



Chris Brand
Environmental Remediation/ Facility Decom Advisor

VIA ELECTRONIC MAIL

June 11, 2024

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

Re: Lovington San Andres Unit #082
Soil Remediation Work Plan
Incident No. NGRL0916650301
Case No. 1RP-2208

Dear Whom it May Concern:

Please find enclosed for your files, copies of the following:
Lovington San Andres Unit #082 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 #082

cc. Scott Foord – Arcadis
Morgan Jordan – Arcadis

Chris Brand
Environmental Remediation/ Facility Decom Advisor
6301 Deauville Blvd, Midland, TX 79706
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Chevron Environmental Management Company

2024 Work Plan

Lovington San Andres Unit #082

Lea County, New Mexico

Incident # nGRL0916650301

June 2024

2024 Work Plan
Lovington San Andres Unit #082

2024 Work Plan

Lovington San Andres Unit #082
Incident # nGRL0916650301
Lea County, New Mexico

June 2024

Prepared By:
Arcadis U.S., Inc.
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Prepared For:
Chris Brand
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CEMC
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Scott Foord, PG
Program Manager

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www.arcadis.com

2024 Work Plan
Lovington San Andres Unit #082

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2024 Work Plan
Lovington San Andres Unit #082

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 #082 (Site) located at coordinates: 32.872284, -103.286400. 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 6.49 miles southeast of the City of Lovington in Unit O, Section 31, Township 16 South, Range 37 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 # nGRL0916650301

According to the Initial C-141 Form, on June 8, 2009, internal corrosion of a flowline released approximately 9 barrels (bbls) of produced water. The Initial C-141 Form stated that the wellhead was shut in and the line emptied to prevent any further releases. The Initial C-141 Form was submitted to the NMOCD on June 12, 2009, and approved by NMOCD on June 12, 2009. The release was assigned remediation permit number 1RP-2208 and Incident number nGRL0916650301. The Initial C-141 Form for this release is included as **Appendix A**.

3 Site Characterization

After a review of the New Mexico Office of State Engineers (NMOSE) there are several groundwater monitoring wells approximately 0.48 miles west of the Site associated with the Chevron Lovington Paddock Unit # 096 Site (Case No. 1RP-1665) with depth to groundwater verified at greater than 100 feet (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 0.50 miles;
- Distance to occupied permanent residence, school, hospital, institution, or church: Between 0.50 and 1 mile;
- Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes: Between 500 and 1,000 feet;
- Distance to any other fresh water well or spring: Between 500 and 1,000 feet;

2024 Work Plan
 Lovington San Andres Unit #082

- Distance to incorporated municipal boundaries or a defined municipal fresh water well field: 0 feet, overlying, or within area;
- Distance to wetland: Between 1,000 feet and 0.50 mile;
- Distance to subsurface mine: >5 miles;
- Distance to (non-karst) unstable area: >5 miles;
- Categorize the risk of this well/site being in a karst geology: Low;
- Distance to a 100-year floodplain: Between 1 and 5 miles;
- Did the release impact areas not on an exploration, development, production, or storage site? No

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 February 2021, and subsequently in March 2023, Arcadis performed site assessment activities to evaluate soil impacts stemming from the release. A total of nine (9) sample points (SB-1 through SB-9) were advanced to depths ranging from the surface to 6 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**. A photo log is included in **Appendix B**. Boring logs are included in **Appendix C**. Soil samples were collected for chemical analyses, placed directly into laboratory-provided sample containers, stored on ice, and transported under the proper chain-of-custody protocol to Eurofins Laboratories in Midland, Texas.

The soil samples were analyzed for BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH by EPA Method 8015, and chloride by EPA method 300.0. Soil samples analyzed for BTEX were reported with concentrations ranging from 0.000355 J mg/kg (SB-7) to 0.000395 J mg/kg (SB-9). Soil samples analyzed for TPH were reported with concentrations ranging from 16.6 J mg/kg (SB-1) to 54.4 mg/kg (SB-6). Soil samples analyzed for chloride were reported with concentrations ranging from 7.83 mg/kg (SB-6) to 4,030 mg/kg (SB-2).

2024 Work Plan
Lovington San Andres Unit #082

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

6 Proposed Work Plan

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

The proposed excavation area encompasses a surface area of approximately 1,850 square feet. An estimated 300 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 1,850 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 82
Lea County, New Mexico



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 (>4 feet)			10	--	--	--	50	--	--	--	--	100	600
Restoration Requirements			--	--	--	--	--	--	--	--	--	*100	*600
SB-1	0-0.5'	02/01/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	17.1 J	<15.0	17.1 J	<15.0	17.1 J	8.84
	1'-2'	02/01/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	16.2 J	<15.0	16.2 J	<15.0	16.2 J	9.70
	3'-4'	02/01/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	19.7 J	<15.0	19.7 J	<15.0	19.7 J	14.2
DUP (SB-1)	3'-4'	02/01/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	23.9 J	<14.9	23.9 J	<14.9	23.9 J	16.3
SB-2	0-0.5'	02/01/21	<0.000387	<0.000458	<0.000568	<0.000346	<0.000346	23.1 J	<15.0	23.1 J	<15.0	23.1 J	4,030
	1'-2'	02/01/21	<0.000387	<0.000458	<0.000568	<0.000346	<0.000346	21.2 J	<15.0	21.2 J	<15.0	21.2 J	1,130
	3'-4'	02/01/21	<0.000382	<0.000452	<0.000560	<0.000342	<0.000342	23.5 J	<15.0	23.5 J	<15.0	23.5 J	1,160
	5'-6'	02/01/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	21.5 J	<15.0	21.5 J	<15.0	21.5 J	634
SB-3	0-0.5'	02/01/21	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	19.4 J	<14.9	19.4 J	<14.9	19.4 J	11.6
	1'-2'	02/01/21	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	18.7 J	<15.0	18.7 J	<15.0	18.7 J	12.1
	3'-4'	02/01/21	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	16.6 J	<15.0	16.6 J	<15.0	16.6 J	19.5
	5'-6'	02/01/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	19.5 J	<15.0	19.5 J	<15.0	19.5 J	34.5
SB-4	0-0.5'	02/01/21	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	18.0 J	<15.0	18.0 J	<15.0	18.0 J	176
	1'-2'	02/01/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	17.6 J	<14.9	17.6 J	<14.9	17.6 J	205
	3'-4'	02/01/21	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	18.9 J	<15.0	18.9 J	<15.0	18.9 J	192
	5'-6'	02/01/21	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	25.4 J	<15.0	25.4 J	<15.0	25.4 J	247
SB-5	0-0.5'	02/01/21	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	28.6 J	<14.9	28.6 J	<14.9	28.6 J	8.41
	1'-2'	02/01/21	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	25.5 J	<15.0	25.5 J	<15.0	25.5 J	43.4
	3'-4'	02/01/21	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	24.4 J	<15.0	24.4 J	<15.0	24.4 J	150
SB-6	0-0.5'	02/01/21	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	22.9 J	<15.0	22.9 J	<15.0	22.9 J	7.83
	1'-2'	02/01/21	<0.000389	<0.000460	<0.000570	<0.000348	<0.000348	39.1 J	<15.0	39.1 J	15.3 J	54.4	18.3
	3'-4'	02/01/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	38.2 J	<14.9	38.2 J	<14.9	38.2 J	86.1
	5'-6'	02/01/21	<0.000382	<0.000452	<0.000560	<0.000342	<0.000342	35.3 J	<15.0	35.3 J	<15.0	35.3 J	38.2
SB-7	0-0.5'	03/29/23	<0.000386	<0.000457	<0.000566	0.000355 J	0.000355 J	29.5 J B	<14.9	29.5 J B	<14.9	29.5 J	1,140
	2'	03/29/23	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	24.6 J B	<15.0	24.6 J B	<15.0	24.6 J	713
	4'	03/29/23	<0.000383	<0.000453	<0.000562	<0.000342	<0.000342	23.4 J B	<15.0	23.4 J B	<15.0	23.4 J	432
SB-8	0-0.5'	03/29/23	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	31.5 J B	<14.9	31.5 J B	<14.9	31.5 J	2,170
	2'	03/29/23	<0.000383	<0.000453	<0.000562	<0.000342	<0.000342	29.7 J B	<15.0	29.7 J B	<15.0	29.7 J	1,500
	4'	03/29/23	<0.000384	<0.000455	<0.000564	<0.000343	<0.000343	26.0 J B	<14.9	26.0 J B	<14.9	26.0 J	628
SB-9	0-0.5'	03/29/23	< 0.000384	<0.000455	<0.000564	<0.000343	<0.000343	19.5 J B	<15.0	19.5 J B	<15.0	19.5 J	357
	2'	03/29/23	<0.000387	<0.000459	<0.000568	0.000395 J	0.000395 J	30.0 J B	<14.9	30.0 J B	<14.9	30.0 J	274
	4'	03/29/23	<0.000388	<0.000460	<0.000570	<0.000347	<0.000347	44.2 J B	<15.0	44.2 J B	<15.0	44.2 J	541

Legend:

BOLD = Analytes exceeding Restoration Requirement

J: Result is less than the Reporting Limit but greater than or equal to the MDL and the concentration is an approximate value

B: Compound was found in the blank and sample.

'<' indicates the analyte was not detected at or above the Method Detection Limit (MDL)

mg/kg: Milligram per Kilogram

BTEX : Benzene, Toluene, Ethylbenzene, and Total Xylenes

NMAC : New Mexico Administration Code. Criteria based off of depth to groundwater of greater than 100 feet.

TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics

TPH MRO: Total Petroleum Hydrocarbons Motor Oil Range Organics

TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics

Total TPH: GRO + DRO + MRO

Table 1
Soil Analytical Results
Chevron Environmental Management Company
LSAU 82
Lea County, New Mexico



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 (>4 feet)			10	--	--	--	50	--	--	--	--	100	600
Restoration Requirements			--	--	--	--	--	--	--	--	--	*100	*600

*Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018

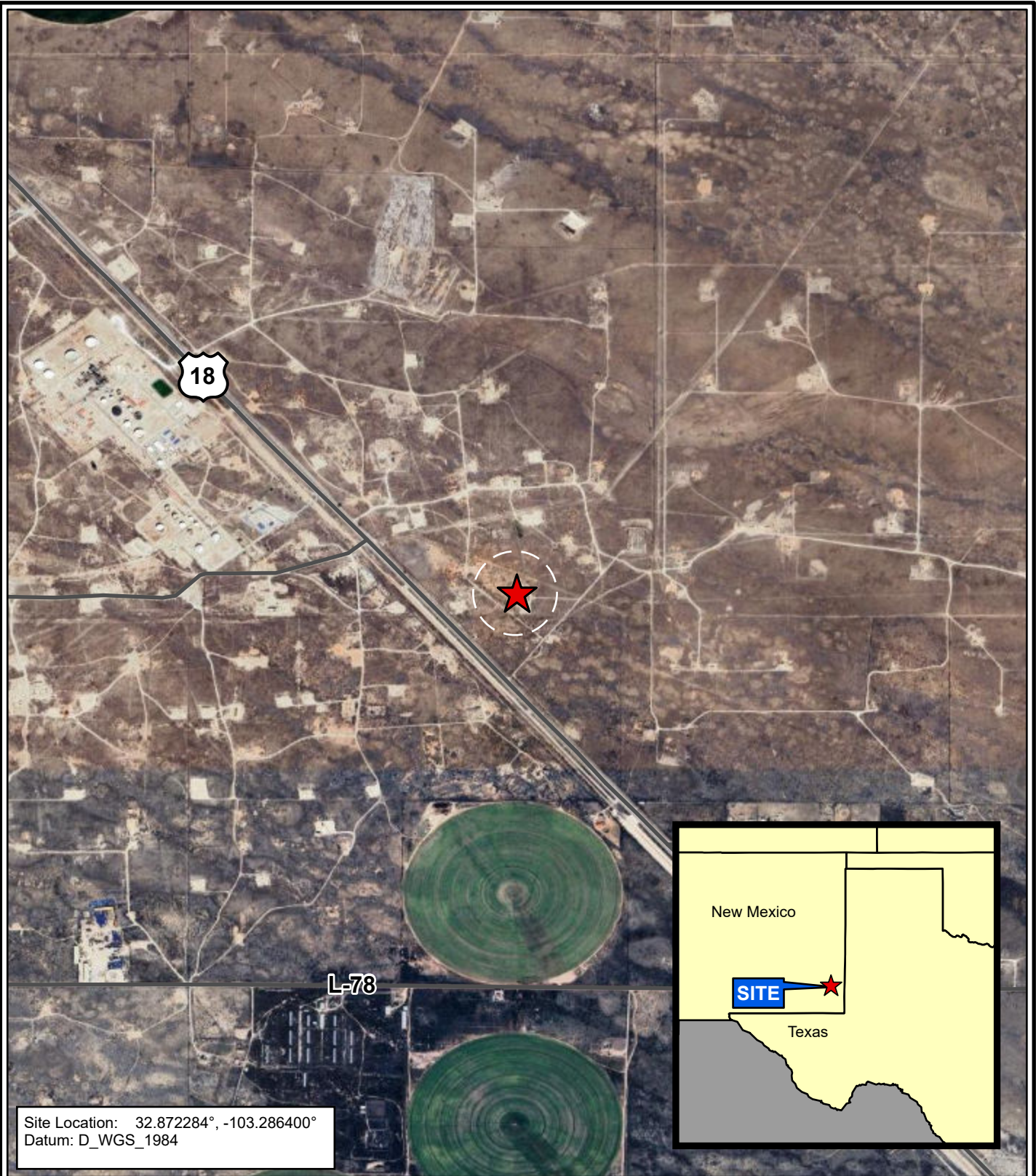
DUP: Duplicate sample

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

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: yadavs0264 : Client (Project #)
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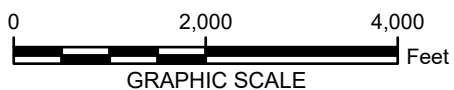


