

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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

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

Incident ID	nAPP2217848858
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party	OXY USA INC.	OGRID	16696
Contact Name	WADE DITTRICH	Contact Telephone	(575) 390-2828
Contact email	WADE_DITTRICH@OXY.COM	Incident # (assigned by OCD)	
Contact mailing address	PO BOX 4294; HOUSTON, TX 77210		

### Location of Release Source

Latitude N 32.21428 Longitude W 103.66918  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	MESA VERDDE	Site Type	WATER POLISHING FACILITY
Date Release Discovered	6/3/2022	API# (if applicable)	

Unit Letter	Section	Township	Range	County
L	15	24S	32E	LEA COUNTY, NM

Surface Owner:  State  Federal  Tribal  Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 100 bbls	Volume Recovered (bbls) 75 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

12" STEEL PW LINE CORRODED

Form C-141

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	nAPP2217848858
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  Release was over 25 bbls
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If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?  
 yes, by email to OCD email address by Wade Dittrich on June 6, 2022

### Initial Response

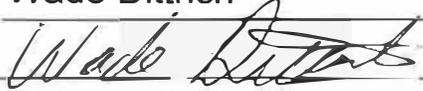
*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
--

If all the actions described above have not been undertaken, explain why:

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

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.

Printed Name: Wade Dittrich Title: Environmental Coordinator  
 Signature:  Date: 6-28-22  
 email: wade\_dittrich@oxy.com Telephone: (575) 390-2828

**OCD Only**  
 Received by: Jocelyn Harimon Date: 06/28/2022

Location of spill: Mesa Verde Water Polishing Facility

Date of Spill: 6/3/2022

Site Soil Type: Fine Sand

Average Daily Production: \_\_\_\_\_ BBL Oil \_\_\_\_\_ BBL Water

Total Area Calculations							
Total Surface Area	width		length		wet soil depth	oil (%)	
Rectangle Area #1	60 ft	X	355 ft	X	1 in	0%	
Rectangle Area #2	0 ft	X	0 ft	X	0 in	0%	
Rectangle Area #3	0 ft	X	0 ft	X	0 in	0%	
Rectangle Area #4	0 ft	X	0 ft	X	0 in	0%	
Rectangle Area #5	0 ft	X	0 ft	X	0 in	0%	
Rectangle Area #6	0 ft	X	0 ft	X	0 in	0%	
Rectangle Area #7	0 ft	X	0 ft	X	0 in	0%	
Rectangle Area #8	0 ft	X	0 ft	X	0 in	0%	

Porosity 0.16 gal per gal

**Saturated Soil Volume Calculations:**

		<u>H2O</u>	<u>OIL</u>
Area #1	21300 sq. ft.	888 cu. ft.	cu. ft.
Area #2	0 sq. ft.	cu. ft.	cu. ft.
Area #3	0 sq. ft.	cu. ft.	cu. ft.
Area #4	0 sq. ft.	cu. ft.	cu. ft.
Area #5	0 sq. ft.	cu. ft.	cu. ft.
Area #6	0 sq. ft.	cu. ft.	cu. ft.
Area #7	0 sq. ft.	cu. ft.	cu. ft.
Area #8	0 sq. ft.	cu. ft.	cu. ft.
Total Solid/Liquid Volume:	<b>21,300 sq. ft.</b>	<b>888 cu. ft.</b>	<b>cu. ft.</b>

Soil Type	Porosity
Clay	0.15
Peat	0.40
Glacial Sediments	0.13
Sandy Clay	0.12
Silt	0.16
Loess	0.25
Fine Sand	0.16
Medium Sand	0.25
Coarse Sand	0.26
Gravelly Sand	0.26
Fine Gravel	0.26
Medium Gravel	0.25
Coarse Gravel	0.18
Sandstone	0.25
Siltstone	0.18
Shale	0.05
Limestone	0.13
Basalt	0.19
Volcanic Tuff	0.20
Standing Liquids	

**Estimated Volumes Spilled**

	<u>H2O</u>	<u>OIL</u>
Liquid in Soil:	25.3 BBL	0.0 BBL
Liquid Recovered :	75.0 BBL	0.0 BBL
Spill Liquid	100.3 BBL	0.0 BBL
Total Spill Liquid:	<u>100.3</u>	

**Recovered Volumes**

Estimated oil recovered: **0.0 BBL**  
 Estimated water recovered: **75.0 BBL**



# ENSOLUM

**December 30, 2024**

**Oxy USA Inc.**  
PO Box 4294  
Houston, TX 77210  
**Attn: Mr. Wade Dittrich**

**Re:** Remediation Work Plan  
**Mesa Verde WPF**  
**32.21428° N, 103.66918° W**  
**Lea County, New Mexico**  
**Incident ID: nAPP2217848858**  
Ensolum Project No. 03B1417194

Dear Mr. Dittrich:

Ensolum, LLC. (Ensolum) has prepared this Remediation Work Plan to perform environmental consulting services in the vicinity of the Mesa Verde WPF, referred to hereinafter as the "Site." The Site is located off HWY 128 and Orla Road, approximately 31 miles west of Jal in Lea County, New Mexico.

## I. SITE DESCRIPTION & BACKGROUND

<b>Operator:</b>	Oxy USA Inc. (Oxy)
<b>Site Name:</b>	Mesa Verde WPF
<b>Location:</b>	32.21428° N, 103.66918° W Lea County, New Mexico
<b>Property:</b>	Private & Bureau of Land Management (BLM)
<b>Regulatory:</b>	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

The Site is located in Unit L, Section 15, Township 24 South, Range 32 East, in Lea County, New Mexico (32.21428°, -103.66918°) and is associated with oil and gas exploration and production operations on private land as well as Federal Land managed by the Bureau of Land Management (BLM).

On June 3, 2022, approximately 100 barrels (bbls) of produced water onto the well pad. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 75 bbls of produced water were recovered. The cause of the release was due to a corroded produced water line. Oxy reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on June 28, 2022. The release was assigned Incident Number nAPP2217848858.

Between November 22, 2024 and December 19, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. A total of 16 delineation soil samples (DS01 through DS07 and PH01 through PH05) were collected from 12 locations at depths ranging from 0.5 feet to 4 feet bgs within and surrounding the release area. Bedrock was encountered in the release extent at 2 delineation soil sample locations (PH01 and PH02). Refusal depths ranged from 2.5 feet to 3.5 feet bgs. Impacted soil was delineated to the depth of the shallow bedrock where refusal was encountered with the backhoe.

