

Chris Brand Environmental Remediation/ Facility Decom Advisor

#### VIA ELECTRONIC MAIL

June 11, 2024

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

Re: West Lovington Unit #056 Soil Remediation Work Plan Incident No. nPAC0617348887 Case No. 1RP-930

Dear Whom it May Concern:

Please find enclosed for your files, copies of the following: West Lovington Unit #056 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 Midcontinent L.P.

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 West Lovington Unit #056
- 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



Chevron Environmental Management Company

# 2024 Work Plan

# West Lovington Unit #056 Lea County, New Mexico Incident # nPAC0617348887

June 2024

## 2024 Work Plan

West Lovington Unit #056 Incident # nPAC0617348887 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

- Dod forth

Scott Foord, PG Program Manager

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# **1** Introduction

Arcadis U.S., Inc. (Arcadis) has prepared this Work Plan, for Chevron Environmental Management Company (CEMC) on behalf of Chevron U.S.A. Inc., through its division Chevron North America Exploration and Production Company, for the release site known as the West Lovington Unit #056 (Site) located at coordinates: 32.851291, - 103.375084. 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 privately owned land approximately 6-miles southwest of the City of Lovington in Unit G, Section 8, 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 # nPAC0617348887

According to the Initial C-141 Form, on April 26, 2006, internal and external corrosion of a 1-inch plastic coated steel riser caused a split and a release of approximately 25 barrels (bbls) of produced water at the Site. According to the Initial C-141 Form submitted on April 27, 2006, the amount recovered was approximately 20 bbls of produced water. The Initial C-141 Form was approved in June 2006 and assigned remediation permit number 1RP-930 and incident number nPAC0617348887. The Initial C-141 Form is included as **Appendix A**.

## 3 Site Characterization

After a review of the New Mexico Office of State Engineers (NMOSE) database, there are several groundwater monitoring wells located approximately 0.10 miles northeast of the Site associated with the Chevron West Lovington Unit #057 Site (Case No. 1RP-1992) with depth to groundwater verified at 58.92 feet (ft) below ground surface (bgs) by Arcadis on May 20, 2024. Photographic documentation of gauging activities by Arcadis are included in **Appendix B**.

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

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

- Distance to incorporated municipal boundaries or a defined municipal fresh water well field: Between 1 and 5 miles;
- Distance to wetland: Between 1,000 feet and 0.50 miles;
- Distance to subsurface mine: >5 miles;
- Distance to (non-karst) unstable area: >5 miles;
- Categorize the risk of this well/site being in a karst geology: Low;
- Distance to a 100-year floodplain: Between 1 and 5 miles; and
- Did the release impact areas not on an exploration, development, production, or storage site? Yes

The site characterization data is presented in Appendix C.

## 4 NMAC Regulatory Criteria

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

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

Per Table I of NMAC part 19.15.29.12, the following closure criteria apply to the Site for remediation activities for soils at depths greater than 4 feet bgs due to depth to groundwater measured by Arcadis at 58.29 feet bgs within Chevron West Lovington Unit #057 closest groundwater monitoring well located approximately 0.10 miles northeast of the Site:

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

## 5 Site Assessment Activities

In March 2023, Arcadis performed site assessment activities to evaluate soil impacts stemming from the release. A total of three (3) sample points (SB-1 through SB-3) were advanced to depths ranging from the surface to 2 feet bgs inside and surrounding the release area to evaluate the vertical and horizontal extents of the release. Soil sample locations are shown on **Figure 3**. Soil samples were collected for chemical analyses, placed directly into laboratory-provided sample containers, stored on ice, and transported under the proper chain-of-custody protocol to Eurofins Laboratories in Midland, Texas.

The samples were analyzed for TPH by United States Environmental Protection Agency (EPA) Method 8015, modified BTEX by EPA Method 8021B, and chloride by EPA method 300.0. There were no detections in soil samples analyzed for BTEX. Soil samples analyzed for TPH were reported with concentrations ranging from 41.5 J mg/kg (S-2) to 57.2 mg/kg (S-3). Soil samples analyzed for chloride were reported with concentrations ranging from 59.3 mg/kg (S-1) to 769 mg/kg (S-3).

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

## 6 Proposed Work Plan

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

The proposed excavation area encompasses a surface area of approximately 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 prepare and schedule field work and confirm subcontractors, 30 days to complete on-site remediation activities, and 30 days to prepare a soil remediation summary and closure request report.

# 7 Work Plan Approval Request

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

# **Tables**

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Sample I.D.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH GRO + DRO	TPH MRO	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Standards		10				50			1,000		2,500	10,000	
Restoratio	on Requireme	ents										100	600
SB-1	0-0.5'	03/22/23	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	19.1 J	28.9 J	48.0 J	<15.0	48.0 J	59.3
00-1	2'	03/22/23	<0.000381	< 0.000451	<0.000559	<0.000341	<0.000341	20.5 J	21.3 J	41.8 J	<15.0	41.8 J	185
SB-2	0-0.5'	03/22/23	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	19.9 J	21.6 J	41.5 J	<15.0	41.5 J	210
30-2	2'	03/22/23	<0.000383	< 0.000453	<0.000562	<0.000342	<0.000342	20.9 J	20.6 J	41.5 J	<15.0	41.5 J	493
SB-3	0-0.5'	03/22/23	<0.000384	< 0.000455	<0.000564	<0.000343	<0.000343	41.4 J	15.8 J	57.2 J	<15.0	57.2	427
50-3	2'	03/22/23	<0.000387	<0.000459	<0.000568	<0.000346	<0.000346	23.8 J	19.6 J	43.4 J	<15.0	43.4 J	769

Legend:

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**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

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

mg/kg: Milligram per Kilogram

BTEX : Benzene, Toluene, Ethylbenzene, and Total Xylenes

NMAC : New Mexico Administration Code. Criteria based off of depth to groundwater of 51-100 feet.

TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics

TPH MRO: Total Petroluem Hydrocarbons Motor Oil Range Organics

TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics

Total TPH: GRO + DRO + MRO

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

Notes:

1. Chloride analyzed by United States Environmental Protection Agency Method 300

2. TPH analyzed by TPH by SW8015 Mod DRO/ORO Method

3. BTEX analyzed by USEPA Method 8021B

4. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2)

1/1

https://arcadiso365.sharepoint.com/teams/Chevron\_UEM/WLU 56/Shared Documents/Work Plan/WP 2024/Table/Table 1 WLU 56\_2023 Soil Analytical Data\_V0

# **Figures**

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Received by OCD: 7/23/2024 10:20:45 AM





Initial C-141 Form Incident # nPAC0617348887

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Photo Log







Site Characterization Data



Distance to lakebed, sinkhole, or playa lake.

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



 32.851291,-103.375084
 X

 32.851291,-103.375084
 X

 S2.851291,-103.375084
 X

 LOVINGTON MUNICIPAL VALUES CONVERTING MUNICIPAL VALU

Distance to spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes (Lovington Municipal Water Supply Well NM3521813).

Distance to any other fresh water well or spring (L-00381).