Legend



Site Location

Credits: ESRI Online, Google Earth

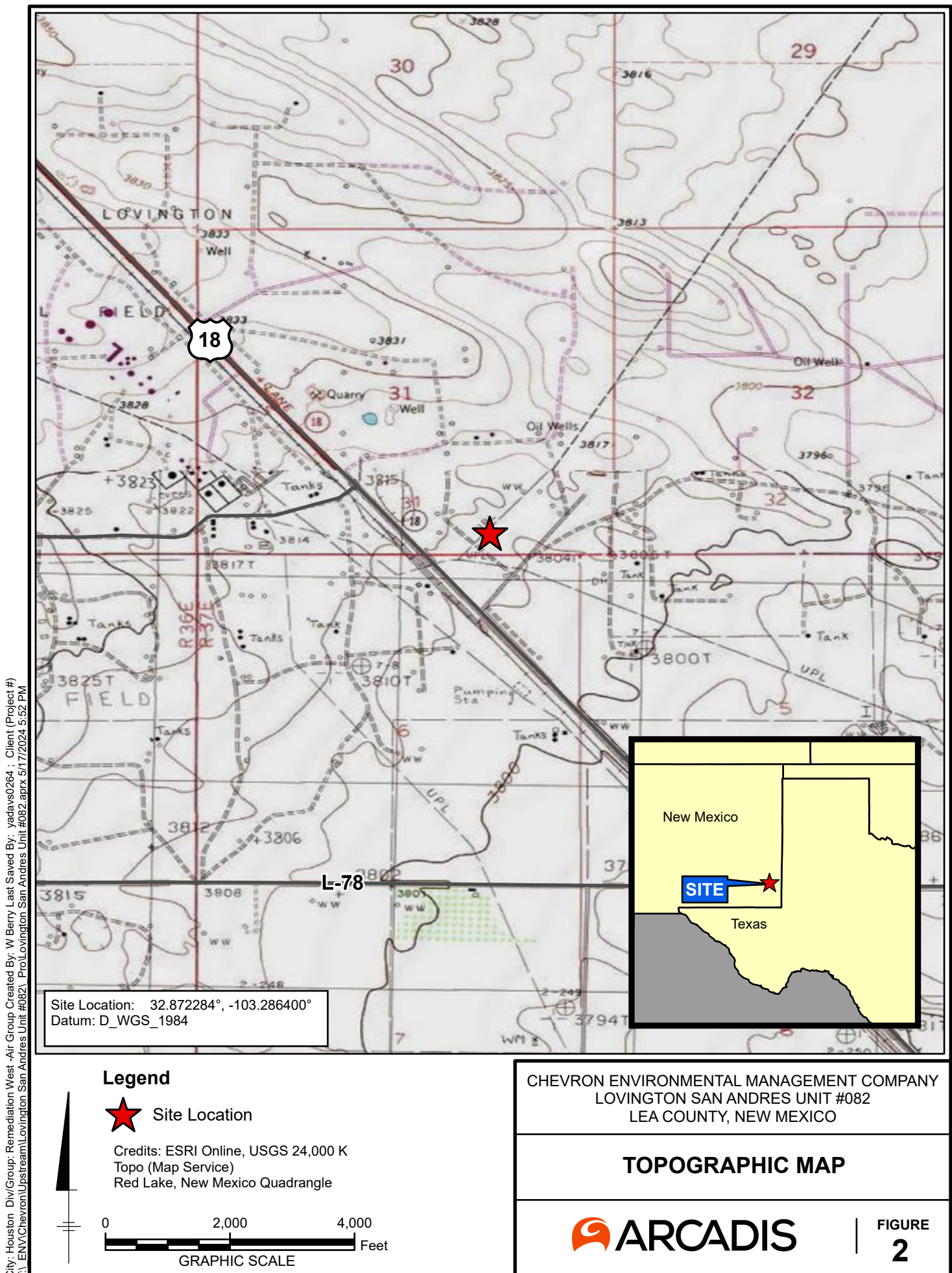


CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LOVINGTON SAN ANDRES UNIT #082
LEA COUNTY, NEW MEXICO

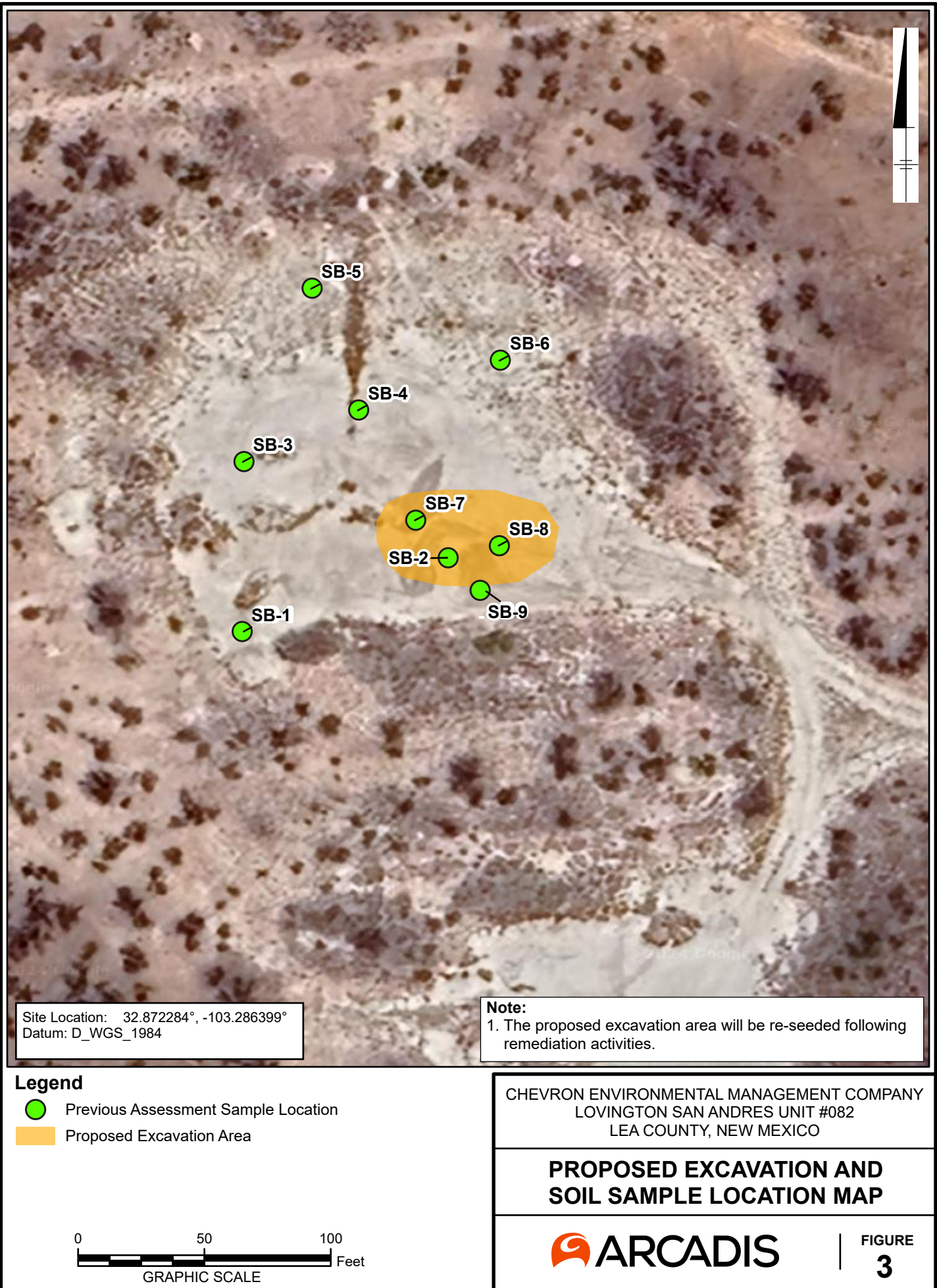
SITE LOCATION MAP



FIGURE
1



City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: vmm1306 ; Client (Project #)
T:\ENV\Upstream\Lovington San Andres Unit #082_Pro\Lovington San Andres Unit #082.aprx 6/3/2024 11:57 AM



Appendix A

Initial C-141 Form Incident # nGRL0916650301

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

RECEIVED

JUN 12 2009

Form C-141
Revised October 10, 2003

HOBBSON 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	Kim Klahsen
Address	56 Texas Camp Road; Lovington NM 88260	Telephone No.	575-396-4414 x128
Facility Name	Lovington San Andres Unit #82	Facility Type	flow line
Surface Owner	STATE	Mineral Owner	State of NM
		Lease No.	B7896

LOCATION OF RELEASE

API # 30 02531548

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	31	16S	37E	350	South	1630	East	Lea

Latitude N 32-52.446 Longitude 103-17.230 API # 30-025-31548 Chloride content 35000 PPM

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	9 bbls	Volume Recovered	0
Source of Release	Flowline	Date and Hour of Occurrence	6/08/09 2:00 PM	Date and Hour of Discovery	6/08/09 @ 5:30 PM
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Larry Johnson		
By Whom?	Larry Ridenour	Date and Hour	6/09/09 @ 6:35 AM		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.* Water course was not impacted.

Describe Cause of Problem and Remedial Action Taken.*

Internal corrosion on a flowline. Well was shut in and the line emptied to prevent any additional release of fluid.

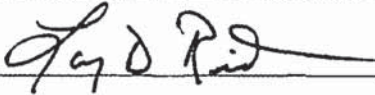
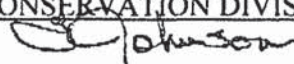
CHLORIDE CONTENT?

Describe Area Affected and Cleanup Action Taken.*

Area will be sampled and action will be determined after receiving sample results.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCID 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 NMOCID 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, NMOCID 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.

OIL CONSERVATION DIVISION

Signature: 	Approved by District Supervisor 	
Printed Name: Larry D. Ridenour	ENVIRONMENTAL ENGINEER	
Title: Production Team Leader	Approval Date: 6.12.09	Expiration Date: 8.12.09
E-mail Address: L.Ridenour@Chevron.com	Conditions of Approval:	Attached ☐
Date: 6/12/09 Phone: 575-396-4414 x102	IRP# 09.6.2208	

* Attach Additional Sheets If Necessary

FGR L0916649747

Appendix B

Photo Log

		PHOTOGRAPHIC LOG
Property Name: LSAU 82		Location: Lea County, NM
Case No. 1RP-2208		
Photo No. 1	Date: 02/01/2021	
Direction Photo Taken: North west		
Description: Center of the pad		

		PHOTOGRAPHIC LOG
Property Name: LSAU 82		Location: Lea County, NM
Case No. 1RP-2208		
Photo No. 2	Date: 02/01/2021	
Direction Photo Taken: North		
Description: Center of the pad		

ARCADIS		PHOTOGRAPHIC LOG	
Property Name: LSAU 82		Location: Lea County, NM	Case No. 1RP-2208
Photo No. 3	Date: 02/01/2021		
Direction Photo Taken: South east			
Description: Center of the pad			

ARCADIS		PHOTOGRAPHIC LOG	
Property Name: LSAU 82		Location: Lea County, NM	Case No. 1RP-2208
Photo No. 4	Date: 02/01/2021		
Direction Photo Taken: South			
Description: Vegetation surrounding the pad			



PHOTOGRAPHIC LOG

Property Name: LSAU 82		Location: Lea County, NM	Case No. 1RP-2208
Photo No. 5	Date: 02/01/2021		
Direction Photo Taken: Facing South west			
Description: Vegetation surrounding the pad			

Appendix C

Boring Logs

Date Start/Finish: 2/01/2021 Drilling Company: Arcadis Drilling Method: Hand Auger Sampling Method: Hand Auger Grab	Borehole Depth: 4' Surface Elevation: N/A Descriptions By: Justin Steinmann	Well/Boring ID: SB-1 Client: Chevron Location: LSAU-82
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DEPTH	Sample Interval	Geologic Column	Stratigraphic Description
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0-0.5'		Silty sand 10YR 5/3 brown very fine to fine sand, little medium to coarse grains, silty, moderately sorted, subrounded, loose, dry, slight organic odor. at 0.75' color change to 10YR 7/3 very pale brown. at 1-1.25' caliche pebbles, loose throughout, little to some, subrounded, hard. USCS - SM
1-2'		silty sand 10YR 6/4 light yellow brown, very fine sand, well sorted, some silt, trace clay, loose, dry, lenses with little to some clay, throughout sand, nonplastic, loose. USCS - SM/SC
3-4'		
		End of boring 4' bgs.

	Remarks: Total Depth: 4' Below Ground Surface (bgs)
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Project: 30064869
Data File: SB-1

Template: LPTEMPLATE_HA_Final
Date: 2/12/2021

Created/Edited by: AD

Page: 1 of 1

Date Start/Finish: 2/01/2021 Drilling Company: Arcadis Drilling Method: Hand Auger Sampling Method: Hand Auger Grab	Borehole Depth: 6' Surface Elevation: N/A Descriptions By: Justin Steinmann	Well/Boring ID: SB-2 Client: Chevron Location: LSAU-82
--	--	---

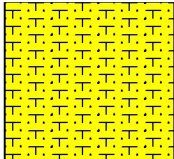
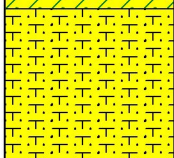
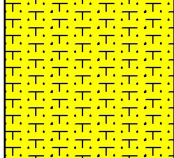
DEPTH	Sample Interval	Geologic Column	Stratigraphic Description
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0-0.5'		Silty sand 10YR 5/3 brown, very fine to fine sand, moderately sorted, with little to some fine gravel, calcareous, hard, loose, dry. USCS - SM
1-2'		silty sand 7.5YR 3/2 dark brown very fine sand, well sorted, loose, some silt, with trace to little lenses of clayey sand, very fine, as above with nonplastic, soft clay throughout, dry, little to some caliche pebbles loose throughout. USCS - SM
3-4'		
5-6'		sandy caliche 10YR 8/3 very pale brown fine sand, well sorted, in a silty calcareous matrix, loose to friable, poorly cemented, with some caliche nodules, moderately cemented, friable to hard, loose throughout. USCS - SM
		End of boring 6' bgs.

	Remarks: Total Depth: 6' Below Ground Surface (bgs)
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Date Start/Finish: 2/01/2021 Drilling Company: Arcadis Drilling Method: Hand Auger Sampling Method: Hand Auger Grab	Borehole Depth: 6' Surface Elevation: N/A Descriptions By: Justin Steinmann	Well/Boring ID: SB-3 Client: Chevron Location: LSAU-82
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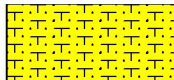
DEPTH	Sample Interval	Geologic Column	Stratigraphic Description
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0-0.5'		Silty sand 7.5YR 7/3 very pale brown, very fine to fine sand, moderately sorted, silty, with little to some fine gravel poorly sorted throughout, loose, dry. USCS - SM
1-2'		clayey sand 7.5YR 3/2 dark brown very fine sand, well sorted, little silt, some clay homogenous throughout. nonplastic, loose to soft. USCS - SC
3-4'		silty sand 7.5YR 5/3 brown very fine, well sorted, little to some silt, loose, with little caliche granules to pebbles loose throughout, at 3' color change to 7.5YR 6/3 light brown at 3.5' sand becomes firm, friable, slightly cemented. USCS - SM
5-6'		
		End of boring 6' bgs. refusal on caliche

	Remarks: Total Depth: 6' Below Ground Surface (bgs)
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Date Start/Finish: 2/01/2021 Drilling Company: Arcadis Drilling Method: Hand Auger Sampling Method: Hand Auger Grab	Borehole Depth: 6' Surface Elevation: N/A Descriptions By: Justin Steinmann	Well/Boring ID: SB-4 Client: Chevron Location: LSAU-82
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DEPTH	Sample Interval	Geologic Column	Stratigraphic Description
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0-0.5'		Silty sand 7.5YR 7/3 very pale brown, very fine to fine sand, moderately sorted, silty, with little fine gravel poorly sorted throughout, hard, loose, dry. USCS - SM
		clayey sand 7.5YR 3/2 dark brown very fine sand, well sorted, little silt, with some clay homogenous throughout. nonplastic, loose to soft, dry. USCS - SC
1-2'		silty sand 7.5YR 5/3 brown very fine, well sorted, silty, loose, trace clay, dry, with trace to little caliche granules to pebbles, loose throughout.
3-4'		at 4.75-6' little to some caliche pebbles loose throughout, hard, subrounded, well cemented, white. USCS - SM
5-6'		
		
		
		
		
		
		
		
		
		
		
		End of boring 6' bgs.