Based on laboratory analytical results, additional investigation/remediation is needed at the Site.

Based on the location of a soil boring (SB-1) within 0.5 miles of the Site, the New Mexico Administrative Code (NMAC) 19.15.29 *Releases* Table I: Closure Criteria for Soils Impacted by a Release (> 100 feet) values were utilized. The delineation soil sample results are included as **Table 1** in **Attachment D**.

The Site Map indicating the overall area of the release, the composite floor soil sample locations are included as **Figure 3** in **Attachment A**. The Closure Criteria Map is included as **Figure 4** in **Attachment A**.

## II. CLOSURE CRITERIA

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. In order to address activities related to exempt oil and gas releases, the New Mexico EMNRD OCD references NMAC 19.15.29 *Releases*, which establishes investigation and abatement action requirements for sites subject to reporting and/or corrective action. Ensolum utilized information provided by Oxy, the general site characteristics, and information available from the New Mexico Office of the State Engineer (OSE) and the New Mexico EMNRD OCD Imaging database to determine the appropriate closure criteria for the Site. Closure criteria supporting documentation is included in **Attachment B**.

- The Site is not located within 300 feet of a New Mexico ENMRD OCD-defined continuously flowing watercourse or any other significant watercourse.
- The Site is not located within 200 feet of a lakebed, sinkhole, or playa lake.
- The Site is not located within 300 feet from an occupied permanent residence, school, hospital, institution, or church.
- According to the OSE WRSS database there are no private, domestic freshwater wells used by less than five (5) households for domestic or stock water purposes identified within 500 feet of the Site.
- According to the OSE WRSS database there are no freshwater wells identified within 1,000 feet of the Site as declared in the previous bullet.
- The Site is not located within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3.
- The Site is not located within 300 feet of a wetland.
- Based on information identified on the New Mexico Mining and Minerals Division's GIS, Maps and Mine Data database, the Site is not located within an area overlying a subsurface mine.
- Based on the Karst Occurrence Potential (.kmz) provided by the BLM, the Site is not located within an unstable area.
- The Site is not located within an area of flood hazard.

Based on the identified siting criteria, cleanup goals for soils remaining in place at the Site include:

Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Method	Limit
>100 feet	Chloride	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	TPH (GRO+DRO)	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH will be applied to the top 4 feet of soil in the pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be immediately reclaimed following remediation.

### III. SCOPE OF SERVICES

#### A. Health and Safety Plan

Ensolum will develop a site-specific Health and Safety Plan (HSP) for the performance of the scope of services described in this Remediation Work Plan. For the purposes of this HSP, it is assumed that the constituents of concern (COCs) include petroleum hydrocarbons. For the purposes of this HSP, it is assumed that the scope of services can be conducted under modified Level D personal protective equipment (PPE), which will include fire-retardant (FR) clothing, hard hat, steel-toed boots, protective eyewear and gloves. Should the need arise to upgrade PPE (e.g. respiratory protection), the client will be notified, and the HSP will be modified accordingly. Although it is not anticipated at this time, it should be noted that a PPE upgrade will constitute a change in scope of work, requiring a change order.

#### B. Excavation Activities

The Site will be excavated by a third-party contractor to remove impacted soils in the release area based on laboratory analytical data, olfactory and/or visual evidence of impairment.

An estimated 667 cubic yards (cy) will be excavated from the release area. The impacted soil will be transported and properly disposed of at the Lealand Landfill in Carlsbad, New Mexico.

The remediation will be completed within 90 days of approval from the NMOCD.



### C. Confirmation Composite Soil Sampling Program

Once excavation activities are complete, Ensolum will collect additional confirmation composite soil samples every 200 square-feet from the bottomhole of the release area based on the following criteria:

- Prior composite floor soil sample exceedance;
- Highest photoionization detector (PID) reading;
- Highest electrical conductivity reading; or
- Change in lithology.

### D. Laboratory Analytical Program

The soil samples collected from the proposed confirmation floor soil samples will be analyzed for total petroleum hydrocarbons (TPH), gasoline range organics (GRO), diesel range organics (DRO) and motor oil range organics (MRO) utilizing Environmental Protection Agency (EPA) SW-846 Method 8015M and chloride utilizing EPA SW-846 Method SM4500 Cl-B under the NMOCD Closure Criteria for Soils Impacted by a Release (>100 feet).

## IV. REPORTING

Subsequent to the completion of Site activities, a Closure Report will be prepared by Ensolum to document completed site investigation and remediation activities as well as any corrective action at the Site, if needed.

## V. DELIVERABLES

The results, findings, conclusions, and recommendations, which will be provided in the Closure Report, will be based solely on the conditions which are observed during the site investigation and the information reviewed by Ensolum. No warranties or representations, expressed or implied, will be made as to the condition of the site beyond that observed by Ensolum during its site investigation.

We appreciate the opportunity to provide this Remediation Work Plan and look forward to working with you on this project. If you should have any questions or comments regarding this Remediation Work Plan, please contact either of the undersigned.

