



# ENSOLUM

January 30, 2025

## **New Mexico Oil Conservation Division**

New Mexico Energy, Minerals, and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Closure Request  
Sand Dunes 28 Fed #1 SWD  
Incident Number NAPP2218940420  
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Oxy USA Inc. (Oxy), has prepared this *Closure Request* to document assessment, delineation, and soil sampling activities performed at the Sand Dunes 28 Fed #1 SWD (Site). The purpose of the Site assessment, delineation, and soil sampling activities conducted in accordance with an approved Remediation Work Plan (*Work Plan*), was to assess for the presence or absence of impacts to soil resulting from a crude oil and produced water release at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, Oxy is submitting this *Closure Request*, describing excavation activities that have occurred and requesting no further remediation for Incident Number NAPP2218940420.

## **SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit J, Section 28, Township 23 South, Range 31 East, in Eddy County, New Mexico (32.273598°, -103.780617°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On July 5, 2022, equipment failure on an injection flowline resulted in the release of approximately 15 barrels (bbls) of produced water spilled outside of a lined containment. A vacuum truck was dispatched to the Site to recover 1 bbl of free-standing fluids. Oxy reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on July 8, 2022. The release was assigned Incident Number NAPP2218940420.

## **SITE CHARACTERIZATION AND CLOSURE CRITERIA**

As documented in the approved *Work Plan*, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

Oxy USA Inc.  
Remediation Workplan  
Sand Dunes 28 Fed #1 SWD

## LINER INSPECTION ACTIVITIES

On June 24, 2024, Ensolum arrived onsite to conduct a site assessment and liner inspection. Ensolum did not see any abnormalities or faults with the liner.

## DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between June 24, 2024 and July 30, 2024, Ensolum personnel conducted Site delineation activities to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven boreholes (PH01 through PH07) were advanced via backhoe within the release extent to assess for the presence or absence of impacted soil. The delineation boreholes were advanced to depths ranging from 0.5 feet to 4 feet bgs. In addition, six delineation soil samples (SS01 through SS04, DS01 and DS02) were collected around the release area, at depths ranging from 0.25 feet to 0.5 feet bgs to confirm the lateral extent of the release. Discrete soil samples were collected from each delineation pothole at depths ranging from 0.5 ft to 4 ft bgs. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Photographic documentation was completed during the Site visit and a photographic log is included as **Appendix B**.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM4500Cl-B.

## CONFIRMATION SOIL SAMPLING AND EXCAVATION ACTIVITIES

Between October 7, 2024 and November 5, 2024, Ensolum personnel returned to the Site to complete confirmation soil sampling of the release extent. Twenty soil samples (CS01 through CS20) were collected every 200 square feet at a depth of 0.25 feet bgs to confirm compliance with the reclamation requirements. Additionally, four hydrovac excavations were completed in the areas indicative of limits outside the reclamation requirements. These areas were resampled and renamed FS01 through FS07 respectively. Six soil samples (SW01 through SW06) were collected along the sidewalls of the hydrovac excavations every 200 square feet. The soil samples were field screened for VOCs and chloride. The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on **Figure 3**. Photographic documentation was completed during the Site visit and a photographic log is included as **Appendix B**.

Laboratory analytical results for soil samples PH01 through PH07, CS01 through CS03, CS05 through CS07, CS09, CS10, CS13 through CS15, CS17 through CS20, FS01 through FS07, and SW01 through SW06 collected within the release area and soil samples SS01 through SS04, DS01, and DS02 collected around the release area indicated all COC concentrations were compliant with the reclamation requirement.

## BACKFILLING

Subsequent to the results of the final confirmation soil sampling, the excavated area was backfilled with clean fill material and then contoured to the original surrounding grade. One composite soil sample (Lea Land Caliche Pit) was collected from the backfill material prior to use at the Site. Since the release area was on an active pad site, no reclamation or revegetation was required in that area at this time.

## CLOSURE REQUEST

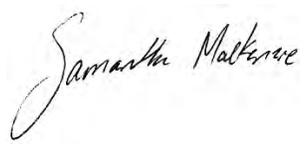


Oxy USA Inc.  
Remediation Workplan  
Sand Dunes 28 Fed #1 SWD

Site assessment and excavation activities were conducted at the Site to address the July 19, 2022 release of produced water and crude oil. Laboratory analytical results for the soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Closure Criteria. Based on the soil sample laboratory analytical results, no further remediation is required. Oxy has completed backfill of the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions. As such, Oxy respectfully requests closure for Incident Number NAPP2218940420.

If you have any questions or comments, please contact Mr. Beaux Jennings at (210) 219-8858 or [bjennings@ensolum.com](mailto:bjennings@ensolum.com).

Sincerely,  
**Ensolum, LLC**



Samantha MacKenzie  
Staff Geologist



Beaux Jennings  
Associate Principal

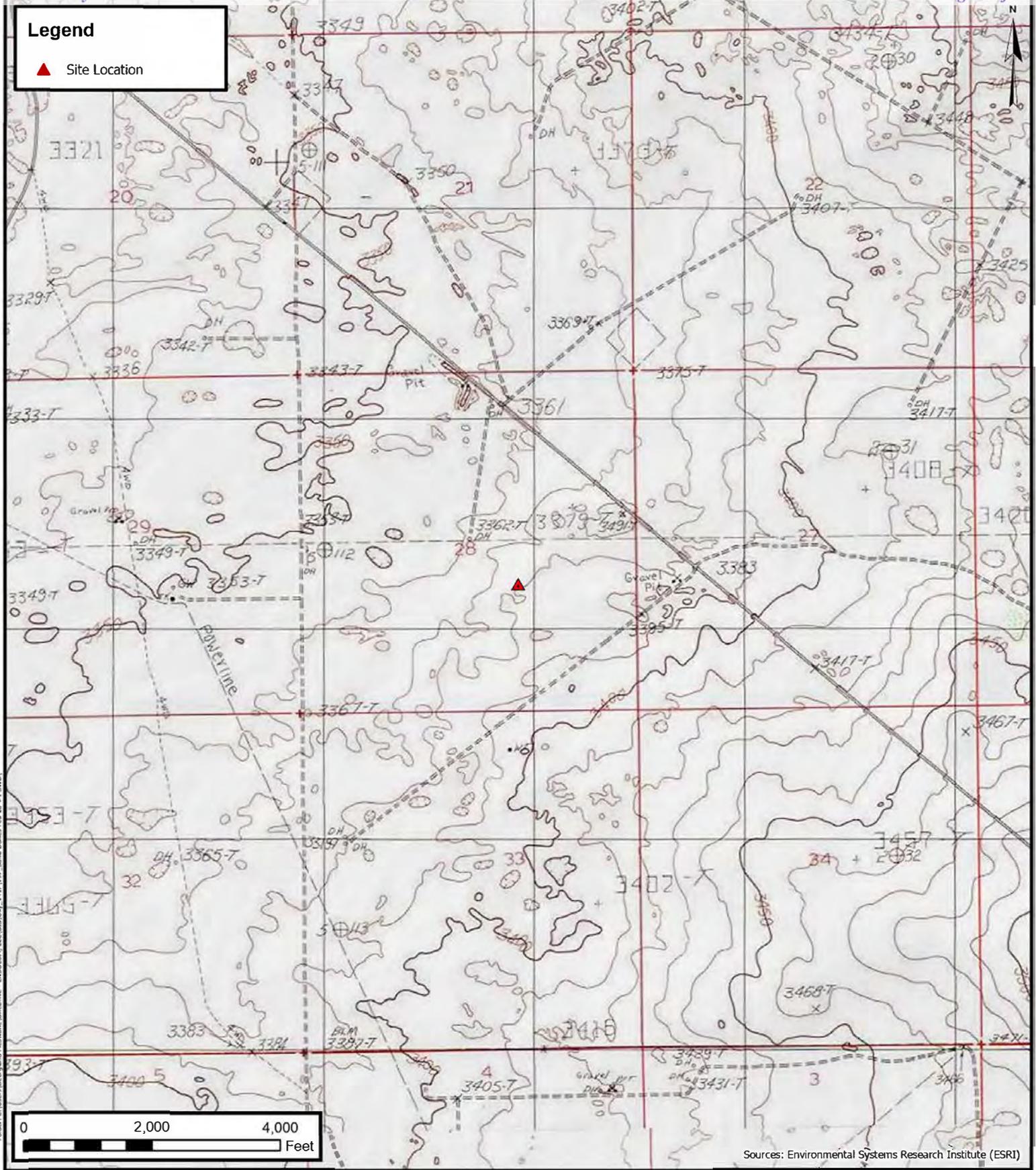
cc: Wade Dittrich, Oxy USA Inc.  
Tyson Pierce, Oxy USA Inc.  
BLM