Date Start/Finish: 2/01/2021	Borehole Depth: 4.25'	Well/Boring ID: SB-5
Drilling Company: Arcadis	Surface Elevation: N/A	Client: Chevron
Drilling Method: Hand Auger	Descriptions By: Justin Steinmann	Location: LSAU-82
Sampling Method: Hand Auger Grab		

DEPTH	Sample Interval	Geologic Column	Stratigraphic Description
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0-0.5'		Silty sand 7.5YR 7/3 very pale brown, very fine to fine sand, moderately sorted with little to some fine gravel, loose, dry, subrounded. USCS - SM
1-2'		silty sand 7.5YR 5/3 brown, very fine, well sorted, little to some silt, loose, trace clay, with trace to little caliche pebbles throughout, dry, at 3-4' caliche lenses, friable to firm, white, sandy, calcareous within silty sand, little to some caliche pebbles throughout. USCS - SM
3-4'		
		End of boring 4.25' bgs. refusal on caliche

	Remarks: Total Depth: 4.25' Below Ground Surface (bgs)
---	---

Date Start/Finish: 2/01/2021 Drilling Company: Arcadis Drilling Method: Hand Auger Sampling Method: Hand Auger Grab	Borehole Depth: 6' Surface Elevation: N/A Descriptions By: Justin Steinmann	Well/Boring ID: SB-6 Client: Chevron Location: LSAU-82
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DEPTH	Sample Interval	Geologic Column	Stratigraphic Description
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0-0.5'		Silty sand 7.5YR 7/3 very pale brown, very fine to fine sand, moderately sorted, loose, silty, with little to some fine gravel throughout, dry. USCS - SM
1-2'		silty sand 7.5YR 3/2 dark brown very fine sand, well sorted, silty, loose to blocky, with trace clay in lenses throughout, dry, at 1' as above with little caliche lenses, firm to friable, moderately cemented, sandy, at 2' color change to 7.5YR 7/3 very pale brown. USCS - SM
3-4'		
5-6'		sand 5YR 6/3 light red brown very fine sand, well sorted, loose, dry, trace to little silt, trace caliche pebbles poorly sorted throughout. USCS - SP
		End of boring 6' bgs.

	Remarks: Total Depth: 6' Below Ground Surface (bgs)
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Appendix D

Laboratory Analytical Reports

Analytical Report 687047

for

Arcadis U.S., Inc

Project Manager: Morgan Jordan

LSAU 82

30064869-0002B

02.18.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



02.18.2021

Project Manager: **Morgan Jordan**

Arcadis U.S., Inc

1717 W 6th Street, Suite 210

Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **687047**

LSAU 82

Project Address:

Morgan Jordan:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 687047. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 687047 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read "Sachin Kudchadkar", written over a horizontal line.

Sachin Kudchadkar

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1-S-0-.5-210201	S	02.01.2021 11:40		687047-001
SB-1-S-1-2-210201	S	02.01.2021 11:46		687047-002
SB-1-S-3-4-210201	S	02.01.2021 12:03		687047-003
SB-1-SD-3-4-210201	S	02.01.2021 00:00		687047-004
SB-2-S-0-.5-210201	S	02.01.2021 12:14		687047-005
SB-2-S-1-2-210201	S	02.01.2021 12:20		687047-006
SB-2-S-3-4-210201	S	02.01.2021 12:25		687047-007
SB-2-S-5-6-210201	S	02.01.2021 12:35		687047-008
SB-3-S-0-.5-210201	S	02.01.2021 13:36		687047-009
SB-3-S-1-2-210201	S	02.01.2021 13:45		687047-010
SB-3-S-3-4-210201	S	02.01.2021 13:57		687047-011
SB-3-S-5-6-210201	S	02.01.2021 14:05		687047-012
SB-4-S-0-.5-210201	S	02.01.2021 14:10		687047-013
SB-4-S-1-2-210201	S	02.01.2021 14:15		687047-014
SB-4-S-3-4-210201	S	02.01.2021 14:21		687047-015
SB-4-S-5-6-210201	S	02.01.2021 14:26		687047-016
SB-5-S-0-.5-210201	S	02.01.2021 15:08		687047-017
SB-5-S-1-2-210201	S	02.01.2021 15:21		687047-018
SB-5-S-3-4-210201	S	02.01.2021 15:24		687047-019
SB-6-S-0-.5-210201	S	02.01.2021 15:36		687047-020
SB-6-S-1-2-210201	S	02.01.2021 15:41		687047-021
SB-6-S-3-4-210201	S	02.01.2021 15:47		687047-022
SB-6-S-5-6-210201	S	02.01.2021 15:58		687047-023



CASE NARRATIVE

Client Name: Arcadis U.S., Inc**Project Name: LSAU 82**Project ID: 30064869-0002B
Work Order Number(s): 687047Report Date: 02.18.2021
Date Received: 02.02.2021

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:**Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3149943 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits . Samples affected are: 7720750-1-BSD,687102-003 S,687102-003 SD.

Batch: LBA-3149971 Chloride by EPA 300

Lab Sample ID 687057-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 687047-023.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3150089 BTEX by EPA 8021B

Lab Sample ID 687047-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 687047-005.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; Samples affected are: 687047-005.

Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 687047-005



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-S-0-.5-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-001

Date Collected: 02.01.2021 11:40

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 13:30

% Moisture:
Basis: Wet Weight

Seq Number: 3149952

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.84	4.95	0.850	mg/kg	02.03.2021 20:29		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150322

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	17.1	50.0	15.0	mg/kg	02.05.2021 12:57	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 12:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 12:57	U	1
Total TPH	PHC635	17.1	50.0	15.0	mg/kg	02.05.2021 12:57	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	02.05.2021 12:57	
o-Terphenyl	84-15-1	86	%	70-130	02.05.2021 12:57	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-S-0-.5-210201**

Lab Sample Id: 687047-001

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149948

Matrix: Soil

Date Collected: 02.01.2021 11:40

Date Prep: 02.03.2021 10:00

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	02.03.2021 19:28	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.03.2021 19:28	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.03.2021 19:28	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.03.2021 19:28	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 19:28	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 19:28	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.03.2021 19:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.03.2021 19:28	
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.03.2021 19:28	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-S-1-2-210201**

Lab Sample Id: 687047-002

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149952

Matrix: Soil

Date Collected: 02.01.2021 11:46

Date Prep: 02.03.2021 13:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.70	4.95	0.850	mg/kg	02.03.2021 20:34		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	16.2	50.0	15.0	mg/kg	02.05.2021 14:01	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 14:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 14:01	U	1
Total TPH	PHC635	16.2	50.0	15.0	mg/kg	02.05.2021 14:01	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	74	%	70-130	02.05.2021 14:01			
o-Terphenyl	84-15-1	84	%	70-130	02.05.2021 14:01			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-S-1-2-210201**

Lab Sample Id: 687047-002

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149948

Matrix: Soil

Date Collected: 02.01.2021 11:46

Date Prep: 02.03.2021 10:00

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	02.03.2021 19:48	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	02.03.2021 19:48	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	02.03.2021 19:48	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	02.03.2021 19:48	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 19:48	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 19:48	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	02.03.2021 19:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.03.2021 19:48	
4-Bromofluorobenzene	460-00-4	107	%	70-130	02.03.2021 19:48	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-S-3-4-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-003

Date Collected: 02.01.2021 12:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:
Basis: Wet Weight

Seq Number: 3149969

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.2	4.98	0.855	mg/kg	02.03.2021 21:06		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150322

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	19.7	49.9	15.0	mg/kg	02.05.2021 14:22	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	02.05.2021 14:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.05.2021 14:22	U	1
Total TPH	PHC635	19.7	49.9	15.0	mg/kg	02.05.2021 14:22	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-130	02.05.2021 14:22	
o-Terphenyl	84-15-1	83	%	70-130	02.05.2021 14:22	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-S-3-4-210201**

Lab Sample Id: 687047-003

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149948

Matrix: Soil

Date Collected: 02.01.2021 12:03

Date Prep: 02.03.2021 10:00

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	02.03.2021 20:09	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	02.03.2021 20:09	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	02.03.2021 20:09	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	02.03.2021 20:09	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 20:09	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 20:09	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	02.03.2021 20:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.03.2021 20:09	
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.03.2021 20:09	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-SD-3-4-210201**

Lab Sample Id: 687047-004

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 00:00

Date Prep: 02.03.2021 14:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.3	5.03	0.864	mg/kg	02.03.2021 21:22		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	23.9	49.8	14.9	mg/kg	02.05.2021 14:44	J	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	02.05.2021 14:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	02.05.2021 14:44	U	1
Total TPH	PHC635	23.9	49.8	14.9	mg/kg	02.05.2021 14:44	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	73	%	70-130	02.05.2021 14:44			
o-Terphenyl	84-15-1	84	%	70-130	02.05.2021 14:44			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-1-SD-3-4-210201**

Lab Sample Id: 687047-004

Analytical Method: BTEX by EPA 8021B

Tech: MNR

Analyst: MNR

Seq Number: 3149943

Matrix: Soil

Date Collected: 02.01.2021 00:00

Date Prep: 02.03.2021 16:00

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	02.04.2021 03:33	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.04.2021 03:33	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.04.2021 03:33	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.04.2021 03:33	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.04.2021 03:33	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.04.2021 03:33	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.04.2021 03:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	70-130	02.04.2021 03:33	
4-Bromofluorobenzene	460-00-4	127	%	70-130	02.04.2021 03:33	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-2-S-0-.5-210201**

Lab Sample Id: 687047-005

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 12:14

Date Prep: 02.03.2021 14:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4030	49.9	8.57	mg/kg	02.03.2021 21:27		10

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	23.1	50.0	15.0	mg/kg	02.05.2021 15:05	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 15:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 15:05	U	1
Total TPH	PHC635	23.1	50.0	15.0	mg/kg	02.05.2021 15:05	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	75	%	70-130	02.05.2021 15:05			
o-Terphenyl	84-15-1	83	%	70-130	02.05.2021 15:05			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-2-S-0-.5-210201**

Lab Sample Id: 687047-005

Analytical Method: BTEX by EPA 8021B

Tech: MNR

Analyst: MNR

Seq Number: 3150089

Matrix: Soil

Date Collected: 02.01.2021 12:14

Date Prep: 02.04.2021 08:00

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	02.04.2021 13:00	UX	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	02.04.2021 13:00	UXF	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	02.04.2021 13:00	UXF	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.04.2021 13:00	UXF	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.04.2021 13:00	UXF	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.04.2021 13:00	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.04.2021 13:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.04.2021 13:00	
4-Bromofluorobenzene	460-00-4	138	%	70-130	02.04.2021 13:00	**



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-2-S-1-2-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-006

Date Collected: 02.01.2021 12:20

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1130	4.99	0.857	mg/kg	02.03.2021 21:33		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:

Seq Number: 3150322

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	21.2	50.0	15.0	mg/kg	02.05.2021 15:27	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 15:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 15:27	U	1
Total TPH	PHC635	21.2	50.0	15.0	mg/kg	02.05.2021 15:27	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-130	02.05.2021 15:27	
o-Terphenyl	84-15-1	83	%	70-130	02.05.2021 15:27	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-2-S-1-2-210201**
Lab Sample Id: 687047-006

Matrix: Soil
Date Collected: 02.01.2021 12:20

Date Received:02.02.2021 17:00

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3149956

Prep Method: SW5035A

Date Prep: 02.03.2021 10:30

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	02.03.2021 13:26	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	02.03.2021 13:26	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	02.03.2021 13:26	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.03.2021 13:26	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 13:26	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 13:26	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.03.2021 13:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.03.2021 13:26	
4-Bromofluorobenzene	460-00-4	107	%	70-130	02.03.2021 13:26	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-2-S-3-4-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-007

Date Collected: 02.01.2021 12:25

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:
Basis: Wet Weight

Seq Number: 3149969

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1160	5.02	0.862	mg/kg	02.03.2021 21:38		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150322

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	23.5	49.9	15.0	mg/kg	02.05.2021 15:48	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	02.05.2021 15:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.05.2021 15:48	U	1
Total TPH	PHC635	23.5	49.9	15.0	mg/kg	02.05.2021 15:48	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	75	%	70-130	02.05.2021 15:48	
o-Terphenyl	84-15-1	86	%	70-130	02.05.2021 15:48	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-2-S-3-4-210201**

Lab Sample Id: 687047-007

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 12:25

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	02.03.2021 13:46	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	02.03.2021 13:46	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	02.03.2021 13:46	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	02.03.2021 13:46	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	02.03.2021 13:46	U	1
Total Xylenes	1330-20-7	<0.000342	0.00198	0.000342	mg/kg	02.03.2021 13:46	U	1
Total BTEX		<0.000342	0.00198	0.000342	mg/kg	02.03.2021 13:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.03.2021 13:46	
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.03.2021 13:46	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX LSAU 82

Sample Id: **SB-2-S-5-6-210201** Matrix: Soil Date Received: 02.02.2021 17:00
 Lab Sample Id: 687047-008 Date Collected: 02.01.2021 12:35
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 02.03.2021 14:30 % Moisture:
 Seq Number: 3149969 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	634	4.97	0.853	mg/kg	02.03.2021 21:54		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 02.05.2021 12:00 % Moisture:
 Seq Number: 3150322 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	21.5	50.0	15.0	mg/kg	02.05.2021 16:10	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 16:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 16:10	U	1
Total TPH	PHC635	21.5	50.0	15.0	mg/kg	02.05.2021 16:10	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	02.05.2021 16:10	
o-Terphenyl	84-15-1	95	%	70-130	02.05.2021 16:10	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-2-S-5-6-210201**

Lab Sample Id: 687047-008

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 12:35

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	02.03.2021 14:07	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.03.2021 14:07	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.03.2021 14:07	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.03.2021 14:07	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 14:07	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 14:07	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.03.2021 14:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.03.2021 14:07	
4-Bromofluorobenzene	460-00-4	111	%	70-130	02.03.2021 14:07	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-0-.5-210201**

Lab Sample Id: 687047-009

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 13:36

Date Prep: 02.03.2021 14:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	4.98	0.855	mg/kg	02.03.2021 21:59		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	19.4	49.8	14.9	mg/kg	02.05.2021 16:31	J	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	02.05.2021 16:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	02.05.2021 16:31	U	1
Total TPH	PHC635	19.4	49.8	14.9	mg/kg	02.05.2021 16:31	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	84	%	70-130	02.05.2021 16:31			
o-Terphenyl	84-15-1	97	%	70-130	02.05.2021 16:31			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-0-.5-210201**