### Distance to a wetland.





Laboratory Analytical Reports

Received by OCD: 7/23/2024 10:20:45 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Douglas Jordan ARCADIS U.S. Inc 10205 Westheimer Rd Suite 800 Houston, Texas 77042 Generated 4/5/2023 12:02:46 PM

# JOB DESCRIPTION

Lovington Field Assessment SDG NUMBER WLU 56

## **JOB NUMBER**

880-26269-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701







Received by OCD: 7/23/2024 10:20:45 AM

## **Eurofins Midland**

Job Notes

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

## Authorization

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

Authorized for release by John Builes, Project Manager John.Builes@et.eurofinsus.com (561)558-4549 1

Eurofins Midland is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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Job ID: 880-26269-1 SDG: WLU 56	2 3 4
	2 3 4
	3
	<b>3</b> 4
	5
	8
	9
	40
	12

Limit of Quantitation (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin)

Too Numerous To Count

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

Not Detected at the reporting limit (or MDL or EDL if shown)

Minimum Detectable Activity (Radiochemistry)

LOQ

MCL

MDA

MDC

MDL

MPN

MQL

NC

ND NEG

POS

PQL

PRES

QC

RER

RPD

TEF

TEQ TNTC

RL

ML

**Eurofins Midland** 

Project/Site: Lovington Field Assessment

4

#### Job ID: 880-26269-1 SDG: WLU 56

#### Job ID: 880-26269-1

Client: ARCADIS U.S. Inc

#### Laboratory: Eurofins Midland

#### Narrative

Job Narrative 880-26269-1

#### Receipt

The samples were received on 3/23/2023 8:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.3°C

#### **Receipt Exceptions**

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

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-49794 and 880-49931 and analytical batch 880-49998 was outside the upper control limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-49771 and analytical batch 880-49783 was outside the upper control limits.

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

#### HPLC/IC

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

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

#### Client Sample ID: SB-1-S-0.5'-20230322 Date Collected: 03/22/23 13:10

Date Received: 03/23/23 08:20

Method: SW846 8021B - Volatile	· ·			ME	11	-	Descent	A	<b>D</b> 11 <b>F</b>
Analyte		Qualifier	RL	MDL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Benzene	<0.000386		0.00200	0.000386	mg/Kg		03/30/23 12:19	04/03/23 02:56	1
Toluene	<0.000457		0.00200	0.000457			03/30/23 12:19	04/03/23 02:56	1
Ethylbenzene	<0.000566		0.00200	0.000566	mg/Kg		03/30/23 12:19	04/03/23 02:56	1
m-Xylene & p-Xylene	<0.00101	U	0.00401	0.00101	mg/Kg		03/30/23 12:19	04/03/23 02:56	1
o-Xylene	<0.000345	U	0.00200	0.000345	mg/Kg		03/30/23 12:19	04/03/23 02:56	1
Xylenes, Total	<0.00101	U	0.00401	0.00101	mg/Kg		03/30/23 12:19	04/03/23 02:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130				03/30/23 12:19	04/03/23 02:56	1
1,4-Difluorobenzene (Surr)	92		70 - 130				03/30/23 12:19	04/03/23 02:56	1
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (0	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	48.0	J	50.0	15.0	mg/Kg			03/30/23 12:56	1
- Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	19.1	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:02	1
Diesel Range Organics (Over C10-C28)	28.9	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:02	1
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				03/28/23 17:17	03/29/23 16:02	1
o-Terphenyl	95		70 - 130				03/28/23 17:17	03/29/23 16:02	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solubl	e						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.3		5.03	0.397	mg/Kg			04/04/23 22:36	1
Client Sample ID: SB-1-S-2'-	20230322						Lab Sam	ple ID: 880-2	6269-2
Date Collected: 03/22/23 14:00								Matri	x: Solid
Date Received: 03/23/23 08:20									
Method: SW846 8021B - Volatile		ounds (GC) Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	Result		0.00198	0.000381	mg/Kg		03/30/23 12:19	04/03/23 03:22	1
Analyte Benzene	<0 000381	U	0.00196						
Benzene									1
Benzene Toluene	<0.000451	U	0.00198	0.000451	mg/Kg		03/30/23 12:19	04/03/23 03:22	
Benzene Toluene Ethylbenzene	<0.000451 <0.000559	U U	0.00198 0.00198	0.000451 0.000559	mg/Kg mg/Kg		03/30/23 12:19 03/30/23 12:19	04/03/23 03:22 04/03/23 03:22	1
Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	<0.000451 <0.000559 <0.00100	U U U	0.00198 0.00198 0.00396	0.000451 0.000559 0.00100	mg/Kg mg/Kg mg/Kg		03/30/23 12:19 03/30/23 12:19 03/30/23 12:19	04/03/23 03:22 04/03/23 03:22 04/03/23 03:22	1 1
Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene	<0.000451 <0.000559 <0.00100 <0.000341	U U U U	0.00198 0.00198 0.00396 0.00198	0.000451 0.000559 0.00100 0.000341	mg/Kg mg/Kg mg/Kg mg/Kg		03/30/23 12:19 03/30/23 12:19 03/30/23 12:19 03/30/23 12:19	04/03/23 03:22 04/03/23 03:22 04/03/23 03:22 04/03/23 03:22	1
Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	<0.000451 <0.000559 <0.00100	U U U U	0.00198 0.00198 0.00396	0.000451 0.000559 0.00100	mg/Kg mg/Kg mg/Kg mg/Kg		03/30/23 12:19 03/30/23 12:19 03/30/23 12:19	04/03/23 03:22 04/03/23 03:22 04/03/23 03:22	

Surrogate	%Recovery Qualifi	er Limits	Prepared	Analyzed
4-Bromofluorobenzene (Surr)	122	70 - 130	03/30/23 12:19	04/03/23 03:22
1,4-Difluorobenzene (Surr)	93	70 - 130	03/30/23 12:19	04/03/23 03:22

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Total TPH	41.8	J	50.0	15.0	mg/Kg			03/30/23 12:56	1

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Job ID: 880-26269-1 SDG: WLU 56

## Lab Sample ID: 880-26269-1

Matrix: Solid

Dil Fac 1

#### Client Sample ID: SB-1-S-2'-20230322 Date Collected: 03/22/23 14:00

Date	conecteu.	03/22/23	14.00
Date	<b>Received:</b>	03/23/23	08:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	20.5	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:23	1
Diesel Range Organics (Over C10-C28)	21.3	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:23	1
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130				03/28/23 17:17	03/29/23 16:23	1
o-Terphenyl	100		70 - 130				03/28/23 17:17	03/29/23 16:23	1

welliou: EPA 300.0 - Amons, Ion C	momatograp	my - Soluble							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	185		5.04	0.398	mg/Kg			04/04/23 22:41	1

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

Date Collected: 03/22/23 14:30

Date Received: 03/23/23 08:20

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		03/30/23 12:19	04/03/23 03:49	1
Toluene	<0.000454	U	0.00199	0.000454	mg/Kg		03/30/23 12:19	04/03/23 03:49	1
Ethylbenzene	<0.000563	U	0.00199	0.000563	mg/Kg		03/30/23 12:19	04/03/23 03:49	1
m-Xylene & p-Xylene	<0.00101	U	0.00398	0.00101	mg/Kg		03/30/23 12:19	04/03/23 03:49	1
o-Xylene	<0.000343	U	0.00199	0.000343	mg/Kg		03/30/23 12:19	04/03/23 03:49	1
Xylenes, Total	<0.00101	U	0.00398	0.00101	mg/Kg		03/30/23 12:19	04/03/23 03:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130				03/30/23 12:19	04/03/23 03:49	1
1,4-Difluorobenzene (Surr)	93		70 - 130				03/30/23 12:19	04/03/23 03:49	1

Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	41.5	J	49.9	15.0	mg/Kg			03/30/23 12:56	1
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	19.9	J	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:45	1
(GRO)-C6-C10									
Diesel Range Organics (Over	21.6	J	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:45	1
C10-C28)									
Oll Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 16:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				03/28/23 17:17	03/29/23 16:45	1
o-Terphenyl	106		70 - 130				03/28/23 17:17	03/29/23 16:45	1