Sincerely,  
**Ensolum, LLC**



**Georgiana McSwane**  
Project Manager  
[gmcswane@ensolum.com](mailto:gmcswane@ensolum.com)



**Beaux Jennings**  
Associate Principal  
[bjennings@ensolum.com](mailto:bjennings@ensolum.com)

### Attachments:

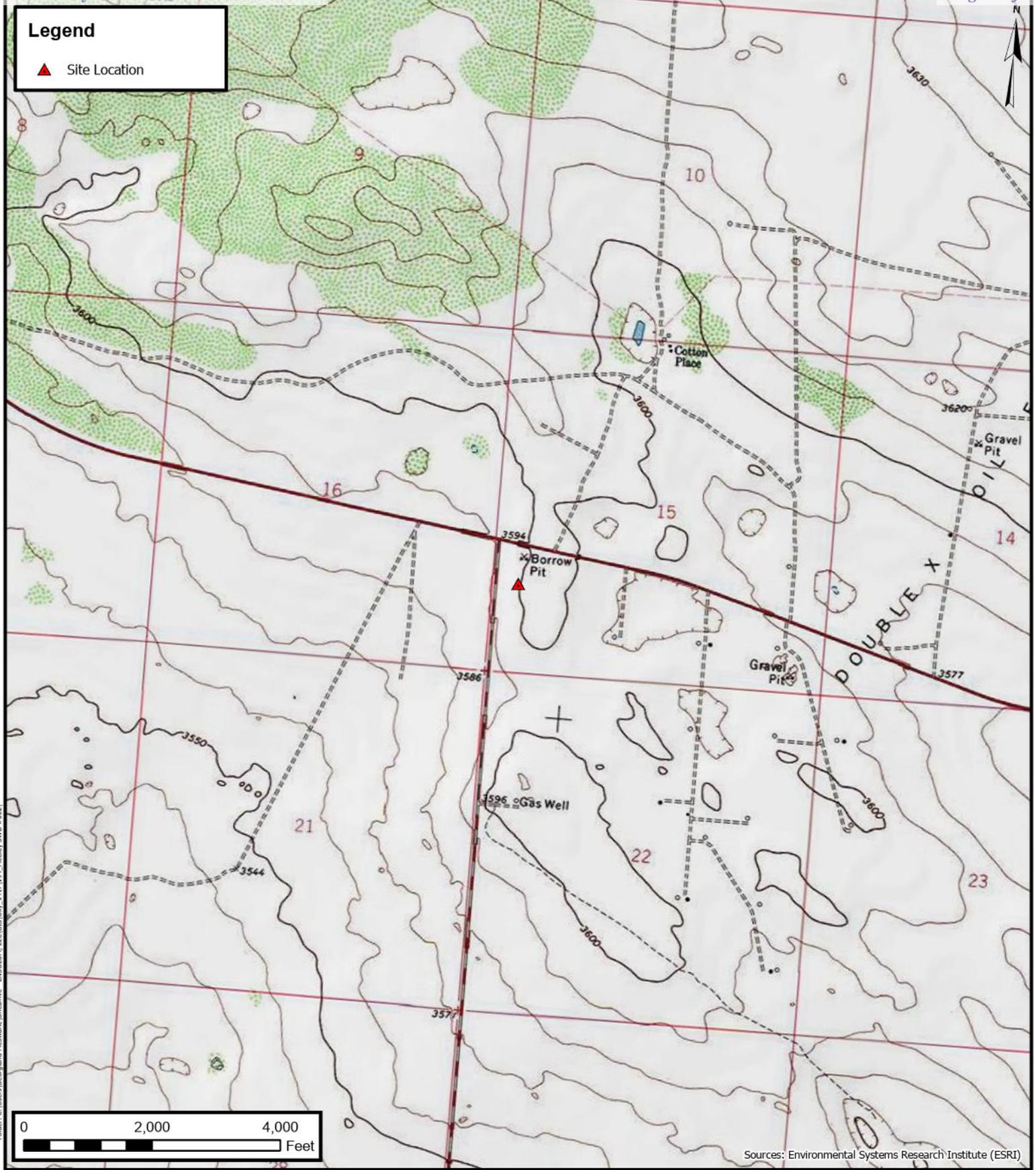
- Attachment A – Figures**
- Attachment B – Supporting Documentation**
- Attachment C – Photographic Documentation**
- Attachment D – Table 1 – Soil Sample Analytical Results**
- Attachment E – Laboratory Report & Chain-of-Custody Documentation**
- Attachment F – C-141**



## ATTACHMENT A

Figures





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**ENSOLUM**  
 Environmental, Engineering and  
 Hydrogeologic Consultants

**Topographic Map**  
 Oxy USA Inc.  
 Mesa Verde WPF  
 32.21428° N, 103.66918° W  
 Lea County, New Mexico

PROJECT NUMBER: 03B1417194

**FIGURE**  
 1

**Legend**

▲ Site Location



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Sources: Environmental Systems Research Institute (ESRI)



**Site Vicinity Map**

Oxy USA Inc.  
Mesa Verde WPF  
32.21428° N, 103.66918° W  
Lea County, New Mexico