Appendices:

- Figure 1 Topographic Map
- Figure 2 Site Vicinity Map
- Figure 3 Site Map
- Figure 4 Closure Criteria Map
- Figure 5 Backfill Site Map
- Table 1 Soil Sample Analytical Results
- Table 2 Backfill Soil Sample Analytical Results
- Appendix A Supporting Documentation
- Appendix B Photographic Log
- Appendix C Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES



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**ENSOLUX**  
Environmental, Engineering and Hydrogeologic Consultants

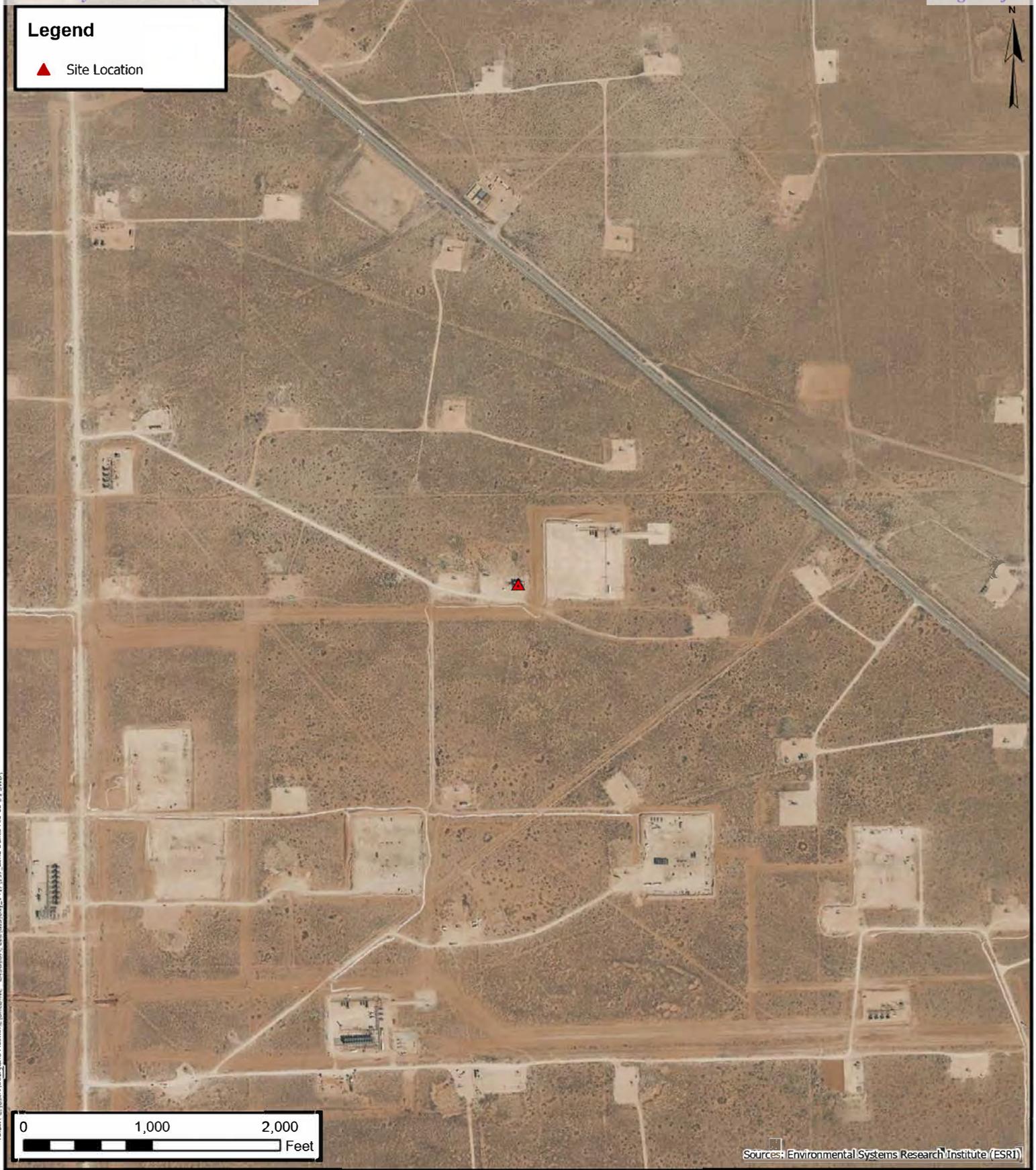
**Topographic Map**  
 Oxy USA Inc.  
 Sand Dunes 28 Fed #1 SWD  
 32.273598° N, 103.780617° W  
 Eddy County, New Mexico

PROJECT NUMBER: 03B1417215

**FIGURE**  
**1**

**Legend**

▲ Site Location



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0 1,000 2,000 Feet

Sources: Environmental Systems Research Institute (ESRI)



**Site Vicinity Map**

Oxy USA Inc.