Lab Sample Id: 687047-009

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 13:36

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.03.2021 14:28	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.03.2021 14:28	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.03.2021 14:28	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.03.2021 14:28	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 14:28	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 14:28	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.03.2021 14:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.03.2021 14:28	
4-Bromofluorobenzene	460-00-4	110	%	70-130	02.03.2021 14:28	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-1-2-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-010

Date Collected: 02.01.2021 13:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.1	5.04	0.865	mg/kg	02.03.2021 22:05		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:

Seq Number: 3150322

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	18.7	49.9	15.0	mg/kg	02.05.2021 16:53	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	02.05.2021 16:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.05.2021 16:53	U	1
Total TPH	PHC635	18.7	49.9	15.0	mg/kg	02.05.2021 16:53	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-130	02.05.2021 16:53	
o-Terphenyl	84-15-1	86	%	70-130	02.05.2021 16:53	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-1-2-210201**

Lab Sample Id: 687047-010

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 13:45

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	02.03.2021 14:48	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	02.03.2021 14:48	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	02.03.2021 14:48	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 14:48	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 14:48	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 14:48	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	02.03.2021 14:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	02.03.2021 14:48	
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.03.2021 14:48	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-3-4-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-011

Date Collected: 02.01.2021 13:57

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.5	5.04	0.865	mg/kg	02.03.2021 22:10		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:

Seq Number: 3150322

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	16.6	50.0	15.0	mg/kg	02.05.2021 17:36	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 17:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 17:36	U	1
Total TPH	PHC635	16.6	50.0	15.0	mg/kg	02.05.2021 17:36	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-130	02.05.2021 17:36	
o-Terphenyl	84-15-1	83	%	70-130	02.05.2021 17:36	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-3-4-210201**

Lab Sample Id: 687047-011

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 13:57

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	02.03.2021 15:09	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	02.03.2021 15:09	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	02.03.2021 15:09	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	02.03.2021 15:09	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	02.03.2021 15:09	U	1
Total Xylenes	1330-20-7	<0.000341	0.00198	0.000341	mg/kg	02.03.2021 15:09	U	1
Total BTEX		<0.000341	0.00198	0.000341	mg/kg	02.03.2021 15:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	02.03.2021 15:09	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.03.2021 15:09	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-5-6-210201**

Lab Sample Id: 687047-012

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 14:05

Date Prep: 02.03.2021 14:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.5	5.02	0.862	mg/kg	02.04.2021 09:28		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	19.5	50.0	15.0	mg/kg	02.05.2021 17:57	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 17:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 17:57	U	1
Total TPH	PHC635	19.5	50.0	15.0	mg/kg	02.05.2021 17:57	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	79	%	70-130	02.05.2021 17:57			
o-Terphenyl	84-15-1	91	%	70-130	02.05.2021 17:57			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-3-S-5-6-210201**

Lab Sample Id: 687047-012

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 14:05

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	02.03.2021 15:30	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	02.03.2021 15:30	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	02.03.2021 15:30	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	02.03.2021 15:30	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 15:30	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 15:30	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.03.2021 15:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	02.03.2021 15:30	
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.03.2021 15:30	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-4-S-0-.5-210201**

Lab Sample Id: 687047-013

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 14:10

Date Prep: 02.03.2021 14:30

% Moisture:

Basis: Wet Weight

Date Received:02.02.2021 17:00

Prep Method: E300P

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	176	4.95	0.850	mg/kg	02.03.2021 22:16		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

% Moisture:

Basis: Wet Weight

Prep Method: SW8015P

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	18.0	49.9	15.0	mg/kg	02.05.2021 18:19	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	02.05.2021 18:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.05.2021 18:19	U	1
Total TPH	PHC635	18.0	49.9	15.0	mg/kg	02.05.2021 18:19	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	79	%	70-130	02.05.2021 18:19			
o-Terphenyl	84-15-1	89	%	70-130	02.05.2021 18:19			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-4-S-0-.5-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-013

Date Collected: 02.01.2021 14:10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.03.2021 10:30

% Moisture:

Seq Number: 3149956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	02.03.2021 15:51	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	02.03.2021 15:51	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	02.03.2021 15:51	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 15:51	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 15:51	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 15:51	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	02.03.2021 15:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.03.2021 15:51	
4-Bromofluorobenzene	460-00-4	115	%	70-130	02.03.2021 15:51	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-4-S-1-2-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-014

Date Collected: 02.01.2021 14:15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:
Basis: Wet Weight

Seq Number: 3149969

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	205	5.01	0.860	mg/kg	02.03.2021 22:32		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150322

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	17.6	49.8	14.9	mg/kg	02.05.2021 18:40	J	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	02.05.2021 18:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	02.05.2021 18:40	U	1
Total TPH	PHC635	17.6	49.8	14.9	mg/kg	02.05.2021 18:40	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	02.05.2021 18:40	
o-Terphenyl	84-15-1	91	%	70-130	02.05.2021 18:40	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82Sample Id: **SB-4-S-1-2-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-014

Date Collected: 02.01.2021 14:15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.03.2021 10:30

% Moisture:

Seq Number: 3149956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	02.03.2021 16:11	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	02.03.2021 16:11	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	02.03.2021 16:11	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	02.03.2021 16:11	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 16:11	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 16:11	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	02.03.2021 16:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
4-Bromofluorobenzene	460-00-4	112	%	70-130	02.03.2021 16:11			
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.03.2021 16:11			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-4-S-3-4-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-015

Date Collected: 02.01.2021 14:21

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	192	5.05	0.867	mg/kg	02.03.2021 22:38		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:

Seq Number: 3150322

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	18.9	50.0	15.0	mg/kg	02.05.2021 19:01	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 19:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 19:01	U	1
Total TPH	PHC635	18.9	50.0	15.0	mg/kg	02.05.2021 19:01	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	02.05.2021 19:01	
o-Terphenyl	84-15-1	90	%	70-130	02.05.2021 19:01	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82Sample Id: **SB-4-S-3-4-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-015

Date Collected: 02.01.2021 14:21

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.03.2021 10:30

% Moisture:
Basis: Wet Weight

Seq Number: 3149956

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	02.03.2021 16:32	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	02.03.2021 16:32	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	02.03.2021 16:32	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	02.03.2021 16:32	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	02.03.2021 16:32	U	1
Total Xylenes	1330-20-7	<0.000345	0.00200	0.000345	mg/kg	02.03.2021 16:32	U	1
Total BTEX		<0.000345	0.00200	0.000345	mg/kg	02.03.2021 16:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
4-Bromofluorobenzene	460-00-4	112	%	70-130	02.03.2021 16:32			
1,4-Difluorobenzene	540-36-3	107	%	70-130	02.03.2021 16:32			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-4-S-5-6-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-016

Date Collected: 02.01.2021 14:26

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	247	4.98	0.855	mg/kg	02.03.2021 22:54		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:

Seq Number: 3150322

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	25.4	49.9	15.0	mg/kg	02.05.2021 19:23	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	02.05.2021 19:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.05.2021 19:23	U	1
Total TPH	PHC635	25.4	49.9	15.0	mg/kg	02.05.2021 19:23	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	02.05.2021 19:23	
o-Terphenyl	84-15-1	92	%	70-130	02.05.2021 19:23	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-4-S-5-6-210201**

Lab Sample Id: 687047-016

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 14:26

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	02.03.2021 18:38	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	02.03.2021 18:38	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	02.03.2021 18:38	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 18:38	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	02.03.2021 18:38	U	1
Total Xylenes	1330-20-7	<0.000343	0.00199	0.000343	mg/kg	02.03.2021 18:38	U	1
Total BTEX		<0.000343	0.00199	0.000343	mg/kg	02.03.2021 18:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	02.03.2021 18:38	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.03.2021 18:38	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX LSAU 82

Sample Id: **SB-5-S-0-.5-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-017

Date Collected: 02.01.2021 15:08

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.41	5.00	0.858	mg/kg	02.03.2021 22:59		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:

Seq Number: 3150322

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	28.6	49.8	14.9	mg/kg	02.05.2021 19:44	J	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	02.05.2021 19:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	02.05.2021 19:44	U	1
Total TPH	PHC635	28.6	49.8	14.9	mg/kg	02.05.2021 19:44	J	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number

% Recovery

Units

Limits

Analysis Date

Flag

111-85-3

78

%

70-130

02.05.2021 19:44

84-15-1

88

%

70-130

02.05.2021 19:44



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-5-S-0-.5-210201**

Lab Sample Id: 687047-017

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 15:08

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.03.2021 18:59	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.03.2021 18:59	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.03.2021 18:59	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.03.2021 18:59	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 18:59	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 18:59	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.03.2021 18:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	02.03.2021 18:59	
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.03.2021 18:59	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-5-S-1-2-210201**

Lab Sample Id: 687047-018

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 15:21

Date Prep: 02.03.2021 14:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	43.4	5.00	0.858	mg/kg	02.03.2021 23:04		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	25.5	50.0	15.0	mg/kg	02.05.2021 20:06	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 20:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 20:06	U	1
Total TPH	PHC635	25.5	50.0	15.0	mg/kg	02.05.2021 20:06	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-130	02.05.2021 20:06	
o-Terphenyl	84-15-1	83	%	70-130	02.05.2021 20:06	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-5-S-1-2-210201**

Lab Sample Id: 687047-018

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 15:21

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	02.03.2021 19:19	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	02.03.2021 19:19	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	02.03.2021 19:19	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 19:19	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:19	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:19	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.03.2021 19:19	
4-Bromofluorobenzene	460-00-4	117	%	70-130	02.03.2021 19:19	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-5-S-3-4-210201**

Lab Sample Id: 687047-019

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 15:24

Date Prep: 02.03.2021 14:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	150	5.00	0.858	mg/kg	02.03.2021 23:10		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150322

Date Prep: 02.05.2021 12:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	24.4	50.0	15.0	mg/kg	02.05.2021 20:27	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 20:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 20:27	U	1
Total TPH	PHC635	24.4	50.0	15.0	mg/kg	02.05.2021 20:27	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	75	%	70-130	02.05.2021 20:27			
o-Terphenyl	84-15-1	86	%	70-130	02.05.2021 20:27			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-5-S-3-4-210201**

Lab Sample Id: 687047-019

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 15:24

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	02.03.2021 19:40	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	02.03.2021 19:40	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	02.03.2021 19:40	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 19:40	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:40	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:40	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.03.2021 19:40	
4-Bromofluorobenzene	460-00-4	114	%	70-130	02.03.2021 19:40	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-6-S-0-.5-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-020

Date Collected: 02.01.2021 15:36

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.83	5.00	0.858	mg/kg	02.03.2021 23:15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

% Moisture:

Seq Number: 3150322

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	22.9	49.9	15.0	mg/kg	02.05.2021 20:49	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	02.05.2021 20:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.05.2021 20:49	U	1
Total TPH	PHC635	22.9	49.9	15.0	mg/kg	02.05.2021 20:49	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	02.05.2021 20:49	
o-Terphenyl	84-15-1	89	%	70-130	02.05.2021 20:49	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-6-S-0-.5-210201**

Lab Sample Id: 687047-020

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 15:36

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	02.03.2021 20:01	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	02.03.2021 20:01	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	02.03.2021 20:01	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 20:01	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	02.03.2021 20:01	U	1
Total Xylenes	1330-20-7	<0.000343	0.00199	0.000343	mg/kg	02.03.2021 20:01	U	1
Total BTEX		<0.000343	0.00199	0.000343	mg/kg	02.03.2021 20:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.03.2021 20:01	
4-Bromofluorobenzene	460-00-4	112	%	70-130	02.03.2021 20:01	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-6-S-1-2-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-021

Date Collected: 02.01.2021 15:41

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

% Moisture:

Seq Number: 3149969

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.3	4.96	0.852	mg/kg	02.03.2021 23:20		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.06.2021 09:00

% Moisture:

Seq Number: 3150326

Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	39.1	49.9	15.0	mg/kg	02.06.2021 19:09	J	1
Diesel Range Organics (DRO)	C10C28DRO	15.3	49.9	15.0	mg/kg	02.06.2021 19:09	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.06.2021 19:09	U	1
Total TPH	PHC635	54.4	49.9	15.0	mg/kg	02.06.2021 19:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	02.06.2021 19:09	
o-Terphenyl	84-15-1	92	%	70-130	02.06.2021 19:09	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82Sample Id: **SB-6-S-1-2-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-021

Date Collected: 02.01.2021 15:41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.03.2021 10:30

% Moisture:
Basis: Wet Weight

Seq Number: 3149956

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000389	0.00202	0.000389	mg/kg	02.03.2021 20:21	U	1
Toluene	108-88-3	<0.000460	0.00202	0.000460	mg/kg	02.03.2021 20:21	U	1
Ethylbenzene	100-41-4	<0.000570	0.00202	0.000570	mg/kg	02.03.2021 20:21	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00404	0.00102	mg/kg	02.03.2021 20:21	U	1
o-Xylene	95-47-6	<0.000348	0.00202	0.000348	mg/kg	02.03.2021 20:21	U	1
Total Xylenes	1330-20-7	<0.000348	0.00202	0.000348	mg/kg	02.03.2021 20:21	U	1
Total BTEX		<0.000348	0.00202	0.000348	mg/kg	02.03.2021 20:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
4-Bromofluorobenzene	460-00-4	114	%	70-130	02.03.2021 20:21			
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.03.2021 20:21			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-6-S-3-4-210201**

Lab Sample Id: 687047-022

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149969

Matrix: Soil

Date Collected: 02.01.2021 15:47

Date Prep: 02.03.2021 14:30

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	86.1	5.02	0.862	mg/kg	02.03.2021 23:26		1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150326

Date Prep: 02.06.2021 09:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	38.2	49.8	14.9	mg/kg	02.06.2021 19:30	J	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	02.06.2021 19:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	02.06.2021 19:30	U	1
Total TPH	PHC635	38.2	49.8	14.9	mg/kg	02.06.2021 19:30	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	87	%	70-130	02.06.2021 19:30			
o-Terphenyl	84-15-1	99	%	70-130	02.06.2021 19:30			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-6-S-3-4-210201**

Lab Sample Id: 687047-022

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: KTL

Seq Number: 3149956

Matrix: Soil

Date Collected: 02.01.2021 15:47

Date Prep: 02.03.2021 10:30

Date Received:02.02.2021 17:00

Prep Method: SW5035A

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	02.03.2021 20:42	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.03.2021 20:42	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.03.2021 20:42	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.03.2021 20:42	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 20:42	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 20:42	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.03.2021 20:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	02.03.2021 20:42	
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.03.2021 20:42	



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82

Sample Id: **SB-6-S-5-6-210201**

Lab Sample Id: 687047-023

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3149971

Matrix: Soil

Date Collected: 02.01.2021 15:58

Date Prep: 02.03.2021 17:05

Date Received:02.02.2021 17:00

Prep Method: E300P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	38.2	5.05	0.867	mg/kg	02.03.2021 17:25	X	1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3150326

