Chris Brand
Environmental Remediation/ Facility Decom Advisor

VIA ELECTRONIC MAIL

June 10, 2024

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

Re: Lovington San Andres Unit #073
Soil Remediation Work Plan
Incident No. nGRL0821729742
Case No. 1RP-1891

Dear Whom it May Concern:

Please find enclosed for your files, copies of the following:
Lovington San Andres Unit #073 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 #073

cc. Scott Foord – Arcadis
Morgan Jordan – Arcadis

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

ARCADIS

Chevron Environmental Management Company

2024 Work Plan

Lovington San Andres Unit #073

Lea County, New Mexico

Incident # nGRL0821729742

June 2024

2024 Work Plan

Lovington San Andres Unit #073
Incident # nGRL0821729742

Lea County, New Mexico

June 2024

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

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

Scott Foord, PG
Program Manager

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2024 Work Plan
Lovington San Andres Unit #073

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 #073 (Site) located at coordinates: 32.866673, -103.314675. Details of the release are summarized in the New Mexico Oil Conservation Division (NMOCD) Initial C-141 Form included as **Appendix A**.

2 Project Summary

The Site is located on City of Lovington owned land approximately 5.60 miles southeast of the City of Lovington in Unit E, Section 1, Township 17 South, Range 36 East, Lea County, New Mexico. The site is located within a low karst area. A Site Location Map is included as **Figure 1** and a Topographic Map as **Figure 2**.

2.1 Incident # nGRL0821729742

According to the Initial C-141 Form, on June 27, 2008, a control valve on a vessel malfunctioned causing the pressure relief valve to open, releasing 0.5 barrels (bbls) of oil and 19.5 bbls of produced water. The Initial C-141 Form states that the release covered an area measuring approximately 30 feet (ft) in diameter on the northeast side of the satellite. Upon discovery, a vacuum truck recovered approximately 15 bbls of produced water. The Initial C-141 Form for this release was submitted to the New Mexico Oil Conservation Division (NMOCD) on July 2, 2008, and approved by NMOCD on July 7, 2008. The release was assigned remediation permit number 1RP-1891 and incident number nGRL0821729742. 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) and United States Geological Survey (USGS) databases, USGS well 325216103184601 located approximately 0.27 miles north of the Site was identified and gauged with a water level meter by Arcadis on May 20, 2024. The well was verified as dry at 112.05 feet below ground surface (bgs). The Site is within 1,000 feet of 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 500 and 1,000 feet;
- Distance to occupied permanent residence, school, hospital, institution, or church: Between 1 and 5 miles;
- Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes: Between 300 and 500 feet;

- Distance to any other fresh water well or spring: Between 500 and 1,000 feet;
- Distance to incorporated municipal boundaries or a defined municipal fresh water well field: Between 500 and 1,000 feet;
- Distance to wetland: Between 500 and 1,000 feet;
- Distance to subsurface mine: >5 miles;
- Distance to (non-karst) unstable area: >5 miles;
- Categorize the risk of this well/site being in a karst geology: Low;
- Distance to a 100-year floodplain: Between 1 and 5 miles; and
- Did the release impact areas not on an exploration, development, production, or storage site? No

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 1,000 feet of 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 fourteen (14) sample points (SB-1 through SB-14) were advanced to depths ranging from the surface to 3.5 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 photographic log is included as **Appendix B.**

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 0.00222 mg/kg (SB-1) to 0.00654 mg/kg (SB-1). Soil samples analyzed for TPH were reported with concentrations ranging from 17.4 J mg/kg (SB-14) to 1,040 mg/kg (SB-10). Soil

samples analyzed for chloride were reported with concentrations ranging from 8.69 mg/kg (SB-10) to 1,230 mg/kg (SB-4).

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 C.** NMOCD correspondence is shown in **Appendix D.**

6 Proposed Work Plan

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

The proposed excavation area encompasses a surface area of approximately 2,750 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 2,750 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 73
Lea County, New Mexico

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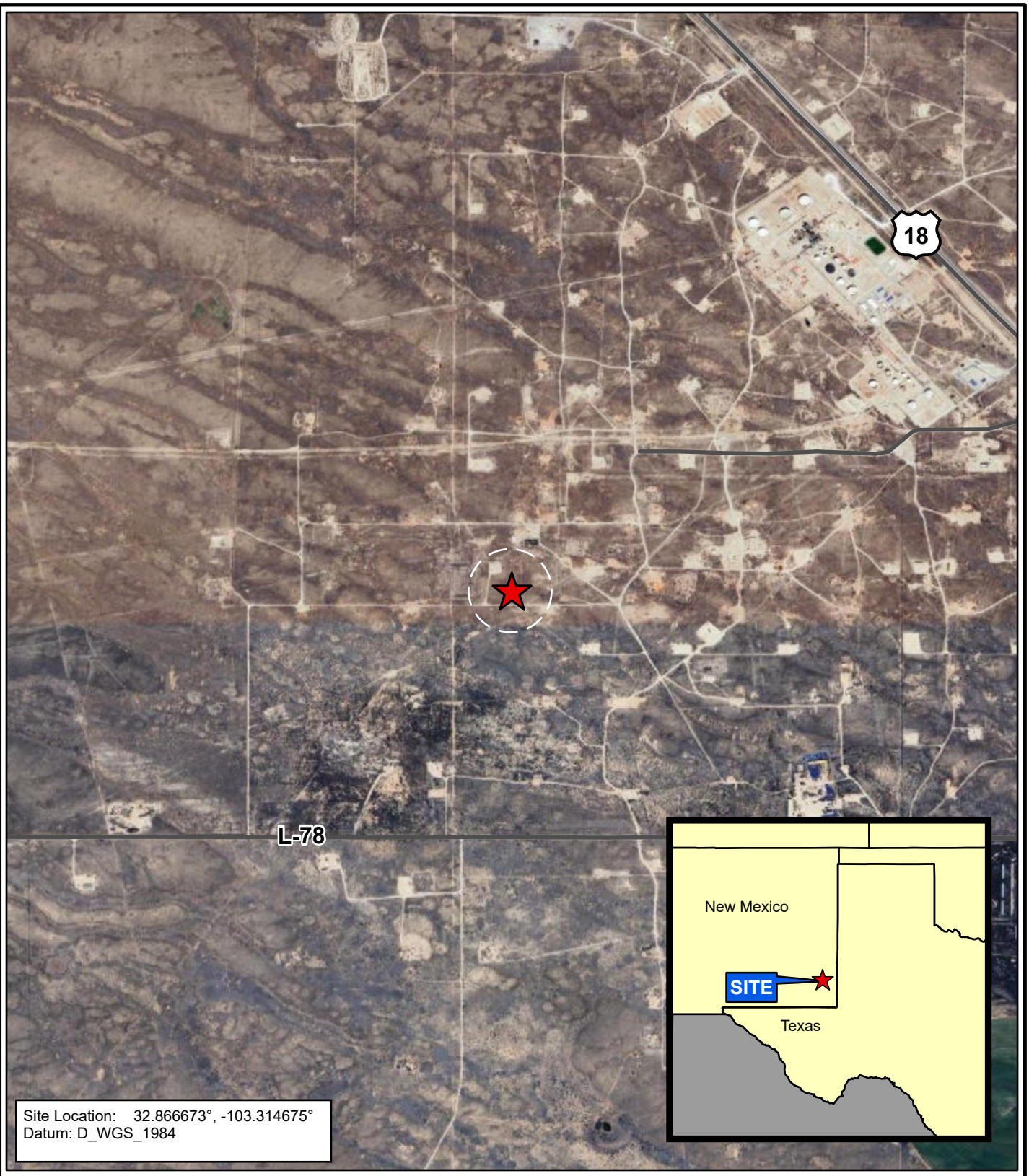
Sample I.D.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH GRO + DRO	TPH MRO	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Standards			10	--	--	--	50	--	--	--	--	100	600
Restoration Requirements			10	--	--	--	50	--	--	--	--	100	600
SB-1	0-0.5	02/02/21	<0.000389	0.00654	<0.000570	<0.000348	0.00654	<15.0	142	142	74.7	***217***	145
DUP 1 (SB-1)	0-0.5	02/02/21	<0.000386	0.00222	<0.000567	<0.000346	0.00222	<15.0	157	157	76	***233***	137
SB-2	0-0.5	02/02/21	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	<15.0	111	111	50.6	***162***	12
SB-3	0-0.5	02/02/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	<15.0	34.3 J	34.3 J	<15.0	34.3 J	12.4
	1-1.25	02/02/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	<14.9	33.3 J	33.3 J	<14.9	33.3 J	9.51
SB-4	0-0.5	02/02/21	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	39.3 J	15.9 J	15.9 J	<15.0	55.2	***1,230***
SB-5	0-0.5	02/03/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	24.1 B J	24.6 J	48.7 B J	<15.0	48.7 J	122
	1-1.25	02/03/21	<0.000387	<0.000458	<0.000568	<0.000346	<0.000346	25.5 B J	18.3 J	43.8 B J	<15.0	43.8 J	239
SB-6	0-0.5	02/03/21	<0.000384	0.00121 J	<0.000564	0.00114 J	0.00235	17.9 B J	621	638.9 B J	189	***828***	75.3
SB-7	0-0.5	02/03/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	27.1 B J	17.9 J	45.0 B J	<15.0	45.0 J	73.3
SB-8	0-0.5	02/03/21	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	23.9 B J	155	178.9 B J	48.6 J	***228***	103
SB-9	0-0.5	02/03/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	22.8 B J	17.1 J	39.9 B J	<15.0	39.9 J	20.7
SB-10	0-0.5	02/03/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	16.9 B J	768	784.9	256	***1,040***	8.69
SB-11	0-0.5	03/28/23	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	<15.0	37.5 J	37.5 J	<15.0	37.5 J	79.3 B
	2	03/28/23	<0.000383	<0.000453	<0.000562	<0.000342	<0.000342	35.3 J	106	141.3 J	<15.0	***141***	55.4 B
	3.5	03/28/23	<0.000384	<0.000455	<0.000564	<0.000343	<0.000343	44.9 J	19.7 J	64.6 J	<15.0	64.6	73.2 B
SB-12	0-0.5	03/28/23	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	20.0 J	18.1 J	38.1 J	<15.0	38.1 J	258 B
	2	03/28/23	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	29.6 J	<15.0	29.6 J	<15.0	29.6 J	76.1 B
SB-13	0-0.5	03/28/23	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	32.4 J	30.9 J	63.3 J	<15.0	63.3	159
	2	03/28/23	<0.000384	<0.000455	<0.000564	<0.000343	<0.000343	23.4 J	<15.0	23.4 J	<15.0	23.4 J	56.0
SB-14	0-0.5	03/28/23	< 0.000386	<0.000457	<0.000566	<0.000345	<0.000345	17.4 J	<15.0	17.4 J	<15.0	17.4 J	120 B
	2	03/28/23	<0.000383	<0.000453	<0.000562	<0.000342	<0.000342	<15.0	24.5 J	24.5 J	<15.0	24.5 J	76.4 B

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 depth to groundwater of greater than 100 feet.
TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics
TPH MRO: Total Petroluem Hydrocarbons Motor Oil Range Organics
TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics
Total TPH: GRO + DRO + MRO
*Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018
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