Sand Dunes 28 Fed #1 SWD

32.273598° N, 103.780617° W

Eddy County, New Mexico

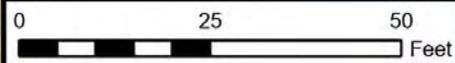
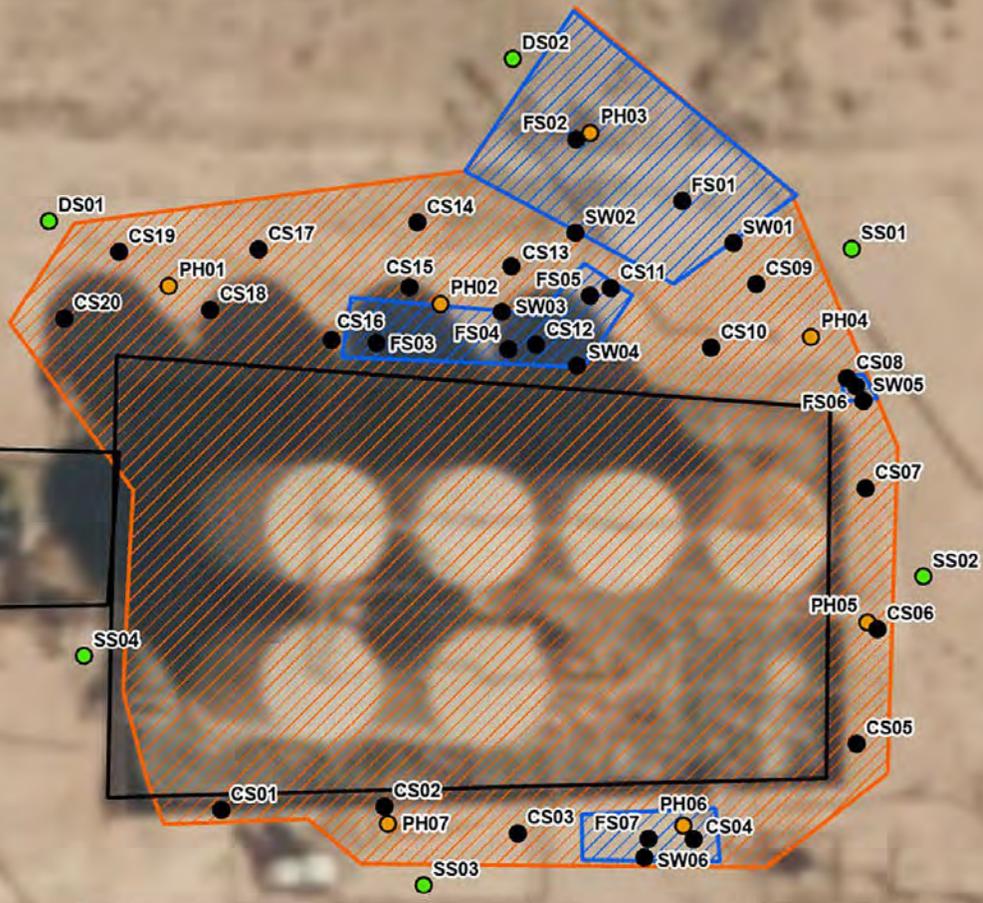
PROJECT NUMBER: 03B1417215

**FIGURE**

**2**

### Legend

- Delineation Soil Sample Location
- Confirmation Soil Sample Location
- Pothole Soil Sample Location
- Liner Boundary
- Excavation Extent
- Release Extent



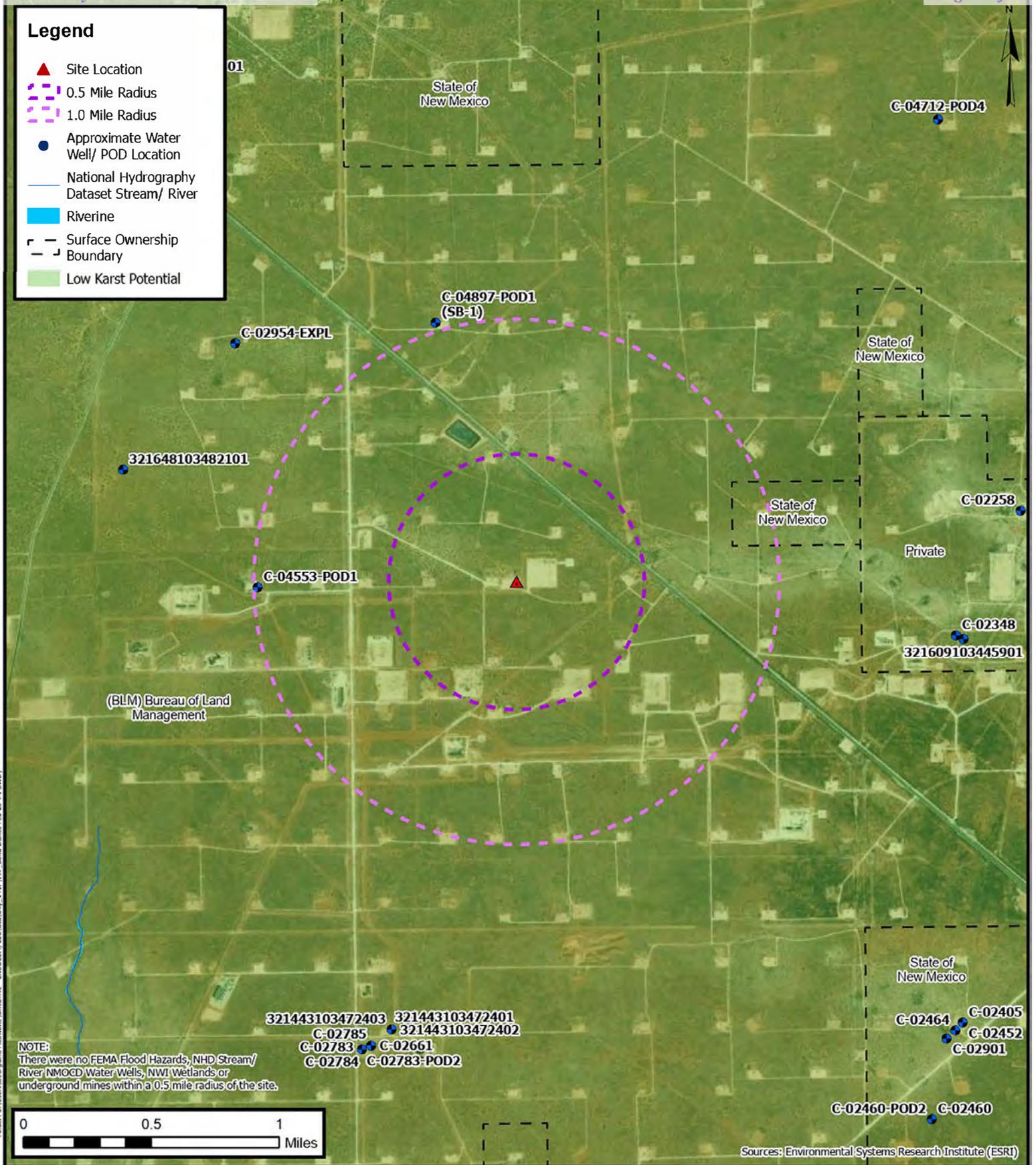
Sources: Environmental Systems Research Institute (ESRI)