Date Prep: 02.06.2021 09:00

Prep Method: SW8015P

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	35.3	50.0	15.0	mg/kg	02.06.2021 19:52	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.06.2021 19:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.06.2021 19:52	U	1
Total TPH	PHC635	35.3	50.0	15.0	mg/kg	02.06.2021 19:52	J	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane	111-85-3	78	%	70-130	02.06.2021 19:52			
o-Terphenyl	84-15-1	91	%	70-130	02.06.2021 19:52			



Certificate of Analytical Results 687047

Arcadis U.S., Inc, Austin, TX
LSAU 82Sample Id: **SB-6-S-5-6-210201**

Matrix: Soil

Date Received: 02.02.2021 17:00

Lab Sample Id: 687047-023

Date Collected: 02.01.2021 15:58

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.03.2021 10:30

% Moisture:
Basis: Wet Weight

Seq Number: 3149956

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	02.03.2021 21:02	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	02.03.2021 21:02	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	02.03.2021 21:02	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	02.03.2021 21:02	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	02.03.2021 21:02	U	1
Total Xylenes	1330-20-7	<0.000342	0.00198	0.000342	mg/kg	02.03.2021 21:02	U	1
Total BTEX		<0.000342	0.00198	0.000342	mg/kg	02.03.2021 21:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
4-Bromofluorobenzene	460-00-4	118	%	70-130	02.03.2021 21:02			
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.03.2021 21:02			



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7720700-1-BLK

Matrix: SOLID

Lab Sample Id: **7720700-1-BLK**

Analytical Method: **Chloride by EPA 300**

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 13:30

Seq Number: 3149952

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	02.03.2021 17:55	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7720704-1-BLK

Matrix: SOLID

Lab Sample Id: **7720704-1-BLK**

Analytical Method: **Chloride by EPA 300**

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 14:30

Seq Number: 3149969

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	02.03.2021 20:50	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7720718-1-BLK

Matrix: SOLID

Lab Sample Id: **7720718-1-BLK**

Analytical Method: **Chloride by EPA 300**

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.03.2021 17:05

Seq Number: 3149971

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	02.03.2021 17:09	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7720750-1-BLK

Matrix: SOLID

Lab Sample Id: **7720750-1-BLK**

Analytical Method: **BTEX by EPA 8021B**

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 02.03.2021 16:00

Seq Number: 3149943

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.04.2021 01:26	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.04.2021 01:26	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.04.2021 01:26	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.04.2021 01:26	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.04.2021 01:26	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7720752-1-BLK

Matrix: SOLID

Lab Sample Id: **7720752-1-BLK**

Analytical Method: **BTEX by EPA 8021B**

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.03.2021 10:00

Seq Number: 3149948

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.03.2021 12:37	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.03.2021 12:37	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.03.2021 12:37	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.03.2021 12:37	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 12:37	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7720759-1-BLK

Matrix: SOLID

Lab Sample Id: **7720759-1-BLK**

Analytical Method: **BTEX by EPA 8021B**

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.03.2021 10:30

Seq Number: 3149956

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.03.2021 13:04	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.03.2021 13:04	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.03.2021 13:04	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.03.2021 13:04	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 13:04	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7720791-1-BLK

Matrix: SOLID

Lab Sample Id: **7720791-1-BLK**

Analytical Method: **BTEX by EPA 8021B**

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 02.04.2021 08:00

Seq Number: 3150089

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.04.2021 12:35	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.04.2021 12:35	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.04.2021 12:35	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.04.2021 12:35	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.04.2021 12:35	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7721008-1-BLK

Matrix: SOLID

Lab Sample Id: **7721008-1-BLK**

Analytical Method: **TPH By SW8015 Mod**

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.05.2021 12:00

Seq Number: 3150322

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	02.05.2021 11:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 11:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 11:53	U	1



Blank Summary 687047

Arcadis U.S., Inc, Austin, TX

LSAU 82

Sample Id: 7721014-1-BLK

Matrix: SOLID

Lab Sample Id: **7721014-1-BLK**

Analytical Method: **TPH By SW8015 Mod**

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.06.2021 09:00

Seq Number: 3150326

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	02.06.2021 12:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.06.2021 12:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.06.2021 12:07	U	1

Form 2 - Surrogate Recoveries**Project Name: LSAU 82****Report Date:** 02182021**Work Orders :** 687047**Project ID:** 30064869-0002B**Lab Batch #:** 3149943**Sample:** 7720750-1-BKS / BKS**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 22:53**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0377	0.0300	126	70-130	

Lab Batch #: 3149943**Sample:** 7720750-1-BSD / BSD**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 23:19**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0318	0.0300	106	70-130	
4-Bromofluorobenzene	0.0422	0.0300	141	70-130	**

Lab Batch #: 3149943**Sample:** 687102-003 S / MS**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.03.2021 23:44**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0427	0.0300	142	70-130	**

Lab Batch #: 3149943**Sample:** 687102-003 SD / MSD**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.04.2021 00:09**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0317	0.0300	106	70-130	
4-Bromofluorobenzene	0.0400	0.0300	133	70-130	**

Lab Batch #: 3149943**Sample:** 7720750-1-BLK / BLK**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.04.2021 01:26**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0247	0.0300	82	70-130	
4-Bromofluorobenzene	0.0262	0.0300	87	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries**Project Name: LSAU 82****Report Date:** 02182021**Work Orders :** 687047**Project ID:** 30064869-0002B**Lab Batch #:** 3149948**Sample:** 7720752-1-BKS / BKS**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 10:38**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3149948**Sample:** 7720752-1-BSD / BSD**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 10:58**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3149948**Sample:** 687045-001 S / MS**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.03.2021 11:19**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0265	0.0300	88	70-130	

Lab Batch #: 3149948**Sample:** 687045-001 SD / MSD**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.03.2021 11:39**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3149948**Sample:** 7720752-1-BLK / BLK**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 12:37**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries**Project Name: LSAU 82****Report Date:** 02182021**Work Orders :** 687047**Project ID:** 30064869-0002B**Lab Batch #:** 3149956**Sample:** 7720759-1-BKS / BKS**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 11:03**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0326	0.0300	109	70-130	

Lab Batch #: 3149956**Sample:** 7720759-1-BSD / BSD**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 11:24**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0328	0.0300	109	70-130	
4-Bromofluorobenzene	0.0328	0.0300	109	70-130	

Lab Batch #: 3149956**Sample:** 687047-006 S / MS**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.03.2021 11:44**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0332	0.0300	111	70-130	
4-Bromofluorobenzene	0.0341	0.0300	114	70-130	

Lab Batch #: 3149956**Sample:** 687047-006 SD / MSD**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.03.2021 12:05**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0334	0.0300	111	70-130	
4-Bromofluorobenzene	0.0345	0.0300	115	70-130	

Lab Batch #: 3149956**Sample:** 7720759-1-BLK / BLK**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.03.2021 13:04**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0314	0.0300	105	70-130	
4-Bromofluorobenzene	0.0388	0.0300	129	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries**Project Name: LSAU 82****Report Date:** 02182021**Work Orders :** 687047**Project ID:** 30064869-0002B**Lab Batch #:** 3150089**Sample:** 7720791-1-BKS / BKS**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.04.2021 10:01**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0262	0.0300	87	70-130	
4-Bromofluorobenzene	0.0307	0.0300	102	70-130	

Lab Batch #: 3150089**Sample:** 7720791-1-BSD / BSD**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.04.2021 10:27**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0335	0.0300	112	70-130	
4-Bromofluorobenzene	0.0353	0.0300	118	70-130	

Lab Batch #: 3150089**Sample:** 687047-005 S / MS**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.04.2021 10:53**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	70-130	
4-Bromofluorobenzene	0.0370	0.0300	123	70-130	

Lab Batch #: 3150089**Sample:** 687047-005 SD / MSD**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.04.2021 11:19**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0330	0.0300	110	70-130	
4-Bromofluorobenzene	0.0351	0.0300	117	70-130	

Lab Batch #: 3150089**Sample:** 7720791-1-BLK / BLK**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.04.2021 12:35**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	70-130	
4-Bromofluorobenzene	0.0256	0.0300	85	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries**Project Name: LSAU 82****Report Date:** 02182021**Work Orders :** 687047**Project ID:** 30064869-0002B**Lab Batch #:** 3150322**Sample:** 7721008-1-BLK / BLK**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.05.2021 11:53**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.6	100	86	70-130	
o-Terphenyl	48.8	50.0	98	70-130	

Lab Batch #: 3150322**Sample:** 7721008-1-BKS / BKS**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.05.2021 12:14**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.0	100	88	70-130	
o-Terphenyl	45.2	50.0	90	70-130	

Lab Batch #: 3150322**Sample:** 7721008-1-BSD / BSD**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.05.2021 12:35**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.8	100	90	70-130	
o-Terphenyl	46.4	50.0	93	70-130	

Lab Batch #: 3150322**Sample:** 687047-001 S / MS**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.05.2021 13:18**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.5	99.7	80	70-130	
o-Terphenyl	40.5	49.9	81	70-130	

Lab Batch #: 3150322**Sample:** 687047-001 SD / MSD**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.05.2021 13:39**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.4	100	76	70-130	
o-Terphenyl	38.9	50.0	78	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries**Project Name: LSAU 82****Report Date:** 02182021**Work Orders :** 687047**Project ID:** 30064869-0002B**Lab Batch #:** 3150326**Sample:** 7721014-1-BLK / BLK**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.06.2021 12:07**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	100	91	70-130	
o-Terphenyl	53.1	50.0	106	70-130	

Lab Batch #: 3150326**Sample:** 7721014-1-BKS / BKS**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.06.2021 12:28**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	100	98	70-130	
o-Terphenyl	50.2	50.0	100	70-130	

Lab Batch #: 3150326**Sample:** 7721014-1-BSD / BSD**Batch:** 1 **Matrix:** Solid**Units:** mg/kg**Date Analyzed:** 02.06.2021 12:49**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.7	100	92	70-130	
o-Terphenyl	46.0	50.0	92	70-130	

Lab Batch #: 3150326**Sample:** 687058-041 S / MS**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.06.2021 13:31**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.6	99.7	83	70-130	
o-Terphenyl	42.1	49.9	84	70-130	

Lab Batch #: 3150326**Sample:** 687058-041 SD / MSD**Batch:** 1 **Matrix:** Soil**Units:** mg/kg**Date Analyzed:** 02.06.2021 13:52**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.2	99.6	84	70-130	
o-Terphenyl	42.1	49.8	85	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Arcadis U.S., Inc LSAU 82

Analytical Method: Chloride by EPA 300

Seq Number: 3149952

MB Sample Id: 7720700-1-BLK

Matrix: Solid

LCS Sample Id: 7720700-1-BKS

Prep Method: E300P

Date Prep: 02.03.2021

LCSD Sample Id: 7720700-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	242	97	249	100	90-110	3	20	mg/kg	02.03.2021 18:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3149969

MB Sample Id: 7720704-1-BLK

Matrix: Solid

LCS Sample Id: 7720704-1-BKS

Prep Method: E300P

Date Prep: 02.03.2021

LCSD Sample Id: 7720704-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	247	99	90-110	0	20	mg/kg	02.03.2021 20:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3149971

MB Sample Id: 7720718-1-BLK

Matrix: Solid

LCS Sample Id: 7720718-1-BKS

Prep Method: E300P

Date Prep: 02.03.2021

LCSD Sample Id: 7720718-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	257	103	90-110	0	20	mg/kg	02.03.2021 17:14	

Analytical Method: Chloride by EPA 300

Seq Number: 3149952

Parent Sample Id: 687003-037

Matrix: Soil

MS Sample Id: 687003-037 S

Prep Method: E300P

Date Prep: 02.03.2021

MSD Sample Id: 687003-037 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.1	252	294	111	278	104	90-110	6	20	mg/kg	02.03.2021 18:16	X

Analytical Method: Chloride by EPA 300

Seq Number: 3149952

Parent Sample Id: 687003-047

Matrix: Soil

MS Sample Id: 687003-047 S

Prep Method: E300P

Date Prep: 02.03.2021

MSD Sample Id: 687003-047 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	323	250	572	100	564	96	90-110	1	20	mg/kg	02.03.2021 19:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3149969

Parent Sample Id: 687047-003

Matrix: Soil

MS Sample Id: 687047-003 S

Prep Method: E300P

Date Prep: 02.03.2021

MSD Sample Id: 687047-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14.2	249	276	105	270	103	90-110	2	20	mg/kg	02.03.2021 21:11	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



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Analytical Method: Chloride by EPA 300

Seq Number: 3149969

Parent Sample Id: 687047-013

Matrix: Soil

MS Sample Id: 687047-013 S

Prep Method: E300P

Date Prep: 02.03.2021

MSD Sample Id: 687047-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	176	248	425	100	441	107	90-110	4	20	mg/kg	02.03.2021 22:22	

Analytical Method: Chloride by EPA 300

Seq Number: 3149971

Parent Sample Id: 687047-023

Matrix: Soil

MS Sample Id: 687047-023 S

Prep Method: E300P

Date Prep: 02.03.2021

MSD Sample Id: 687047-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	38.2	253	324	113	318	111	90-110	2	20	mg/kg	02.03.2021 17:30	X

Analytical Method: Chloride by EPA 300

Seq Number: 3149971

Parent Sample Id: 687057-008

Matrix: Soil

MS Sample Id: 687057-008 S

Prep Method: E300P

Date Prep: 02.03.2021

MSD Sample Id: 687057-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	471	252	732	104	729	102	90-110	0	20	mg/kg	02.03.2021 18:43	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3150322

MB Sample Id: 7721008-1-BLK

Matrix: Solid

LCS Sample Id: 7721008-1-BKS

Prep Method: SW8015P

Date Prep: 02.05.2021

LCSD Sample Id: 7721008-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	963	96	1010	101	70-130	5	20	mg/kg	02.05.2021 12:14	
Diesel Range Organics (DRO)	<15.0	1000	877	88	898	90	70-130	2	20	mg/kg	02.05.2021 12:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		88		90		70-130	%	02.05.2021 12:14
o-Terphenyl	98		90		93		70-130	%	02.05.2021 12:14

Analytical Method: TPH By SW8015 Mod

Seq Number: 3150326

MB Sample Id: 7721014-1-BLK

Matrix: Solid

LCS Sample Id: 7721014-1-BKS

Prep Method: SW8015P

Date Prep: 02.06.2021

LCSD Sample Id: 7721014-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1090	109	1020	102	70-130	7	20	mg/kg	02.06.2021 12:28	
Diesel Range Organics (DRO)	<15.0	1000	1020	102	950	95	70-130	7	20	mg/kg	02.06.2021 12:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		98		92		70-130	%	02.06.2021 12:28
o-Terphenyl	106		100		92		70-130	%	02.06.2021 12:28

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



QC Summary 687047

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Analytical Method: TPH By SW8015 Mod
Seq Number: 3150322

Matrix: Solid
MB Sample Id: 7721008-1-BLK

Prep Method: SW8015P
Date Prep: 02.05.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	02.05.2021 11:53	

Analytical Method: TPH By SW8015 Mod
Seq Number: 3150326

Matrix: Solid
MB Sample Id: 7721014-1-BLK

Prep Method: SW8015P
Date Prep: 02.06.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	02.06.2021 12:07	