Legend

Site Location

Credits: ESRI Online, Google Earth

0 2,000 4,000 Feet

GRAPHIC SCALE

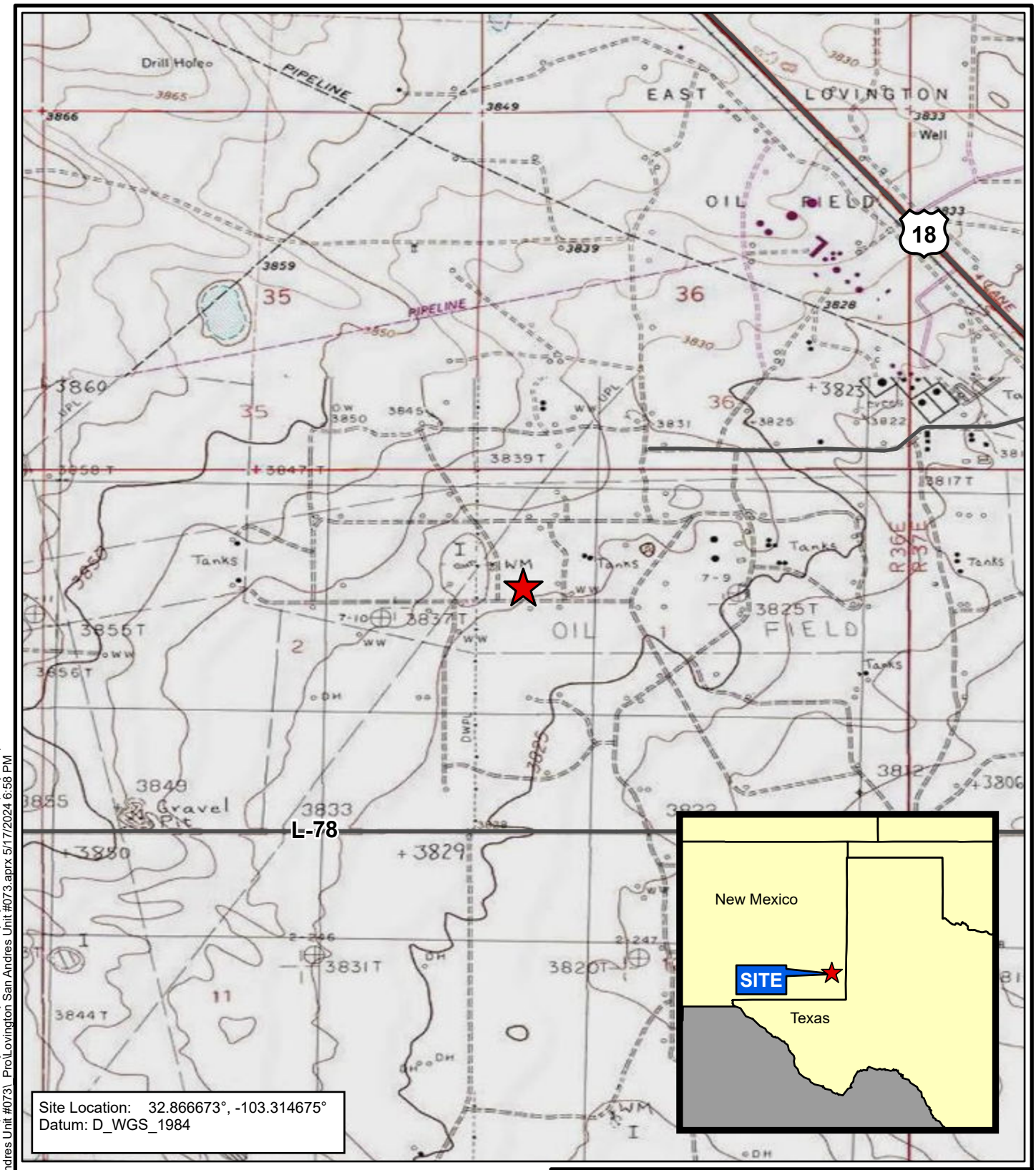
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LOVINGTON SAN ANDRES UNIT #073
LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

ARCADIS

FIGURE 1

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: yadavs0264 : Client (Project #)
T:_ENV\Chevron\Upstream\Lovington San Andres Unit #073_Pro\Lovington San Andres Unit #073.aprx 5/17/2024 6:58 PM



Legend

Site Location

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

0 2,000 4,000 Feet
GRAPHIC SCALE

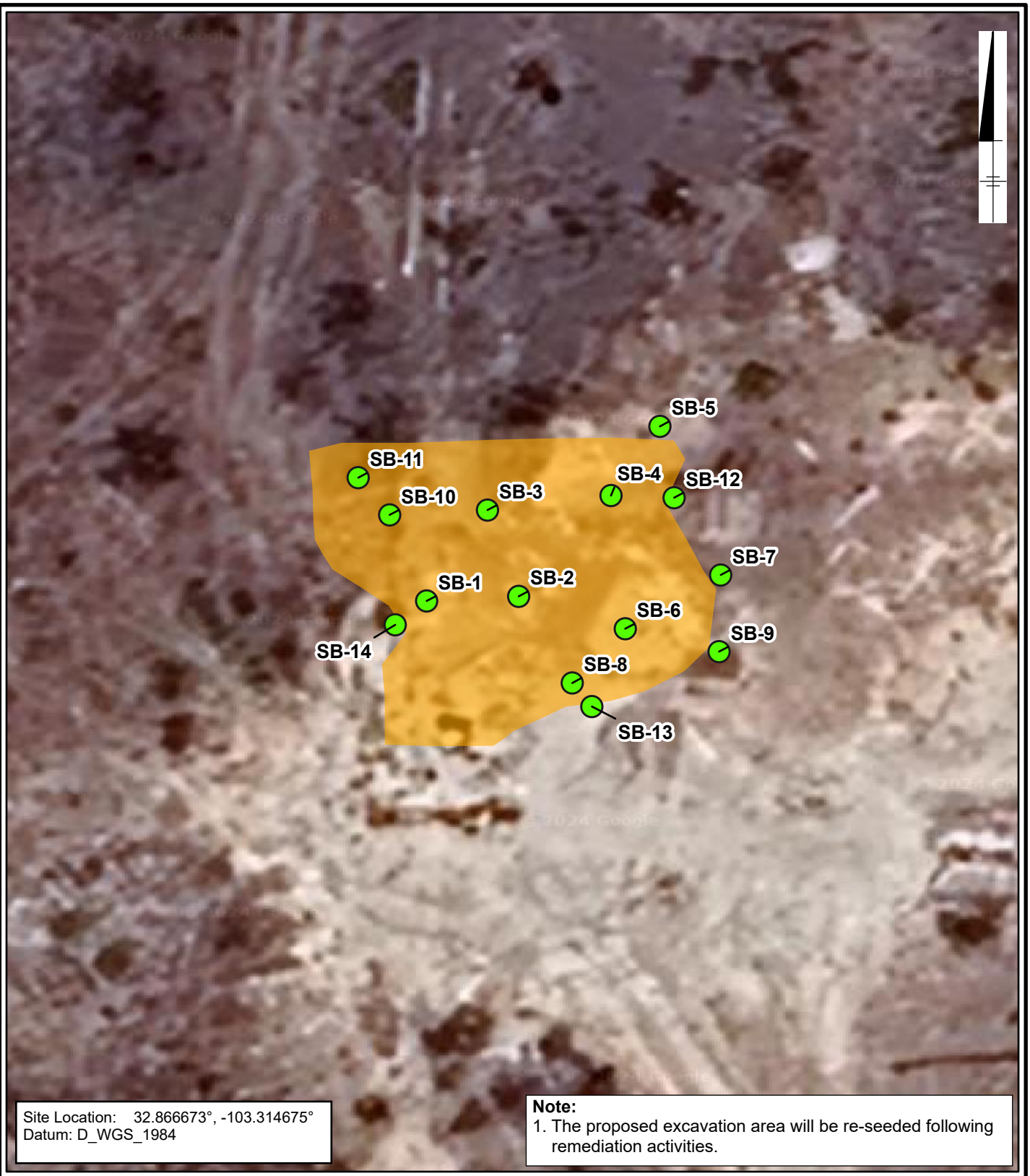
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LOVINGTON SAN ANDRES UNIT #073
LEA COUNTY, NEW MEXICO

TOPOGRAPHIC MAP

ARCADIS

FIGURE 2

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: yadavs0264 : Client (Project #) T:_ENV\Chevron\Upstream\Lovington San Andres Unit #073_Pro\Lovington San Andres Unit #073.aprx 5/17/2024 6:58 PM



Site Location: 32.866673°, -103.314675°
Datum: D_WGS_1984

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

Legend

- Previous Assessment Sample Location
- Proposed Excavation Area

0 25 50 Feet
GRAPHIC SCALE

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LOVINGTON SAN ANDRES UNIT #073
LEA COUNTY, NEW MEXICO

PROPOSED EXCAVATION AND SOIL SAMPLE LOCATION MAP

ARCADIS

FIGURE 3

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: vmn1306 ; Client (Project #)
T:_ENV\Upstream\Lovington San Andres Unit #073_Pro\Lovington San Andres Unit #073.aprx 6/3/2024 12:21 PM

Appendix A

Initial C-141 Form Incident # nGRL0821729742

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
JUL 07 2008
HOBBS OCD

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

X Initial Report Final Report

Name of Company Chevron Midcontinent LP	Contact Larry Ridenour
Address HCR 60 Box 423 Lovington, N.M. 88260	Telephone No. 505-396-4414 X 102
Facility Name Lovington San Andres Unit Sat #4 WELL 13	Facility Type producing well test facility

Surface Owner City of Lovington	Mineral Owner State of NM	Lease No. B-1505

LOCATION OF RELEASE

API 30 025 31367

Unit Letter	Section	Township	Range	Feet from the		Feet from the		County
E	1	17S	36E	1726	North line	554	West line	Lea

Latitude N 32 deg 51 min 59.83 sec **Longitude** W 103 deg 18 min 52.87 sec

NATURE OF RELEASE

Type of Release Produced oil and water	Volume of Release 20 bbls Total fluid (.5 bo, 19.5 bw)	Volume Recovered 15 bbls fluids. (0 bo, 15 bw)
Source of Release pressure relief valve on test vessel	Date and Hour of Occurrence 06/27/08 8:30 AM	Date and Hour of Discovery 06/27/08 10:30 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Sylvia Dickey	
By Whom? Larry Ridenour	Date and Hour 6/27/2008 3:20 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
HOBBS OCD

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Control valve on vessel malfunctioned causing vessel to pressure up and the pressure relief valve opening up. Upon discovery well was switched out of test. Vacuum truck was called in to pick up fluids. Area was flagged off and RWI notified to make one call for clean up of obviously contaminated soil.
Chlorides 35,300

Describe Area Affected and Cleanup Action Taken.*
Approximately 30' diameter area on NE side of satellite. Bulk of spill stayed on location. Samples will then be taken after initial clean up for delineation, evaluation, and formulation of remediation plan to be submitted to NMOCD.

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

Signature: Larry D Ridenour	OIL CONSERVATION DIVISION
Printed Name: Larry Ridenour	Approved by District Supervisor: Johnson ENVIRONMENTAL ENGINEER
Title: Operations Representative	Approval Date: 7.7.08 Expiration Date: 9.8.08
E-mail Address LRidenour@chevron.com	Conditions of Approval: SUBMIT FINAL C-141 w/ DOCUMENT BY 9.8.08 Attached ☐ IRP# 1891
Date: 7/2/2008 Phone: 396-4414 X 102	

* Attach Additional Sheets If Necessary

fGRL0821727930

Appendix B

Photo Log

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
1	02/02/2021

Direction Photo Taken:

North

Description:

South of Pad near entrance

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
2	02/02/2021

Direction Photo Taken:

Northeast

Description:

East of center of pad

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
3	02/02/2021

Direction Photo Taken:

East

Description:

West of Pad

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
4	02/02/2021

Direction Photo Taken:

South

Description:

North of pad

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
5	02/02/2021

Direction Photo Taken:

South

Description:

Center of pad north of seperator

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
6	02/02/2021

Direction Photo Taken:

West

Description:

Northeast corner of pad

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
7	02/02/2021

Direction Photo Taken:

South

Description:

North of seperator

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Incident #
Lovington San Andres Unit #073	Lea County, NM	nGRL0821729742

Photo No.	Date:
8	02/02/2021

Direction Photo Taken:

East

Description:

Northwest of seperator

Appendix C

Laboratory Analytical Reports

eurofins | Environment Testing Xenco

Analytical Report 687046

for

Arcadis U.S., Inc

Project Manager: Morgan Jordan

LSAU Sat 4

30064632-0002B

02.09.2021

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)

eurofins | Environment Testing Xenco

02.09.2021

Project Manager: **Morgan Jordan**
Arcadis U.S., Inc
1717 W 6th Street, Suite 210
Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **687046**
LSAU Sat 4
Project Address:

Morgan Jordan:

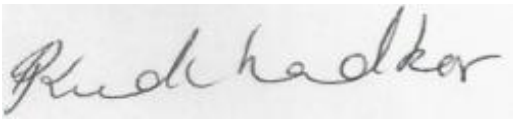
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 687046. All results being reported under this Report Number apply to the samples analyzed and properly identified 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. 687046 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,



Sachin Kudchadkar
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1-S-0-.5-210202	S	02.02.2021 11:30		687046-001
SB-1-SD-0-.5-210202	S	02.02.2021 00:00		687046-002
SB-2-S-0-.5-210202	S	02.02.2021 11:47		687046-003
SB-3-S-0-.5-210202	S	02.02.2021 12:27		687046-004
SB-3-S-1-1.25-210202	S	02.02.2021 12:41		687046-005
SB-4-S-0-.5-210202	S	02.02.2021 12:49		687046-006

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CASE NARRATIVE

Client Name: Arcadis U.S., Inc

Project Name: LSAU Sat 4

Project ID: *30064632-0002B*
Work Order Number(s): *687046*

Report Date: *02.09.2021*
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

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-1-S-0-.5-210202** Matrix: Soil Date Received:02.02.2021 17:00

Lab Sample Id: 687046-001 Date Collected: 02.02.2021 11:30

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.03.2021 13:30 % Moisture:

Seq Number: 3149952 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**145**	4.98	0.855	mg/kg	02.03.2021 19:46		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.05.2021 12:00 % Moisture:

Seq Number: 3150316 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	02.05.2021 19:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	**142**	49.9	15.0	mg/kg	02.05.2021 19:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**74.7**	49.9	15.0	mg/kg	02.05.2021 19:00		1
Total TPH	PHC635	**217**	49.9	15.0	mg/kg	02.05.2021 19:00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	02.05.2021 19:00	
o-Terphenyl	84-15-1	93	%	70-130	02.05.2021 19:00	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-1-S-0-.5-210202**
Matrix: Soil
Date Received:02.02.2021 17:00
Lab Sample Id: 687046-001
Date Collected: 02.02.2021 11:30

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5035A
Tech: KTL
Analyst: KTL
Date Prep: 02.03.2021 10:00
% Moisture:
Basis: Wet Weight
Seq Number: 3149948

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 15:02	U	1
Toluene	108-88-3	**0.00654**	0.00202	0.000460	mg/kg	02.03.2021 15:02		1
Ethylbenzene	100-41-4	<0.000570	0.00202	0.000570	mg/kg	02.03.2021 15:02	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00404	0.00102	mg/kg	02.03.2021 15:02	U	1
o-Xylene	95-47-6	<0.000348	0.00202	0.000348	mg/kg	02.03.2021 15:02	U	1
Total Xylenes	1330-20-7	<0.000348	0.00202	0.000348	mg/kg	02.03.2021 15:02	U	1
Total BTEX		**0.00654**	0.00202	0.000348	mg/kg	02.03.2021 15:02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.03.2021 15:02	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.03.2021 15:02	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-1-SD-0-.5-210202** Matrix: Soil Date Received:02.02.2021 17:00

Lab Sample Id: 687046-002 Date Collected: 02.02.2021 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.03.2021 13:30 % Moisture:

Seq Number: 3149952 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**137**	4.97	0.853	mg/kg	02.03.2021 20:02		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.05.2021 12:00 % Moisture:

Seq Number: 3150316 Basis: Wet Weight

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 19:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	**157**	50.0	15.0	mg/kg	02.05.2021 19:22		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**76.0**	50.0	15.0	mg/kg	02.05.2021 19:22		1
Total TPH	PHC635	**233**	50.0	15.0	mg/kg	02.05.2021 19:22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	02.05.2021 19:22	
o-Terphenyl	84-15-1	107	%	70-130	02.05.2021 19:22	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-1-SD-0-.5-210202**	Matrix:	Soil	Date Received:	02.02.2021 17:00
Lab Sample Id:	687046-002	Date Collected:	02.02.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.03.2021 10:00	% Moisture:	
Seq Number:	3149948			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 15:22	U	1
Toluene	108-88-3	**0.00222**	0.00201	0.000457	mg/kg	02.03.2021 15:22		1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.03.2021 15:22	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.03.2021 15:22	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 15:22	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.03.2021 15:22	U	1
Total BTEX		**0.00222**	0.00201	0.000346	mg/kg	02.03.2021 15:22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.03.2021 15:22	
1,4-Difluorobenzene	540-36-3	101	%	70-130	02.03.2021 15:22	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-2-S-0-.5-210202** Matrix: Soil Date Received:02.02.2021 17:00

Lab Sample Id: 687046-003 Date Collected: 02.02.2021 11:47

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.03.2021 13:30 % Moisture:

Seq Number: 3149952 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.0**	5.04	0.865	mg/kg	02.03.2021 20:07		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.05.2021 12:00 % Moisture:

Seq Number: 3150316 Basis: Wet Weight

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 19:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**111**	50.0	15.0	mg/kg	02.05.2021 19:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**50.6**	50.0	15.0	mg/kg	02.05.2021 19:43		1
Total TPH	PHC635	**162**	50.0	15.0	mg/kg	02.05.2021 19:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	02.05.2021 19:43	
o-Terphenyl	84-15-1	114	%	70-130	02.05.2021 19:43	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-2-S-0-.5-210202** Matrix: Soil Date Received:02.02.2021 17:00

Lab Sample Id: 687046-003 Date Collected: 02.02.2021 11:47

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 02.03.2021 10:00 % Moisture:

Seq Number: 3149948 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 15:43	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	02.03.2021 15:43	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	02.03.2021 15:43	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 15:43	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	02.03.2021 15:43	U	1
Total Xylenes	1330-20-7	<0.000343	0.00199	0.000343	mg/kg	02.03.2021 15:43	U	1
Total BTEX		<0.000343	0.00199	0.000343	mg/kg	02.03.2021 15:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.03.2021 15:43	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.03.2021 15:43	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-3-S-0-.5-210202** Matrix: Soil Date Received:02.02.2021 17:00

Lab Sample Id: 687046-004 Date Collected: 02.02.2021 12:27

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.03.2021 13:30 % Moisture:

Seq Number: 3149952 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.4**	4.99	0.857	mg/kg	02.03.2021 20:13		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.05.2021 12:00 % Moisture:

Seq Number: 3150316 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	02.05.2021 20:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	**34.3**	49.9	15.0	mg/kg	02.05.2021 20:04	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.05.2021 20:04	U	1
Total TPH	PHC635	**34.3**	49.9	15.0	mg/kg	02.05.2021 20:04	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	02.05.2021 20:04	
o-Terphenyl	84-15-1	113	%	70-130	02.05.2021 20:04	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-3-S-0-.5-210202**
Matrix: Soil
Date Received:02.02.2021 17:00
Lab Sample Id: 687046-004
Date Collected: 02.02.2021 12:27

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5035A
Tech: KTL
Analyst: KTL
Date Prep: 02.03.2021 10:00
% Moisture:
Basis: Wet Weight
Seq Number: 3149948

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 16:03	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	02.03.2021 16:03	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	02.03.2021 16:03	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	02.03.2021 16:03	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 16:03	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.03.2021 16:03	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.03.2021 16:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.03.2021 16:03	
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.03.2021 16:03	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-3-S-1-1.25-210202** Matrix: Soil Date Received:02.02.2021 17:00

Lab Sample Id: 687046-005 Date Collected: 02.02.2021 12:41

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.03.2021 13:30 % Moisture:

Seq Number: 3149952 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.51**	4.98	0.855	mg/kg	02.03.2021 20:18		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.05.2021 12:00 % Moisture:

Seq Number: 3150316 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	02.05.2021 20:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	**33.3**	49.8	14.9	mg/kg	02.05.2021 20:25	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	02.05.2021 20:25	U	1
Total TPH	PHC635	**33.3**	49.8	14.9	mg/kg	02.05.2021 20:25	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	02.05.2021 20:25	
o-Terphenyl	84-15-1	118	%	70-130	02.05.2021 20:25	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-3-S-1-1.25-210202**	Matrix:	Soil	Date Received:	02.02.2021 17:00
Lab Sample Id:	687046-005	Date Collected:	02.02.2021 12:41		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.03.2021 10:00	% Moisture:	
Seq Number:	3149948			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 16:23	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	02.03.2021 16:23	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	02.03.2021 16:23	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	02.03.2021 16:23	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 16:23	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	02.03.2021 16:23	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	02.03.2021 16:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.03.2021 16:23	
1,4-Difluorobenzene	540-36-3	99	%	70-130	02.03.2021 16:23	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-4-S-0-.5-210202** Matrix: Soil Date Received:02.02.2021 17:00

Lab Sample Id: 687046-006 Date Collected: 02.02.2021 12:49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.03.2021 13:30 % Moisture:

Seq Number: 3149952 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1230**	24.8	4.25	mg/kg	02.03.2021 20:23		5

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	**39.3**	50.0	15.0	mg/kg	02.06.2021 18:47	J	1
Diesel Range Organics (DRO)	C10C28DRO	**15.9**	50.0	15.0	mg/kg	02.06.2021 18:47	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.06.2021 18:47	U	1
Total TPH	PHC635	**55.2**	50.0	15.0	mg/kg	02.06.2021 18:47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	02.06.2021 18:47	
o-Terphenyl	84-15-1	105	%	70-130	02.06.2021 18:47	

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Certificate of Analytical Results 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-4-S-0-.5-210202**
Matrix: Soil
Date Received:02.02.2021 17:00
Lab Sample Id: 687046-006
Date Collected: 02.02.2021 12:49

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5035A
Tech: KTL
Analyst: KTL
Date Prep: 02.03.2021 10:00
% Moisture:
Basis: Wet Weight
Seq Number: 3149948

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 19:08	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	02.03.2021 19:08	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	02.03.2021 19:08	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.03.2021 19:08	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:08	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:08	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	02.03.2021 19:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.03.2021 19:08	
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.03.2021 19:08	

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Blank Summary 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

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	<0.858	5.00	0.858	mg/kg	02.03.2021 17:55	U	1

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Blank Summary 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

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

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Blank Summary 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **7721003-1-BLK** Matrix: SOLID

Lab Sample Id: **7721003-1-BLK**

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.05.2021 12:00

Seq Number: 3150316

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 11:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.05.2021 11:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.05.2021 11:26	U	1

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Blank Summary 687046

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

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

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Form 2 - Surrogate Recoveries

Project Name: LSAU Sat 4

Report Date: 02092021

Work Orders : 687046 **Project ID:** 30064632-0002B

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.

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Form 2 - Surrogate Recoveries

Project Name: LSAU Sat 4

Report Date: 02092021

Work Orders : 687046 **Project ID:** 30064632-0002B

Lab Batch #: 3150316 **Sample:** 7721003-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.05.2021 11:26 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.0	100	87	70-130	
o-Terphenyl	46.6	50.0	93	70-130	

Lab Batch #: 3150316 **Sample:** 7721003-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.05.2021 11:47 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.5	100	84	70-130	
o-Terphenyl	42.4	50.0	85	70-130	

Lab Batch #: 3150316 **Sample:** 7721003-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.05.2021 12:08 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-130	
o-Terphenyl	46.9	50.0	94	70-130	

Lab Batch #: 3150316 **Sample:** 686905-021 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.05.2021 12:51 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.3	99.7	96	70-130	
o-Terphenyl	46.9	49.9	94	70-130	

Lab Batch #: 3150316 **Sample:** 686905-021 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.05.2021 13:12 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.5	99.6	95	70-130	
o-Terphenyl	48.2	49.8	97	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.

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Form 2 - Surrogate Recoveries

Project Name: LSAU Sat 4

Report Date: 02092021

Work Orders : 687046 **Project ID:** 30064632-0002B

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.