Method: EPA 300.0 - Anions, Ion C	hromatography - Sol	uble						
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	210	4.98	0.393	mg/Kg			04/04/23 22:45	1

Job ID: 880-26269-1 SDG: WLU 56

### Lab Sample ID: 880-26269-2 Matrix: Solid

Lab Sample ID: 880-26269-3

Matrix: Solid

Released to Imaging: 7/29/2024 8:11:27 AM

#### Client Sample ID: SB-2-S-2'-20230322 Date Collected: 03/22/23 14:45

Date Received: 03/23/23 08:20

Method: SW846 8021B - Volatile	•								
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Benzene	<0.000383	U	0.00199	0.000383	mg/Kg		03/30/23 12:19	04/03/23 04:15	1
Toluene	<0.000453	U	0.00199	0.000453	mg/Kg		03/30/23 12:19	04/03/23 04:15	1
Ethylbenzene	<0.000562	U	0.00199	0.000562	mg/Kg		03/30/23 12:19	04/03/23 04:15	1
m-Xylene & p-Xylene	<0.00100	U	0.00398	0.00100	mg/Kg		03/30/23 12:19	04/03/23 04:15	1
o-Xylene	<0.000342	U	0.00199	0.000342	mg/Kg		03/30/23 12:19	04/03/23 04:15	1
Xylenes, Total	<0.00100	U	0.00398	0.00100	mg/Kg		03/30/23 12:19	04/03/23 04:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130				03/30/23 12:19	04/03/23 04:15	1
1,4-Difluorobenzene (Surr)	85		70 - 130				03/30/23 12:19	04/03/23 04:15	1
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	41.5	J	49.9	15.0	mg/Kg			03/30/23 12:56	1
- Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	20.9	J	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:06	1
Diesel Range Organics (Over C10-C28)	20.6	J	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:06	1
Oll Range Organics (Over C28-C36)	<15.0	U	49.9	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				03/28/23 17:17	03/29/23 17:06	1
o-Terphenyl	100		70 - 130				03/28/23 17:17	03/29/23 17:06	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solubl	e						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	493		4.96	0.392	mg/Kg			04/04/23 22:50	1
lient Sample ID: SB-3-S-0.5	5'-20230322						Lab Sam	ple ID: 880-2	6269-5
								Matri	x: Solid
Date Collected: 03/22/23 14:05 Date Received: 03/23/23 08:20									
Date Received: 03/23/23 08:20	Organic Comp	ounds (GC)							
	• •	ounds (GC) Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Date Received: 03/23/23 08:20 - Method: SW846 8021B - Volatile	• •	Qualifier		<b>MDL</b> 0.000384	Unit mg/Kg	<u>D</u>	Prepared 03/30/23 12:19	Analyzed 04/03/23 04:42	Dil Fac
ate Received: 03/23/23 08:20 Method: SW846 8021B - Volatile Analyte	Result	Qualifier	RL			<u>D</u>	· · · ·		
Analyte Benzene	<b>Result</b> _<0.000384	Qualifier U U	RL 0.00200	0.000384	mg/Kg	<u> </u>	03/30/23 12:19	04/03/23 04:42	1
Method: SW846 8021B - Volatile Analyte Benzene Toluene	Result <0.000384 <0.000455	Qualifier U U U	RL 0.00200 0.00200	0.000384 0.000455	mg/Kg mg/Kg mg/Kg	<u> </u>	03/30/23 12:19 03/30/23 12:19	04/03/23 04:42 04/03/23 04:42	1 1
Analyte Benzene Toluene Ethylbenzene	Result <0.000384 <0.000455 <0.000564	Qualifier U U U U	RL 0.00200 0.00200 0.00200	0.000384 0.000455 0.000564	mg/Kg mg/Kg mg/Kg	<u>D</u>	03/30/23 12:19 03/30/23 12:19 03/30/23 12:19	04/03/23 04:42 04/03/23 04:42 04/03/23 04:42	1 1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	03/30/23 12:19	04/03/23 04:42	1
1,4-Difluorobenzene (Surr)	81		70 - 130	03/30/23 12:19	04/03/23 04:42	1

Method: SW846 8015 NM - Diesel F	Range Organi	ics (DRO) (O	SC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	57.2		49.8	15.0	mg/Kg			03/30/23 12:56	1

Eurofins Midland

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Job ID: 880-26269-1 SDG: WLU 56

## Lab Sample ID: 880-26269-4

Matrix: Solid

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

#### Client Sample ID: SB-3-S-0.5'-20230322 Date Collected: 03/22/23 14:05

Date Received: 03/23/23 08:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	41.4	J	49.8	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:28	1
Diesel Range Organics (Over C10-C28)	15.8	J	49.8	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:28	1
Oll Range Organics (Over C28-C36)	<15.0	U	49.8	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130				03/28/23 17:17	03/29/23 17:28	1
o-Terphenyl	83		70 - 130				03/28/23 17:17	03/29/23 17:28	1
-	Chromotogram	hv - Solubl	e						
Method: EPA 300.0 - Anions, Ion	Chromatograp								
Method: EPA 300.0 - Anions, Ion Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Date Collected: 03/22/23 14:20

Date Received: 03/23/23 08:20

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC)	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000387	U	0.00201	0.000387	mg/Kg		03/30/23 12:19	04/03/23 05:08	1
Toluene	<0.000459	U	0.00201	0.000459	mg/Kg		03/30/23 12:19	04/03/23 05:08	1
Ethylbenzene	<0.000568	U	0.00201	0.000568	mg/Kg		03/30/23 12:19	04/03/23 05:08	1
m-Xylene & p-Xylene	<0.00102	U	0.00402	0.00102	mg/Kg		03/30/23 12:19	04/03/23 05:08	1
o-Xylene	<0.000346	U	0.00201	0.000346	mg/Kg		03/30/23 12:19	04/03/23 05:08	1
Xylenes, Total	<0.00102	U	0.00402	0.00102	mg/Kg		03/30/23 12:19	04/03/23 05:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130				03/30/23 12:19	04/03/23 05:08	1
1,4-Difluorobenzene (Surr)	95		70 - 130				03/30/23 12:19	04/03/23 05:08	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	43.4	J	50.0	15.0	mg/Kg			03/30/23 12:56	1
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	23.8	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:50	1
(GRO)-C6-C10									
Diesel Range Organics (Over	19.6	J	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:50	1
C10-C28)									
Oll Range Organics (Over C28-C36)	<15.0	U	50.0	15.0	mg/Kg		03/28/23 17:17	03/29/23 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130				03/28/23 17:17	03/29/23 17:50	1
o-Terphenyl	105		70 - 130				03/28/23 17:17	03/29/23 17:50	1

wethod: EPA 300.0 - Anions, Ion C	nromatograp	ny - Soluble	e						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	769		5.02	0.397	mg/Kg			04/04/23 23:00	1

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Job ID: 880-26269-1 SDG: WLU 56

## Lab Sample ID: 880-26269-5 Matrix: Solid

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

#### Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
o Sample ID	Client Sample ID	(70-130)	(70-130)	
0-26269-1	SB-1-S-0.5'-20230322	107	92	
0-26269-2	SB-1-S-2'-20230322	122	93	
0-26269-3	SB-2-S-0.5'-20230322	120	93	
0-26269-4	SB-2-S-2'-20230322	113	85	
0-26269-5	SB-3-S-0.5'-20230322	109	81	
)-26269-6	SB-3-S-2'-20230322	122	95	
S 880-49931/1-A	Lab Control Sample	108	106	
SD 880-49931/2-A	Lab Control Sample Dup	109	104	
B 880-49794/5-A	Method Blank	66 S1-	86	
IB 880-49931/5-A	Method Blank	68 S1-	85	
Surrogate Legend				