Analytical Method: TPH By SW8015 Mod
Seq Number: 3150322
Parent Sample Id: 687047-001

Matrix: Soil
MS Sample Id: 687047-001 S

Prep Method: SW8015P
Date Prep: 02.05.2021
MSD Sample Id: 687047-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	17.1	997	892	88	867	85	70-130	3	20	mg/kg	02.05.2021 13:18	
Diesel Range Organics (DRO)	<15.0	997	790	79	768	77	70-130	3	20	mg/kg	02.05.2021 13:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	80		76		70-130	%	02.05.2021 13:18
o-Terphenyl	81		78		70-130	%	02.05.2021 13:18

Analytical Method: TPH By SW8015 Mod
Seq Number: 3150326
Parent Sample Id: 687058-041

Matrix: Soil
MS Sample Id: 687058-041 S

Prep Method: SW8015P
Date Prep: 02.06.2021
MSD Sample Id: 687058-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	973	98	980	98	70-130	1	20	mg/kg	02.06.2021 13:31	
Diesel Range Organics (DRO)	<15.0	997	921	92	922	93	70-130	0	20	mg/kg	02.06.2021 13:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		84		70-130	%	02.06.2021 13:31
o-Terphenyl	84		85		70-130	%	02.06.2021 13:31

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Arcadis U.S., Inc
LSAU 82

Analytical Method: BTEX by EPA 8021B

Seq Number: 3149948

Matrix: Solid

Prep Method: SW5035A

Date Prep: 02.03.2021

MB Sample Id: 7720752-1-BLK

LCS Sample Id: 7720752-1-BKS

LCSD Sample Id: 7720752-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0935	94	0.0949	95	70-130	1	35	mg/kg	02.03.2021 10:38	
Toluene	<0.000456	0.100	0.0878	88	0.0892	89	70-130	2	35	mg/kg	02.03.2021 10:38	
Ethylbenzene	<0.000565	0.100	0.0937	94	0.0941	94	70-130	0	35	mg/kg	02.03.2021 10:38	
m,p-Xylenes	<0.00101	0.200	0.185	93	0.185	93	70-130	0	35	mg/kg	02.03.2021 10:38	
o-Xylene	<0.000344	0.100	0.0899	90	0.0911	91	70-130	1	35	mg/kg	02.03.2021 10:38	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	90		101		102		70-130			%	02.03.2021 10:38	
4-Bromofluorobenzene	102		96		96		70-130			%	02.03.2021 10:38	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3149956

Matrix: Solid

Prep Method: SW5035A

Date Prep: 02.03.2021

MB Sample Id: 7720759-1-BLK

LCS Sample Id: 7720759-1-BKS

LCSD Sample Id: 7720759-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0839	84	0.0904	90	70-130	7	35	mg/kg	02.03.2021 11:03	
Toluene	<0.000456	0.100	0.0880	88	0.0932	93	70-130	6	35	mg/kg	02.03.2021 11:03	
Ethylbenzene	<0.000565	0.100	0.0825	83	0.0885	89	70-130	7	35	mg/kg	02.03.2021 11:03	
m,p-Xylenes	<0.00101	0.200	0.169	85	0.180	90	70-130	6	35	mg/kg	02.03.2021 11:03	
o-Xylene	<0.000344	0.100	0.0835	84	0.0902	90	70-130	8	35	mg/kg	02.03.2021 11:03	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	105		111		109		70-130			%	02.03.2021 11:03	
4-Bromofluorobenzene	129		109		109		70-130			%	02.03.2021 11:03	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3149943

Matrix: Solid

Prep Method: SW5035A

Date Prep: 02.03.2021

MB Sample Id: 7720750-1-BLK

LCS Sample Id: 7720750-1-BKS

LCSD Sample Id: 7720750-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.106	106	0.103	103	70-130	3	35	mg/kg	02.03.2021 22:53	
Toluene	<0.000456	0.100	0.106	106	0.104	104	70-130	2	35	mg/kg	02.03.2021 22:53	
Ethylbenzene	<0.000565	0.100	0.106	106	0.105	105	70-130	1	35	mg/kg	02.03.2021 22:53	
m,p-Xylenes	<0.00101	0.200	0.218	109	0.219	110	70-130	0	35	mg/kg	02.03.2021 22:53	
o-Xylene	<0.000344	0.100	0.107	107	0.110	110	70-130	3	35	mg/kg	02.03.2021 22:53	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	82		96		106		70-130			%	02.03.2021 22:53	
4-Bromofluorobenzene	87		126		141	**	70-130			%	02.03.2021 22:53	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Arcadis U.S., Inc LSAU 82

Analytical Method: BTEX by EPA 8021B

Seq Number: 3150089

Matrix: Solid

Prep Method: SW5035A

Date Prep: 02.04.2021

MB Sample Id: 7720791-1-BLK

LCS Sample Id: 7720791-1-BKS

LCSD Sample Id: 7720791-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0834	83	0.109	109	70-130	27	35	mg/kg	02.04.2021 10:01	
Toluene	<0.000456	0.100	0.0856	86	0.0990	99	70-130	15	35	mg/kg	02.04.2021 10:01	
Ethylbenzene	<0.000565	0.100	0.0882	88	0.0961	96	70-130	9	35	mg/kg	02.04.2021 10:01	
m,p-Xylenes	<0.00101	0.200	0.182	91	0.209	105	70-130	14	35	mg/kg	02.04.2021 10:01	
o-Xylene	<0.000344	0.100	0.0889	89	0.101	101	70-130	13	35	mg/kg	02.04.2021 10:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		87		112		70-130	%	02.04.2021 10:01
4-Bromofluorobenzene	85		102		118		70-130	%	02.04.2021 10:01

Analytical Method: BTEX by EPA 8021B

Seq Number: 3149948

Matrix: Soil

Prep Method: SW5035A

Date Prep: 02.03.2021

Parent Sample Id: 687045-001

MS Sample Id: 687045-001 S

MSD Sample Id: 687045-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.0765	77	0.0731	73	70-130	5	35	mg/kg	02.03.2021 11:19	
Toluene	2.72	0.0994	1.95	0	1.95	0	70-130	0	35	mg/kg	02.03.2021 11:19	X
Ethylbenzene	<0.000561	0.0994	0.0553	56	0.0498	50	70-130	10	35	mg/kg	02.03.2021 11:19	X
m,p-Xylenes	<0.00101	0.199	0.104	52	0.0929	46	70-130	11	35	mg/kg	02.03.2021 11:19	X
o-Xylene	<0.000342	0.0994	0.0509	51	0.0496	50	70-130	3	35	mg/kg	02.03.2021 11:19	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	02.03.2021 11:19
4-Bromofluorobenzene	88		95		70-130	%	02.03.2021 11:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3149956

Matrix: Soil

Prep Method: SW5035A

Date Prep: 02.03.2021

Parent Sample Id: 687047-006

MS Sample Id: 687047-006 S

MSD Sample Id: 687047-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0847	85	0.0856	86	70-130	1	35	mg/kg	02.03.2021 11:44	
Toluene	<0.000457	0.100	0.0853	85	0.0808	81	70-130	5	35	mg/kg	02.03.2021 11:44	
Ethylbenzene	<0.000566	0.100	0.0804	80	0.0797	80	70-130	1	35	mg/kg	02.03.2021 11:44	
m,p-Xylenes	<0.00102	0.200	0.163	82	0.167	84	70-130	2	35	mg/kg	02.03.2021 11:44	
o-Xylene	<0.000345	0.100	0.0818	82	0.0816	82	70-130	0	35	mg/kg	02.03.2021 11:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		111		70-130	%	02.03.2021 11:44
4-Bromofluorobenzene	114		115		70-130	%	02.03.2021 11:44

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



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LSAU 82

Analytical Method: BTEX by EPA 8021B

Seq Number: 3149943

Matrix: Soil

Prep Method: SW5035A

Date Prep: 02.03.2021

Parent Sample Id: 687102-003

MS Sample Id: 687102-003 S

MSD Sample Id: 687102-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0764	76	0.0498	50	70-130	42	35	mg/kg	02.03.2021 23:44	XF
Toluene	<0.000457	0.100	0.0745	75	0.0519	52	70-130	36	35	mg/kg	02.03.2021 23:44	XF
Ethylbenzene	<0.000567	0.100	0.0708	71	0.0457	46	70-130	43	35	mg/kg	02.03.2021 23:44	XF
m,p-Xylenes	<0.00102	0.201	0.144	72	0.0924	46	70-130	44	35	mg/kg	02.03.2021 23:44	XF
o-Xylene	<0.000346	0.100	0.0724	72	0.0469	47	70-130	43	35	mg/kg	02.03.2021 23:44	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		106		70-130	%	02.03.2021 23:44
4-Bromofluorobenzene	142	**	133	**	70-130	%	02.03.2021 23:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3150089

Matrix: Soil

Prep Method: SW5035A

Date Prep: 02.04.2021

Parent Sample Id: 687047-005

MS Sample Id: 687047-005 S

MSD Sample Id: 687047-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0515	52	0.0733	73	70-130	35	35	mg/kg	02.04.2021 10:53	X
Toluene	<0.000457	0.100	0.0556	56	0.0798	79	70-130	36	35	mg/kg	02.04.2021 10:53	XF
Ethylbenzene	<0.000567	0.100	0.0552	55	0.0841	83	70-130	41	35	mg/kg	02.04.2021 10:53	XF
m,p-Xylenes	<0.00102	0.201	0.113	56	0.172	86	70-130	41	35	mg/kg	02.04.2021 10:53	XF
o-Xylene	<0.000346	0.100	0.0552	55	0.0850	84	70-130	43	35	mg/kg	02.04.2021 10:53	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		110		70-130	%	02.04.2021 10:53
4-Bromofluorobenzene	123		117		70-130	%	02.04.2021 10:53

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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

Chain of Custody Record

687047

Client Information		Sampler: S. Steinmann		Lab PM: Kudchadkar Sachin G		Carrier Tracking No(s):		COC No: 600-23595-8666.1	
Client Contact: Motgan Jordan		Phone: 619 851 8712		E-Mail: sachin.kudchadkar@lestamerica.com				Page: 1 of 3	
Company: ARCADIS U.S., Inc		Address: 1717 W 6th Street, Suite 210		Due Date Requested: 2/1/21		Analysis Requested		Job #:	
City: Austin		TAT Requested (days): Std							
State, Zip: TX, 78703		PO #:							
Phone: 281 644 9437		WO #:							
Email: douglas.jordan@arcadis.com		Project #:							
Project Name: 30064869-0002B		SSOW#:							
Site: LSAU 82									
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, B=biomass, A=air)	
SB-1-S-0-S-210201		2/6/21		1140		G		Solid	
SB-1-S-1-2-210201				1156				Solid	
SB-1-S-3-4-210201				1203				Solid	
SB-1-S-0-3-4-210201				1214				Solid	
SB-2-S-0-5-210201				1220				Solid	
SB-2-S-1-2-210201				1225				Solid	
SB-2-S-3-4-210201				1235				Solid	
SB-2-S-5-5-210201				1330				Solid	
SB-3-S-1-2-210201				1345				Solid	
SB-3-S-3-4-210201				1357				Solid	
Possible Hazard Identification		☐ Non-Hazard		☐ Flammable		☐ Skin Irritant		☐ Poison B	
		☐ Unknown		☐ Radiological					
Deliverable Requested: I, II, III, IV, Other (specify)									
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Special Instructions/Note:			
Δ Yes Δ No									

Eurofins Xenco

1211 W Florida Ave

Midland TX 79701

Phone 432-704-5440

Chain of Custody Record

687047

Client Information					
Sample:		J. Steinberg		Lab PM:	
Client Contact:				Kudachkar Sachin G.	
Phone:		609 851 8712		E-Mail: sachin.kudachkar@lestaminc.com	
Company:		ARCADIS U.S., Inc.		Carrier Tracking No(s):	
Address:		1717 W 6th Street, Suite 210			
City:		Austin		Analysis Requested	
State Zip:		TX, 78703			
Phone:		281 644 9437			
Email:		douglas.jordan@arcadis.com			
Project Name:		30064869-0002B			
Site:		SSOW#:			
LSAU 82					
Due Date Requested:					
TAT Requested (days):		STP			
PO #:					
WO #:					
Project #:		30064869-0002B			
Field Filtered Sample (Yes or No)					
Perform MS/MSD (Yes or No)					
8015 GRO/DRO/ORO					
300 - Chloride					
8021-BTEX					
Total Number of containers					
Special Instructions/Note:					
Preservation Codes:					
A-HCl M-Hexane					
B-NaOH N-None					
C-Zn Acetate O-AsNaO2					
D-Nitric Acid P-Na2OAS					
E-NaHSO4 Q-Na2SO3					
F-MeOH R-Na2S2O3					
G-Amchlor S-H2SO4					
H-Ascorbic Acid T-TSP Dodecylaldehyde					
I-Ice V-MCAA					
J-DI Water W-pH 4-5					
K-EDTA Z-other (specify)					
L-EDA					
Other:					
Job #:					
Page 2 of 3					
COC No:		600-23595-8666_1			
Page 2 of 3					

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis U.S., Inc

Date/ Time Received: 02.02.2021 05.00.00 PM

Work Order #: 687047

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

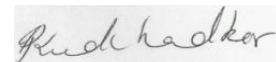
Checklist completed by:



Brianna Teel

Date: 02.03.2021

Checklist reviewed by:



Sachin Kudchadkar

Date: 02.04.2021



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Douglas Jordan
ARCADIS U.S. Inc
10205 Westheimer Rd
Suite 800
Houston, Texas 77042
Generated 4/11/2023 9:22:54 AM

JOB DESCRIPTION

Lovington LPAU-82

JOB NUMBER

880-26569-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

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
4/11/2023 9:22:54 AM

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

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- 14

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Laboratory Job ID: 880-26569-1

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

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

HPLC/IC

Qualifier	Qualifier Description
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.
α	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-82

Job ID: 880-26569-1

Job ID: 880-26569-1**Laboratory: Eurofins Midland****Narrative****Job Narrative
880-26569-1****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-7-S-0-0.5-20230329 (880-26569-1) and SB-9-S-2-20230329 (880-26569-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-50056 and analytical batch 880-50075 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-50056/2-A) and (LCSD 880-50056/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SB-7-S-0-0.5-20230329 (880-26569-1). 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 880-50056 and analytical batch 880-50075 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-50417 and 880-50417 and analytical batch 880-50616 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits. SB-7-S-0-0.5-20230329 (880-26569-1), SB-7-S-2-20230329 (880-26569-2), SB-7-S-4-20230329 (880-26569-3), SB-9-S-0.5-20230329 (880-26569-4), SB-9-S-2-20230329 (880-26569-5), SB-9-S-4-20230329 (880-26569-6), SB-8-S-0.5-20230329 (880-26569-7), (880-26567-A-5-C), (880-26567-A-5-D MS) and (880-26567-A-5-E MSD)