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QC Summary 687046

Arcadis U.S., Inc

LSAU Sat 4

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149952 — Matrix: Solid — Date Prep: 02.03.2021
MB Sample Id: 7720700-1-BLK — LCS Sample Id: 7720700-1-BKS — 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	<0.858	250	242	97	249	100	90-110	3	20	mg/kg	02.03.2021 18:00	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149952 — Matrix: Soil — Date Prep: 02.03.2021
Parent Sample Id: 687003-037 — MS Sample Id: 687003-037 S — 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 — Prep Method: E300P
Seq Number: 3149952 — Matrix: Soil — Date Prep: 02.03.2021
Parent Sample Id: 687003-047 — MS Sample Id: 687003-047 S — 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: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150316 — Matrix: Solid — Date Prep: 02.05.2021
MB Sample Id: 7721003-1-BLK — LCS Sample Id: 7721003-1-BKS — LCSD Sample Id: 7721003-1-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	836	84	854	85	70-130	2	20	mg/kg	02.05.2021 11:47	
Diesel Range Organics (DRO)	<15.0	1000	864	86	876	88	70-130	1	20	mg/kg	02.05.2021 11:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		84		106		70-130	%	02.05.2021 11:47
o-Terphenyl	93		85		94		70-130	%	02.05.2021 11:47

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150326 — Matrix: Solid — Date Prep: 02.06.2021
MB Sample Id: 7721014-1-BLK — LCS Sample Id: 7721014-1-BKS — 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 [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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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QC Summary 687046

Arcadis U.S., Inc

LSAU Sat 4

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150316 — Matrix: Solid — Date Prep: 02.05.2021
MB Sample Id: 7721003-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	02.05.2021 11:26	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150326 — Matrix: Solid — Date Prep: 02.06.2021
MB Sample Id: 7721014-1-BLK

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 — Prep Method: SW8015P
Seq Number: 3150316 — Matrix: Soil — Date Prep: 02.05.2021
Parent Sample Id: 686905-021 — MS Sample Id: 686905-021 S — MSD Sample Id: 686905-021 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	896	90	1030	103	70-130	14	20	mg/kg	02.05.2021 12:51	
Diesel Range Organics (DRO)	<15.0	997	921	92	948	95	70-130	3	20	mg/kg	02.05.2021 12:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		95		70-130	%	02.05.2021 12:51
o-Terphenyl	94		97		70-130	%	02.05.2021 12:51

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150326 — Matrix: Soil — Date Prep: 02.06.2021
Parent Sample Id: 687058-041 — MS Sample Id: 687058-041 S — 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 — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 687046

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Arcadis U.S., Inc

LSAU Sat 4

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3149948 Matrix: Solid 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** Prep Method: SW5035A
Seq Number: 3149948 Matrix: Soil 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

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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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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

6907046

Client Information	Sampler: J. Steinmann	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Motgan Jordan	Phone: 619 851 8792	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.				Job #:
Address: 1717 W 6th Street. Suite 210	Due Date Requested:			
City: Austin	TAT Requested (days): Std			
State, Zip: TX, 78703				
Phone: 281 644 9437	PO #:			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: 30064832-0002B	Project #: 30064832-0002B			
Site: LSAU Sat 4	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015_GRO/ DRO/ ORO	300 - Chloride	8021- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
SB-1-S-0-.5-210202	2/2/21	1130	G	Solid						1	
SB-1-SD-0-.5-210202		—		Solid							
SB-2-S-0-.5-210202		1147		Solid							
SB-3-S-0-.5-210202		1227		Solid							
SB-3-S-1-1.25-210202		1241		Solid							
SB-4-S-0-.5-210202		1249		Solid							
				Solid							
				Solid							
				Solid							
				Solid							
				Solid							

QC 2/02/21

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2/2/21 1500	Arcadis	Taylor Grijalva	2-2-21 1500	Arcadis
Relinquished by: Taylor Grijalva	Date/Time: 2-2-21 1700	Company Arcadis	Received by:	Date/Time: 2.2.21 1700	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.1/2.6

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 #: 687046

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
Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 02.03.2021
Sachin Kudchadkar

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Analytical Report 687238

for

Arcadis U.S., Inc

Project Manager: Morgan Jordan

LSAU Sat 4

30064832-0002B

02.09.2021

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)

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02.09.2021

Project Manager: **Morgan Jordan**
Arcadis U.S., Inc
1717 W 6th Street, Suite 210
Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **687238**
LSAU Sat 4
Project Address:

Morgan Jordan:

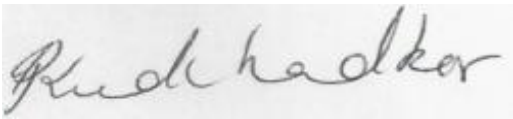
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 687238. All results being reported under this Report Number apply to the samples analyzed and properly identified 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. 687238 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,



Sachin Kudchadkar
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-5-S-0-.5-210203	S	02.03.2021 10:35		687238-001
SB-5-S-1-1.25-210203	S	02.03.2021 10:39		687238-002
SB-6-S-0-.5-210203	S	02.03.2021 10:56		687238-003
SB-7-S-0-.5-210203	S	02.03.2021 11:08		687238-004
SB-8-S-0-.5-210203	S	02.03.2021 12:15		687238-005
SB-9-S-0-.5-210203	S	02.03.2021 12:26		687238-006
SB-10-S-0-.5-210203	S	02.03.2021 12:47		687238-007

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CASE NARRATIVE

Client Name: Arcadis U.S., Inc

Project Name: LSAU Sat 4

Project ID: *30064832-0002B*
Work Order Number(s): *687238*

Report Date: *02.09.2021*
Date Received: *02.03.2021*

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

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-5-S-0-.5-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-001 Date Collected: 02.03.2021 10:35

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00 % Moisture:

Seq Number: 3150091 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**122**	4.99	0.857	mg/kg	02.04.2021 19:43		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00 % Moisture:

Seq Number: 3150327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**24.1**	49.9	15.0	mg/kg	02.07.2021 04:20	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**24.6**	49.9	15.0	mg/kg	02.07.2021 04:20	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.07.2021 04:20	U	1
Total TPH	PHC635	**48.7**	49.9	15.0	mg/kg	02.07.2021 04:20	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	02.07.2021 04:20	
o-Terphenyl	84-15-1	94	%	70-130	02.07.2021 04:20	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-5-S-0-.5-210203**	Matrix:	Soil	Date Received:	02.03.2021 16:30
Lab Sample Id:	687238-001	Date Collected:	02.03.2021 10:35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MNR				
Analyst:	MNR	Date Prep:	02.05.2021 16:00	% Moisture:	
Seq Number:	3150275			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	02.06.2021 06:57	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.06.2021 06:57	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.06.2021 06:57	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.06.2021 06:57	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 06:57	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 06:57	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.06.2021 06:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.06.2021 06:57	
4-Bromofluorobenzene	460-00-4	107	%	70-130	02.06.2021 06:57	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-5-S-1-1.25-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-002 Date Collected: 02.03.2021 10:39

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00 % Moisture:

Seq Number: 3150091 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**239**	4.96	0.852	mg/kg	02.04.2021 19:59		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00 % Moisture:

Seq Number: 3150327 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	02.07.2021 04:41	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**18.3**	50.0	15.0	mg/kg	02.07.2021 04:41	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.07.2021 04:41	U	1
Total TPH	PHC635	**43.8**	50.0	15.0	mg/kg	02.07.2021 04:41	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	02.07.2021 04:41	
o-Terphenyl	84-15-1	97	%	70-130	02.07.2021 04:41	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-5-S-1-1.25-210203**	Matrix:	Soil	Date Received:	02.03.2021 16:30
Lab Sample Id:	687238-002	Date Collected:	02.03.2021 10:39		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MNR				
Analyst:	MNR	Date Prep:	02.05.2021 16:00	% Moisture:	
Seq Number:	3150275			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	02.06.2021 07:18	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	02.06.2021 07:18	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	02.06.2021 07:18	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.06.2021 07:18	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 07:18	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 07:18	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.06.2021 07:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.06.2021 07:18	
1,4-Difluorobenzene	540-36-3	96	%	70-130	02.06.2021 07:18	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-6-S-0-.5-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-003 Date Collected: 02.03.2021 10:56

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00 % Moisture:

Seq Number: 3150091 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**75.3**	5.00	0.858	mg/kg	02.04.2021 20:05		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00 % Moisture:

Seq Number: 3150327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**17.9**	49.9	15.0	mg/kg	02.07.2021 08:16	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**621**	49.9	15.0	mg/kg	02.07.2021 08:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**189**	49.9	15.0	mg/kg	02.07.2021 08:16		1
Total TPH	PHC635	**828**	49.9	15.0	mg/kg	02.07.2021 08:16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	02.07.2021 08:16	
o-Terphenyl	84-15-1	93	%	70-130	02.07.2021 08:16	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-6-S-0-.5-210203**	Matrix:	Soil	Date Received:	02.03.2021 16:30
Lab Sample Id:	687238-003	Date Collected:	02.03.2021 10:56		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MNR				
Analyst:	MNR	Date Prep:	02.05.2021 16:00	% Moisture:	
Seq Number:	3150275			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	02.06.2021 07:38	U	1
Toluene	108-88-3	**0.00121**	0.00200	0.000455	mg/kg	02.06.2021 07:38	J	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	02.06.2021 07:38	U	1
m,p-Xylenes	179601-23-1	**0.00114**	0.00399	0.00101	mg/kg	02.06.2021 07:38	J	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.06.2021 07:38	U	1
Total Xylenes	1330-20-7	**0.00114**	0.00200	0.000344	mg/kg	02.06.2021 07:38	J	1
Total BTEX		**0.00235**	0.00200	0.000344	mg/kg	02.06.2021 07:38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	02.06.2021 07:38	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.06.2021 07:38	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-7-S-0-.5-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-004 Date Collected: 02.03.2021 11:08

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00 % Moisture:

Seq Number: 3150091 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**73.3**	5.00	0.858	mg/kg	02.04.2021 20:10		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00 % Moisture:

Seq Number: 3150327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**27.1**	50.0	15.0	mg/kg	02.07.2021 05:24	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**17.9**	50.0	15.0	mg/kg	02.07.2021 05:24	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.07.2021 05:24	U	1
Total TPH	PHC635	**45.0**	50.0	15.0	mg/kg	02.07.2021 05:24	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	02.07.2021 05:24	
o-Terphenyl	84-15-1	90	%	70-130	02.07.2021 05:24	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-7-S-0-.5-210203**	Matrix:	Soil	Date Received:	02.03.2021 16:30
Lab Sample Id:	687238-004	Date Collected:	02.03.2021 11:08		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MNR				
Analyst:	MNR	Date Prep:	02.05.2021 16:00	% Moisture:	
Seq Number:	3150275			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	02.06.2021 07:58	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	02.06.2021 07:58	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	02.06.2021 07:58	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	02.06.2021 07:58	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.06.2021 07:58	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.06.2021 07:58	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.06.2021 07:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.06.2021 07:58	
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.06.2021 07:58	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-8-S-0-.5-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-005 Date Collected: 02.03.2021 12:15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00 % Moisture:

Seq Number: 3150091 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**103**	5.00	0.858	mg/kg	02.04.2021 20:15		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00 % Moisture:

Seq Number: 3150327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**23.9**	50.0	15.0	mg/kg	02.07.2021 08:38	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**155**	50.0	15.0	mg/kg	02.07.2021 08:38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**48.6**	50.0	15.0	mg/kg	02.07.2021 08:38	J	1
Total TPH	PHC635	**228**	50.0	15.0	mg/kg	02.07.2021 08:38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	02.07.2021 08:38	
o-Terphenyl	84-15-1	86	%	70-130	02.07.2021 08:38	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-8-S-0-.5-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-005 Date Collected: 02.03.2021 12:15

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: MNR

Analyst: MNR Date Prep: 02.05.2021 16:00 % Moisture:

Seq Number: 3150275 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	02.06.2021 08:19	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	02.06.2021 08:19	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	02.06.2021 08:19	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	02.06.2021 08:19	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	02.06.2021 08:19	U	1
Total Xylenes	1330-20-7	<0.000345	0.00200	0.000345	mg/kg	02.06.2021 08:19	U	1
Total BTEX		<0.000345	0.00200	0.000345	mg/kg	02.06.2021 08:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.06.2021 08:19	
1,4-Difluorobenzene	540-36-3	92	%	70-130	02.06.2021 08:19	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-9-S-0-.5-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-006 Date Collected: 02.03.2021 12:26

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00 % Moisture:

Seq Number: 3150091 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.7**	5.04	0.865	mg/kg	02.04.2021 20:21		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00 % Moisture:

Seq Number: 3150327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**22.8**	49.9	15.0	mg/kg	02.07.2021 06:07	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**17.1**	49.9	15.0	mg/kg	02.07.2021 06:07	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.07.2021 06:07	U	1
Total TPH	PHC635	**39.9**	49.9	15.0	mg/kg	02.07.2021 06:07	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-130	02.07.2021 06:07	
o-Terphenyl	84-15-1	85	%	70-130	02.07.2021 06:07	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-9-S-0-.5-210203**	Matrix:	Soil	Date Received:	02.03.2021 16:30
Lab Sample Id:	687238-006	Date Collected:	02.03.2021 12:26		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MNR				
Analyst:	MNR	Date Prep:	02.05.2021 16:00	% Moisture:	
Seq Number:	3150275			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	02.06.2021 08:39	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.06.2021 08:39	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.06.2021 08:39	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.06.2021 08:39	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 08:39	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 08:39	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.06.2021 08:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.06.2021 08:39	
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.06.2021 08:39	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **SB-10-S-0-.5-210203** Matrix: Soil Date Received:02.03.2021 16:30

Lab Sample Id: 687238-007 Date Collected: 02.03.2021 12:47

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00 % Moisture:

Seq Number: 3150091 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.69**	4.95	0.850	mg/kg	02.04.2021 20:26		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00 % Moisture:

Seq Number: 3150327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**16.9**	50.0	15.0	mg/kg	02.07.2021 08:59	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**768**	50.0	15.0	mg/kg	02.07.2021 08:59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**256**	50.0	15.0	mg/kg	02.07.2021 08:59		1
Total TPH	PHC635	**1040**	50.0	15.0	mg/kg	02.07.2021 08:59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	02.07.2021 08:59	
o-Terphenyl	84-15-1	89	%	70-130	02.07.2021 08:59	

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Certificate of Analytical Results 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id:	**SB-10-S-0-.5-210203**	Matrix:	Soil	Date Received:	02.03.2021 16:30
Lab Sample Id:	687238-007	Date Collected:	02.03.2021 12:47		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MNR				
Analyst:	MNR	Date Prep:	02.05.2021 17:00	% Moisture:	
Seq Number:	3150285			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	02.06.2021 14:46	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.06.2021 14:46	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.06.2021 14:46	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.06.2021 14:46	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 14:46	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.06.2021 14:46	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.06.2021 14:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	02.06.2021 14:46	
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.06.2021 14:46	

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Blank Summary 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **7720812-1-BLK** Matrix: SOLID

Lab Sample Id: **7720812-1-BLK**

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.04.2021 15:00

Seq Number: 3150091

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	02.04.2021 17:52	U	1

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Blank Summary 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **7720951-1-BLK** Matrix: SOLID

Lab Sample Id: **7720951-1-BLK**

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Tech: MNR

Analyst: MNR Date Prep: 02.05.2021 16:00

Seq Number: 3150275

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.06.2021 00:46	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.06.2021 00:46	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.06.2021 00:46	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.06.2021 00:46	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.06.2021 00:46	U	1

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Blank Summary 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **7720952-1-BLK** Matrix: SOLID

Lab Sample Id: **7720952-1-BLK**

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Tech: MNR

Analyst: MNR Date Prep: 02.05.2021 17:00

Seq Number: 3150285

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.06.2021 11:41	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.06.2021 11:41	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.06.2021 11:41	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.06.2021 11:41	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.06.2021 11:41	U	1

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Blank Summary 687238

Arcadis U.S., Inc, Austin, TX

LSAU Sat 4

Sample Id: **7721016-1-BLK** Matrix: SOLID

Lab Sample Id: **7721016-1-BLK**

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.06.2021 10:00

Seq Number: 3150327

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	34.4	50.0	15.0	mg/kg	02.06.2021 21:39	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.06.2021 21:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.06.2021 21:39	U	1

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Form 2 - Surrogate Recoveries

Project Name: LSAU Sat 4

Report Date: 02092021

Work Orders : 687238 **Project ID:** 30064832-0002B

Lab Batch #: 3150275 **Sample:** 7720951-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.05.2021 22:46 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3150275 **Sample:** 7720951-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.05.2021 23:07 **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	0.0288	0.0300	96	70-130	

Lab Batch #: 3150275 **Sample:** 687058-038 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.05.2021 23:27 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3150275 **Sample:** 687058-038 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.05.2021 23:47 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	70-130	
4-Bromofluorobenzene	0.0345	0.0300	115	70-130	

Lab Batch #: 3150275 **Sample:** 7720951-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.06.2021 00:46 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	70-130	
4-Bromofluorobenzene	0.0300	0.0300	100	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.

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Form 2 - Surrogate Recoveries

Project Name: LSAU Sat 4

Report Date: 02092021

Work Orders : 687238 **Project ID:** 30064832-0002B

Lab Batch #: 3150285 **Sample:** 7720952-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.06.2021 09:41 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0293	0.0300	98	70-130	

Lab Batch #: 3150285 **Sample:** 7720952-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.06.2021 10:02 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0293	0.0300	98	70-130	

Lab Batch #: 3150285 **Sample:** 687223-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.06.2021 10:22 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	70-130	
4-Bromofluorobenzene	0.0300	0.0300	100	70-130	

Lab Batch #: 3150285 **Sample:** 687223-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.06.2021 10:43 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0294	0.0300	98	70-130	

Lab Batch #: 3150285 **Sample:** 7720952-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.06.2021 11:41 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	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.

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Form 2 - Surrogate Recoveries

Project Name: LSAU Sat 4

Report Date: 02092021

Work Orders : 687238 **Project ID:** 30064832-0002B

Lab Batch #: 3150327 **Sample:** 7721016-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.06.2021 21:39 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.9	100	91	70-130	
o-Terphenyl	52.9	50.0	106	70-130	

Lab Batch #: 3150327 **Sample:** 7721016-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.06.2021 22:01 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.9	100	93	70-130	
o-Terphenyl	47.1	50.0	94	70-130	

Lab Batch #: 3150327 **Sample:** 7721016-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.06.2021 22:22 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	100	99	70-130	
o-Terphenyl	50.5	50.0	101	70-130	

Lab Batch #: 3150327 **Sample:** 687301-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.06.2021 23:06 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.2	99.7	84	70-130	
o-Terphenyl	43.9	49.9	88	70-130	

Lab Batch #: 3150327 **Sample:** 687301-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.06.2021 23:27 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.7	99.9	85	70-130	
o-Terphenyl	43.5	50.0	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.

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QC Summary 687238

Arcadis U.S., Inc

LSAU Sat 4

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3150091 — Matrix: Solid — Date Prep: 02.04.2021
MB Sample Id: 7720812-1-BLK — LCS Sample Id: 7720812-1-BKS — LCSD Sample Id: 7720812-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	255	102	258	103	90-110	1	20	mg/kg	02.04.2021 17:57	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3150091 — Matrix: Soil — Date Prep: 02.04.2021
Parent Sample Id: 687202-003 — MS Sample Id: 687202-003 S — MSD Sample Id: 687202-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3860	2530	6450	102	7140	130	90-110	10	20	mg/kg	02.04.2021 19:27	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3150091 — Matrix: Soil — Date Prep: 02.04.2021
Parent Sample Id: 687293-005 — MS Sample Id: 687293-005 S — MSD Sample Id: 687293-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.2	248	285	102	286	102	90-110	0	20	mg/kg	02.04.2021 18:13	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150327 — Matrix: Solid — Date Prep: 02.06.2021
MB Sample Id: 7721016-1-BLK — LCS Sample Id: 7721016-1-BKS — LCSD Sample Id: 7721016-1-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	1040	104	1110	111	70-130	7	20	mg/kg	02.06.2021 22:01	
Diesel Range Organics (DRO)	<15.0	1000	959	96	1030	103	70-130	7	20	mg/kg	02.06.2021 22:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		93		99		70-130	%	02.06.2021 22:01
o-Terphenyl	106		94		101		70-130	%	02.06.2021 22:01

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150327 — Matrix: Solid — Date Prep: 02.06.2021
MB Sample Id: 7721016-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	02.06.2021 21:39	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 687238

Arcadis U.S., Inc

LSAU Sat 4

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3150327 Matrix: Soil Date Prep: 02.06.2021
Parent Sample Id: 687301-002 MS Sample Id: 687301-002 S MSD Sample Id: 687301-002 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	994	100	1010	101	70-130	2	20	mg/kg	02.06.2021 23:06	
Diesel Range Organics (DRO)	<15.0	997	904	91	905	91	70-130	0	20	mg/kg	02.06.2021 23:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		85		70-130	%	02.06.2021 23:06
o-Terphenyl	88		87		70-130	%	02.06.2021 23:06

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3150275 Matrix: Solid Date Prep: 02.05.2021
MB Sample Id: 7720951-1-BLK LCS Sample Id: 7720951-1-BKS LCSD Sample Id: 7720951-1-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	0.112	112	0.104	104	70-130	7	35	mg/kg	02.05.2021 22:46	
Toluene	<0.000456	0.100	0.103	103	0.0962	96	70-130	7	35	mg/kg	02.05.2021 22:46	
Ethylbenzene	<0.000565	0.100	0.106	106	0.0972	97	70-130	9	35	mg/kg	02.05.2021 22:46	
m,p-Xylenes	<0.00101	0.200	0.205	103	0.190	95	70-130	8	35	mg/kg	02.05.2021 22:46	
o-Xylene	<0.000344	0.100	0.103	103	0.0912	91	70-130	12	35	mg/kg	02.05.2021 22:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		103		102		70-130	%	02.05.2021 22:46
4-Bromofluorobenzene	100		96		96		70-130	%	02.05.2021 22:46

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3150285 Matrix: Solid Date Prep: 02.05.2021
MB Sample Id: 7720952-1-BLK LCS Sample Id: 7720952-1-BKS LCSD Sample Id: 7720952-1-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	0.101	101	0.101	101	70-130	0	35	mg/kg	02.06.2021 09:41	
Toluene	<0.000456	0.100	0.0947	95	0.0946	95	70-130	0	35	mg/kg	02.06.2021 09:41	
Ethylbenzene	<0.000565	0.100	0.0972	97	0.0964	96	70-130	1	35	mg/kg	02.06.2021 09:41	
m,p-Xylenes	<0.00101	0.200	0.192	96	0.191	96	70-130	1	35	mg/kg	02.06.2021 09:41	
o-Xylene	<0.000344	0.100	0.0954	95	0.0947	95	70-130	1	35	mg/kg	02.06.2021 09:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		101		101		70-130	%	02.06.2021 09:41
4-Bromofluorobenzene	101		98		98		70-130	%	02.06.2021 09:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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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QC Summary 687238

Arcadis U.S., Inc

LSAU Sat 4

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3150275 Matrix: Soil Date Prep: 02.05.2021

Parent Sample Id: 687058-038 MS Sample Id: 687058-038 S MSD Sample Id: 687058-038 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0263	26	0.0239	24	70-130	10	35	mg/kg	02.05.2021 23:27	X
Toluene	<0.000455	0.0998	0.0236	24	0.0258	26	70-130	9	35	mg/kg	02.05.2021 23:27	X
Ethylbenzene	<0.000564	0.0998	0.0247	25	0.0253	25	70-130	2	35	mg/kg	02.05.2021 23:27	X
m,p-Xylenes	<0.00101	0.200	0.0474	24	0.0495	25	70-130	4	35	mg/kg	02.05.2021 23:27	X
o-Xylene	<0.000344	0.0998	0.0254	25	0.0269	27	70-130	6	35	mg/kg	02.05.2021 23:27	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		92		70-130	%	02.05.2021 23:27
4-Bromofluorobenzene	100		115		70-130	%	02.05.2021 23:27

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3150285 Matrix: Soil Date Prep: 02.05.2021

Parent Sample Id: 687223-001 MS Sample Id: 687223-001 S MSD Sample Id: 687223-001 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	0.0996	0.0713	72	0.0782	78	70-130	9	35	mg/kg	02.06.2021 10:22	
Toluene	<0.000454	0.0996	0.0665	67	0.0724	73	70-130	8	35	mg/kg	02.06.2021 10:22	X
Ethylbenzene	<0.000563	0.0996	0.0702	70	0.0761	76	70-130	8	35	mg/kg	02.06.2021 10:22	
m,p-Xylenes	<0.00101	0.199	0.103	52	0.0985	49	70-130	4	35	mg/kg	02.06.2021 10:22	X
o-Xylene	<0.000343	0.0996	0.0687	69	0.0751	75	70-130	9	35	mg/kg	02.06.2021 10:22	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		70-130	%	02.06.2021 10:22
4-Bromofluorobenzene	100		98		70-130	%	02.06.2021 10:22