**Site Map**  
 Oxy USA Inc.  
 Sand Dunes 28 Fed #1 SWD  
 32.273598° N, 103.780617° W  
 Eddy County, New Mexico

**FIGURE**  
**3**

PROJECT NUMBER: 03B1417215



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# Closure Criteria Map

Oxy USA Inc.  
Sand Dunes 28 Fed #1 SWD  
32.273598° N, 103.780617° W  
Eddy County, New Mexico

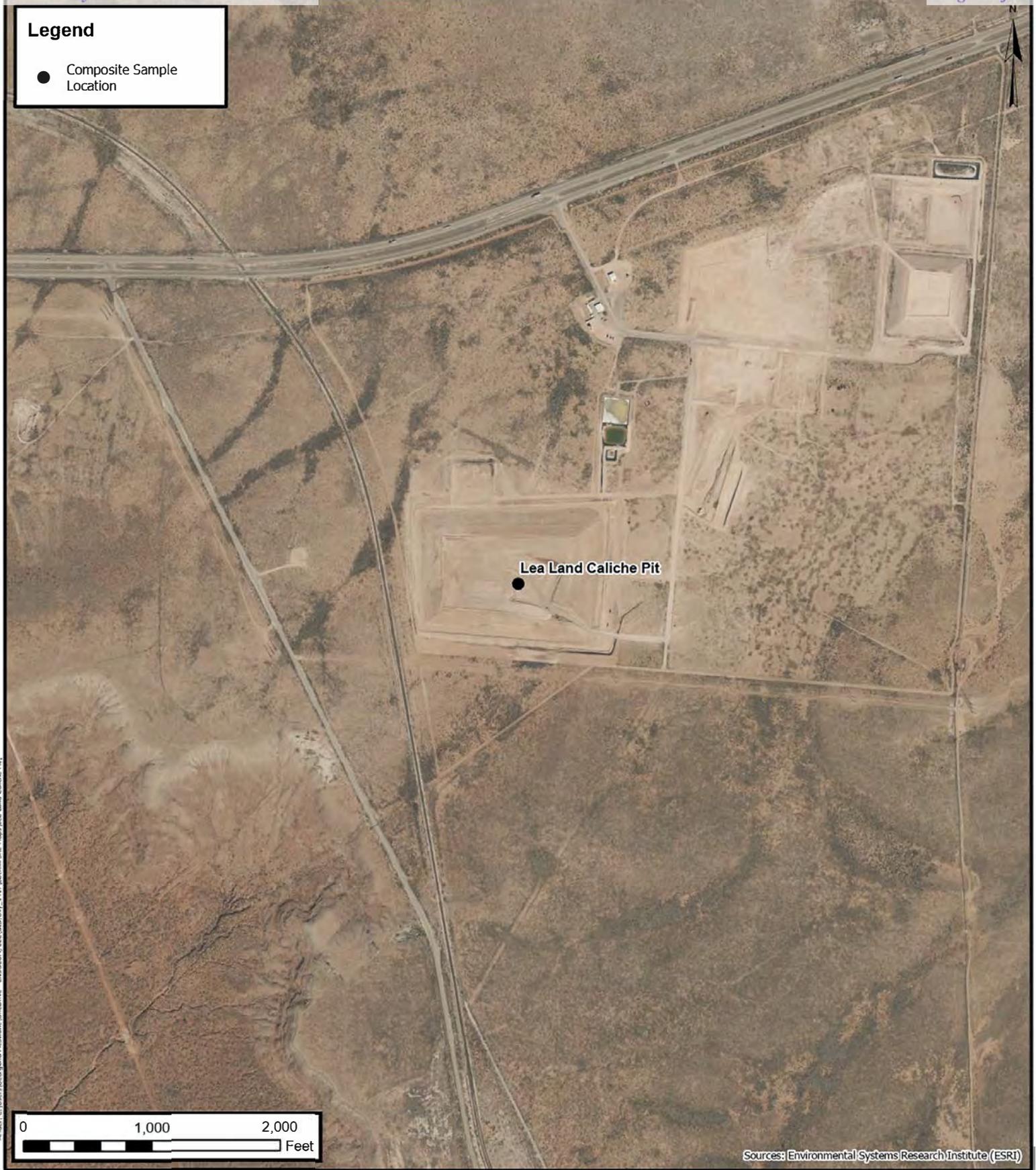
## FIGURE

# 4

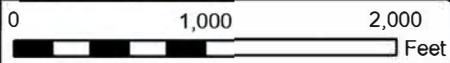
PROJECT NUMBER: 03B1417215

**Legend**

- Composite Sample Location



Lea Land Caliche Pit



Sources: Environmental Systems Research Institute (ESRI)



# Backfill Site Map

Lea Land Caliche Pit  
 32.5232397° N, 103.7845410° W  
 Lea County, New Mexico

**FIGURE**  
**5**



TABLES

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Sand Dunes 28 Fed #1 SWD  
 Oxy USA Inc.  
 Eddy County, New Mexico  
 Project No. 03B1417215

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Toulene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	TPH DRO >C <sub>10</sub> -C <sub>28</sub> (mg/kg)	TPH ORO >C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH GRO+DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	TPH Total C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
<b>Pothole Soil Sample Analytical Results</b>													
PH01	07/02/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>960</b>
	07/02/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>512</b>
	07/02/2024	2	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,620</b>
PH02	07/02/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>368</b>
	07/02/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>336</b>
	07/02/2024	2	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>448</b>
PH03	07/02/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,840</b>
	07/02/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,500</b>
	07/02/2024	2	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>928</b>
PH04	07/02/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>48.0</b>
	07/02/2024	2	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>48.0</b>
	07/02/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>96.0</b>
PH05	07/02/2024	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>
	07/02/2024	3	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>176</b>
	07/02/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>192</b>
PH06	07/02/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,500</b>
	07/02/2024	3	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>816</b>
	07/02/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,060</b>
PH07	07/02/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>48.0</b>
	07/02/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>32.0</b>
	07/02/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>48.0</b>
<b>Delineation Soil Sample Analytical Results</b>													
SS01	07/30/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>96.0</b>
SS02	07/30/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>224</b>
SS03	07/30/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>96.0</b>
SS04	07/30/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>336</b>
DS01	11/05/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
DS02	11/05/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>32.0</b>

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Sand Dunes 28 Fed #1 SWD  
 Oxy USA Inc.  
 Eddy County, New Mexico  
 Project No. 03B1417215

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Toulene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	TPH DRO >C <sub>10</sub> -C <sub>28</sub> (mg/kg)	TPH ORO >C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH GRO+DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	TPH Total C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
<b>Confirmation Soil Sample Analytical Results</b>													
CS01	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,320
CS02	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	17.7	17.3	17.7	35.0	3,600
CS03	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	62.8	57.0	62.8	120	2,360
CS04	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	1,660	989	1,660	2,649	3,320
CS05	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	251	147	251	398	4,560
CS06	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	12.5	<10.0	12.5	5,600
CS07	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	346	157	346	503	1,630
CS08	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	5,170	2,240	5,170	7,410	1,840
CS09	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	12.4	16.7	12.4	29.1	224
CS10	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	47.3	34.6	47.3	81.9	3,080
CS11	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	1,750	919	1,750	2,669	2,000
CS12	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	3,790	1,590	3,790	5,380	3,200
CS13	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	11.2	<10.0	11.2	11.2	224
CS14	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,800
CS15	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	153	70.6	153	224	6,960
CS16	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<50.0	6,080	2,280	6,080	8,360	5,200
CS17	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
CS18	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
CS19	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
CS20	10/07/2024	0.25	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	457	174	457	631	624