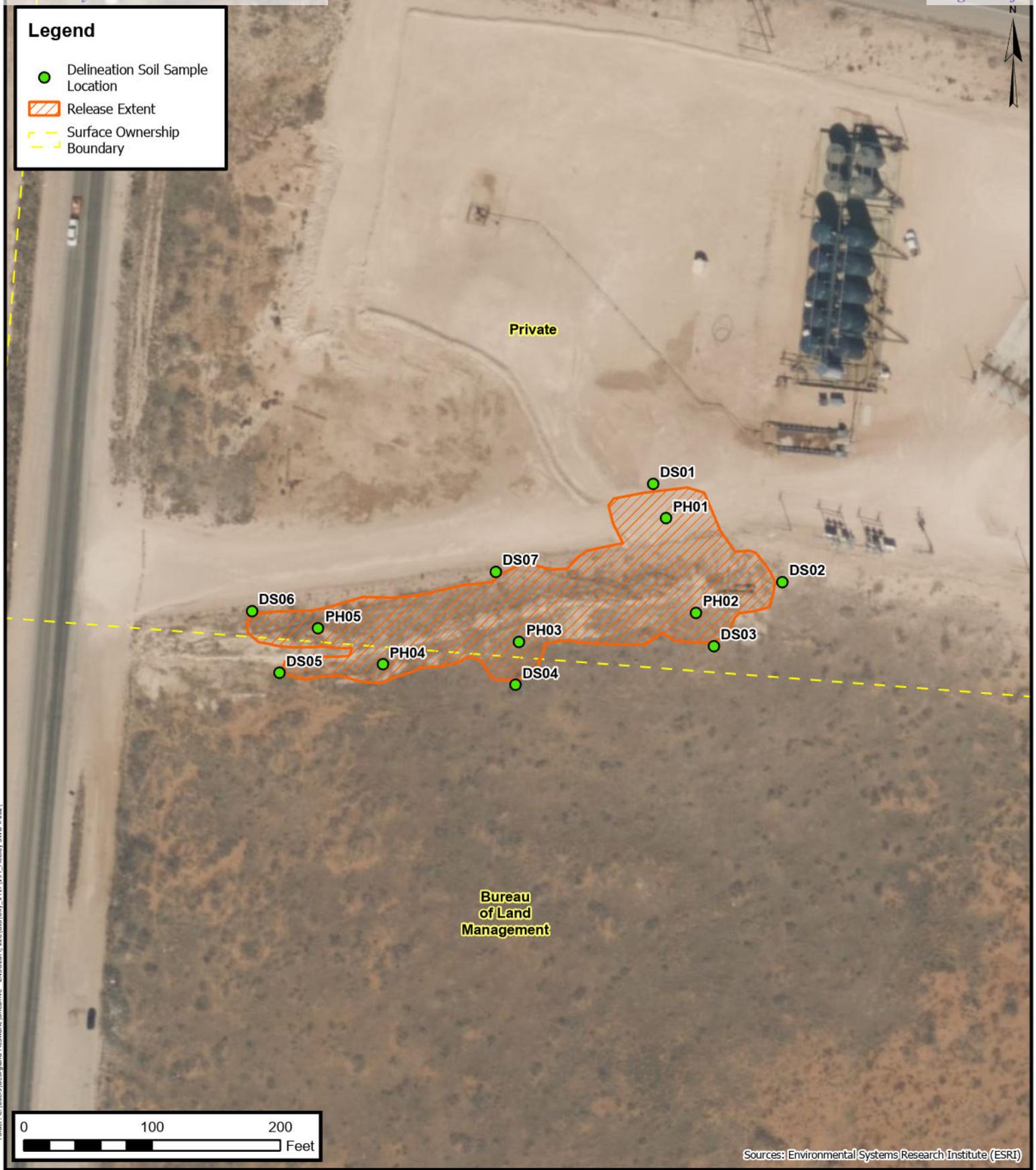
**FIGURE**

**2**

PROJECT NUMBER: 03B1417194

**Legend**

- Delineation Soil Sample Location
- Release Extent
- Surface Ownership Boundary



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Sources: Environmental Systems Research Institute (ESRI)



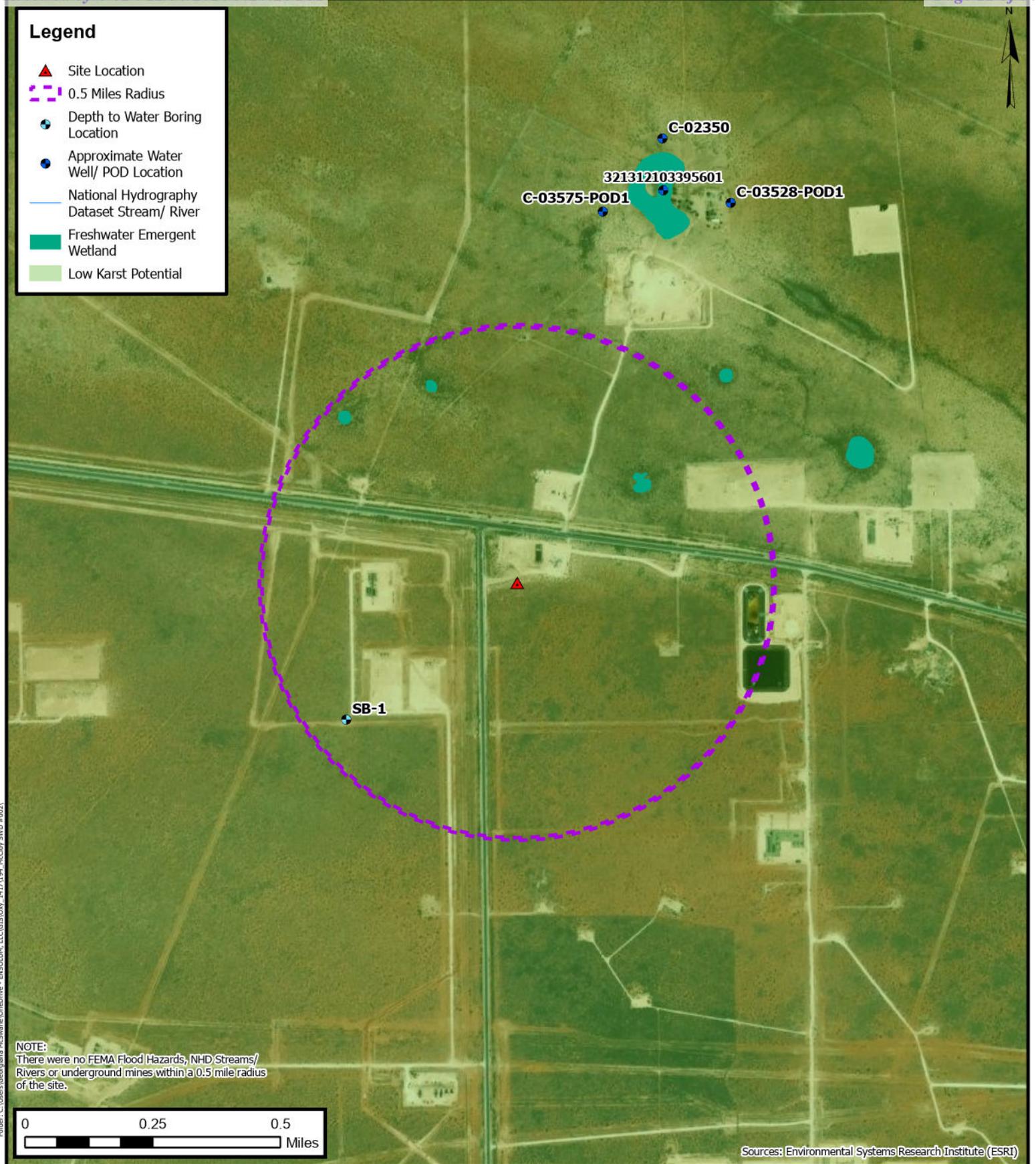
### Site Map

Oxy USA Inc.  
 Mesa Verde WPF  
 32.21428° N, 103.66918° W  
 Lea County, New Mexico

PROJECT NUMBER: 03B1417194

## FIGURE

# 3



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### Closure Criteria Map

Oxy USA Inc.  
 Mesa Verde WPF  
 32.21428° N, 103.66918° W  
 Lea County, New Mexico

PROJECT NUMBER: 03B1417194

FIGURE

4



ATTACHMENT B

Supporting Documentation





GROUNDWATER LOG SB-1

**ENSOLUM**

<b>PROJECT NUMBER</b> 03B1417169	<b>DRILLING DATE</b> 11/19/2024	<b>COORDINATES</b> 32.288270, -103.785346
<b>PROJECT NAME</b> Pure Gold A Federal 005	<b>TOTAL DEPTH</b> 110'	<b>COORD SYS</b>
<b>CLIENT</b> Oxy USA, Inc.	<b>DIAMETER</b> 2"	<b>COMPLETION</b>
<b>ADDRESS</b>	<b>CASING</b> PVC	<b>SURFACE ELEVATION</b> 3358'
<b>LICENCE NO.</b>	<b>SCREEN</b>	<b>WELL TOC</b>