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

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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

Client Information	Sampler: J. Steinmann	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Motgan Jordan	Phone: 619 851 8792	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.				Job #: 687238
Address: 1717 W 6th Street. Suite 210	Due Date Requested:			
City: Austin	TAT Requested (days): Std			
State, Zip: TX, 78703				
Phone: 281 644 9437	PO #:			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: 30064832-0002B	Project #: 30064832-0002B			
Site: LSAU Sat 4	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015_GRO/ DRO/ ORO	300 - Chloride	8021- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
SB-5-S-0-.5-210203	2/03/21	1035	G	Solid						1	
SB-5-S-1-1.25-210203		1039		Solid							
SB-6-S-0-.5-210203		1056		Solid							
SB-7-S-0-.5-210203		1108		Solid							
SB-8-S-0-.5-210203		1215		Solid							
SB-9-S-0-.5-210203		1226		Solid							
SB-10-S-0-.5-210203		1247		Solid							
				Solid							
				Solid							
				Solid							
				Solid							

GS 2/03/21

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2/03/21 1500	Arcadis		2-3-21 1500	Arcadis
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2-3-21 1630	Arcadis		2/3/21 1630	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.3 .5

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis U.S., Inc

Date/ Time Received: 02.03.2021 04.30.00 PM

Work Order #: 687238

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)?	4.3
#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

Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 02.03.2021

Sachin Kudchadkar

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/8/2023 8:28:00 AM

JOB DESCRIPTION

LSAU 73 SAT (4)

JOB NUMBER

880-26493-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

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

Authorization

Generated
4/8/2023 8:28:00 AM

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

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Laboratory Job ID: 880-26493-1

Table of Contents

Definitions/Glossary

Client: ARCADIS U.S. Inc Job ID: 880-26493-1
Project/Site: LSAU 73 SAT (4)

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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.

HPLC/IC

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

Glossary

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

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Job ID: 880-26493-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-26493-1

Receipt
The samples were received on 3/28/2023 4:57 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C

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

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-50426/5-A). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-50008/2-A) and (LCSD 880-50008/3-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC
Method 300_ORGFM_28D: The method blank for preparation batch 880-50176 and 880-50176 and analytical batch 880-50340 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL) and all associated samples were more than 10x the detection; therefore, re-extraction and/or re-analysis of samples was not performed.SB-11-S-0-0.5-20230328 (880-26493-1), SB-11-S-2-20230328 (880-26493-2), SB-11-S-3.5-20230328 (880-26493-3), SB-12-S-0-0.5-20230328 (880-26493-4), SB-12-S-2-20230328 (880-26493-5), SB-14-S-0-0.5-20230328 (880-26493-6), SB-14-S-2-20230328 (880-26493-7), (MB 880-50176/1-A) and (880-26430-A-2-B)

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-50176 and analytical batch 880-50340 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-11-S-0-0.5-20230328 (880-26493-1), SB-11-S-2-20230328 (880-26493-2), SB-11-S-3.5-20230328 (880-26493-3), SB-12-S-0-0.5-20230328 (880-26493-4), SB-12-S-2-20230328 (880-26493-5), SB-14-S-0-0.5-20230328 (880-26493-6), SB-14-S-2-20230328 (880-26493-7), (880-26430-A-2-B), (880-26430-A-2-C MS) and (880-26430-A-2-D 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: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-11-S-0-0.5-20230328

Lab Sample ID: 880-26493-1
Date Collected: 03/28/23 09:44
Matrix: Solid
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 18:56	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/05/23 16:16	04/06/23 18:56	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/05/23 16:16	04/06/23 18:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/05/23 16:16	04/06/23 18:56	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/05/23 16:16	04/06/23 18:56	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/05/23 16:16	04/06/23 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*04/05/23 16:16*	*04/06/23 18:56*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*04/05/23 16:16*	*04/06/23 18:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**37.5**	**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	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 11:38	1
Diesel Range Organics (Over C10-C28)	**37.5**	**J**	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 11:38	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*03/31/23 09:22*	*04/01/23 11:38*	*1*
o-Terphenyl	*86*		*70 - 130*	*03/31/23 09:22*	*04/01/23 11:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.3**	**B**	5.03	0.397	mg/Kg			04/05/23 01:25	1

Client Sample ID: SB-11-S-2-20230328

Lab Sample ID: 880-26493-2
Date Collected: 03/28/23 09:50
Matrix: Solid
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 19:22	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/05/23 16:16	04/06/23 19:22	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/05/23 16:16	04/06/23 19:22	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/05/23 16:16	04/06/23 19:22	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/05/23 16:16	04/06/23 19:22	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/05/23 16:16	04/06/23 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*04/05/23 16:16*	*04/06/23 19:22*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/05/23 16:16*	*04/06/23 19:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**141**		50.0	15.0	mg/Kg			04/03/23 12:07	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-11-S-2-20230328

Lab Sample ID: 880-26493-2
Matrix: Solid
Date Collected: 03/28/23 09:50
Date Received: 03/28/23 16:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	35.3	J	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 12:44	1
Diesel Range Organics (Over C10-C28)	106		50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 12:44	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*03/31/23 09:22*	*04/01/23 12:44*	*1*
o-Terphenyl	*81*		*70 - 130*	*03/31/23 09:22*	*04/01/23 12:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.4	B	4.99	0.394	mg/Kg			04/05/23 01:30	1

Client Sample ID: SB-11-S-3.5-20230328

Lab Sample ID: 880-26493-3
Matrix: Solid
Date Collected: 03/28/23 10:48
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 19:49	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/05/23 16:16	04/06/23 19:49	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/05/23 16:16	04/06/23 19:49	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/05/23 16:16	04/06/23 19:49	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/05/23 16:16	04/06/23 19:49	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/05/23 16:16	04/06/23 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*04/05/23 16:16*	*04/06/23 19:49*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*04/05/23 16:16*	*04/06/23 19:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	64.6		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	44.9	J	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:49	1
Diesel Range Organics (Over C10-C28)	19.7	J	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:49	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*03/31/23 09:22*	*04/01/23 13:49*	*1*
o-Terphenyl	*97*		*70 - 130*	*03/31/23 09:22*	*04/01/23 13:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	73.2	B	4.98	0.393	mg/Kg			04/05/23 01:35	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-12-S-0-0.5-20230328

Lab Sample ID: 880-26493-4
Matrix: Solid
Date Collected: 03/28/23 10:23
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 20:16	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/05/23 16:16	04/06/23 20:16	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/05/23 16:16	04/06/23 20:16	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/05/23 16:16	04/06/23 20:16	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/05/23 16:16	04/06/23 20:16	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/05/23 16:16	04/06/23 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*04/05/23 16:16*	*04/06/23 20:16*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*04/05/23 16:16*	*04/06/23 20:16*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**38.1**	**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	**20.0**	**J**	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:11	1
Diesel Range Organics (Over C10-C28)	**18.1**	**J**	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:11	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*03/31/23 09:22*	*04/01/23 14:11*	*1*
o-Terphenyl	*96*		*70 - 130*	*03/31/23 09:22*	*04/01/23 14:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**258**	**B**	5.02	0.397	mg/Kg			04/05/23 01:40	1

Client Sample ID: SB-12-S-2-20230328

Lab Sample ID: 880-26493-5
Matrix: Solid
Date Collected: 03/28/23 10:40
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 22:02	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		04/05/23 16:16	04/06/23 22:02	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		04/05/23 16:16	04/06/23 22:02	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		04/05/23 16:16	04/06/23 22:02	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		04/05/23 16:16	04/06/23 22:02	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		04/05/23 16:16	04/06/23 22:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*04/05/23 16:16*	*04/06/23 22:02*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*04/05/23 16:16*	*04/06/23 22:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**29.6**	**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: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-12-S-2-20230328

Lab Sample ID: 880-26493-5
Matrix: Solid
Date Collected: 03/28/23 10:40
Date Received: 03/28/23 16:57

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	29.6	J	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:32	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:32	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*03/31/23 09:22*	*04/01/23 14:32*	*1*
o-Terphenyl	*79*		*70 - 130*	*03/31/23 09:22*	*04/01/23 14:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76.1	B	4.95	0.391	mg/Kg			04/05/23 01:45	1

Client Sample ID: SB-14-S-0-0.5-20230328

Lab Sample ID: 880-26493-6
Matrix: Solid
Date Collected: 03/28/23 11:00
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 22:29	1
Toluene	<0.000457	U	0.00200	0.000457	mg/Kg		04/05/23 16:16	04/06/23 22:29	1
Ethylbenzene	<0.000566	U	0.00200	0.000566	mg/Kg		04/05/23 16:16	04/06/23 22:29	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		04/05/23 16:16	04/06/23 22:29	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		04/05/23 16:16	04/06/23 22:29	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		04/05/23 16:16	04/06/23 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*04/05/23 16:16*	*04/06/23 22:29*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*04/05/23 16:16*	*04/06/23 22:29*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	17.4	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	17.4	J	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:54	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:54	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*03/31/23 09:22*	*04/01/23 14:54*	*1*
o-Terphenyl	*81*		*70 - 130*	*03/31/23 09:22*	*04/01/23 14:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120	B	4.97	0.393	mg/Kg			04/05/23 01:50	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-14-S-2-20230328

Lab Sample ID: 880-26493-7
Matrix: Solid
Date Collected: 03/28/23 11:07
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 22:55	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		04/05/23 16:16	04/06/23 22:55	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		04/05/23 16:16	04/06/23 22:55	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		04/05/23 16:16	04/06/23 22:55	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		04/05/23 16:16	04/06/23 22:55	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		04/05/23 16:16	04/06/23 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*04/05/23 16:16*	*04/06/23 22:55*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*04/05/23 16:16*	*04/06/23 22:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**24.5**	**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	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:06	1
Diesel Range Organics (Over C10-C28)	**24.5**	**J**	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:06	1
OII Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*03/31/23 09:22*	*04/01/23 13:06*	*1*
o-Terphenyl	*101*		*70 - 130*	*03/31/23 09:22*	*04/01/23 13:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76.4**	**B**	5.04	0.398	mg/Kg			04/05/23 01:54	1

Client Sample ID: SB-13-S-0-0.5-20230328

Lab Sample ID: 880-26493-8
Matrix: Solid
Date Collected: 03/28/23 11:19
Date Received: 03/28/23 16:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000381	U	0.00198	0.000381	mg/Kg		04/05/23 16:16	04/06/23 23:22	1
Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		04/05/23 16:16	04/06/23 23:22	1
Ethylbenzene	<0.000559	U	0.00198	0.000559	mg/Kg		04/05/23 16:16	04/06/23 23:22	1
m-Xylene & p-Xylene	<0.00100	U	0.00396	0.00100	mg/Kg		04/05/23 16:16	04/06/23 23:22	1
o-Xylene	<0.000341	U	0.00198	0.000341	mg/Kg		04/05/23 16:16	04/06/23 23:22	1
Xylenes, Total	<0.00100	U	0.00396	0.00100	mg/Kg		04/05/23 16:16	04/06/23 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*04/05/23 16:16*	*04/06/23 23:22*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/05/23 16:16*	*04/06/23 23:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**63.3**		49.9	15.0	mg/Kg			04/03/23 12:07	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-13-S-0-0.5-20230328

Lab Sample ID: 880-26493-8
Matrix: Solid
Date Collected: 03/28/23 11:19
Date Received: 03/28/23 16:57

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	32.4	J	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:27	1
Diesel Range Organics (Over C10-C28)	30.9	J	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:27	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*03/31/23 09:22*	*04/01/23 13:27*	*1*
o-Terphenyl	*79*		*70 - 130*	*03/31/23 09:22*	*04/01/23 13:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	159		4.96	0.392	mg/Kg			04/05/23 19:13	1