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

matrix:	Solid

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-26269-1	SB-1-S-0.5'-20230322	97	95
880-26269-2	SB-1-S-2'-20230322	101	100
880-26269-3	SB-2-S-0.5'-20230322	108	106
880-26269-4	SB-2-S-2'-20230322	100	100
880-26269-5	SB-3-S-0.5'-20230322	90	83
880-26269-6	SB-3-S-2'-20230322	107	105
LCS 880-49771/2-A	Lab Control Sample	123	115
LCSD 880-49771/3-A	Lab Control Sample Dup	118	113
MB 880-49771/1-A	Method Blank	132 S1+	119

1CO = 1-Chlorooctane OTPH = o-Terphenyl Job ID: 880-26269-1 SDG: WLU 56

Prep Type: Total/NA

Prep Type: Total/NA

## **QC Sample Results**

– Lab Sample ID: MB 880-49794/5- Matrix: Solid	A							Client Sa	mple ID: Metho Prep Type: 1	
Analysis Batch: 49998	MB	мв							Prep Batc	1. 49/94
Analyte		Qualifier	RL	МП	Unit	D		Prepared	Analyzed	Dil Fac
Benzene	<0.000385		0.00200	0.000385				3/29/23 09:13	04/02/23 05:12	
Toluene	<0.000385		0.00200	0.000385				3/29/23 09:13	04/02/23 05:12	1
Ethylbenzene	<0.000430		0.00200	0.000456	0 0			3/29/23 09:13	04/02/23 05:12	1
			0.00200							
m-Xylene & p-Xylene	<0.00101			0.00101 0.000344	0 0			3/29/23 09:13	04/02/23 05:12 04/02/23 05:12	1
o-Xylene	< 0.000344		0.00200		0 0			3/29/23 09:13		•
Xylenes, Total	<0.00101	0	0.00400	0.00101	mg/ĸg		0	3/29/23 09:13	04/02/23 05:12	1
	MB	MB								
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130				0	3/29/23 09:13	04/02/23 05:12	1
1,4-Difluorobenzene (Surr)	86		70 - 130				0	3/29/23 09:13	04/02/23 05:12	1
Lab Sample ID: MB 880-49931/5-	Α							Client Sa	mple ID: Metho	d Blank
Matrix: Solid									Prep Type:	Total/NA
Analysis Batch: 49998									Prep Batc	h: <b>49931</b>
	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D		Prepared	Analyzed	Dil Fac
Benzene	<0.000385	U	0.00200	0.000385	mg/Kg		0	3/30/23 12:19	04/02/23 19:01	1
Toluene	<0.000456	U	0.00200	0.000456	mg/Kg		0	3/30/23 12:19	04/02/23 19:01	1
Ethylbenzene	<0.000565	U	0.00200	0.000565	mg/Kg		0	3/30/23 12:19	04/02/23 19:01	1
m-Xylene & p-Xylene	<0.00101	U	0.00400	0.00101	mg/Kg		0	3/30/23 12:19	04/02/23 19:01	1
o-Xylene	<0.000344	U	0.00200	0.000344	mg/Kg		0	3/30/23 12:19	04/02/23 19:01	1
Xylenes, Total	<0.00101	U	0.00400	0.00101	mg/Kg		0	3/30/23 12:19	04/02/23 19:01	1
<b>a</b> (		MB						<u> </u>		
Surrogate	%Recovery	Qualifier S1-	<u>Limits</u> 70 _ 130				_	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130 70 - 130					3/30/23 12:19 3/30/23 12:19	04/02/23 19:01	1
1,4-Difluorobenzene (Surr)	65		70 - 130				0	3/30/23 12.19	04/02/23 19:01	1
 Lab Sample ID: LCS 880-49931/1	-A						Clie	ent Sample I	D: Lab Control	Sample
Matrix: Solid									Prep Type:	
Analysis Batch: 49998									Prep Batc	
			Spike	LCS LCS	5				%Rec	
Analyte			Added	Result Qua		Unit		D %Rec	Limits	
Benzene			0.100	0.1292		mg/Kg		129	70 - 130	
Toluene			0.100	0.1097		mg/Kg		110	70 - 130	
Ethylbenzene			0.100	0.1101		mg/Kg		110	70 - 130	
m-Xylene & p-Xylene			0.200	0.2217		mg/Kg		110	70 - 130	
o-Xylene			0.200	0.2217		mg/Kg		115	70 - 130	
0-Xylene			0.100	0.1140		ing/itg		115	70 - 130	
	LCS LCS	6								
Surrogate	%Recovery Qua	alifier	Limits							
4-Bromofluorobenzene (Surr)	108		70 - 130							
1,4-Difluorobenzene (Surr)	106		70 - 130							
-										
Lab Sample ID: LCSD 880-49931	/ <b>2-A</b>					Clier	it Sa	ample ID: La	ab Control Sam	
Matrix: Solid									Prep Type:	
Analysis Batch: 49998					_				Prep Batc	
			Spike	LCSD LCS					%Rec	RPD
Analyte			Added	Result Qua	lifier	Unit		D %Rec	Limits RP	D Limit

Job ID: 880-26269-1 SDG: WLU 56

5

Added Result Qualifier Unit D %Rec Limits RPD Limit 0.100 0.1277 mg/Kg 128 70 - 130 1 35

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Benzene

## **QC Sample Results**

Client: ARCADIS U.S. Inc Project/Site: Lovington Field Assessment Page 36 of 60

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

ab Sample ID: LCSD 880-49931	/ <b>2-A</b>							C	ient	Sam	ple ID: L	ab Contro	I Samp	le Du
Matrix: Solid												Prep 1	Type: To	otal/N
Analysis Batch: 49998												Prep	Batch:	4993
-				Spike	LC	SD LC	SD					%Rec		RP
Analyte				Added	Res	ult Qu	alifier	Unit		D	%Rec	Limits	RPD	Lim
oluene				0.100	0.11	31		mg/Kg			113	70 - 130	3	3
thylbenzene				0.100	0.11	40		mg/Kg			114	70 - 130	3	3
n-Xylene & p-Xylene				0.200	0.23	02		mg/Kg			115	70 - 130	4	
-Xylene				0.100	0.12			mg/Kg			123	70 - 130	7	3
								0 0						
	LCSD													
Surrogate	%Recovery	Qua	lifier	Limits										
-Bromofluorobenzene (Surr)	109			70 - 130										
,4-Difluorobenzene (Surr)	104			70 - 130										
ethod: 8015B NM - Diesel I	Range Or	gar	nics (DR	O) (GC)										
_ab Sample ID: MB 880-49771/1-	A										<b>Client S</b>	ample ID:	Method	l Blan
Matrix: Solid												Prep 1	Type: To	otal/N
Analysis Batch: 49783													Batch:	
-		ΜВ	МВ											
Analyte	Re	esult	Qualifier	I	RL	MD	L Unit	t	D	Р	repared	Analyz	ed	Dil Fa
Gasoline Range Organics GRO)-C6-C10	<	15.0	U	50	0.0	15.	0 mg/	Kg		03/2	8/23 17:17	03/29/23	08:47	
Diesel Range Organics (Over 210-C28)	<	15.0	U	50	0.0	15.	0 mg/	Kg		03/2	8/23 17:17	03/29/23	08:47	
Oll Range Organics (Over C28-C36)	<	15.0	U	50	0.0	15.	0 mg/	Kg		03/2	8/23 17:17	03/29/23	08:47	
		MB	МВ											
Surrogate	%Reco		Qualifier	Limits							repared	Analyz		Dil Fa
-Chlorooctane			S1+	70 - 130							8/23 17:17			
p-Terphenyl		119		70 - 130	0					03/2	8/23 17:17	03/29/23	08:47	
_ab Sample ID: LCS 880-49771/2	2-A								С	lient	Sample	ID: Lab Co	ontrol S	amp
Matrix: Solid													Type: To	
Analysis Batch: 49783													Batch:	
				Spike	L	S LC	s					%Rec		
nalyte				Added	Res	ult Qu	alifier	Unit		D	%Rec	Limits		
Gasoline Range Organics				1000	84			mg/Kg			85	70 - 130		
GRO)-C6-C10								0.0						
Diesel Range Organics (Over 210-C28)				1000	80	.6		mg/Kg			80	70 - 130		
	LCS	LCS												
	%Recovery			Limits										
Surrogate														
Gurrogate	123			70 - 130										
	123 115			70 - 130 70 - 130										