**COMMENTS** Drilled by Caleb Gregory, West Texas Water Well **LOGGED BY** Shimada Kaoru  
**CHECKED BY**

PID	Samples	Analysed	% Recovery	Depth (ft)	Graphic Log	Moisture	Material Description	Well Diagram	Elevation (ft)	
				2			Brown sandy clay, dry, very fine-grained to fine-grained, trace gravel		3356	
				4					3354	
				6					3352	
				8					3350	
				10					3348	
				12					3346	
				14					3344	
				16					3342	
				18					3340	
				20				Pale light brown caliche, small gravel		3338
				22						3336
				24						3334

**Disclaimer** This bore log is intended for environmental not geotechnical purposes.

GROUNDWATER LOG SB-1

**ENSOLUM**

PID	Samples	Analysed	% Recovery	Depth (ft)	Graphic Log	Moisture	Material Description	Well Diagram	Elevation (ft)
				26					3332
				28					3330
				30			Brown clay, dry, no gravel, very fine-grained to fine-grained, oxidites		3328
				32					3326
				34					3324
				36					3322
				38					3320
				40			Reddish-brown, clayey-sand, fine to coarse, dry, non-cemented, non-plastic, some gravel		3318
				42					3316
				44					3314
				46					3312
				48					3310
				50			Brownish-red, sandy clay, dry, non-plastic, non-cemented, no gravel, oxidized		3308
				52					3306
				54					3304

Disclaimer This bore log is intended for environmental not geotechnical purposes.

GROUNDWATER LOG SB-1

**ENSOLUM**

PID	Samples	Analysed	% Recovery	Depth (ft)	Graphic Log	Moisture	Material Description	Well Diagram	Elevation (ft)
				56					3302
				58					3300
				60				Reddish-brown sandy clay, non-cemented, non-plastic, very fine to fine-grained	3298
				62			3296		
				64			3294		
				66			3292		
				68				3290	
				70			Same as above, darker in color	3288	
				72				3286	
				74				3284	
				76				3282	
				78				3280	
				80				3278	
				82				3276	
				84				3274	

Disclaimer This bore log is intended for environmental not geotechnical purposes.

GROUNDWATER LOG SB-1

**ENSOLUM**

PID	Samples	Analysed	% Recovery	Depth (ft)	Graphic Log	Moisture	Material Description	Well Diagram	Elevation (ft)
				86			Reddish-brown, dry, sandy clay, non-cemented, non-plastic, very fine-grained to fine-grained, no gravel		3272
				88				3270	
				90				3268	
				92				3266	
				94				3264	
				96				3262	
				98				3260	
				100				3258	
				102				3256	
				104				3254	
				106				3252	
				108				3250	
				110				3248	
				112				3246	
				114		3244			
						Reddish brown silty clay, dry, non-cemented, non-plastic, very fine to coarse, no gravel			

Disclaimer This bore log is intended for environmental not geotechnical purposes.



## ATTACHMENT C

### Photographic Documentation





**Photographic Log**  
Oxy USA Inc.  
Mesa Verde WPF  
03B1417194



Photograph: 1 Date: 11/22/2024  
Description: Release extent from West  
View: East



Photograph: 2 Date: 11/22/2024  
Description: Release extent from Southwest  
View: Northeast



Photograph: 3 Date: 11/22/2024  
Description: Release extent and risers from Southeast  
View: Northwest



Photograph: 4 Date: 11/22/2024  
Description: Release extent and risers from East  
View: West



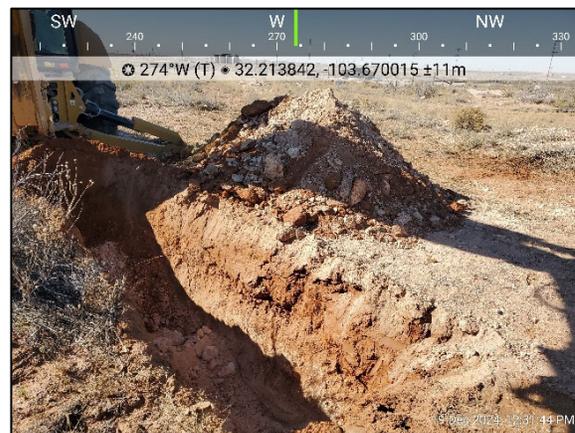
**Photographic Log**

Oxy USA Inc.  
Mesa Verde WPF  
03B1417194



Photograph: 5 Date: 12/19/2024  
Description: Hydrovac spotting an Oxy line  
View: East

Photograph: 6 Date: 12/19/2024  
Description: PH01 Pothole Location  
View: West



Photograph: 7 Date: 11/22/2024  
Description: PH02 Pothole Investigation  
View: East

Photograph: 8 Date: 12/19/2024  
Description: PH04 Pothole Investigation  
View: West





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ATTACHMENT D

Table 1 – Soil Sample Analytical Results

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**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Mesa Verde WPF  
 Oxy USA Inc.  
 Lea County, New Mexico  
 Ensolum Project No. 03B1417194

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO C <sub>6</sub> -C <sub>12</sub> (mg/kg)	TPH DRO >C <sub>12</sub> -C <sub>28</sub> (mg/kg)	TPH MRO >C <sub>28</sub> -C <sub>35</sub> (mg/kg)	TPH Total (GRO+DRO) C <sub>6</sub> -C <sub>28</sub> (mg/kg)	TPH Total (GRO+DRO+MRO) C <sub>6</sub> -C <sub>35</sub> (mg/kg)	Chloride (mg/kg)
New Mexico Oil Conservation Division Closure Criteria for Soils Impacted by a Release			10	NE	NE	NE	50	NE	NE	NE	NE	100	600
New Mexico Oil Conservation Division Closure Criteria for Soils Impacted by a Release			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
<b>Delineation Soil Sample Analytical Results</b>													
DS01	11/22/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>80.0</b>
DS02	11/22/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
DS03	11/22/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
DS04	11/22/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
DS05	11/22/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
DS06	11/22/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
DS07	11/22/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
PH01	12/19/2024	3.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>4,360</b>
PH02	12/19/2024	2	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,600</b>
	12/19/2024	2.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,760</b>
PH03	12/19/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>448</b>
	12/19/2024	3	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>4,840</b>
PH04	12/19/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,920</b>
	12/19/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>192</b>
PH05	12/19/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>5,160</b>
	12/19/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,260</b>
		4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,440</b>