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

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-7-S-0-0.5-20230329

Lab Sample ID: 880-26569-1

Date Collected: 03/29/23 13:52

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 06:17	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/06/23 15:16	04/09/23 06:17	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/06/23 15:16	04/09/23 06:17	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/06/23 15:16	04/09/23 06:17	1
o-Xylene	0.000355	J	0.00200	0.000345	mg/Kg		04/06/23 15:16	04/09/23 06:17	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/06/23 15:16	04/09/23 06:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130	04/06/23 15:16	04/09/23 06:17	1
1,4-Difluorobenzene (Surr)	65	S1-	70 - 130	04/06/23 15:16	04/09/23 06:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	29.5	J	49.8	14.9	mg/Kg			04/03/23 12:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	29.5	J B	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 00:13	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 00:13	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 00:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130	03/31/23 17:04	04/02/23 00:13	1
o-Terphenyl	109		70 - 130	03/31/23 17:04	04/02/23 00:13	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1140		5.04	0.398	mg/Kg			04/07/23 02:59	1

Client Sample ID: SB-7-S-2-20230329

Lab Sample ID: 880-26569-2

Date Collected: 03/29/23 13:55

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 06:37	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/06/23 15:16	04/09/23 06:37	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/06/23 15:16	04/09/23 06:37	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/06/23 15:16	04/09/23 06:37	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/06/23 15:16	04/09/23 06:37	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/06/23 15:16	04/09/23 06:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	04/06/23 15:16	04/09/23 06:37	1
1,4-Difluorobenzene (Surr)	78		70 - 130	04/06/23 15:16	04/09/23 06:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	24.6	J	49.9	15.0	mg/Kg			04/03/23 12:07	1

Eurofins Midland

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-7-S-2-20230329

Lab Sample ID: 880-26569-2

Date Collected: 03/29/23 13:55

Matrix: Solid

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	24.6	J B	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 00:34	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 00:34	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130				03/31/23 17:04	04/02/23 00:34	1
o-Terphenyl	106		70 - 130				03/31/23 17:04	04/02/23 00:34	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	713		5.01	0.396	mg/Kg			04/07/23 03:12	1

Client Sample ID: SB-7-S-4-20230329

Lab Sample ID: 880-26569-3

Date Collected: 03/29/23 13:57

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 06:58	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/06/23 15:16	04/09/23 06:58	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/06/23 15:16	04/09/23 06:58	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/06/23 15:16	04/09/23 06:58	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/06/23 15:16	04/09/23 06:58	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/06/23 15:16	04/09/23 06:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130				04/06/23 15:16	04/09/23 06:58	1
1,4-Difluorobenzene (Surr)	101		70 - 130				04/06/23 15:16	04/09/23 06:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	23.4	J	50.0	15.0	mg/Kg			04/03/23 12:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	23.4	J B	50.0	15.0	mg/Kg		03/31/23 17:04	04/02/23 00:55	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 17:04	04/02/23 00:55	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 17:04	04/02/23 00:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130				03/31/23 17:04	04/02/23 00:55	1
o-Terphenyl	89		70 - 130				03/31/23 17:04	04/02/23 00:55	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	432		4.97	0.393	mg/Kg			04/07/23 03:17	1

Eurofins Midland

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-9-S-0.5-20230329

Lab Sample ID: 880-26569-4

Date Collected: 03/29/23 14:02

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	<0.000384	U	0.00200	0.000384	mg/Kg		04/06/23 15:16	04/09/23 07:18	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/06/23 15:16	04/09/23 07:18	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/06/23 15:16	04/09/23 07:18	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/06/23 15:16	04/09/23 07:18	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/06/23 15:16	04/09/23 07:18	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/06/23 15:16	04/09/23 07:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130				04/06/23 15:16	04/09/23 07:18	1
1,4-Difluorobenzene (Surr)	103		70 - 130				04/06/23 15:16	04/09/23 07:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	19.5	J	50.0	15.0	mg/Kg			04/03/23 12:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	19.5	J B	50.0	15.0	mg/Kg		03/31/23 17:04	04/02/23 01:16	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 17:04	04/02/23 01:16	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 17:04	04/02/23 01:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130				03/31/23 17:04	04/02/23 01:16	1
o-Terphenyl	87		70 - 130				03/31/23 17:04	04/02/23 01:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	357		5.00	0.395	mg/Kg			04/07/23 03:21	1

Client Sample ID: SB-9-S-2-20230329

Lab Sample ID: 880-26569-5

Date Collected: 03/29/23 14:05

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 07:39	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		04/06/23 15:16	04/09/23 07:39	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		04/06/23 15:16	04/09/23 07:39	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		04/06/23 15:16	04/09/23 07:39	1
o-Xylene	0.000395	J	0.00201	0.000346	mg/Kg		04/06/23 15:16	04/09/23 07:39	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		04/06/23 15:16	04/09/23 07:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	60	S1-	70 - 130				04/06/23 15:16	04/09/23 07:39	1
1,4-Difluorobenzene (Surr)	77		70 - 130				04/06/23 15:16	04/09/23 07:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	30.0	J	49.8	14.9	mg/Kg			04/03/23 12:07	1

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Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-9-S-2-20230329

Lab Sample ID: 880-26569-5

Date Collected: 03/29/23 14:05

Matrix: Solid

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	30.0	J B	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 01:59	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 01:59	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 01:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130				03/31/23 17:04	04/02/23 01:59	1
o-Terphenyl	84		70 - 130				03/31/23 17:04	04/02/23 01:59	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	274		5.02	0.397	mg/Kg			04/07/23 03:26	1

Client Sample ID: SB-9-S-4-20230329

Lab Sample ID: 880-26569-6

Date Collected: 03/29/23 14:07

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	<0.000388	U	0.00202	0.000388	mg/Kg		04/06/23 15:16	04/09/23 08:00	1
Toluene	<0.000460	U	0.00202	0.000460	mg/Kg		04/06/23 15:16	04/09/23 08:00	1
Ethylbenzene	<0.000570	U	0.00202	0.000570	mg/Kg		04/06/23 15:16	04/09/23 08:00	1
m-Xylene & p-Xylene	<0.00102	U	0.00403	0.00102	mg/Kg		04/06/23 15:16	04/09/23 08:00	1
o-Xylene	<0.000347	U	0.00202	0.000347	mg/Kg		04/06/23 15:16	04/09/23 08:00	1
Xylenes, Total	<0.00102	U	0.00403	0.00102	mg/Kg		04/06/23 15:16	04/09/23 08:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				04/06/23 15:16	04/09/23 08:00	1
1,4-Difluorobenzene (Surr)	108		70 - 130				04/06/23 15:16	04/09/23 08:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	44.2	J	49.9	15.0	mg/Kg			04/03/23 12:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	44.2	J B	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 02:20	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 02:20	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 02:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130				03/31/23 17:04	04/02/23 02:20	1
o-Terphenyl	99		70 - 130				03/31/23 17:04	04/02/23 02:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	541		5.04	0.398	mg/Kg			04/07/23 03:30	1

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Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-8-S-0.5-20230329

Lab Sample ID: 880-26569-7

Date Collected: 03/29/23 14:13

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	<0.000383	U	0.00199	0.000383	mg/Kg		04/06/23 15:16	04/09/23 08:20	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/06/23 15:16	04/09/23 08:20	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/06/23 15:16	04/09/23 08:20	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/06/23 15:16	04/09/23 08:20	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/06/23 15:16	04/09/23 08:20	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/06/23 15:16	04/09/23 08:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130				04/06/23 15:16	04/09/23 08:20	1
1,4-Difluorobenzene (Surr)	103		70 - 130				04/06/23 15:16	04/09/23 08:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	31.5	J	49.8	14.9	mg/Kg			04/03/23 12:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	31.5	J B	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 02:41	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 02:41	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 02:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130				03/31/23 17:04	04/02/23 02:41	1
o-Terphenyl	84		70 - 130				03/31/23 17:04	04/02/23 02:41	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2170		25.0	1.97	mg/Kg			04/07/23 03:35	5

Client Sample ID: SB-8-S-2-20230329

Lab Sample ID: 880-26569-8

Date Collected: 03/29/23 14:15

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	<0.000383	U	0.00199	0.000383	mg/Kg		04/06/23 15:16	04/09/23 08:41	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/06/23 15:16	04/09/23 08:41	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/06/23 15:16	04/09/23 08:41	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/06/23 15:16	04/09/23 08:41	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/06/23 15:16	04/09/23 08:41	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/06/23 15:16	04/09/23 08:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130				04/06/23 15:16	04/09/23 08:41	1
1,4-Difluorobenzene (Surr)	104		70 - 130				04/06/23 15:16	04/09/23 08:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	29.7	J	49.9	15.0	mg/Kg			04/03/23 12:07	1

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Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-8-S-2-20230329

Lab Sample ID: 880-26569-8

Date Collected: 03/29/23 14:15

Matrix: Solid

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	29.7	J B	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 03:02	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 03:02	1
Oil Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 17:04	04/02/23 03:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				03/31/23 17:04	04/02/23 03:02	1
o-Terphenyl	84		70 - 130				03/31/23 17:04	04/02/23 03:02	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500		25.2	1.99	mg/Kg			04/07/23 04:12	5

Client Sample ID: SB-8-S-4-20230329

Lab Sample ID: 880-26569-9

Date Collected: 03/29/23 14:17

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	<0.000384	U	0.00200	0.000384	mg/Kg		04/06/23 15:16	04/09/23 09:01	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/06/23 15:16	04/09/23 09:01	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/06/23 15:16	04/09/23 09:01	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/06/23 15:16	04/09/23 09:01	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/06/23 15:16	04/09/23 09:01	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/06/23 15:16	04/09/23 09:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130				04/06/23 15:16	04/09/23 09:01	1
1,4-Difluorobenzene (Surr)	92		70 - 130				04/06/23 15:16	04/09/23 09:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	26.0	J	49.8	14.9	mg/Kg			04/03/23 12:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	26.0	J B	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 03:23	1
Diesel Range Organics (Over C10-C28)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 03:23	1
Oil Range Organics (Over C28-C36)	<14.9	U	49.8	14.9	mg/Kg		03/31/23 17:04	04/02/23 03:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	122		70 - 130				03/31/23 17:04	04/02/23 03:23	1
o-Terphenyl	102		70 - 130				03/31/23 17:04	04/02/23 03:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	628		4.99	0.394	mg/Kg			04/07/23 04:25	1

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Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

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)
880-26569-1	SB-7-S-0-0.5-20230329	77	65 S1-
880-26569-1 MS	SB-7-S-0-0.5-20230329	108	112
880-26569-1 MSD	SB-7-S-0-0.5-20230329	109	112
880-26569-2	SB-7-S-2-20230329	101	78
880-26569-3	SB-7-S-4-20230329	89	101
880-26569-4	SB-9-S-0.5-20230329	93	103
880-26569-5	SB-9-S-2-20230329	60 S1-	77
880-26569-6	SB-9-S-4-20230329	104	108
880-26569-7	SB-8-S-0.5-20230329	93	103
880-26569-8	SB-8-S-2-20230329	86	104
880-26569-9	SB-8-S-4-20230329	84	92
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)
880-26569-1	SB-7-S-0-0.5-20230329	133 S1+	109
880-26569-2	SB-7-S-2-20230329	127	106
880-26569-3	SB-7-S-4-20230329	111	89
880-26569-4	SB-9-S-0.5-20230329	109	87
880-26569-5	SB-9-S-2-20230329	109	84
880-26569-6	SB-9-S-4-20230329	120	99
880-26569-7	SB-8-S-0.5-20230329	106	84
880-26569-8	SB-8-S-2-20230329	108	84
880-26569-9	SB-8-S-4-20230329	122	102
LCS 880-50056/2-A	Lab Control Sample	83	64 S1-
LCSD 880-50056/3-A	Lab Control Sample Dup	79	60 S1-
MB 880-50056/1-A	Method Blank	136 S1+	116
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-50516/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 50706							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							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 50706							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							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 50706							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							Client Sample ID: Lab Control Sample Dup		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 50706							Prep Batch: 50528		
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1238		mg/Kg		124	70 - 130	13	35

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QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

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		LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	RPD
	Added	Result	Qualifier	Limit				Limits		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
LCSD		LCSD								
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	108		70 - 130							
1,4-Difluorobenzene (Surr)	119		70 - 130							

Lab Sample ID: 880-26569-1 MS

Matrix: Solid

Analysis Batch: 50706

Client Sample ID: SB-7-S-0-0.5-20230329

Prep Type: Total/NA

Prep Batch: 50528

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene	<0.000386	U	0.0998	0.1034		mg/Kg		104	70 - 130		
Toluene	<0.000457	U	0.0998	0.09262		mg/Kg		93	70 - 130		
Ethylbenzene	<0.000566	U	0.0998	0.08339		mg/Kg		84	70 - 130		
m-Xylene & p-Xylene	<0.00101	U	0.200	0.1698		mg/Kg		85	70 - 130		
o-Xylene	0.000355	J	0.0998	0.08577		mg/Kg		86	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	108		70 - 130								
1,4-Difluorobenzene (Surr)	112		70 - 130								

Lab Sample ID: 880-26569-1 MSD

Matrix: Solid

Analysis Batch: 50706

Client Sample ID: SB-7-S-0-0.5-20230329

Prep Type: Total/NA

Prep Batch: 50528

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		RPD	Limit
Benzene	<0.000386	U	0.0996	0.1004		mg/Kg		101	70 - 130		3	35
Toluene	<0.000457	U	0.0996	0.08997		mg/Kg		90	70 - 130		3	35
Ethylbenzene	<0.000566	U	0.0996	0.08486		mg/Kg		85	70 - 130		2	35
m-Xylene & p-Xylene	<0.00101	U	0.199	0.1724		mg/Kg		87	70 - 130		2	35
o-Xylene	0.000355	J	0.0996	0.08687		mg/Kg		87	70 - 130		1	35
	MSD	MSD										
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	109		70 - 130									
1,4-Difluorobenzene (Surr)	112		70 - 130									

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

Lab Sample ID: MB 880-50056/1-A

Matrix: Solid

Analysis Batch: 50075

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50056

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	20.50	J	50.0	15.0	mg/Kg		03/31/23 17:04	04/01/23 20:18	1

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QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

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

Lab Sample ID: MB 880-50056/1-A

Matrix: Solid

Analysis Batch: 50075

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50056

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 17:04	04/01/23 20:18	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 17:04	04/01/23 20:18	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	136	S1+	70 - 130				03/31/23 17:04	04/01/23 20:18	1
o-Terphenyl	116		70 - 130				03/31/23 17:04	04/01/23 20:18	1

Lab Sample ID: LCS 880-50056/2-A

Matrix: Solid

Analysis Batch: 50075

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	801.6		mg/Kg		80	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	794.3		mg/Kg		79	70 - 130		
Surrogate		LCS	LCS				Limits		
		%Recovery	Qualifier						
1-Chlorooctane		83					70 - 130		
o-Terphenyl		64	S1-				70 - 130		

Lab Sample ID: LCSD 880-50056/3-A

Matrix: Solid

Analysis Batch: 50075

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 50056

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	844.1		mg/Kg		84	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	1000	802.1		mg/Kg		80	70 - 130	1	20
Surrogate		LCSD	LCSD				Limits		
		%Recovery	Qualifier						
1-Chlorooctane		79					70 - 130		
o-Terphenyl		60	S1-				70 - 130		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50417/1-A