Matrix: Solid							Prep 1	ype: To	tal/NA
Analysis Batch: 49783							Prep	Batch:	49771
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	820.0		mg/Kg		82	70 - 130	3	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	833.0		mg/Kg		83	70 - 130	4	20
C10-C28)									

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Project/Site: Lovington Field Assessment

Client: ARCADIS U.S. Inc

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

Lab Sample ID: LCSD 880-49771	/ <b>3-A</b>								CI	ient S	am	ple ID: I	Lab Contro		
Matrix: Solid														Type: To	
Analysis Batch: 49783													Prep	Batch:	49//1
	LCSD	LCS	D												
Surrogate	%Recovery	Qual	lifier	Limits	_										
1-Chlorooctane	118			70 - 130											
o-Terphenyl	113			70 - 130											
lethod: 300.0 - Anions, Ion	Chromato	ogra	aphy												
Lab Sample ID: MB 880-50160/1-	A											Client S	ample ID:	Method	Blank
Matrix: Solid													Prep	Type: S	oluble
Analysis Batch: 50338															
		MB	MB												
Analyte	Re	sult	Qualifier		RL		MDL	Unit		D	Pr	epared	Analy	zed	Dil Fac
Chloride	<0.	395	U		5.00	(	0.395	mg/Kg					04/04/23	20:40	1
Lab Sample ID: LCS 880-50160/2	-A									Clie	ent	Sample	ID: Lab C	ontrol S	ample
Matrix: Solid														Type: S	
Analysis Batch: 50338															
				Spike		LCS	LCS						%Rec		
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Chloride				250		258.5			mg/Kg			103	90 - 110		
Lab Sample ID: LCSD 880-50160	/3-A								CI	ient S	am	ple ID: I	Lab Contro	ol Samp	le Dup
Matrix: Solid												-	Prep	Type: S	oluble
Analysis Batch: 50338															
-				Spike		LCSD	LCS	D					%Rec		RPD
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limi
Chloride				250		259.3			mg/Kg			104	90 - 110	0	20

## **QC Association Summary**

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

Job ID: 880-26269-1 SDG: WLU 56

## GC VOA

## Prep Batch: 49794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-49794/5-A	Method Blank	Total/NA	Solid	5035	
rep Batch: 49931					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
380-26269-1	SB-1-S-0.5'-20230322	Total/NA	Solid	5030B	
380-26269-2	SB-1-S-2'-20230322	Total/NA	Solid	5030B	
380-26269-3	SB-2-S-0.5'-20230322	Total/NA	Solid	5030B	
380-26269-4	SB-2-S-2'-20230322	Total/NA	Solid	5030B	
380-26269-5	SB-3-S-0.5'-20230322	Total/NA	Solid	5030B	
380-26269-6	SB-3-S-2'-20230322	Total/NA	Solid	5030B	
MB 880-49931/5-A	Method Blank	Total/NA	Solid	5030B	
_CS 880-49931/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-49931/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

880-26269-3	SB-2-S-0.5'-20230322	Total/NA	Solid	5030B	
880-26269-4	SB-2-S-2'-20230322	Total/NA	Solid	5030B	
880-26269-5	SB-3-S-0.5'-20230322	Total/NA	Solid	5030B	
880-26269-6	SB-3-S-2'-20230322	Total/NA	Solid	5030B	
MB 880-49931/5-A	Method Blank	Total/NA	Solid	5030B	
LCS 880-49931/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 880-49931/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
– Analysis Batch: 49998					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26269-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8021B	49931
880-26269-2	SB-1-S-2'-20230322	Total/NA	Solid	8021B	49931
880-26269-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8021B	49931
			0 1 1	8021B	49931
880-26269-4	SB-2-S-2'-20230322	Total/NA	Solid	OULID	
880-26269-4 880-26269-5	SB-2-S-2'-20230322 SB-3-S-0.5'-20230322	Total/NA Total/NA	Solid	8021B	49931
					49931 49931
880-26269-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8021B	
880-26269-5 880-26269-6	SB-3-S-0.5'-20230322 SB-3-S-2'-20230322	Total/NA Total/NA	Solid Solid	8021B 8021B	49931
880-26269-5 880-26269-6 MB 880-49794/5-A	SB-3-S-0.5'-20230322 SB-3-S-2'-20230322 Method Blank	Total/NA Total/NA Total/NA	Solid Solid Solid	8021B 8021B 8021B	49931 49794

## GC Semi VOA

### Prep Batch: 49771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26269-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8015NM Prep	
880-26269-2	SB-1-S-2'-20230322	Total/NA	Solid	8015NM Prep	
880-26269-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8015NM Prep	
880-26269-4	SB-2-S-2'-20230322	Total/NA	Solid	8015NM Prep	
880-26269-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8015NM Prep	
880-26269-6	SB-3-S-2'-20230322	Total/NA	Solid	8015NM Prep	
MB 880-49771/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49771/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49771/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 49783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26269-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8015B NM	49771
880-26269-2	SB-1-S-2'-20230322	Total/NA	Solid	8015B NM	49771
880-26269-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8015B NM	49771
880-26269-4	SB-2-S-2'-20230322	Total/NA	Solid	8015B NM	49771
880-26269-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8015B NM	49771
880-26269-6	SB-3-S-2'-20230322	Total/NA	Solid	8015B NM	49771
MB 880-49771/1-A	Method Blank	Total/NA	Solid	8015B NM	49771
LCS 880-49771/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49771

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## **QC Association Summary**

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

## GC Semi VOA (Continued)

## Analysis Batch: 49783 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-49771/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49771
analysis Batch: 4993	7				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26269-1	SB-1-S-0.5'-20230322	Total/NA	Solid	8015 NM	
880-26269-2	SB-1-S-2'-20230322	Total/NA	Solid	8015 NM	
880-26269-3	SB-2-S-0.5'-20230322	Total/NA	Solid	8015 NM	
880-26269-4	SB-2-S-2'-20230322	Total/NA	Solid	8015 NM	
880-26269-5	SB-3-S-0.5'-20230322	Total/NA	Solid	8015 NM	
880-26269-6	SB-3-S-2'-20230322	Total/NA	Solid	8015 NM	

