X		
SB-12-S-1'-240216		1140						X		
SB-12-S-2'-240216	X	1150	X	X			X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 2/16/24 1545	Company: Arcadis	Received by: Daliely Gonzales	Date/Time: 2/19/24	Company	
Relinquished by: Dafhnne Gonzalez	Date/Time:	Company	Received by:	Date/Time: 905	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: 3.0/2.9

Login Sample Receipt Checklist

Client: ARCADIS US Inc

Job Number: 880-39547-1
SDG Number: Lovington NM

Login Number: 39547
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 4/25/2024 2:38:27 PM

JOB DESCRIPTION

LSAU 24
Lovington, NM

JOB NUMBER

880-42513-1

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
4/25/2024 2:38:27 PM

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

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Laboratory Job ID: 880-42513-1
SDG: Lovington, NM

Table of Contents

Definitions/Glossary

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: Arcadis U.S., Inc.
Project: LSAU 24

Job ID: 880-42513-1

Job ID: 880-42513-1 Eurofins Midland

Job Narrative
880-42513-1

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 4/22/2024 7:31 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 2.0°C.

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

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

Client Sample ID: SB-13-0-1'
Lab Sample ID: 880-42513-1
Date Collected: 04/19/24 08:50
Matrix: Solid
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.19	J	5.04	0.398	mg/Kg			04/23/24 09:20	1

Client Sample ID: SB-13-2'-3'
Lab Sample ID: 880-42513-2
Date Collected: 04/19/24 09:00
Matrix: Solid
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.8		5.05	0.399	mg/Kg			04/23/24 09:39	1

Client Sample ID: SB-14-4'-5'
Lab Sample ID: 880-42513-3
Date Collected: 04/19/24 09:40
Matrix: Solid
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1920		25.2	1.99	mg/Kg			04/23/24 09:46	5

Client Sample ID: SB-14-10'-11'
Lab Sample ID: 880-42513-4
Date Collected: 04/19/24 10:40
Matrix: Solid
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100		25.2	1.99	mg/Kg			04/23/24 09:52	5

Client Sample ID: SB-14-12'-13'
Lab Sample ID: 880-42513-5
Date Collected: 04/19/24 11:10
Matrix: Solid
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	780		5.02	0.397	mg/Kg			04/23/24 09:58	1

Client Sample ID: SB-15-0-1'
Lab Sample ID: 880-42513-6
Date Collected: 04/19/24 11:30
Matrix: Solid
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.90	J	4.98	0.393	mg/Kg			04/23/24 10:17	1

Client Sample ID: SB-15-2'-3'
Lab Sample ID: 880-42513-7
Date Collected: 04/19/24 11:45
Matrix: Solid
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.6		4.99	0.394	mg/Kg			04/23/24 10:24	1

Client Sample Results

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

Client Sample ID: SB-16-2'-3'

Lab Sample ID: 880-42513-8
Matrix: Solid
Date Collected: 04/19/24 12:15
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.08		5.01	0.396	mg/Kg			04/23/24 10:30	1

Client Sample ID: SB-16-4'-5'

Lab Sample ID: 880-42513-9
Matrix: Solid
Date Collected: 04/19/24 12:40
Date Received: 04/22/24 07:31

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	399		5.02	0.397	mg/Kg			04/23/24 10:36	1

QC Sample Results

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-78904/1-A
Matrix: Solid
Analysis Batch: 78975

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			04/23/24 09:01	1

Lab Sample ID: LCS 880-78904/2-A
Matrix: Solid
Analysis Batch: 78975

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.2		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-78904/3-A
Matrix: Solid
Analysis Batch: 78975

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	247.1		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-42513-1 MS
Matrix: Solid
Analysis Batch: 78975

Client Sample ID: SB-13-0-1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	4.19	J	252	247.2		mg/Kg		96	90 - 110		

Lab Sample ID: 880-42513-1 MSD
Matrix: Solid
Analysis Batch: 78975

Client Sample ID: SB-13-0-1'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	4.19	J	252	245.6		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