**TABLE 1**  
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 Oxy USA Inc.  
 Eddy County, New Mexico  
 Project No. 03B1417215

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<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
<b>Excavation Soil Sample Analytical Results</b>													
FS01	07/29/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>96.0</b>
FS02	07/29/2024	4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>224</b>
FS03	11/05/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<b>764</b>	<b>277</b>	<b>764</b>	<b>1,041</b>	<b>928</b>
FS04	11/05/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<b>273</b>	<b>104</b>	<b>273</b>	<b>377</b>	<b>528</b>
FS05	11/05/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<b>62.2</b>	<b>21.5</b>	<b>62.2</b>	<b>83.7</b>	<b>1,410</b>
FS06	11/05/2024	0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<b>24.3</b>	<10.0	<b>24.3</b>	<b>24.3</b>	<b>96.0</b>
FS07	11/05/2024	1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<b>17.9</b>	<10.0	<b>17.9</b>	<b>17.9</b>	<b>96.0</b>
<b>Excavation Sidewall Soil Sample Analytical Results</b>													
SW01	07/29/2024	0-4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>160</b>
SW02	07/29/2024	0-4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>528</b>
SW03	11/05/2024	0-0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>64.0</b>
SW04	11/05/2024	0-0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>32.0</b>
SW05	11/05/2024	0-0.5	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>48.0</b>
SW06	11/05/2024	0-1	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>80.0</b>

**Notes:**

bgs: below ground surface  
 mg/kg: milligrams per kilogram  
 NMOCD: New Mexico Oil Conservation Division  
 NMAC: New Mexico Administrative Code  
 BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes  
 GRO: Gasoline Range Organics  
 DRO: Diesel Range Organics  
 ORO: Oil Range Organics  
 TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** and yellow exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.  
 Concentrations filled in have been excavated



**TABLE 2**  
**BACKFILL SOIL SAMPLE ANALYTICAL RESULTS**  
 Lea Land Caliche Pit  
 Oxy USA, Inc.  
 Lea County, New Mexico  
 Ensolum Project No. NA

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 (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (GRO+DRO+MRO) (mg/kg)	Chloride (mg/kg)
<b>New Mexico Oil Conservation Division Closure Criteria for Soils Impacted by a Release (≤ 50 feet)</b>			10	NE	NE	NE	50	NE	NE	NE	100	600
<b>Composite Background Soil Sample Analytical Result</b>												
Lea Land Caliche Pit	09/13/2024	NA	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	98.6	<10.0	98.6	560

bgs: below ground surface

mg/kg: milligrams per kilogram

NA: Not Applicable

NE: Not Established

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



## APPENDIX A

### Referenced Well Records

---

From: [Dittrich, John W](#)  
To: [Kelly Lowery](#); [Hadlie Green](#)  
Cc: [Samantha MacKenzie](#); [Georgiana McSwane](#); [Beaux Jennings](#)  
Subject: Fw: The Oil Conservation Division (OCD) has approved the application, Application ID: 421827  
Date: Thursday, January 23, 2025 2:23:09 PM

---

[\*\*EXTERNAL EMAIL\*\*]

**Sand Dunes 28 Fed. 1 SWD--7/5/2022**

## Wade Dittrich

**Environmental Advisor**

**New Mexico**

**575-390-2828**

**[wade\\_dittrich@oxy.com](mailto:wade_dittrich@oxy.com)**

---

**From:** OCDOnline@state.nm.us <OCDOnline@state.nm.us>  
**Sent:** Thursday, January 23, 2025 1:15 PM  
**To:** Dittrich, John W <[wade\\_dittrich@oxy.com](mailto:wade_dittrich@oxy.com)>  
**Subject:** [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 421827

**WARNING - This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.**

---

To whom it may concern (c/o Wade Dittrich for OXY USA INC),  
The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2218940420, with the following conditions:

- **Remediation Plan and variance request approved.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,

Crystal Walker

505-584-2334

[Crystal.Walker@emnrd.nm.gov](mailto:Crystal.Walker@emnrd.nm.gov)