## HPLC/IC

### Leach Batch: 50160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26269-1	SB-1-S-0.5'-20230322	Soluble	Solid	DI Leach	
880-26269-2	SB-1-S-2'-20230322	Soluble	Solid	DI Leach	
880-26269-3	SB-2-S-0.5'-20230322	Soluble	Solid	DI Leach	
880-26269-4	SB-2-S-2'-20230322	Soluble	Solid	DI Leach	
880-26269-5	SB-3-S-0.5'-20230322	Soluble	Solid	DI Leach	
880-26269-6	SB-3-S-2'-20230322	Soluble	Solid	DI Leach	
MB 880-50160/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50160/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50160/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

#### Analysis Batch: 50338

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-26269-1	SB-1-S-0.5'-20230322	Soluble	Solid	300.0	50160
880-26269-2	SB-1-S-2'-20230322	Soluble	Solid	300.0	50160
880-26269-3	SB-2-S-0.5'-20230322	Soluble	Solid	300.0	50160
880-26269-4	SB-2-S-2'-20230322	Soluble	Solid	300.0	50160
880-26269-5	SB-3-S-0.5'-20230322	Soluble	Solid	300.0	50160
880-26269-6	SB-3-S-2'-20230322	Soluble	Solid	300.0	50160
MB 880-50160/1-A	Method Blank	Soluble	Solid	300.0	50160
LCS 880-50160/2-A	Lab Control Sample	Soluble	Solid	300.0	50160
LCSD 880-50160/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50160

## Job ID: 880-26269-1 SDG: WLU 56

Initial

Amount

4.99 g

5 mL

10.01 g

1 uL

4.97 g

50 mL

Final

Amount

5 mL

5 mL

10 mL

1 uL

50 mL

50 mL

Batch

49931

49998

49937

49771

49783

50160

50338

Number

Dil

1

1

1

1

Factor

Run

### Client Sample ID: SB-1-S-0.5'-20230322 Date Collected: 03/22/23 13:10 Date Received: 03/23/23 08:20

Batch

Туре

Prep

Prep

Analysis

Analysis

Analysis

Analysis

Leach

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

Batch

Method

5030B

8021B

8015 NM

8015NM Prep

8015B NM

**DI Leach** 

300.0

Job ID: 880-26269-1 SDG: WLU 56

# Lab Sample ID: 880-26269-1

Analyst

MNR

MNR

SM

AJ

SM

KS

SMC

Prepared

or Analyzed

03/30/23 12:19

04/03/23 02:56

03/30/23 12:56

03/28/23 17:17

03/29/23 16:02

04/03/23 10:58

04/04/23 22:36

Matrix: Solid

Lab

EET MID

## Lab Sample ID: 880-26269-2 Matrix: Solid

Matrix: Solid

Date Collected: 03/22/23 14:00 Date Received: 03/23/23 08:20

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Soluble

Soluble

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.05 g	5 mL	49931	03/30/23 12:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49998	04/03/23 03:22	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49937	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 16:23	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 22:41	SMC	EET MID

### Client Sample ID: SB-2-S-0.5'-20230322 Date Collected: 03/22/23 14:30

Date Received: 03/23/23 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5 mL	49931	03/30/23 12:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49998	04/03/23 03:49	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49937	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 16:45	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 22:45	SMC	EET MID

### Client Sample ID: SB-2-S-2'-20230322 Date Collected: 03/22/23 14:45 Date Received: 03/23/23 08:20

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5 mL	49931	03/30/23 12:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49998	04/03/23 04:15	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49937	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 17:06	SM	EET MID

## Lab Sample ID: 880-26269-4

Lab Sample ID: 880-26269-3

Matrix: Solid

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### Client Sample ID: SB-2-S-2'-20230322 Date Collected: 03/22/23 14:45 Date Received: 03/23/23 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 22:50	SMC	EET MID

## Client Sample ID: SB-3-S-0.5'-20230322 Date Collected: 03/22/23 14:05 Date Received: 03/23/23 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.01 g	5 mL	49931	03/30/23 12:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49998	04/03/23 04:42	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49937	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.031 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 17:28	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 22:55	SMC	EET MID

### Client Sample ID: SB-3-S-2'-20230322 Date Collected: 03/22/23 14:20 Date Received: 03/23/23 08:20

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.97 g	5 mL	49931	03/30/23 12:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49998	04/03/23 05:08	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49937	03/30/23 12:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49771	03/28/23 17:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49783	03/29/23 17:50	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50160	04/03/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50338	04/04/23 23:00	SMC	EET MID

#### Laboratory References:

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

Page 41 of 60

Job ID: 880-26269-1 SDG: WLU 56

# Lab Sample ID: 880-26269-4

Lab Sample ID: 880-26269-5

Matrix: Solid

Matrix: Solid

Lab Sample ID: 880-26269-6

Matrix: Solid

Client: ARCADIS U.S. Inc Project/Site: Lovington Fie				Job ID: 880-26269-1 SDG: WLU 56	
Laboratory: Eurofins Unless otherwise noted, all analy		e covered under each acc	reditation/certification below.		
Authority		ogram	Identification Number	Expiration Date	
Texas The following analytes are i		LAP the laboratory is not certif	T104704400-22-25 ied by the governing authority. This list ma	06-30-23 y include analytes for which	5
the agency does not offer c Analysis Method	ertification. Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		
					8
					9
					10
					13

Eurofins Midland

Project/Site: Lovington Field Assessment

Client: ARCADIS U.S. Inc

Job ID: 880-26269-1 SDG: WLU 56

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
	<b>rences:</b> STM International Environmental Protection Agency		
	'Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition	on, November 1986 And Its Updates.	
Laboratory R			
EET MID :	Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Protocol References:

#### Laboratory References:

Eurofins Midland

## **Sample Summary**

Client: ARCADIS U.S. Inc Project/Site: Lovington Field Assessment Job ID: 880-26269-1 SDG: WLU 56

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-26269-1	SB-1-S-0.5'-20230322	Solid	03/22/23 13:10	03/23/23 08:20
880-26269-2	SB-1-S-2'-20230322	Solid	03/22/23 14:00	03/23/23 08:20
880-26269-3	SB-2-S-0.5'-20230322	Solid	03/22/23 14:30	03/23/23 08:20
880-26269-4	SB-2-S-2'-20230322	Solid	03/22/23 14:45	03/23/23 08:20
880-26269-5	SB-3-S-0.5'-20230322	Solid	03/22/23 14:05	03/23/23 08:20
880-26269-6	SB-3-S-2'-20230322	Solid	03/22/23 14:20	03/23/23 08:20