Concentrations in bold and yellow exceed the New Mexico Oil Conservation Division Closure Criteria for Soils Impacted by a Release

bgs: below ground surface  
 mg/kg: milligrams per kilogram  
 NE: Not Established  
 mg/kg: milligrams per kilogram  
 BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes  
 GRO: Gasoline Range Organics  
 DRO: Diesel Range Organics  
 MRO: Motor Oil/Lube Oil Range Organics  
 TPH: Total Petroleum Hydrocarbon



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ATTACHMENT E

Laboratory Report &  
Chain-of-Custody Documentation

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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November 27, 2024

GEORGIANA MCSWANE  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: MESA VERDE WPF

Enclosed are the results of analyses for samples received by the laboratory on 11/22/24 14:19.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, written in a professional style.

Mike Snyder For Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/22/2024	Sampling Date:	11/22/2024
Reported:	11/27/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Alyssa Parras
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: DS 01 0.5' (H247187-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2024	ND	2.09	105	2.00	2.46	
Toluene*	<0.050	0.050	11/26/2024	ND	2.11	106	2.00	1.35	
Ethylbenzene*	<0.050	0.050	11/26/2024	ND	2.04	102	2.00	1.31	
Total Xylenes*	<0.150	0.150	11/26/2024	ND	6.46	108	6.00	1.92	
Total BTEX	<0.300	0.300	11/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	196	98.0	200	0.148	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	94.8	200	0.514	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/22/2024	Sampling Date:	11/22/2024
Reported:	11/27/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Alyssa Parras
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: DS 02 0.5' (H247187-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2024	ND	2.09	105	2.00	2.46	
Toluene*	<0.050	0.050	11/26/2024	ND	2.11	106	2.00	1.35	
Ethylbenzene*	<0.050	0.050	11/26/2024	ND	2.04	102	2.00	1.31	
Total Xylenes*	<0.150	0.150	11/26/2024	ND	6.46	108	6.00	1.92	
Total BTEX	<0.300	0.300	11/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/26/2024	ND	196	98.0	200	0.148	
DRO >C10-C28*	<10.0	10.0	11/26/2024	ND	190	94.8	200	0.514	
EXT DRO >C28-C36	<10.0	10.0	11/26/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.0 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/22/2024	Sampling Date:	11/22/2024
Reported:	11/27/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Alyssa Parras
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: DS 03 0.5' (H247187-03)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/26/2024	ND	2.09	105	2.00	2.46		
Toluene*	<0.050	0.050	11/26/2024	ND	2.11	106	2.00	1.35		
Ethylbenzene*	<0.050	0.050	11/26/2024	ND	2.04	102	2.00	1.31		
Total Xylenes*	<0.150	0.150	11/26/2024	ND	6.46	108	6.00	1.92		
Total BTEX	<0.300	0.300	11/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/26/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	196	98.0	200	0.148		
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	94.8	200	0.514		
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND						

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/22/2024	Sampling Date:	11/22/2024
Reported:	11/27/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Alyssa Parras
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: DS 04 0.5' (H247187-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2024	ND	2.09	105	2.00	2.46	
Toluene*	<0.050	0.050	11/26/2024	ND	2.11	106	2.00	1.35	
Ethylbenzene*	<0.050	0.050	11/26/2024	ND	2.04	102	2.00	1.31	
Total Xylenes*	<0.150	0.150	11/26/2024	ND	6.46	108	6.00	1.92	
Total BTEX	<0.300	0.300	11/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	196	98.0	200	0.148	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	94.8	200	0.514	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/22/2024	Sampling Date:	11/22/2024
Reported:	11/27/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Alyssa Parras
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: DS 05 0.5' (H247187-05)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/26/2024	ND	2.09	105	2.00	2.46		
Toluene*	<0.050	0.050	11/26/2024	ND	2.11	106	2.00	1.35		
Ethylbenzene*	<0.050	0.050	11/26/2024	ND	2.04	102	2.00	1.31		
Total Xylenes*	<0.150	0.150	11/26/2024	ND	6.46	108	6.00	1.92		
Total BTEX	<0.300	0.300	11/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/26/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	196	98.0	200	0.148		
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	94.8	200	0.514		
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND						

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/22/2024	Sampling Date:	11/22/2024
Reported:	11/27/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Alyssa Parras
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: DS 06 0.5' (H247187-06)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2024	ND	2.09	105	2.00	2.46	
Toluene*	<0.050	0.050	11/26/2024	ND	2.11	106	2.00	1.35	
Ethylbenzene*	<0.050	0.050	11/26/2024	ND	2.04	102	2.00	1.31	
Total Xylenes*	<0.150	0.150	11/26/2024	ND	6.46	108	6.00	1.92	
Total BTEX	<0.300	0.300	11/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/26/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	196	98.0	200	0.148	
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	94.8	200	0.514	
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/22/2024	Sampling Date:	11/22/2024
Reported:	11/27/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Alyssa Parras
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: DS 07 0.5' (H247187-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/26/2024	ND	1.99	99.5	2.00	0.766		
Toluene*	<0.050	0.050	11/26/2024	ND	2.05	102	2.00	1.50		
Ethylbenzene*	<0.050	0.050	11/26/2024	ND	2.03	101	2.00	1.69		
Total Xylenes*	<0.150	0.150	11/26/2024	ND	6.02	100	6.00	1.60		
Total BTEX	<0.300	0.300	11/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/26/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/25/2024	ND	196	98.0	200	0.148		
DRO >C10-C28*	<10.0	10.0	11/25/2024	ND	190	94.8	200	0.514		
EXT DRO >C28-C36	<10.0	10.0	11/25/2024	ND						

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
 (575) 393-2326 FAX (575) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Ensolum, LLC

**BILL TO**

**ANALYSIS REQUEST**

Project Manager: *Georgiana McGuire*  
 Address: *601 N. Marland STE 400*  
 City: *Midland* State: *TX* Zip: *79701*  
 Phone #: *(854) 459-3338* Fax #: *—*  
 Project #: *038141144* Project Owner:  
 Project Name: *Mesa Verde WPF*  
 Project Location: *Lea County, NM*  
 Sampler Name: *Lea Water*