**New Mexico Energy, Minerals and Natural Resources Department**

1220 South St. Francis Drive

Santa Fe, NM 87505

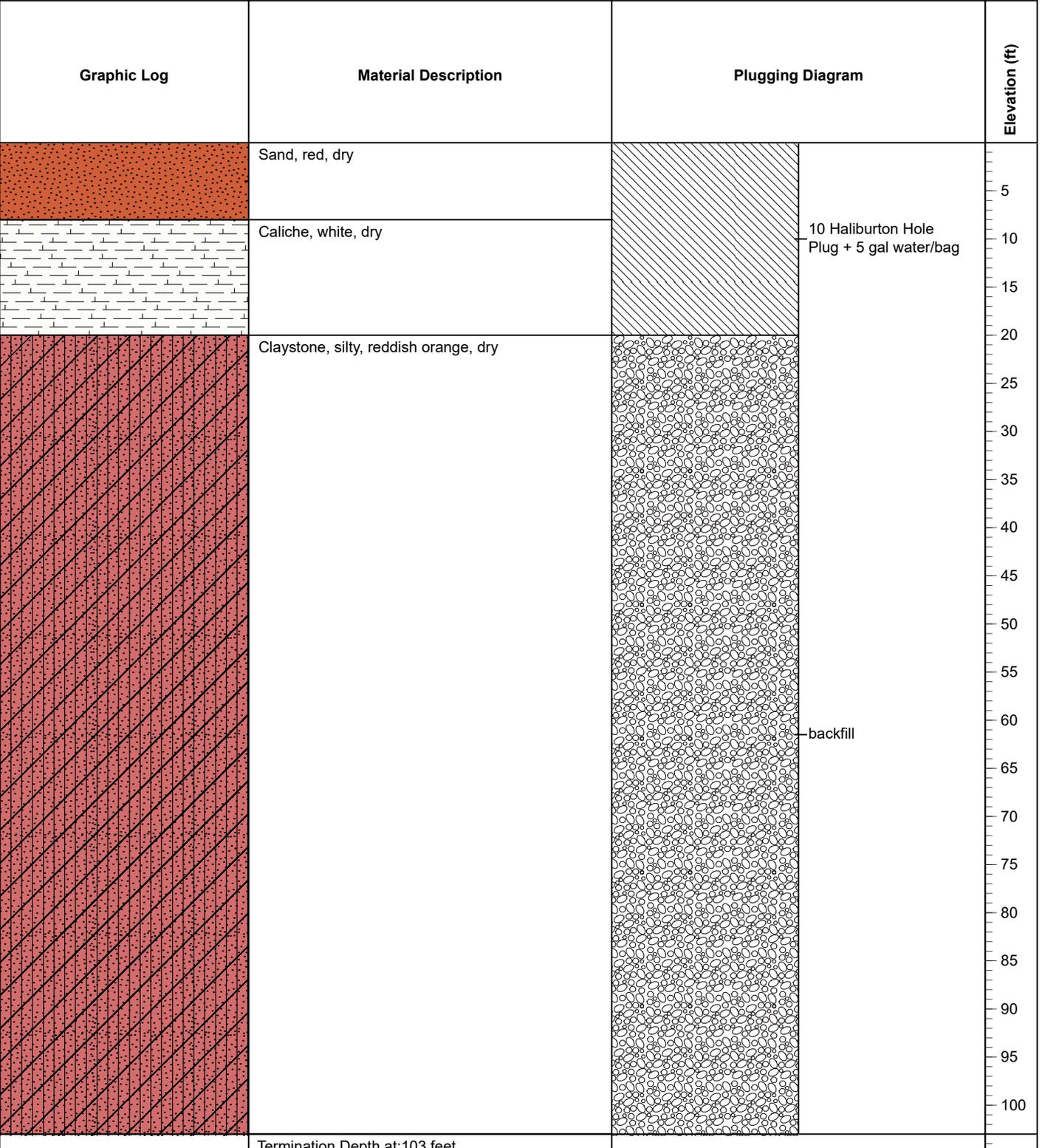


# BOREHOLE LOG C-4553 POD 1

<b>PROJECT NUMBER</b> C-4553 POD 1	<b>DRILLING DATE</b> 7/30/2021	<b>COORDINATES</b> 32.27335 N, -103.78742
<b>PROJECT NAME</b> Soil Boring - DTG	<b>TOTAL DEPTH</b> 103 feet	<b>COORD SYS</b> WGS 84
<b>CLIENT</b> OXY USA, Inc	<b>DIAMETER</b> 8-3/4"	<b>COMPLETION</b> Plugged and Abandoned
<b>ADDRESS</b> PO Box 4294, Houston TX 77210	<b>CASING</b> uPVC	<b>SURFACE ELEVATION</b> 3357 ft MSL
<b>LICENCE NO.</b> WD-1035 Edd Coffey	<b>SCREEN</b> uPVC Manually Slotted	

**COMMENTS** South of large mesquite bush - west side of pad

**LOGGED BY** John Farrell P.G.  
**CHECKED BY** Dan Dunkelburg



Termination Depth at: 103 feet

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

### ENVIRONMENTAL WELL BH01 Env Well

<b>PROJECT NUMBER</b> NMOSE # C4553 Pod 1	<b>DRILLING COMPANY</b> ABC Drilling	<b>COORDINATES</b> 4581.8, 6021
<b>PROJECT NAME</b> Soil Boring	<b>DRILLER</b> Mr M. Brown	<b>COORD SYS</b>
<b>CLIENT</b> OXY	<b>DRILL RIG</b>	<b>SURFACE ELEVATION</b> 45.15
<b>ADDRESS</b> P O Box 4294, Houston TX 77210	<b>DRILLING METHOD</b> Augering Hollow Flight	<b>WELL TOC</b> A=45.2; B=45.23; C=45.17
<b>DRILLING DATE</b> 07	<b>TOTAL DEPTH</b> 14	<b>LOGGED BY</b> JB
<b>LICENCE NO.</b> L312-Nb4	<b>DIAMETER</b>	<b>CHECKED BY</b> M. Smart
<b>COMPLETION</b> CASING uPVC SCREEN uPVC Factory Slotted		
<b>COMMENTS</b> Near the corner of the main shed		

Depth (m)	Drilling Method	PID	Samples	Sample Type	Is Analysed?	Water	Well Installation			Graphic Log	Material Description	Moisture	Consistency	Additional Observations	Elevation (m)		
							A	B	C								
1	AU	82				▽				[REDACTED]	ASPHALT: Hard	H		45			
2			BH01_2-2.1	SS								SILTY CLAY: Silty red clay with minor organic matter, Dry, Dense	D	D	Old pipework	44	
3																	43
4																	42
5					BH01_5-5.3		SS	Y									41
6					BH01_5.8-6		SS										40
7					BH01_6.4-6.8		SS	Y					GRAVELLY SAND: Wet, Dense	W	D	Petroleum Smell	39
8					BH01_8-8.3		SS	Y									38
9					BH01_8.4-8.5		SS						SILTY CLAY: Dry, Dense	D	D		37
10					BH01_10-10.5		SS	Y					SANDY GRAVEL: Dry, Dense	D	D		36
11																	35
12													GRANITE: Highly weathered granite, Dry, Hard	D	H		34
13																	33
14																	32
14														31			
														Termination Depth at: 14 m	31		

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

### ENVIRONMENTAL BOREHOLE / TESTPIT TP04

<b>PROJECT NUMBER</b> Sample HGC	<b>DRILLING DATE</b> 13/08/2009 1:04:00 PM -	<b>COORDINATES</b> 4520, 6356
<b>PROJECT NAME</b> Sample Hydrogeo & Contam	<b>DRILLING COMPANY</b> PGCi Drilling	<b>COORD SYS</b>
<b>CLIENT</b> Redev Pty Ltd	<b>DRILLER</b> John McMullan	<b>SURFACE ELEVATION</b>
<b>ADDRESS</b> 1 Hybiscus Blvd, Alderville	<b>DRILLING METHOD</b> Excavator	<b>LOGGED BY</b> Igor Krinitskiy
	<b>TOTAL DEPTH</b> 4	<b>CHECKED BY</b>

**COMMENTS**

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
0.0 - 0.5					PT ↓ ↓ ↓ ↓ ↓	PT	TOPSOIL: PT Dark brown, moist. High Orgainc content., Saturated	
0.5 - 2.5					SC / / / / /	SC	CLAYEY SAND: SC, pale greenish brown medium bedding thickness, laminated, fine to medium, poorly graded, subangular, flat and elongated clayey silty sand Calcareous little chert, some coal, moist, weak HCL reaction, weak cementation, widely fissured	iron oxide staining, no odour
2.5 - 3.0	4000		TP04 2.5	Y	+ +	SANDSTONE	SANDSTONE: very dark brownish gray thickly crossbedded, bioturbated, flow banded, medium grained clayey quartz sandstone, Dry, very hard, very wide fracture spacing, moderately weathered, 60 deg (Primary) bedding angle	iron oxide staining, slight odour
3.0 - 3.2	4				+ +	GRANITE	GRANITE:	
3.2 - 5.5							Termination Depth at:3.2 m	

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



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## National Water Information System: Web Interface

USGS Water Resources

Data Category:  Geographic Area:

Click to hide News Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.
- [Full News](#)

Groundwater levels for New Mexico

Click to hide state-specific text

Important: [Next Generation Monitoring Location Page](#)