Custody Seals Intact Δ Yes Δ No			Relinquished by	Empty Kit Relinquished by.								58-3-5-1'- 2023022	222022-50 -5- 5- 2-25	58-2-5-1-20230322	22502202-502-202	515-2-2-2-2-2-30322	55-1-5-05-205305		Sample Identification	vie.	Project Name: Lowington WLU 56	douglas jordan@arcadıs com	713-953-4739(Tel) Email	state 24p TX 77042	City Houston	Address 10205 Westheimer Rd Suite 800	ARCADIS U S Inc	Client Contact Douglas Jordan	Client Information	E ur OTITIS Milarita 1211 W Florida Ave Midland, TX 79701 Phone (432) 704-5440	Eurofine Midland
	Date/Time	Date/Time	Date/lime			Poison B Unk						22-22-5	-				2-22-23	N	Sample Date	SSOM#	Project #: 88001697	WC #	PO # PN 30172230 - (	Compliance Project:	TAT Requested (days):			Phone U32			
			0220/1	Date		Unknown		1	4			1420	1405	1445	14(30	luag	1340	X	Sample Time				- 0002 C	∆ Yes	lays):	fed		-999	Emil Ac	Chain of Custody Record	
						Radiological		11	2			ø	~				P		Sample Type (C=comp, G=grab)					∆ No			PWSID	-2980	bee	of Cus	
	Company	Company	Company Aread is					5-22-	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Preservation Code:	Matrix (W=water S=soiid, O=waste/oil, BT=Tissue, A=Air)									E-Mail John	Lab PM Builes,	tody R	
Coc	Rec	Rec		Time 🗸	Specia	Sampl						×	×	X	×	×	X	X z	Field Filtero Perform MS 300_ORGFM	/MSD (1	88 or	No)		15. J)	so, de			i Builes@et	M s, John	ecord	
Cooler Temperature(s	Received by	Received by:			Special Instructions/Q	Sample Disposal ( A f	Ħ																					E-Mail John Builes@et.eurofinsus com			
			Z			A fee may	╞┼													<u> </u>		880-262					łlysis	com			
°C and Other Remarks.			エ		ements	be assess Dispose																880-26269 Chain of Custody					Requested	State of Origin:	Carrier	d d	
0,	Date	Date	Date	Method of Shipment		fee may be assessed if samples are retained longer than 1 month) tDisposal By LabArchive ForMon	t															f Custody			_		ğ	Origin: NM	Tracking No(s)	20	
10	Date/Time:	Date/Timé:	Date/Tilme	nent: 1		les are reta					<i>J</i>			1000						and the second second	_							4	ſ	<u>`O</u>	
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<u>5</u>	0	0	(J2) (			r than 1 m											ЧС	$\left  \right $	ecial Instr		УЧ	5<0	Nor S.		tate	ion Cod		to lat	8-721 2		
) Ver 01/16/2019	Company	Company	Sompany			<b>onth)</b> Months											5		Special Instructions/Note		Trizma - other (specify)	MCAA MCAA	- H2SO4 - TSP Dodecah	P Na2045 Q Na2SO3 R - Na2S2O3	- None AsNaO2	Hexane				Environment Testing	
9												-							<u>0</u>		~		iydrate							Testing	

5

7 8 9

12 13

## Login Sample Receipt Checklist

				1
Login Sample Recei	pt Checklis	st		2
Client: ARCADIS U.S. Inc			Job Number: 880-26269-1	3
			SDG Number: WLU 56	4
Login Number: 26269 List Number: 1			List Source: Eurofins Midland	
Creator: Teel, Brianna				5
Question	Answer	Comment		6
The cooler's custody seal, if present, is intact.				
Sample custody seals, if present, are intact.				1
The cooler or samples do not appear to have been compromised or tampered with.				8
Samples were received on ice.				
Cooler Temperature is acceptable.				9
Cooler Temperature is recorded.				10
COC is present.				
COC is filled out in ink and legible.				
COC is filled out with all pertinent information.				
Is the Field Sampler's name present on COC?				
There are no discrepancies between the containers received and the COC.				10
Samples are received within Holding Time (excluding tests with immediate HTs)				13
Sample containers have legible labels.				14
Containers are not broken or leaking.				
Sample collection date/times are provided.				
Appropriate sample containers are used.				
Sample bottles are completely filled.				
Sample Preservation Verified.				
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs				
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").				

.



**NMOCD** Correspondence

Released to Imaging: 7/29/2024 8:11:27 AM

From: Sent: To: Subject: Jordan, Morgan Monday, May 6, 2024 10:52 AM Krueger, Lauren FW: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Thank You,

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

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ARCADIS Design & Consultance for natural and built assets

Be green, leave it on the screen.

From: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov> Sent: Thursday, May 2, 2024 12:54 PM To: Foord, Scott <William.Foord@arcadis.com> Cc: Chrisbrand@chevron.com; Michelson, Jason C <jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>

Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Arcadis Warning: Exercise caution with email messages from external sources such as this message. Always verify the sender and avoid clicking on links or scanning QR codes unless certain of their authenticity.

Good Afternoon Scott,

The incidents below have been granted a **final** 60 day extension of July 24, 2024. Please submit all reports via the OCD permitting portal by July 24, 2024.

- Inc. No. nLWJ1016954547 WLU East Test Sat (State Land) Additional soil assessment activities completed in February and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
- Inc. No. nPAC0614230052 & nPAC0718639351 WLU Water Inj Station (State Land) Additional soil assessment activities completed in January and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
- Inc. No. nGRL1006731469 WLU 41 (Private) Additional soil assessment activities conducted in January and February 2024. Vertical delineation was not completed, additional assessment will be required and will be conducted within 30 days. A Site Characterization and Remediation Work Plan will be prepared and submitted to NMOCD following completion of assessment activities within the next 30 days.
- Inc. No. nPAC0708526071 WLU 47 (Private) Additional soil assessment activities completed in January and February 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.

- 5. Inc. No. nPAC0617348887 WLU 56 (Private) The latest soil assessment was completed in March 2023 and a Site Characterization and Remediation Work Plan was submitted to NMOCD in December 2023. The 2023 Site Characterization and Remediation Work Plan was rejected and is currently being revised to address NMOCD comments for resubmittal to the Portal.
- 6. Inc. No. nTO1424533890 Keel Fed Battery (BLM) Closure request report was submitted in December of 2023 and denied by NMOCD on December 22, 2023. The Closure Request Report is currently being revised to address NMOCD comments and will be resubmitted to the Portal.
- 7. Inc. No. nKJ1515353221 Moran 2-6 Tank Battery (State Land) Closure request report was submitted in December of 2023 and denied by NMOCD on December 22, 2023. The Closure Request Report is currently being revised to address NMOCD comments and will be resubmitted to the Portal.

Ashley Maxwell • Environmental Specialist Environmental Bureau Projects Group **EMNRD** - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87110 505.635.5000 | Ashley.Maxwell@emnrd.nm.gov http://www.emnrd.state.nm.us/OCD/

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

From: Foord, Scott < William.Foord@arcadis.com> Sent: Thursday, May 2, 2024 11:02 AM To: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov> Cc: Chrisbrand@chevron.com; Michelson, Jason C < jmichelson@chevron.com>; Jordan, Morgan <Douglas.Jordan@arcadis.com>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov> Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Ashley,

Just following up. Please let me know if you have any questions or need anything additional information.

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

From: Foord, Scott Sent: Monday, April 29, 2024 9:13 AM To: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov> Cc: Chrisbrand@chevron.com; Michelson, Jason C < jmichelson@chevron.com>; Jordan, Morgan <<u>Douglas.Jordan@arcadis.com</u>>; Hall, Brittany, EMNRD <<u>Brittany.Hall@emnrd.nm.gov</u>>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov> Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

Ashley,

Please see responses below and let me know if you need any additional information.

- Inc. No. nLWJ1016954547 WLU East Test Sat (State Land) Additional soil assessment activities completed in February and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
- 2. Inc. No. nPAC0614230052 & nPAC0718639351 WLU Water Inj Station (State Land) Additional soil assessment activities completed in January and April 2024. The Site Characterization and Remediation Work Plan is currently under development and will be submitted to NMOCD.
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Thanks, Scott Direct 713-953-4853 Cell 281-725-7477

From: Maxwell, Ashley, EMNRD <<u>Ashley.Maxwell@emnrd.nm.gov</u>>
Sent: Wednesday, April 24, 2024 9:27 AM
To: Foord, Scott <<u>William.Foord@arcadis.com</u>>
Cc: <u>Chrisbrand@chevron.com</u>; Michelson, Jason C <<u>jmichelson@chevron.com</u>>; Jordan, Morgan
<<u>Douglas.Jordan@arcadis.com</u>>; Hall, Brittany, EMNRD <<u>Brittany.Hall@emnrd.nm.gov</u>>; Velez, Nelson, EMNRD
<<u>Nelson.Velez@emnrd.nm.gov</u>>
Subject: RE: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

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Good Morning,

Please see the notes below for the requested extensions:

- 1. Inc. No. nLWJ1016954547 WLU East Test Sat (State Land)-Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
- Inc. No. nPAC0614230052 & nPAC0718639351 WLU Water Inj Station (State Land)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.