HPLC/IC

Leach Batch: 78904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42513-1	SB-13-0-1'	Soluble	Solid	DI Leach	
880-42513-2	SB-13-2'-3'	Soluble	Solid	DI Leach	
880-42513-3	SB-14-4'-5'	Soluble	Solid	DI Leach	
880-42513-4	SB-14-10'-11'	Soluble	Solid	DI Leach	
880-42513-5	SB-14-12'-13'	Soluble	Solid	DI Leach	
880-42513-6	SB-15-0-1'	Soluble	Solid	DI Leach	
880-42513-7	SB-15-2'-3'	Soluble	Solid	DI Leach	
880-42513-8	SB-16-2'-3'	Soluble	Solid	DI Leach	
880-42513-9	SB-16-4'-5'	Soluble	Solid	DI Leach	
MB 880-78904/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-78904/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-78904/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-42513-1 MS	SB-13-0-1'	Soluble	Solid	DI Leach	
880-42513-1 MSD	SB-13-0-1'	Soluble	Solid	DI Leach	

Analysis Batch: 78975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-42513-1	SB-13-0-1'	Soluble	Solid	300.0	78904
880-42513-2	SB-13-2'-3'	Soluble	Solid	300.0	78904
880-42513-3	SB-14-4'-5'	Soluble	Solid	300.0	78904
880-42513-4	SB-14-10'-11'	Soluble	Solid	300.0	78904
880-42513-5	SB-14-12'-13'	Soluble	Solid	300.0	78904
880-42513-6	SB-15-0-1'	Soluble	Solid	300.0	78904
880-42513-7	SB-15-2'-3'	Soluble	Solid	300.0	78904
880-42513-8	SB-16-2'-3'	Soluble	Solid	300.0	78904
880-42513-9	SB-16-4'-5'	Soluble	Solid	300.0	78904
MB 880-78904/1-A	Method Blank	Soluble	Solid	300.0	78904
LCS 880-78904/2-A	Lab Control Sample	Soluble	Solid	300.0	78904
LCSD 880-78904/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	78904
880-42513-1 MS	SB-13-0-1'	Soluble	Solid	300.0	78904
880-42513-1 MSD	SB-13-0-1'	Soluble	Solid	300.0	78904

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

Client Sample ID: SB-13-0-1'
Lab Sample ID: 880-42513-1
Date Collected: 04/19/24 08:50
Matrix: Solid
Date Received: 04/22/24 07:31

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	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78975	04/23/24 09:20	SMC	EET MID

Client Sample ID: SB-13-2'-3'
Lab Sample ID: 880-42513-2
Date Collected: 04/19/24 09:00
Matrix: Solid
Date Received: 04/22/24 07:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78975	04/23/24 09:39	SMC	EET MID

Client Sample ID: SB-14-4'-5'
Lab Sample ID: 880-42513-3
Date Collected: 04/19/24 09:40
Matrix: Solid
Date Received: 04/22/24 07:31

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	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78975	04/23/24 09:46	SMC	EET MID

Client Sample ID: SB-14-10'-11'
Lab Sample ID: 880-42513-4
Date Collected: 04/19/24 10:40
Matrix: Solid
Date Received: 04/22/24 07:31

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	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	78975	04/23/24 09:52	SMC	EET MID

Client Sample ID: SB-14-12'-13'
Lab Sample ID: 880-42513-5
Date Collected: 04/19/24 11:10
Matrix: Solid
Date Received: 04/22/24 07:31

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	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78975	04/23/24 09:58	SMC	EET MID

Client Sample ID: SB-15-0-1'
Lab Sample ID: 880-42513-6
Date Collected: 04/19/24 11:30
Matrix: Solid
Date Received: 04/22/24 07:31

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	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78975	04/23/24 10:17	SMC	EET MID

Lab Chronicle

Client: Arcadis U.S., Inc.
Project/Site: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

Client Sample ID: SB-15-2'-3'