Matrix: Solid

Analysis Batch: 50616

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.395	U	5.00	0.395	mg/Kg			04/07/23 01:23	1

Eurofins Midland

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-50417/2-A

Matrix: Solid

Analysis Batch: 50616

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	244.6		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-50417/3-A

Matrix: Solid

Analysis Batch: 50616

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	243.0		mg/Kg		97	90 - 110	1	20

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

Lab Sample ID: 880-26569-8 MS

Matrix: Solid

Analysis Batch: 50618

Client Sample ID: SB-8-S-2-20230329

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1500		1260	2718		mg/Kg		97	90 - 110

Lab Sample ID: 880-26569-8 MSD

Matrix: Solid

Analysis Batch: 50618

Client Sample ID: SB-8-S-2-20230329

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1500		1260	2712		mg/Kg		97	90 - 110	0	20

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QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

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
880-26569-1	SB-7-S-0-0.5-20230329	Total/NA	Solid	5030B	
880-26569-2	SB-7-S-2-20230329	Total/NA	Solid	5030B	
880-26569-3	SB-7-S-4-20230329	Total/NA	Solid	5030B	
880-26569-4	SB-9-S-0.5-20230329	Total/NA	Solid	5030B	
880-26569-5	SB-9-S-2-20230329	Total/NA	Solid	5030B	
880-26569-6	SB-9-S-4-20230329	Total/NA	Solid	5030B	
880-26569-7	SB-8-S-0.5-20230329	Total/NA	Solid	5030B	
880-26569-8	SB-8-S-2-20230329	Total/NA	Solid	5030B	
880-26569-9	SB-8-S-4-20230329	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	
880-26569-1 MS	SB-7-S-0-0.5-20230329	Total/NA	Solid	5030B	
880-26569-1 MSD	SB-7-S-0-0.5-20230329	Total/NA	Solid	5030B	

Analysis Batch: 50706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-1	SB-7-S-0-0.5-20230329	Total/NA	Solid	8021B	50528
880-26569-2	SB-7-S-2-20230329	Total/NA	Solid	8021B	50528
880-26569-3	SB-7-S-4-20230329	Total/NA	Solid	8021B	50528
880-26569-4	SB-9-S-0.5-20230329	Total/NA	Solid	8021B	50528
880-26569-5	SB-9-S-2-20230329	Total/NA	Solid	8021B	50528
880-26569-6	SB-9-S-4-20230329	Total/NA	Solid	8021B	50528
880-26569-7	SB-8-S-0.5-20230329	Total/NA	Solid	8021B	50528
880-26569-8	SB-8-S-2-20230329	Total/NA	Solid	8021B	50528
880-26569-9	SB-8-S-4-20230329	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
880-26569-1 MS	SB-7-S-0-0.5-20230329	Total/NA	Solid	8021B	50528
880-26569-1 MSD	SB-7-S-0-0.5-20230329	Total/NA	Solid	8021B	50528

GC Semi VOA

Prep Batch: 50056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-1	SB-7-S-0-0.5-20230329	Total/NA	Solid	8015NM Prep	
880-26569-2	SB-7-S-2-20230329	Total/NA	Solid	8015NM Prep	
880-26569-3	SB-7-S-4-20230329	Total/NA	Solid	8015NM Prep	
880-26569-4	SB-9-S-0.5-20230329	Total/NA	Solid	8015NM Prep	
880-26569-5	SB-9-S-2-20230329	Total/NA	Solid	8015NM Prep	
880-26569-6	SB-9-S-4-20230329	Total/NA	Solid	8015NM Prep	
880-26569-7	SB-8-S-0.5-20230329	Total/NA	Solid	8015NM Prep	
880-26569-8	SB-8-S-2-20230329	Total/NA	Solid	8015NM Prep	
880-26569-9	SB-8-S-4-20230329	Total/NA	Solid	8015NM Prep	
MB 880-50056/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

GC Semi VOA (Continued)

Prep Batch: 50056 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-50056/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50056/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-1	SB-7-S-0-0.5-20230329	Total/NA	Solid	8015B NM	50056
880-26569-2	SB-7-S-2-20230329	Total/NA	Solid	8015B NM	50056
880-26569-3	SB-7-S-4-20230329	Total/NA	Solid	8015B NM	50056
880-26569-4	SB-9-S-0.5-20230329	Total/NA	Solid	8015B NM	50056
880-26569-5	SB-9-S-2-20230329	Total/NA	Solid	8015B NM	50056
880-26569-6	SB-9-S-4-20230329	Total/NA	Solid	8015B NM	50056
880-26569-7	SB-8-S-0.5-20230329	Total/NA	Solid	8015B NM	50056
880-26569-8	SB-8-S-2-20230329	Total/NA	Solid	8015B NM	50056
880-26569-9	SB-8-S-4-20230329	Total/NA	Solid	8015B NM	50056
MB 880-50056/1-A	Method Blank	Total/NA	Solid	8015B NM	50056
LCS 880-50056/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50056
LCSD 880-50056/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50056

Analysis Batch: 50189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-1	SB-7-S-0-0.5-20230329	Total/NA	Solid	8015 NM	
880-26569-2	SB-7-S-2-20230329	Total/NA	Solid	8015 NM	
880-26569-3	SB-7-S-4-20230329	Total/NA	Solid	8015 NM	
880-26569-4	SB-9-S-0.5-20230329	Total/NA	Solid	8015 NM	
880-26569-5	SB-9-S-2-20230329	Total/NA	Solid	8015 NM	
880-26569-6	SB-9-S-4-20230329	Total/NA	Solid	8015 NM	
880-26569-7	SB-8-S-0.5-20230329	Total/NA	Solid	8015 NM	
880-26569-8	SB-8-S-2-20230329	Total/NA	Solid	8015 NM	
880-26569-9	SB-8-S-4-20230329	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-8	SB-8-S-2-20230329	Soluble	Solid	DI Leach	
880-26569-9	SB-8-S-4-20230329	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	
880-26569-8 MS	SB-8-S-2-20230329	Soluble	Solid	DI Leach	
880-26569-8 MSD	SB-8-S-2-20230329	Soluble	Solid	DI Leach	

Leach Batch: 50417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-1	SB-7-S-0-0.5-20230329	Soluble	Solid	DI Leach	
880-26569-2	SB-7-S-2-20230329	Soluble	Solid	DI Leach	
880-26569-3	SB-7-S-4-20230329	Soluble	Solid	DI Leach	
880-26569-4	SB-9-S-0.5-20230329	Soluble	Solid	DI Leach	
880-26569-5	SB-9-S-2-20230329	Soluble	Solid	DI Leach	
880-26569-6	SB-9-S-4-20230329	Soluble	Solid	DI Leach	
880-26569-7	SB-8-S-0.5-20230329	Soluble	Solid	DI Leach	

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QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

HPLC/IC (Continued)

Leach Batch: 50417 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-50417/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50417/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50417/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 50616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-1	SB-7-S-0-0.5-20230329	Soluble	Solid	300.0	50417
880-26569-2	SB-7-S-2-20230329	Soluble	Solid	300.0	50417
880-26569-3	SB-7-S-4-20230329	Soluble	Solid	300.0	50417
880-26569-4	SB-9-S-0.5-20230329	Soluble	Solid	300.0	50417
880-26569-5	SB-9-S-2-20230329	Soluble	Solid	300.0	50417
880-26569-6	SB-9-S-4-20230329	Soluble	Solid	300.0	50417
880-26569-7	SB-8-S-0.5-20230329	Soluble	Solid	300.0	50417
MB 880-50417/1-A	Method Blank	Soluble	Solid	300.0	50417
LCS 880-50417/2-A	Lab Control Sample	Soluble	Solid	300.0	50417
LCSD 880-50417/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50417

Analysis Batch: 50618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26569-8	SB-8-S-2-20230329	Soluble	Solid	300.0	50416
880-26569-9	SB-8-S-4-20230329	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
880-26569-8 MS	SB-8-S-2-20230329	Soluble	Solid	300.0	50416
880-26569-8 MSD	SB-8-S-2-20230329	Soluble	Solid	300.0	50416

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-7-S-0-0.5-20230329

Lab Sample ID: 880-26569-1

Date Collected: 03/29/23 13:52

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 06:17	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 00:13	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	50417	04/05/23 14:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50616	04/07/23 02:59	SMC	EET MID

Client Sample ID: SB-7-S-2-20230329

Lab Sample ID: 880-26569-2

Date Collected: 03/29/23 13:55

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 06:37	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 00:34	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	50417	04/05/23 14:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50616	04/07/23 03:12	SMC	EET MID

Client Sample ID: SB-7-S-4-20230329

Lab Sample ID: 880-26569-3

Date Collected: 03/29/23 13:57

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 06:58	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 00:55	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	50417	04/05/23 14:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50616	04/07/23 03:17	SMC	EET MID

Client Sample ID: SB-9-S-0.5-20230329

Lab Sample ID: 880-26569-4

Date Collected: 03/29/23 14:02

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 07:18	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 01:16	SM	EET MID

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Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-9-S-0.5-20230329
Date Collected: 03/29/23 14:02
Date Received: 03/29/23 17:53

Lab Sample ID: 880-26569-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	50417	04/05/23 14:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50616	04/07/23 03:21	SMC	EET MID

Client Sample ID: SB-9-S-2-20230329
Date Collected: 03/29/23 14:05
Date Received: 03/29/23 17:53

Lab Sample ID: 880-26569-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 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 07:39	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 01:59	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50417	04/05/23 14:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50616	04/07/23 03:26	SMC	EET MID

Client Sample ID: SB-9-S-4-20230329
Date Collected: 03/29/23 14:07
Date Received: 03/29/23 17:53

Lab Sample ID: 880-26569-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.96 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 08:00	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 02:20	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	50417	04/05/23 14:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50616	04/07/23 03:30	SMC	EET MID

Client Sample ID: SB-8-S-0.5-20230329
Date Collected: 03/29/23 14:13
Date Received: 03/29/23 17:53

Lab Sample ID: 880-26569-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	50528	04/06/23 15:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50706	04/09/23 08:20	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 02:41	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	50417	04/05/23 14:49	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50616	04/07/23 03:35	SMC	EET MID

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Client Sample ID: SB-8-S-2-20230329

Lab Sample ID: 880-26569-8

Date Collected: 03/29/23 14:15

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			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 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 03:02	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 04:12	SMC	EET MID

Client Sample ID: SB-8-S-4-20230329

Lab Sample ID: 880-26569-9

Date Collected: 03/29/23 14:17

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 09:01	MNR	EET MID
Total/NA	Analysis	8015 NM		1			50189	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	50056	03/31/23 17:04	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/02/23 03:23	SM	EET MID
Soluble	Leach	DI Leach			5.01 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 04:25	SMC	EET MID

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

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

Laboratory: Eurofins Midland

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: Lovington LPAU-82

Job ID: 880-26569-1

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-82

Job ID: 880-26569-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-26569-1	SB-7-S-0-0.5-20230329	Solid	03/29/23 13:52	03/29/23 17:53
880-26569-2	SB-7-S-2-20230329	Solid	03/29/23 13:55	03/29/23 17:53
880-26569-3	SB-7-S-4-20230329	Solid	03/29/23 13:57	03/29/23 17:53
880-26569-4	SB-9-S-0.5-20230329	Solid	03/29/23 14:02	03/29/23 17:53
880-26569-5	SB-9-S-2-20230329	Solid	03/29/23 14:05	03/29/23 17:53
880-26569-6	SB-9-S-4-20230329	Solid	03/29/23 14:07	03/29/23 17:53
880-26569-7	SB-8-S-0.5-20230329	Solid	03/29/23 14:13	03/29/23 17:53
880-26569-8	SB-8-S-2-20230329	Solid	03/29/23 14:15	03/29/23 17:53
880-26569-9	SB-8-S-4-20230329	Solid	03/29/23 14:17	03/29/23 17:53

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 880-26569-1

Login Number: 26569

List Number: 1

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

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

Appendix E

NMOCD Correspondence

From: Jordan, Morgan
Sent: Monday, May 6, 2024 10:53 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

Connect with us! www.arcadis.com | [LinkedIn](#) | [Twitter](#) | [Facebook](#)



Be green, leave it on the screen.

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

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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 EMNRD 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

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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 EMNRD 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

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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 additional information.

Thanks,
Scott

Scott Foord PG, RSO, CPM
AFS Group Service Leader
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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

Action 359129

QUESTIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID:
	4323
	Action Number:
	359129
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nGRL0916650301
Incident Name	NGRL0916650301 LOVINGTON SAN ANDRES UNIT #082 @ 30-025-31548
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-025-31548] LOVINGTON SAN ANDRES UNIT #082

Location of Release Source	
Please answer all the questions in this group.	
Site Name	LOVINGTON SAN ANDRES UNIT #082
Date Release Discovered	06/08/2009
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 Flow Line - Production Produced Water Released: 9 BBL Recovered: 0 BBL Lost: 9 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

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

QUESTIONS, Page 2

Action 359129

QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID:
	4323
	Action Number:
	359129
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

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

Initial Response

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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

I hereby agree and sign off to the above statement	Name: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 06/27/2024
--	--

District I

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QUESTIONS, Page 3

Action 359129

QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID:
	4323
	Action Number:
	359129
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 ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 500 and 1000 (ft.)
Any other fresh water well or spring	Between 500 and 1000 (ft.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Zero feet, overlying, or within area
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride	(EPA 300.0 or SM4500 Cl B)	4030
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	54.4
GRO+DRO	(EPA SW-846 Method 8015M)	44.2
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	07/30/2024
On what date will (or did) the final sampling or liner inspection occur	08/05/2024
On what date will (or was) the remediation complete(d)	08/29/2024
What is the estimated surface area (in square feet) that will be reclaimed	1850
What is the estimated volume (in cubic yards) that will be reclaimed	300
What is the estimated surface area (in square feet) that will be remediated	1850
What is the estimated volume (in cubic yards) that will be remediated	300

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 359129

QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID:	4323
	Action Number:	359129
	Action Type:	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
<i>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.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(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
<i>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>	
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: 06/27/2024
<i>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.</i>	

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QUESTIONS, Page 5

Action 359129

QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID:
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	Action Number:
	359129
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, Page 6

Action 359129

QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 359129
	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 359129

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID:
	4323
	Action Number:
	359129
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 completed and will need to be achieved during remediation activities. The proposed excavation depicted on Figure 3 may need to be expanded horizontally and vertically to meet delineation and closure requirements. The area of SB-2 will need to be advanced past 6'.	7/2/2024
bhall	The site must meet the requirements of 19.15.29.13 NMAC at time of remediation as the site is no longer reasonably needed for production or subsequent drilling activities. A reclamation report must be submitted with the closure report or immediately after the closure report is approved.	7/2/2024
bhall	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	7/2/2024
bhall	Submit a complete report through the OCD Permitting website by 10/2/2024.	7/2/2024