P.O. #:   
 Company: *DXV USA*  
 Attn: *Tyson Pierce*  
 Address:   
 City:   
 State:   
 Zip:   
 Phone #:   
 Fax #:   
 Date:   
 Time:   
 Received By: *APD*

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV			DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :			
<i>H4118-7</i>																
<i>1</i>	<i>DS01</i>	<i>0.5'</i>	<i>G</i>	<i>1</i>	<i>X</i>								<i>11/21/24</i>	<i>1105</i>	<i>X</i>	<i>BTEX 8021</i>
<i>2</i>	<i>DS02</i>	<i>0.5'</i>	<i>G</i>	<i>1</i>	<i>X</i>								<i>11/21/24</i>	<i>1110</i>	<i>X</i>	<i>TPH 8015</i>
<i>3</i>	<i>DS03</i>	<i>0.5'</i>	<i>G</i>	<i>1</i>	<i>X</i>								<i>11/21/24</i>	<i>1115</i>	<i>X</i>	<i>Chloride 4500</i>
<i>4</i>	<i>DS04</i>	<i>0.5'</i>	<i>G</i>	<i>1</i>	<i>X</i>								<i>11/21/24</i>	<i>1120</i>	<i>X</i>	<i>TO-11/22/24</i>
<i>5</i>	<i>DS05</i>	<i>0.5'</i>	<i>G</i>	<i>1</i>	<i>X</i>								<i>11/21/24</i>	<i>1125</i>	<i>X</i>	
<i>6</i>	<i>DS06</i>	<i>0.5'</i>	<i>G</i>	<i>1</i>	<i>X</i>								<i>11/21/24</i>	<i>1130</i>	<i>X</i>	
<i>7</i>	<i>DS07</i>	<i>0.5'</i>	<i>G</i>	<i>1</i>	<i>X</i>								<i>11/21/24</i>	<i>1135</i>	<i>X</i>	

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Relinquished By: *[Signature]* Date: *11-23-24* Time: *11:11 A*  
 Received By: *APD* Date: *11/19* Time: *11:11 A*

Delivered By: (Circle One)  UPS - Bus - Other:   
 Observed Temp. °C: *3.1c* Sample Condition:  Cool  Intact  Yes  No  Yes  No   
 Corrected Temp. °C: *3.5c* CHECKED BY: *APD* (Initials)

Turnaround Time:  Standard  Rush   
 Thermometer ID: *413#110* Bacteria (only)  Cool  Intact  Yes  No  Yes  No   
 Correction Factor: *0.10c* Sample Condition:  Observed Temp. °C  Corrected Temp. °C   
 REMARKS: *Ensolum@Ensolum.com / Hygreen@Ensolum.com*

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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December 20, 2024

GEORGIANA MCSWANE  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: MESA VERDE WPF

Enclosed are the results of analyses for samples received by the laboratory on 12/19/24 16:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 01 3.5' (H247704-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3	
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2	
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1	
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7	
Total BTEX	<0.300	0.300	12/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4360	16.0	12/20/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962	
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND					

Surrogate: 1-Chlorooctane 86.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 02 2' (H247704-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3		
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2		
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1		
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7		
Total BTEX	<0.300	0.300	12/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2600	16.0	12/20/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962		
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12		
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND						

Surrogate: 1-Chlorooctane 84.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 02 2.5' (H247704-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3	
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2	
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1	
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7	
Total BTEX	<0.300	0.300	12/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2760	16.0	12/20/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962	
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND					

Surrogate: 1-Chlorooctane 81.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.8 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 03 1' (H247704-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3		
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2		
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1		
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7		
Total BTEX	<0.300	0.300	12/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	12/20/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962		
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12		
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND						

Surrogate: 1-Chlorooctane 89.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 03 3' (H247704-05)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3	
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2	
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1	
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7	
Total BTEX	<0.300	0.300	12/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4840	16.0	12/20/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962	
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND					

Surrogate: 1-Chlorooctane 89.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.2 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 03 4' (H247704-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3		
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2		
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1		
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7		
Total BTEX	<0.300	0.300	12/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2920	16.0	12/20/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962		
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12		
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND						

Surrogate: 1-Chlorooctane 80.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.1 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 04 1' (H247704-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3		
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2		
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1		
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7		
Total BTEX	<0.300	0.300	12/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	12/20/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962		
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12		
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND						

Surrogate: 1-Chlorooctane 87.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 04 4' (H247704-08)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3	
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2	
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1	
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7	
Total BTEX	<0.300	0.300	12/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5160	16.0	12/20/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962	
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND					

Surrogate: 1-Chlorooctane 86.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 05 1' (H247704-09)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3		
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2		
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1		
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7		
Total BTEX	<0.300	0.300	12/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1260</b>	16.0	12/20/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962		
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12		
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND						

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 GEORGIANA MCSWANE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	12/19/2024	Sampling Date:	12/19/2024
Reported:	12/20/2024	Sampling Type:	Soil
Project Name:	MESA VERDE WPF	Sampling Condition:	Cool & Intact
Project Number:	03B1417194	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

**Sample ID: PH 05 4' (H247704-10)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/19/2024	ND	1.65	82.6	2.00	10.3	
Toluene*	<0.050	0.050	12/19/2024	ND	1.69	84.5	2.00	11.2	
Ethylbenzene*	<0.050	0.050	12/19/2024	ND	1.65	82.3	2.00	11.1	
Total Xylenes*	<0.150	0.150	12/19/2024	ND	4.83	80.6	6.00	11.7	
Total BTEX	<0.300	0.300	12/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2440	16.0	12/20/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/20/2024	ND	194	96.9	200	0.962	
DRO >C10-C28*	<10.0	10.0	12/20/2024	ND	188	94.1	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	12/20/2024	ND					

Surrogate: 1-Chlorooctane 80.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.2 % 49.1-148