Client Sample ID: SB-13-S-2-20230328

Lab Sample ID: 880-26493-9
Matrix: Solid
Date Collected: 03/28/23 11:35
Date Received: 03/28/23 16:57

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		04/05/23 16:16	04/06/23 23:48	1
Toluene	<0.000455	U	0.00200	0.000455	mg/Kg		04/05/23 16:16	04/06/23 23:48	1
Ethylbenzene	<0.000564	U	0.00200	0.000564	mg/Kg		04/05/23 16:16	04/06/23 23:48	1
m-Xylene & p-Xylene	<0.00101	U	0.00399	0.00101	mg/Kg		04/05/23 16:16	04/06/23 23:48	1
o-Xylene	<0.000343	U	0.00200	0.000343	mg/Kg		04/05/23 16:16	04/06/23 23:48	1
Xylenes, Total	<0.00101	U	0.00399	0.00101	mg/Kg		04/05/23 16:16	04/06/23 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*04/05/23 16:16*	*04/06/23 23:48*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*04/05/23 16:16*	*04/06/23 23:48*	*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	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	23.4	J	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 15:16	1
Diesel Range Organics (Over C10-C28)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 15:16	1
OII Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/31/23 09:22	04/01/23 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*03/31/23 09:22*	*04/01/23 15:16*	*1*
o-Terphenyl	*79*		*70 - 130*	*03/31/23 09:22*	*04/01/23 15:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.0		4.95	0.391	mg/Kg			04/05/23 19:27	1

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

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)
880-26493-1	SB-11-S-0-0.5-20230328	104	78
880-26493-2	SB-11-S-2-20230328	113	82
880-26493-3	SB-11-S-3.5-20230328	117	79
880-26493-4	SB-12-S-0-0.5-20230328	128	94
880-26493-5	SB-12-S-2-20230328	111	87
880-26493-6	SB-14-S-0-0.5-20230328	95	108
880-26493-7	SB-14-S-2-20230328	116	94
880-26493-8	SB-13-S-0-0.5-20230328	110	82
880-26493-9	SB-13-S-2-20230328	112	86
LCS 880-50426/1-A	Lab Control Sample	102	112
LCSD 880-50426/2-A	Lab Control Sample Dup	107	100
MB 880-50426/5-A	Method Blank	67 S1-	84

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)
880-26493-1	SB-11-S-0-0.5-20230328	112	86
880-26493-1 MS	SB-11-S-0-0.5-20230328	111	76
880-26493-1 MSD	SB-11-S-0-0.5-20230328	116	77
880-26493-2	SB-11-S-2-20230328	107	81
880-26493-3	SB-11-S-3.5-20230328	118	97
880-26493-4	SB-12-S-0-0.5-20230328	119	96
880-26493-5	SB-12-S-2-20230328	101	79
880-26493-6	SB-14-S-0-0.5-20230328	102	81
880-26493-7	SB-14-S-2-20230328	125	101
880-26493-8	SB-13-S-0-0.5-20230328	100	79
880-26493-9	SB-13-S-2-20230328	103	79
LCS 880-50008/2-A	Lab Control Sample	86	65 S1-
LCSD 880-50008/3-A	Lab Control Sample Dup	74	55 S1-
MB 880-50008/1-A	Method Blank	112	93

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-50426/5-A
Matrix: Solid
Analysis Batch: 50521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		04/05/23 16:16	04/06/23 15:50	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		04/05/23 16:16	04/06/23 15:50	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		04/05/23 16:16	04/06/23 15:50	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		04/05/23 16:16	04/06/23 15:50	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		04/05/23 16:16	04/06/23 15:50	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		04/05/23 16:16	04/06/23 15:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*04/05/23 16:16*	*04/06/23 15:50*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*04/05/23 16:16*	*04/06/23 15:50*	*1*

Lab Sample ID: LCS 880-50426/1-A
Matrix: Solid
Analysis Batch: 50521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50426

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1123		mg/Kg		112	70 - 130		
Toluene			0.100	0.1168		mg/Kg		117	70 - 130		
Ethylbenzene			0.100	0.1113		mg/Kg		111	70 - 130		
m-Xylene & p-Xylene			0.200	0.2183		mg/Kg		109	70 - 130		
o-Xylene			0.100	0.1108		mg/Kg		111	70 - 130		

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

Lab Sample ID: LCSD 880-50426/2-A
Matrix: Solid
Analysis Batch: 50521

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50426

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1186		mg/Kg		119	70 - 130	5	35
Toluene			0.100	0.1165		mg/Kg		117	70 - 130	0	35
Ethylbenzene			0.100	0.1101		mg/Kg		110	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2167		mg/Kg		108	70 - 130	1	35
o-Xylene			0.100	0.1102		mg/Kg		110	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

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

Lab Sample ID: MB 880-50008/1-A
Matrix: Solid
Analysis Batch: 50075

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50008

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 08:55	1
Diesel Range Organics (Over C10-C28)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 08:55	1
Oil Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/31/23 09:22	04/01/23 08:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*03/31/23 09:22*	*04/01/23 08:55*	*1*
o-Terphenyl	*93*		*70 - 130*	*03/31/23 09:22*	*04/01/23 08:55*	*1*

Lab Sample ID: LCS 880-50008/2-A
Matrix: Solid
Analysis Batch: 50075

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50008

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	802.6		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	1000	815.4		mg/Kg		82	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*65*	*S1-*	*70 - 130*

Lab Sample ID: LCSD 880-50008/3-A
Matrix: Solid
Analysis Batch: 50075

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50008

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	895.3		mg/Kg		90	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	737.3		mg/Kg		74	70 - 130	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*74*		*70 - 130*
o-Terphenyl	*55*	*S1-*	*70 - 130*

Lab Sample ID: 880-26493-1 MS
Matrix: Solid
Analysis Batch: 50075

Client Sample ID: SB-11-S-0-0.5-20230328
Prep Type: Total/NA
Prep Batch: 50008

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	998	1194		mg/Kg		120	70 - 130
Diesel Range Organics (Over C10-C28)	37.5	J	998	821.4		mg/Kg		79	70 - 130

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

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

Lab Sample ID: 880-26493-1 MS
Matrix: Solid
Analysis Batch: 50075

Client Sample ID: SB-11-S-0-0.5-20230328
Prep Type: Total/NA
Prep Batch: 50008

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*76*		*70 - 130*

Lab Sample ID: 880-26493-1 MSD
Matrix: Solid
Analysis Batch: 50075

Client Sample ID: SB-11-S-0-0.5-20230328
Prep Type: Total/NA
Prep Batch: 50008

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<15.0	U	999	1191		mg/Kg		119	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	37.5	J	999	846.7		mg/Kg		81	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*77*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50176/1-A
Matrix: Solid
Analysis Batch: 50340

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.432	J	5.00	0.395	mg/Kg			04/04/23 23:29	1

Lab Sample ID: LCS 880-50176/2-A
Matrix: Solid
Analysis Batch: 50340

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.3		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-50176/3-A
Matrix: Solid
Analysis Batch: 50340

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	253.7		mg/Kg		101	90 - 110	0	20

Lab Sample ID: MB 880-50175/1-A
Matrix: Solid
Analysis Batch: 50439

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			04/05/23 17:37	1

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-50175/2-A
Matrix: Solid
Analysis Batch: 50439

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	245.7		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-50175/3-A
Matrix: Solid
Analysis Batch: 50439

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	241.4		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

GC VOA

Prep Batch: 50426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-1	SB-11-S-0-0.5-20230328	Total/NA	Solid	5030B	
880-26493-2	SB-11-S-2-20230328	Total/NA	Solid	5030B	
880-26493-3	SB-11-S-3.5-20230328	Total/NA	Solid	5030B	
880-26493-4	SB-12-S-0-0.5-20230328	Total/NA	Solid	5030B	
880-26493-5	SB-12-S-2-20230328	Total/NA	Solid	5030B	
880-26493-6	SB-14-S-0-0.5-20230328	Total/NA	Solid	5030B	
880-26493-7	SB-14-S-2-20230328	Total/NA	Solid	5030B	
880-26493-8	SB-13-S-0-0.5-20230328	Total/NA	Solid	5030B	
880-26493-9	SB-13-S-2-20230328	Total/NA	Solid	5030B	
MB 880-50426/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-50426/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-50426/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 50521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-1	SB-11-S-0-0.5-20230328	Total/NA	Solid	8021B	50426
880-26493-2	SB-11-S-2-20230328	Total/NA	Solid	8021B	50426
880-26493-3	SB-11-S-3.5-20230328	Total/NA	Solid	8021B	50426
880-26493-4	SB-12-S-0-0.5-20230328	Total/NA	Solid	8021B	50426
880-26493-5	SB-12-S-2-20230328	Total/NA	Solid	8021B	50426
880-26493-6	SB-14-S-0-0.5-20230328	Total/NA	Solid	8021B	50426
880-26493-7	SB-14-S-2-20230328	Total/NA	Solid	8021B	50426
880-26493-8	SB-13-S-0-0.5-20230328	Total/NA	Solid	8021B	50426
880-26493-9	SB-13-S-2-20230328	Total/NA	Solid	8021B	50426
MB 880-50426/5-A	Method Blank	Total/NA	Solid	8021B	50426
LCS 880-50426/1-A	Lab Control Sample	Total/NA	Solid	8021B	50426
LCSD 880-50426/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	50426

GC Semi VOA

Prep Batch: 50008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-1	SB-11-S-0-0.5-20230328	Total/NA	Solid	8015NM Prep	
880-26493-2	SB-11-S-2-20230328	Total/NA	Solid	8015NM Prep	
880-26493-3	SB-11-S-3.5-20230328	Total/NA	Solid	8015NM Prep	
880-26493-4	SB-12-S-0-0.5-20230328	Total/NA	Solid	8015NM Prep	
880-26493-5	SB-12-S-2-20230328	Total/NA	Solid	8015NM Prep	
880-26493-6	SB-14-S-0-0.5-20230328	Total/NA	Solid	8015NM Prep	
880-26493-7	SB-14-S-2-20230328	Total/NA	Solid	8015NM Prep	
880-26493-8	SB-13-S-0-0.5-20230328	Total/NA	Solid	8015NM Prep	
880-26493-9	SB-13-S-2-20230328	Total/NA	Solid	8015NM Prep	
MB 880-50008/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-50008/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50008/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-26493-1 MS	SB-11-S-0-0.5-20230328	Total/NA	Solid	8015NM Prep	
880-26493-1 MSD	SB-11-S-0-0.5-20230328	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-1	SB-11-S-0-0.5-20230328	Total/NA	Solid	8015B NM	50008
880-26493-2	SB-11-S-2-20230328	Total/NA	Solid	8015B NM	50008

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

GC Semi VOA (Continued)

Analysis Batch: 50075 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-3	SB-11-S-3.5-20230328	Total/NA	Solid	8015B NM	50008
880-26493-4	SB-12-S-0-0.5-20230328	Total/NA	Solid	8015B NM	50008
880-26493-5	SB-12-S-2-20230328	Total/NA	Solid	8015B NM	50008
880-26493-6	SB-14-S-0-0.5-20230328	Total/NA	Solid	8015B NM	50008
880-26493-7	SB-14-S-2-20230328	Total/NA	Solid	8015B NM	50008
880-26493-8	SB-13-S-0-0.5-20230328	Total/NA	Solid	8015B NM	50008
880-26493-9	SB-13-S-2-20230328	Total/NA	Solid	8015B NM	50008
MB 880-50008/1-A	Method Blank	Total/NA	Solid	8015B NM	50008
LCS 880-50008/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50008
LCSD 880-50008/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50008
880-26493-1 MS	SB-11-S-0-0.5-20230328	Total/NA	Solid	8015B NM	50008
880-26493-1 MSD	SB-11-S-0-0.5-20230328	Total/NA	Solid	8015B NM	50008