- 3. Inc. No. nGRL1006731469 WLU 41 (Private)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
- 4. Inc. No. nPAC0712954774 WLU 47 (Private)-Incident nPAC0712954774 is a duplicate incident. Refer to incident NPAC0708526071 for current status.
- 5. Inc. No. nPAC0617348887 WLU 56 (Private)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
- 6. Inc. No. nTO1424533890 Keel Fed Battery (BLM)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.
- 7. Inc. No. nKJ1515353221 Moran 2-6 Tank Battery (State Land)- Before an extension can be granted, describe what work has been completed and specify why work has not been completed within the initial time granted.

Ashley Maxwell • Environmental Specialist Environmental Bureau Projects Group EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87110 505.635.5000 | <u>Ashley.Maxwell@emnrd.nm.gov</u> http://www.emnrd.state.nm.us/OCD/

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

From: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Sent: Wednesday, April 24, 2024 8:04 AM
To: Maxwell, Ashley, EMNRD <<u>Ashley.Maxwell@emnrd.nm.gov</u>>
Subject: Fw: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

FYI. All are under your review except for the second one.

Nelson V

From: Foord, Scott <<u>William.Foord@arcadis.com</u>>
Sent: Wednesday, April 3, 2024 3:43 PM
To: Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>>
Cc: Brand, Chris M <<u>Chrisbrand@chevron.com</u>>; Michelson, Jason C <<u>jmichelson@chevron.com</u>>; Jordan, Morgan
<<u>Douglas.Jordan@arcadis.com</u>>
Subject: [EXTERNAL] NMOCD Deadline Extension Requests - Chevron Sites

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

We would like to please request 90-day extensions on the 4/30/2024 deadlines for the following sites. Additional assessments are currently ongoing and remediation work plans or closure requests will be submitted within that timeline. We are also working with the other agencies if applicable.

- 1. Inc. No. nLWJ1016954547 WLU East Test Sat (State Land)
- 2. Inc. No. nPAC0614230052 & nPAC0718639351 WLU Water Inj Station (State Land)

- 3. Inc. No. nGRL1006731469 WLU 41 (Private)
- 4. Inc. No. nPAC0712954774 WLU 47 (Private)
- 5. Inc. No. nPAC0617348887 WLU 56 (Private)
- 6. Inc. No. nTO1424533890 Keel Fed Battery (BLM)
- 7. Inc. No. nKJ1515353221 Moran 2-6 Tank Battery (State Land)

Thanks, Scott

Scott Foord PG, RSO, CPM AFS Group Service Leader 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

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811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 366410

40-0110110	
Operator:	OGRID:
CHEVRON U S A INC	4323
6301 Deauville Blvd	Action Number:
Midland, TX 79706	366410
	Action Type:
	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

#### QUESTIONS Drorogulaitaa

Frerequisites	
Incident ID (n#)	nPAC0617348887
Incident Name	NPAC0617348887 WEST LOVINGTON UNIT #056 @ 30-025-03911
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-025-03911] WEST LOVINGTON UNIT #056

#### Location of Release Source

Please answer all the questions in this group.								
Site Name	WEST LOVINGTON UNIT #056							
Date Release Discovered	04/26/2006							
Surface Owner	Private							

#### Incident Details

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

#### Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission Crude Oil Released (bbls) Details Not answered. Cause: Corrosion | Flow Line - Injection | Produced Water | Released: 25 BBL | Recovered: Produced Water Released (bbls) Details 20 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.

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 2

Page 55 of 60

Action 366410

**QUESTIONS** (continued)

Operator:	OGRID:
CHEVRON U S A INC	4323
6301 Deauville Blvd	Action Number:
Midland, TX 79706	366410
	Action Type:
	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

#### QUESTIONS

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

sponse

The responsible party must undertake the following actions immediately unless they could create a s	afety 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.
	ation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of valuation in the follow-up C-141 submission.
to report and/or file certain release notifications and perform corrective actions for releat the OCD does not relieve the operator of liability should their operations have failed to a	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 07/23/2024

District I

1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

Operator:

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 3

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QUESTIONS (continued)	
	OGRID:
CHEVRON U S A INC	4323
6301 Deauville Blvd	Action Number:
Midland, TX 79706	366410
	Action Type:

[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

#### QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)		
What method was used to determine the depth to ground water	Direct Measurement		
Did this release impact groundwater or surface water	No		
What is the minimum distance, between the closest lateral extents of the release ar	id the following surface areas:		
A continuously flowing watercourse or any other significant watercourse Greater than 5 (mi.)			
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)		
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)		
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)		
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)		
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)		
A wetland	Between 1000 (ft.) and ½ (mi.)		
A subsurface mine	Greater than 5 (mi.)		
An (non-karst) unstable area	Greater than 5 (mi.)		
Categorize the risk of this well / site being in a karst geology	Low		
A 100-year floodplain	Between 1 and 5 (mi.)		
Did the release impact areas not on an exploration, development, production, or storage site	Yes		

#### Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date Requesting a remediation plan approval with this submission Yes Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC. Have the lateral and vertical extents of contamination been fully delineated Yes Was this release entirely contained within a lined containment area No Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.) Chloride (EPA 300.0 or SM4500 CI B) 769 TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M) 57.2 GRO+DRO (EPA SW-846 Method 8015M) 57 2 BTEX (EPA SW-846 Method 8021B or 8260B) 0 (EPA SW-846 Method 8021B or 8260B) Benzene 0 Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation. On what estimated date will the remediation commence 08/24/2024 On what date will (or did) the final sampling or liner inspection occur 08/24/2024 On what date will (or was) the remediation complete(d) 09/24/2024 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 300 These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

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

QUESTIONS, Page 4

Action 366410

QUESTIONS (continued)		
Operator:	OGRID:	
CHEVRON U S A INC	4323	
6301 Deauville Blvd	Action Number:	
Midland, TX 79706	366410	
	Action Type:	
	[C-141] Site Char /Remediation Plan C-141 (C-141-y-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]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> 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 ef which includes the anticipated timelines for beginning and completing the remediation.	forts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC,
to report and/or file certain release notifications and perform corrective actions for relea the OCD does not relieve the operator of liability should their operations have failed to a	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: Chris Brand Title: Lead Environmental Specialist Email: Chrisbrand@chevron.com Date: 07/23/2024

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

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

Action 366410

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QUESTIONS (continued)	
CHEVRON U S A INC	OGRID: 4323
6301 Deauville Blvd Midland, TX 79706	Action Number: 366410
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)
QUESTIONS	
Deferral Requests Only	

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

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

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**QUESTIONS** (continued) Operator: OGRID: CHEVRON U S A INC 4323 6301 Deauville Blvd Action Number Midland, TX 79706 366410 Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan) QUESTIONS Sampling Event Information

No

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

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

CONDITIONS

Operator:	OGRID:
CHEVRON U S A INC	4323
6301 Deauville Blvd	Action Number:
Midland, TX 79706	366410
	Action Type:
	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

#### CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation plan approved.	7/29/2024
amaxwell	Submit remediation closure report via the OCD permitting portal by December 2, 2024.	7/29/2024

Action 366410