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Notes and Definitions

- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

2082

Company Name: Ensolum, LLC		P.O. #:		BILL TO		ANALYSIS REQUEST															
Project Manager: <u>Beech-Jennings</u>		Company: OXY USA																			
Address: 601 N. Marland St. STE 400		Attn: Wade Pittman																			
City: Midland State: TX Zip: 79701		Address: <u>Pyson</u>																			
Phone #: (210)219-8858		City: <u>Picard</u>																			
Project #: <u>03BIA7194</u>		State: <u>VT</u>																			
Project Name: <u>Mesa Verde VPT</u>		Zip:																			
Project Location:		Phone #:																			
Sample Name: <u>Kaoru Shimada, Nicholas Christakos</u>		Email:																			
FOR LAB USE ONLY		PRESERV.		SAMPLING																	
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	BTEX 8021B	TPH 8015M	Chloride 4500	Hold		
<u>A247104</u>	<u>PHOS</u>	<u>4</u>	<u>CI</u>	<u>1</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>							<u>12-19-24</u>	<u>1442</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>10</u>	<u>PHOS</u>	<u>4</u>	<u>CI</u>	<u>1</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>							<u>12-19-24</u>	<u>1511</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<p>PLEASE NOTE: Liability and Damages: Cardinal's liability and direct, exclusive remedy for any claims arising from this analysis shall be limited to the amount paid by the client for the analysis. All data including those for negligence and any other cause whatsoever shall be signed and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits incurred by client, its subcontractors, affiliates or successors arising out of or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</p>																					
Retrieved By: <u>[Signature]</u>		Date: <u>12-19-24</u>		Received By: <u>[Signature]</u>		Date: <u>12-19-24</u>		Time: <u>1648</u>		Time: <u>1648</u>		Time: <u>1648</u>		Time: <u>1648</u>		Time: <u>1648</u>		Time: <u>1648</u>			
Delivered By: (Circle One) <u>UPS</u>		Observed Temp. °C: <u>6.6</u>		Corrected Temp. °C: <u>6.0</u>		Sample Condition: <input checked="" type="checkbox"/> Cool <input checked="" type="checkbox"/> Airtight		CHECKED BY: (Initials) <u>[Signature]</u>		Turnaround Time: <u>24 hours</u>		Standard: <input checked="" type="checkbox"/> Observed Temp. °C		Rush: <input checked="" type="checkbox"/> Cool Heat		Thermometer ID: <u>#140</u>		Correction Factor: <u>-0.6°C</u>		Backlog (only) Sample Condition: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Sampler - UPS - Bus - Other:		Corrected Temp. °C		Sample Condition		CHECKED BY:		Turnaround Time:		Standard:		Rush:		Thermometer ID:		Correction Factor:		Backlog (only) Sample Condition:			

FORU-006 R.3.2 10/07/21 Cardinal cannot accept verbal changes. Please email changes to celeykeene@cardinalabsnm.com



ATTACHMENT F

C-141 Documentation



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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

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

Incident ID	nAPP2217848858
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party	OXY USA INC.	OGRID	16696
Contact Name	WADE DITTRICH	Contact Telephone	(575) 390-2828
Contact email	WADE_DITTRICH@OXY.COM	Incident # (assigned by OCD)	
Contact mailing address	PO BOX 4294; HOUSTON, TX 77210		

### Location of Release Source

Latitude N 32.21428 Longitude W 103.66918  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	MESA VERDDE	Site Type	WATER POLISHING FACILITY
Date Release Discovered	6/3/2022	API# (if applicable)	

Unit Letter	Section	Township	Range	County
L	15	24S	32E	LEA COUNTY, NM

Surface Owner:  State  Federal  Tribal  Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 100 bbls	Volume Recovered (bbls) 75 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

12" STEEL PW LINE CORRODED

Form C-141

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	nAPP2217848858
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  Release was over 25 bbls
---	--

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?  
 yes, by email to OCD email address by Wade Dittrich on June 6, 2022

### Initial Response

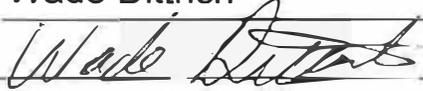
*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

- The source of the release has been stopped.
- The impacted area has been secured to protect human health and the environment.
- Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

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

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.

Printed Name: Wade Dittrich Title: Environmental Coordinator  
 Signature:  Date: 6-28-22  
 email: wade\_dittrich@oxy.com Telephone: (575) 390-2828

**OCD Only**  
 Received by: Jocelyn Harimon Date: 06/28/2022

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 415915

**QUESTIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 415915
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2217848858
Incident Name	NAPP2217848858 MESA VERDE WATER POLISHING FACILITY @ 30-025-42947
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-025-42947] MCCLOY SWD #002

**Location of Release Source**

Please answer all the questions in this group.

Site Name	MESA VERDE WATER POLISHING FACILITY
Date Release Discovered	06/03/2022
Surface Owner	Private

**Incident Details**

Please answer all the questions in this group.

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

**Nature and Volume of Release**

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Flow Line - Production   Produced Water   Released: 100 BBL   Recovered: 75 BBL   Lost: 25 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.

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 2

Action 415915

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 415915
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>Yes</b>
Reasons why this would be considered a submission for a notification of a major release	<b>From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.</b>

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

*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: Wade Dittrich Title: Environmental Coordinator Email: wade_dittrich@oxy.com Date: 12/30/2024
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Sante Fe Main Office  
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**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 3

Action 415915

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 415915
	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
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 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	Greater than 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
<i>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.</i>	
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)	4840
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
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	11/22/2024
On what date will (or did) the final sampling or liner inspection occur	02/28/2025
On what date will (or was) the remediation complete(d)	02/28/2025
What is the estimated surface area (in square feet) that will be reclaimed	4500
What is the estimated volume (in cubic yards) that will be reclaimed	667
What is the estimated surface area (in square feet) that will be remediated	4500
What is the estimated volume (in cubic yards) that will be remediated	667

*These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed. The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.*

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QUESTIONS, Page 4

Action 415915

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 415915
	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 <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	LEA LAND LANDFILL [fEEM0112342028]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> 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: Wade Dittrich Title: Environmental Coordinator Email: wade_dittrich@oxy.com Date: 12/30/2024
--	---

*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, Page 5

Action 415915

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 415915
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Deferral Requests Only</b>	
<i>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.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 415915

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 415915
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	<b>411971</b>
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	<b>12/20/2024</b>
What was the (estimated) number of samples that were to be gathered	<b>50</b>
What was the sampling surface area in square feet	<b>28300</b>

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

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CONDITIONS

Action 415915

**CONDITIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 415915
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**CONDITIONS**

Created By	Condition	Condition Date
crystal.walker	Approved.	1/2/2025