Lab Sample ID: 880-42513-7
Matrix: Solid
Date Collected: 04/19/24 11:45
Date Received: 04/22/24 07:31

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	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78975	04/23/24 10:24	SMC	EET MID

Client Sample ID: SB-16-2'-3'

Lab Sample ID: 880-42513-8
Matrix: Solid
Date Collected: 04/19/24 12:15
Date Received: 04/22/24 07:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78975	04/23/24 10:30	SMC	EET MID

Client Sample ID: SB-16-4'-5'

Lab Sample ID: 880-42513-9
Matrix: Solid
Date Collected: 04/19/24 12:40
Date Received: 04/22/24 07:31

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	78904	04/22/24 09:19	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	78975	04/23/24 10:36	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: LSAU 24

Job ID: 880-42513-1
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: LSAU 24

Job ID: 880-42513-1
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: LSAU 24

Job ID: 880-42513-1
SDG: Lovington, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-42513-1	SB-13-0-1'	Solid	04/19/24 08:50	04/22/24 07:31
880-42513-2	SB-13-2'-3'	Solid	04/19/24 09:00	04/22/24 07:31
880-42513-3	SB-14-4'-5'	Solid	04/19/24 09:40	04/22/24 07:31
880-42513-4	SB-14-10'-11'	Solid	04/19/24 10:40	04/22/24 07:31
880-42513-5	SB-14-12'-13'	Solid	04/19/24 11:10	04/22/24 07:31
880-42513-6	SB-15-0-1'	Solid	04/19/24 11:30	04/22/24 07:31
880-42513-7	SB-15-2'-3'	Solid	04/19/24 11:45	04/22/24 07:31
880-42513-8	SB-16-2'-3'	Solid	04/19/24 12:15	04/22/24 07:31
880-42513-9	SB-16-4'-5'	Solid	04/19/24 12:40	04/22/24 07:31

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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

880-42513 Chain of Custody

www.xenco.com Page 1 of 1

Project Manager:	Morgan Jordan	Bill to: (if different)	
Company Name:	Arcadis	Company Name:	
Address:	1004 N Big Springs Suite 300	Address:	
City, State ZIP:	Midland, TX 79701	City, State ZIP:	
Phone:	281-644-9437	Email:	Morgan.Jordan@Arcadis.COM

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other:

Project Name:	LSAU 24	Turn Around	☑ Routine ☐ Rush
Project Number:	30209829	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:	TE9		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	0.2		
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.1		
Total Containers:		Corrected Temperature:	3.6		

ANALYSIS REQUEST — Parameters: 300_ORGFM_28D

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	300_ORGFM_28D	Sample Comments
SB-13-0-1'	S	4/19/24	850		G	1	X	
SB-13-2'-3'			900			1	X	
SB-14-4'-5'			940			1	X	
SB-14-10'-11			1040			1	X	
SB-14-12'-13'			1110			1	X	
SB-15-0-1'			1130			1	X	
SB-15-2-3'			1145			1	X	
SB-16-2'-3'			1215			1	X	
SB-16-4'-5'	X	X	1240		X	1	X	

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

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 . 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	Dallely Gonzales	4/19/24 1420	2 Dallely Gonzales	[signature]	4/22/24 731
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 880-42513-1
SDG Number: Lovington, NM

Login Number: 42513
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Appendix C

NMOCD Correspondence

From: Jordan, Morgan
Sent: Monday, May 6, 2024 10:53 AM
To: Krueger, Lauren
Subject: FW: [EXTERNAL] NMOCD Deadline Extension Request - City of Lovington Surface Owned Sites

Thank You,

Morgan Jordan | Project Manager | douglas.jordan@arcadis.com
Arcadis | Arcadis U.S., Inc.
98 San Jacinto Blvd, Suite 414 | Austin, TX | 78701 | USA
M. +1 281 644 9437

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Tuesday, April 30, 2024 3:41 PM
To: Foord, Scott <William.Foord@arcadis.com>
Cc: Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Request - City of Lovington Surface Owned Sites