### Search Results -- 1 sites found

**Agency code** = usgs

**site\_no list** =

- 321648103482101

**Minimum number of levels** = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 321648103482101 23S.31E.29.11333

Eddy County, New Mexico

Latitude 32°16'48", Longitude 103°48'21" NAD27

Land-surface elevation 3,336 feet above NAVD88

The depth of the well is 220 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Dewey Lake Redbeds (312DYLK) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1959-03-26			D	62610	3195.91	NGVD29	1	Z			A
1959-03-26			D	62611	3197.57	NAVD88	1	Z			A
1959-03-26			D	72019	138.43		1	Z			A
1972-09-20			D	62610	3194.44	NGVD29	P	Z			A
1972-09-20			D	62611	3196.10	NAVD88	P	Z			A
1972-09-20			D	72019	139.90		P	Z			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	P	Pumping
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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**Title: Groundwater for New Mexico: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>**



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2024-06-11 12:12:03 EDT

0.27 0.23 nadww01



## APPENDIX B

### Photographic Log

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**Photographic Log**  
Oxy USA, inc.  
Sand Dunes 28 Fed #1 SWD  
Incident Number: NAPP2218940420



Photograph: 1 Date: 6/24/2024  
Description: Liner Inspection  
View: North

Photograph: 2 Date: 6/24/2024  
Description: Liner Inspection  
View: Southeast



Photograph: 3 Date: 7/2/2024  
Description: Release Extent  
View: East

Photograph: 4 Date: 7/2/2024  
Description: Potholing Activities  
View: West



**Photographic Log**

Oxy USA, inc.

Sand Dunes 28 Fed #1 SWD

Incident Number: NAPP2218940420



Photograph: 5 Date: 7/29/2024  
Description: Excavation Activites  
View: West

Photograph: 6 Date: 10/7/2024  
Description: Excavation Activites  
View: Southeast



Photograph: 7 Date: 11/5/2024  
Description: Excavation Activites  
View: South

Photograph: 8 Date: 11/5/2024  
Description: Excavation Activites  
View: South



## APPENDIX C

### Laboratory Analytical Reports & Chain of Custody Documentation

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

---

July 10, 2024

HADLIE GREEN  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: SAND DUNES FED 28 #1 SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/03/24 9:57.

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".

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 01 0.5 (H244000-01)**

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	07/09/2024	ND	2.01	101	2.00	3.42	
Toluene*	<0.050	0.050	07/09/2024	ND	2.16	108	2.00	4.76	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.24	112	2.00	3.58	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.87	115	6.00	2.66	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 99.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

\*=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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 01 1 (H244000-02)**

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	07/09/2024	ND	2.01	100	2.00	1.50	QM-07, QR-03
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	QM-07, QR-03
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	QM-07, QR-03
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	QM-07, QR-03
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 95.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.9 % 49.1-148

Cardinal Laboratories

\*=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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 01 2 (H244000-03)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1620</b>	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 89.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.3 % 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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 02 0.5 (H244000-04)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 97.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 02 1 (H244000-05)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 02 2 (H244000-06)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 03 0.5 (H244000-07)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2840	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 03 1 (H244000-08)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1500	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 03 2 (H244000-09)**

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	07/09/2024	ND	2.01	100	2.00	1.50		
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540		
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146		
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162		
Total BTEX	<0.300	0.300	07/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	928	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663		
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652		
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND						

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 04 0.5 (H244000-10)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 04 2 (H244000-11)**

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	07/09/2024	ND	2.01	100	2.00	1.50		
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540		
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146		
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162		
Total BTEX	<0.300	0.300	07/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663		
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652		
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND						

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.5 % 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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 07/03/2024  
 Reported: 07/10/2024  
 Project Name: SAND DUNES FED 28 #1 SWD  
 Project Number: 03B1417198  
 Project Location: EDDY COUNTY, NM

Sampling Date: 07/02/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: PH 04 4 (H244000-12)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 05 0.5 (H244000-13)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 05 3 (H244000-14)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>176</b>	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 05 4 (H244000-15)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 06 1 (H244000-16)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1500	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 99.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 06 3 (H244000-17)**

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	07/09/2024	ND	2.01	100	2.00	1.50		
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540		
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146		
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162		
Total BTEX	<0.300	0.300	07/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	816	16.0	07/09/2024	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	07/09/2024	ND	94.3	94.3	100	0.663		
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.0	91.0	100	0.652		
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND						

Surrogate: 1-Chlorooctane 92.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.1 % 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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 06 4 (H244000-18)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	1060	16.0	07/09/2024	ND	400	100	400	7.69	

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	07/09/2024	ND	95.7	95.7	100	0.272	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.8	91.8	100	0.490	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 07 0.5 (H244000-19)**

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	07/09/2024	ND	2.01	100	2.00	1.50	
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540	
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146	
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162	
Total BTEX	<0.300	0.300	07/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	48.0	16.0	07/09/2024	ND	400	100	400	7.69	

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	07/09/2024	ND	95.7	95.7	100	0.272	
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.8	91.8	100	0.490	
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.0 % 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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 07 1 (H244000-20)**

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	07/09/2024	ND	2.01	100	2.00	1.50		
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540		
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146		
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162		
Total BTEX	<0.300	0.300	07/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	32.0	16.0	07/09/2024	ND	400	100	400	7.69		

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	07/09/2024	ND	95.7	95.7	100	0.272		
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.8	91.8	100	0.490		
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND						

Surrogate: 1-Chlorooctane 88.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.3 % 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  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/03/2024	Sampling Date:	07/02/2024
Reported:	07/10/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: PH 07 4 (H244000-21)**

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	07/09/2024	ND	2.01	100	2.00	1.50		
Toluene*	<0.050	0.050	07/09/2024	ND	2.00	99.9	2.00	0.540		
Ethylbenzene*	<0.050	0.050	07/09/2024	ND	2.03	101	2.00	0.146		
Total Xylenes*	<0.150	0.150	07/09/2024	ND	6.00	100	6.00	0.162		
Total BTEX	<0.300	0.300	07/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	48.0	16.0	07/09/2024	ND	400	100	400	7.69		

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	07/09/2024	ND	95.7	95.7	100	0.272		
DRO >C10-C28*	<10.0	10.0	07/09/2024	ND	91.8	91.8	100	0.490		
EXT DRO >C28-C36	<10.0	10.0	07/09/2024	ND						

Surrogate: 1-Chlorooctane 68.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 60.4 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD.
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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Hodge Green  
 Address: 601 N Marientfield Street, Suite 400  
 City: Midland State: TX Zip: 79701  
 P.O. #: OK, USA, Inc  
 Address: Attn: Wade D. Havel  
 Phone #: 432-557-6895 Fax #: 432-557-6895  
 Project #: 038147108 Project Owner:  
 Project Name: Sub Pools Feb 28 #1 SWD  
 Project Location: Eddy County, NM  
 Sampler Name: NKD Phone #:                      Fax #:                     