Analysis Batch: 50182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-1	SB-11-S-0-0.5-20230328	Total/NA	Solid	8015 NM	
880-26493-2	SB-11-S-2-20230328	Total/NA	Solid	8015 NM	
880-26493-3	SB-11-S-3.5-20230328	Total/NA	Solid	8015 NM	
880-26493-4	SB-12-S-0-0.5-20230328	Total/NA	Solid	8015 NM	
880-26493-5	SB-12-S-2-20230328	Total/NA	Solid	8015 NM	
880-26493-6	SB-14-S-0-0.5-20230328	Total/NA	Solid	8015 NM	
880-26493-7	SB-14-S-2-20230328	Total/NA	Solid	8015 NM	
880-26493-8	SB-13-S-0-0.5-20230328	Total/NA	Solid	8015 NM	
880-26493-9	SB-13-S-2-20230328	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-8	SB-13-S-0-0.5-20230328	Soluble	Solid	DI Leach	
880-26493-9	SB-13-S-2-20230328	Soluble	Solid	DI Leach	
MB 880-50175/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50175/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50175/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 50176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-1	SB-11-S-0-0.5-20230328	Soluble	Solid	DI Leach	
880-26493-2	SB-11-S-2-20230328	Soluble	Solid	DI Leach	
880-26493-3	SB-11-S-3.5-20230328	Soluble	Solid	DI Leach	
880-26493-4	SB-12-S-0-0.5-20230328	Soluble	Solid	DI Leach	
880-26493-5	SB-12-S-2-20230328	Soluble	Solid	DI Leach	
880-26493-6	SB-14-S-0-0.5-20230328	Soluble	Solid	DI Leach	
880-26493-7	SB-14-S-2-20230328	Soluble	Solid	DI Leach	
MB 880-50176/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50176/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50176/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 50340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-1	SB-11-S-0-0.5-20230328	Soluble	Solid	300.0	50176

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

HPLC/IC (Continued)

Analysis Batch: 50340 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-2	SB-11-S-2-20230328	Soluble	Solid	300.0	50176
880-26493-3	SB-11-S-3.5-20230328	Soluble	Solid	300.0	50176
880-26493-4	SB-12-S-0-0.5-20230328	Soluble	Solid	300.0	50176
880-26493-5	SB-12-S-2-20230328	Soluble	Solid	300.0	50176
880-26493-6	SB-14-S-0-0.5-20230328	Soluble	Solid	300.0	50176
880-26493-7	SB-14-S-2-20230328	Soluble	Solid	300.0	50176
MB 880-50176/1-A	Method Blank	Soluble	Solid	300.0	50176
LCS 880-50176/2-A	Lab Control Sample	Soluble	Solid	300.0	50176
LCSD 880-50176/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50176

Analysis Batch: 50439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26493-8	SB-13-S-0-0.5-20230328	Soluble	Solid	300.0	50175
880-26493-9	SB-13-S-2-20230328	Soluble	Solid	300.0	50175
MB 880-50175/1-A	Method Blank	Soluble	Solid	300.0	50175
LCS 880-50175/2-A	Lab Control Sample	Soluble	Solid	300.0	50175
LCSD 880-50175/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50175

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-11-S-0-0.5-20230328

Lab Sample ID: 880-26493-1
Date Collected: 03/28/23 09:44
Matrix: Solid
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 18:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 11:38	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	50176	04/03/23 11:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50340	04/05/23 01:25	SMC	EET MID

Client Sample ID: SB-11-S-2-20230328

Lab Sample ID: 880-26493-2
Date Collected: 03/28/23 09:50
Matrix: Solid
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 19:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 12:44	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	50176	04/03/23 11:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50340	04/05/23 01:30	SMC	EET MID

Client Sample ID: SB-11-S-3.5-20230328

Lab Sample ID: 880-26493-3
Date Collected: 03/28/23 10:48
Matrix: Solid
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 19:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 13:49	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50176	04/03/23 11:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50340	04/05/23 01:35	SMC	EET MID

Client Sample ID: SB-12-S-0-0.5-20230328

Lab Sample ID: 880-26493-4
Date Collected: 03/28/23 10:23
Matrix: Solid
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 20:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 14:11	SM	EET MID

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

Client Sample ID: SB-12-S-0-0.5-20230328 — Lab Sample ID: 880-26493-4

Date Collected: 03/28/23 10:23 — **Matrix: Solid**
Date Received: 03/28/23 16:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	50176	04/03/23 11:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50340	04/05/23 01:40	SMC	EET MID

Client Sample ID: SB-12-S-2-20230328 — Lab Sample ID: 880-26493-5

Date Collected: 03/28/23 10:40 — **Matrix: Solid**
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 22:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 14:32	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	50176	04/03/23 11:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50340	04/05/23 01:45	SMC	EET MID

Client Sample ID: SB-14-S-0-0.5-20230328 — Lab Sample ID: 880-26493-6

Date Collected: 03/28/23 11:00 — **Matrix: Solid**
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 22:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 14:54	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	50176	04/03/23 11:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50340	04/05/23 01:50	SMC	EET MID

Client Sample ID: SB-14-S-2-20230328 — Lab Sample ID: 880-26493-7

Date Collected: 03/28/23 11:07 — **Matrix: Solid**
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 22:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 13:06	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	50176	04/03/23 11:23	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50340	04/05/23 01:54	SMC	EET MID

Lab Chronicle

Client: ARCADIS U.S. Inc
Job ID: 880-26493-1
Project/Site: LSAU 73 SAT (4)

Client Sample ID: SB-13-S-0-0.5-20230328
Lab Sample ID: 880-26493-8
Date Collected: 03/28/23 11:19
Matrix: Solid
Date Received: 03/28/23 16:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 23:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 13:27	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	50175	04/03/23 11:22	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50439	04/05/23 19:13	SMC	EET MID

Client Sample ID: SB-13-S-2-20230328
Lab Sample ID: 880-26493-9
Date Collected: 03/28/23 11:35
Matrix: Solid
Date Received: 03/28/23 16:57

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	50426	04/05/23 16:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50521	04/06/23 23:48	SM	EET MID
Total/NA	Analysis	8015 NM		1			50182	04/03/23 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50008	03/31/23 09:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50075	04/01/23 15:16	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	50175	04/03/23 11:22	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50439	04/05/23 19:27	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

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

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: LSAU 73 SAT (4)

Job ID: 880-26493-1

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: LSAU 73 SAT (4)

Job ID: 880-26493-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-26493-1	SB-11-S-0-0.5-20230328	Solid	03/28/23 09:44	03/28/23 16:57
880-26493-2	SB-11-S-2-20230328	Solid	03/28/23 09:50	03/28/23 16:57
880-26493-3	SB-11-S-3.5-20230328	Solid	03/28/23 10:48	03/28/23 16:57
880-26493-4	SB-12-S-0-0.5-20230328	Solid	03/28/23 10:23	03/28/23 16:57
880-26493-5	SB-12-S-2-20230328	Solid	03/28/23 10:40	03/28/23 16:57
880-26493-6	SB-14-S-0-0.5-20230328	Solid	03/28/23 11:00	03/28/23 16:57
880-26493-7	SB-14-S-2-20230328	Solid	03/28/23 11:07	03/28/23 16:57
880-26493-8	SB-13-S-0-0.5-20230328	Solid	03/28/23 11:19	03/28/23 16:57
880-26493-9	SB-13-S-2-20230328	Solid	03/28/23 11:35	03/28/23 16:57

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

Chain of Custody Record

eurofins | Environment Testing

26493

Client Information	Sampler: Jerry S. Longwell	Lab PM: Builes John	Carrier Tracking No(s):	COC No: 880-5474-713 1
Client Contact: Douglas Jordan	Phone: 432-288-0876	E-Mail: John.Builes@et.eurofinsus.com	State of Origin:	Page: Page 1 of 6
Company: ARCADIS U S Inc	PWSID:	Analysis Requested		Job #:
Address: 10205 Westheimer Rd Suite 800	Due Date Requested:			Preservation Codes: A HCL, B NaOH, C - Zn Acetate, D - Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J - DI Water, K EDTA, L EDA, M Hexane, N - None, O AsNaO2, P Na2O4S, Q Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z - other (specify)
City: Houston	TAT Requested (days): Standard			
State, Zip: TX 77042	Compliance Project: Δ Yes Δ No			
Phone: 713-953-4739(Tel)	PO #: PN 30172230 00030			Other:
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: ~~Lovington LPU Central Battery~~ LSAU 73 SAT(4)	Project #: 88001697			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D, 8015MOD_NM, 8021B	Total Number of containers	Special Instructions/Note.
			Preservation Code:				N		
SB-11-S-0-0.5-20230328	03/28/23	0944	G	Solid			X		
SB-11-S-[redacted]2-20230328	03/28/23	0850	G	Solid			X		
SB-11-S-[redacted]3.5-20230328	03/28/23	1048	G	Solid			X		
SB-12-S-0-0.5-20230328	03/28/23	1023	G	Solid			X		
SB-12-S-[redacted]2-20230328	03/28/23	1040	G	Solid			X		
SB-14-S-0-0.5-20230328	03/28/23	1100	G	Solid			X		
SB-14-S-[redacted]2-20230328	03/28/23	1152	G	Solid			X		
~~SB-[redacted]-S-0-0.5-20230328~~				Solid					
SB-13-S-0-0.5-20230328	03/28/23	1119	G	Solid			X		
SB-13-S-[redacted]2-20230328	03/28/23	1135	G	Solid			X		
				Solid					

880-26493 Chain of Custody

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:
Relinquished by: Jerry S. Longwell	Date/Time: 03/28/23 / 1657	Company: ARCADIS	Received by: JHamer
Relinquished by:	Date/Time:	Company:	Received by: JHamer
Relinquished by:	Date/Time:	Company:	Received by:

Date/Time: 3.29.23 1657	Company
Date/Time: 3.29.23 731 AM	Company
Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 1.6/1.3 IR8

Ver 01/16/2019

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc Job Number: 880-26493-1

Login Number: 26493 **List Source: Eurofins Midland**
List Number: 1
Creator: Kramer, Jessica

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

Appendix D

NMOCD Correspondence

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

Thank You,

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

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

Scott,

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

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

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

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

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

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

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

Brittany,

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

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

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

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

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

Mr. Foord,

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

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

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

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

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

FYI. All are under your review.

Nelson V.

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

Nelson,

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

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

Please let me know if you need any additioanl information.

Thanks,
Scott

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

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

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

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

QUESTIONS

Action 359114

QUESTIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 359114
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nGRL0821729742**
Incident Name	**NGRL0821729742 LOVINGTON SAN ANDRES UNIT #073 @ 30-025-31367**
Incident Type	**Oil Release**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-025-31367] LOVINGTON SAN ANDRES UNIT #073**
Incident Facility	**[fAPP2133550286] LSAU Test Station 4 Satellite**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	LOVINGTON SAN ANDRES UNIT #073
Date Release Discovered	06/27/2008
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure | Valve | Crude Oil | Released: 1 BBL | Recovered: 1 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Valve | Produced Water | Released: 20 BBL | Recovered: 15 BBL | Lost: 5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 359114
	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
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 359114
	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 500 and 1000 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 300 and 500 (ft.)
Any other fresh water well or spring	Between 500 and 1000 (ft.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 500 and 1000 (ft.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1230
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	1040
GRO+DRO (EPA SW-846 Method 8015M)	784.9
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	07/30/2024
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	2750
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	2750
What is the estimated volume (in cubic yards) that will be remediated	30
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 359114
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	R360 Artesia LLC LANDFARM [fEEM0112340644]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 06/27/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 359114
	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

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
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Energy, Minerals and Natural Resources
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QUESTIONS (continued)

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 359114
	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

District I
1625 N. French Dr., Hobbs, NM 88240
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CONDITIONS

Operator:	OGRID:
CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	4323
	Action Number: 359114
	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. The delineation of the site is incomplete and must be completed during remediation activities. The proposed excavation area may need to be expanded horizontally and vertically to meet delineation and closure requirements.	7/2/2024
bhall	The closure report will need to include verification if fAPP2133550286 (LSAU Test Station 4 Satellite), registered by Chevron USA Inc [4323] on 12/1/2021, is still an active facility or if the facility is inactive as this will affect when the reclamation report is due.	7/2/2024
bhall	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	7/2/2024
bhall	If the facility is determined to be inactive, the entire release area will need to be reclaimed at time of remediation and a reclamation report will need to be submitted with the closure report or immediately following the approval of the closure report.	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 closure report through the OCD Permitting website by 10/2/2024.	7/2/2024