Scott,

Based on the age of the releases, OCD will grant the following extension:

1. Inc. No. nPAC0617931420 – LPU 45 New due date is June 26, 2024 (60 days)
2. Inc. No. nPAC0617434320 – LPU Injection Station New due date is June 26, 2024 (60 days)
3. Inc. No. nPAC0711538356 – LPU 118 New due date is June 30, 2024 (60 days)
4. Inc. No. nPAC0706832335 – LSAU 24 New due date is June 26, 2024 (60 days)
5. Inc. No. nGRL0821729742 – LSAU 73 New due date is June 30, 2024 (60 days)
6. Inc. No. NGRL0916650301 – LSAU 82 New due date is June 30, 2024 (60 days)

Please include a copy of this email in the reports for each of the above referenced incident numbers.

Thank you,
Brittany Hall ● Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110

505.517.5333 | Brittany.Hall@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd/

Please be advised that the new Digital C-141 is live as of December 1, 2023. Please review the new Digital C-141 submission Dec 1, 2023 Guidance document posted on the EMRND Website prior to submitting any C-141s. The guidance documents can be found at https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/ or https://www.emnrd.nm.gov/ocd/ocd-forms/.

From: Foord, Scott <William.Foord@arcadis.com>
Sent: Monday, April 29, 2024 8:07 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Request - City of Lovington Surface Owned Sites

Brittany,

Please see comments below specific to the status for each of these sites. We are currently summarizing the analytical data and preparing remediation work plans for each site that has been recently assessed. Chevron Legal has been and is currently in communication with the City of Lovington (surface owner) and we anticipate access confirmation soon. This has been ongoing since at least late 2022 to early 2023. Please let me know if you need any additional information.

1. Inc. No. nPAC0617931420 – LPU 45 – Additional soil assessment activities completed in February 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
2. Inc. No. nPAC0617434320 – LPU Injection Station – Additional soil assessment activities completed in February and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
3. Inc. No. nPAC0711538356 – LPU 118 – The latest soil assessment was completed in March 2023 and a Site Characterization and Remediation Work Plan was submitted to NMOCD in December 2023. The 2023 Site Characterization and Remediation Work Plan was rejected and is currently being revised to address NMOCD comments for resubmittal to the Portal.
4. Inc. No. nPAC0706832335 – LSAU 24 - Additional soil assessment activities completed in February and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
5. Inc. No. nGRL0821729742 – LSAU 73 – The latest soil assessment was completed in March 2023 and a Site Characterization and Remediation Work Plan was submitted to NMOCD in December 2023. The 2023 Site Characterization and Remediation Work Plan was rejected and is currently being revised to address NMOCD comments for resubmittal to the Portal.
6. Inc. No. NGRL0916650301 – LSAU 82 – – The latest soil assessment was completed in March 2023 and a Site Characterization and Remediation Work Plan was submitted to NMOCD in December 2023. The 2023 Site Characterization and Remediation Work Plan was rejected and is currently being revised to address NMOCD comments for resubmittal to the Portal.

Thanks,
Scott
Direct 713-953-4853
Cell 281-725-7477

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Wednesday, April 24, 2024 11:14 AM

To: Foord, Scott <William.Foord@arcadis.com>
Cc: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Request - City of Lovington Surface Owned Sites

Mr. Foord,

After reviewing the previous rejections for the 6 below mentioned incident numbers, the most recent sampling dates in those reports are all over a year old (samples are dated 3/28 or 3/29/2023). These reports were also not submitted to the OCD until December 2023.

Could you please clarify if any additional work has been done at the sites, and how long obtaining access agreements with the City of Lovington has been ongoing?

Thank you,
Brittany Hall ● Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.517.5333 | Brittany.Hall@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd/

Please be advised that the new Digital C-141 is live as of December 1, 2023. Please review the new Digital C-141 submission Dec 1, 2023 Guidance document posted on the EMRND Website prior to submitting any C-141s. The guidance documents can be found at https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/ or https://www.emnrd.nm.gov/ocd/ocd-forms/.

From: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Sent: Wednesday, April 24, 2024 8:05 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Subject: Fw: [EXTERNAL] NMOCD Deadline Extension Request - City of Lovington Surface Owned Sites

FYI. All are under your review.

Nelson V.

From: Foord, Scott <William.Foord@arcadis.com>
Sent: Wednesday, April 3, 2024 3:41 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Brand, Chris M <Chrisbrand@chevron.com>; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>
Subject: [EXTERNAL] NMOCD Deadline Extension Request - City of Lovington Surface Owned Sites

Nelson,

Chevron is currently working on finalizing access agreements with the City of Lovington for the following sites. The City owns the surface. We apologize for the delays, but this has been a back and forth process with all parties and is still ongoing. We would like to please request 90-day extensions for the 4/26/2024 through 4/30/2024 deadlines to complete remediation plans or closure reports for the following sites:

1. Inc. No. nPAC0617931420 – LPU 45
2. Inc. No. nPAC0617434320 – LPU Injection Station
3. Inc. No. nPAC0711538356 – LPU 118
4. Inc. No. nPAC0706832335 – LSAU 24
5. Inc. No. nGRL0821729742 – LSAU 73
6. Inc. No. NGRL0916650301 – LSAU 82

Please let me know if you need any additioanl information.

Thanks,
Scott

Scott Foord PG, RSO, CPM
AFS Group Service Leader
Arcadis U.S., Inc.
10205 Westheimer Road Suite 800 | Houston, Texas | 77042 | USA
T +1 713 953 4853
M +1 281 725 7477
www.arcadis.com

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Arcadis U.S., Inc.
10205 Westheimer Road, Suite 800
Houston
Texas 77042
Phone: 713 953 4800
Fax: 713 977 4620
www.arcadis.com

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 357230

QUESTIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 357230
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nPAC0706832335**
Incident Name	**NPAC0706832335 LOVINGTON SAN ANDRES UNIT #024 @ 30-025-03781**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-025-03781] LOVINGTON SAN ANDRES UNIT #024**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	LOVINGTON SAN ANDRES UNIT #024
Date Release Discovered	02/14/2007
Surface Owner	Private

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: Corrosion | Fitting | Produced Water | Released: 200 BBL | Recovered: 30 BBL | Lost: 170 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 357230
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 06/25/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
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1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
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1220 S. St Francis Dr., Santa Fe, NM 87505
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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 357230
	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 100 and 500 (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 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Zero feet, overlying, or within area
A wetland	Between 300 and 500 (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	Yes

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)	2570
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	83.9
GRO+DRO (EPA SW-846 Method 8015M)	83.9
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	07/25/2024
On what date will (or did) the final sampling or liner inspection occur	07/29/2024
On what date will (or was) the remediation complete(d)	08/25/2024
What is the estimated surface area (in square feet) that will be reclaimed	16000
What is the estimated volume (in cubic yards) that will be reclaimed	3000
What is the estimated surface area (in square feet) that will be remediated	16000
What is the estimated volume (in cubic yards) that will be remediated	3000
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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1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
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Phone:(505) 476-3470 Fax:(505) 476-3462

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 357230
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	R360 Artesia LLC LANDFARM [fEEM0112340644]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 06/25/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 357230
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 357230
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Action 357230

CONDITIONS

Operator:	OGRID:
CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	4323
	Action Number: 357230
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation plan conditionally approved. Vertical delineation was not achieved and must be addressed during remediation activities. All side wall and base samples must be at or below the most stringent closure criteria found in Table I.	6/26/2024
bhall	The release area will need to be reclaimed at the time of remediation pursuant to 19.15.29.13 NMAC, including reseeding in the first favorable growing season.	6/26/2024
bhall	Submit a complete and accurate closure and/or reclamation report through the OCD Permitting website by 9/27/2024. Failure to submit a complete report by 9/27/2024 may result in compliance and enforcement penalties pursuant to 19.15.5 NMAC.	6/26/2024