Lab I.D.	Sample I.D.	Depth (feet)	PRESERV.		DATE	TIME	ANALYSIS	
			ACID/BASE:	ICE / COOL			OTHER :	OTHER :
1	PH01	0.5	X	X	7/22/24	1035	X	X
2	PH01	1	X	X	7/22/24	1040	X	X
3	PH01	2	X	X	7/22/24	1045	X	X
4	PH02	0.5	X	X	7/22/24	1015	X	X
5	PH02	1	X	X	7/22/24	1020	X	X
6	PH02	2	X	X	7/22/24	1030	X	X
7	PH03	0.5	X	X	7/22/24	1050	X	X
8	PH03	1	X	X	7/22/24	1100	X	X
9	PH03	2	X	X	7/22/24	1150	X	X
10	PH04	0.5	X	X	7/22/24	0950	X	X

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Relinquished By: Wade Keene Date: 7/23/24 Time: 0957  
 Received By: Steed Kigney  
 Turnaround Time: 10:24  
 Standard  Rush   
 Bacteria (only)  Sample Condition   
 Cool Intact  Observed Temp. °C   
 Corrected Temp. °C

1043



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 (575) 393-2326 FAX (575) 393-2476

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

**ANALYSIS REQUEST**

**BILL TO**

Company Name: Ensolum, LLC  
 Project Manager: *Heddie Green*  
 Address: 601 N Marientfield Street, Suite 400  
 City: Midland State: TX Zip: 79701  
 P.O. #: *Box USA, Inc*  
 Address: *Attn: Wade Dussan*

Phone #: *432-557-8845* Fax #: *432-557-1418*  
 Project #: *037147148* Project Owner:  
 Project Name: *Sand Dunes Fed 28 #5ud*  
 Project Location: *Eddy County, NM*  
 State: Zip:

Sample Name: *NKD* Matrix:  GROUNDWATER  WASTEWATER  SOIL  OIL  SLUDGE  OTHER:  
 FOR LAB USE ONLY:  ACID/BASE:  ICE / COOL  OTHER:  
 Date: Time: *7/2/24 09:40*

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST		
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
<i>11</i>	<i>P404</i>	<i>2</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:40</i>	<i>BTEX</i>	<i>TPH</i>	<i>Chlorides 4500</i>				
<i>12</i>	<i>P404</i>	<i>4</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:40</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>13</i>	<i>P405</i>	<i>0.3</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:40</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>14</i>	<i>P405</i>	<i>3</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:40</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>15</i>	<i>P405</i>	<i>4</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:45</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>16</i>	<i>P406</i>	<i>1</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:05</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>17</i>	<i>P406</i>	<i>3</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:15</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>18</i>	<i>P406</i>	<i>4</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>09:20</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>19</i>	<i>P407</i>	<i>0.5</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>07:25</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>20</i>	<i>P407</i>	<i>1</i>	<i>C</i>	<i>1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7/2/24</i>	<i>07:30</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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Relinquished By: *Nelly Duml* Date: *7/3/24* Received By: *Stockeignael*  
 Relinquished By: *Nelly Duml* Date: *7/3/24* Received By: *Stockeignael*

Delivered By: (Circle One) Observed Temp. °C: *24.1* Sample Condition:  Cool  Intact  Yes  No  
 Corrected Temp. °C: *24.1* Checked By: *SR* (Initials)

Turnaround Time: *Standard* Bacteria (only) Sample Condition:  Cool  Intact  Yes  No  
 Thermometer ID: *#140* Rush:  Yes  No Corrected Temp. °C: *10:24*

REMARKS: *Samples 14, 15, 19, 20 and water tested to make sure needed to show in samples*  
 Verbal Result:  Yes  No Add'l Phone #: *hgreen@ensolum.com*  
 All Results are emailed. Please provide Email address:  
 Cardinal cannot accept verbal changes. Please email changes to *celey.keene@cardinallabsnm.com*



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 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolium, LLC  
 Project Manager: *Heddie Green*  
 Address: 601 N Marland Street, Suite 400  
 City: Midland State: TX Zip: 79701  
 P.O. #: *Box USA, Inc*  
 Address: *Attn: Wade Pritchard*  
 Phone #: *432-557-8845* Fax #: *432-557-8845*  
 Project #: *03B1417198* Project Owner:  
 Project Name: *Sand Dunes Fed 28 #1 SW*  
 City: State: Zip:  
 Project Location: *Eddy County, NM*  
 State: Zip:  
 Sampler Name: *NKD* Phone #:  
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
<i>H44000</i>	<i>P407</i>	<i>4</i>	<i>(G)</i>	<i>1</i>							<i>7/2/24</i>	<i>0745</i>	<i>BTEX TPH Chlorides 4500</i>

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Relinquished By: *Wynn Burr* Date: *7:324* Received By: *Special Agent*  
 Time: *0957*  
 Relinquished By: Date: Received By:

Delivered By: (Circle One) Observed Temp. °C: *24.4* Sample Condition: *Intact* CHECKED BY: *[Signature]*  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: *24.4* Cool Intact: *Yes* Bacteria (only) Sample Condition: *Intact*  
 Turnaround Time: *1140* Standard: *Rush* Bacteria (only) Sample Condition: *Intact*  
 Verbal Results:  Yes  No Add'l Phone #: *413-1140*  
 All Results are emailed. Please provide Email address: *Wynn@ensolium.com*  
 REMARKS:

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)

3 of 3



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

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August 01, 2024

BEAUX JENNINGS  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: SAND DUNES FED 28 #1 SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/29/24 16:31.

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".

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 BEAUX JENNINGS  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Alyssa Parras
Project Location:	EDDY COUNTY, NM		

**Sample ID: FS 01 4 (H244505-01)**

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	07/30/2024	ND	1.92	96.0	2.00	6.92	
Toluene*	<0.050	0.050	07/30/2024	ND	2.02	101	2.00	6.41	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.10	105	2.00	6.15	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.46	108	6.00	5.87	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 BEAUX JENNINGS  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Alyssa Parras
Project Location:	EDDY COUNTY, NM		

**Sample ID: FS 02 4 (H244505-02)**

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	07/30/2024	ND	1.92	96.0	2.00	6.92		
Toluene*	<0.050	0.050	07/30/2024	ND	2.02	101	2.00	6.41		
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.10	105	2.00	6.15		
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.46	108	6.00	5.87		
Total BTEX	<0.300	0.300	07/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	07/30/2024	ND	448	112	400	3.51		

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	07/30/2024	ND	204	102	200	4.71		
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	195	97.3	200	0.823		
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND						

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 BEAUX JENNINGS  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Alyssa Parras
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW 01 0-4 (H244505-03)**

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	07/30/2024	ND	1.92	96.0	2.00	6.92	
Toluene*	<0.050	0.050	07/30/2024	ND	2.02	101	2.00	6.41	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.10	105	2.00	6.15	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.46	108	6.00	5.87	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	204	102	200	4.71	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	195	97.3	200	0.823	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

Cardinal Laboratories

\*=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  
 BEAUX JENNINGS  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417198	Sample Received By:	Alyssa Parras
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW 02 0-4 (H244505-04)**

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	07/30/2024	ND	1.92	96.0	2.00	6.92	
Toluene*	<0.050	0.050	07/30/2024	ND	2.02	101	2.00	6.41	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.10	105	2.00	6.15	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.46	108	6.00	5.87	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>528</b>	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	204	102	200	4.71	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	195	97.3	200	0.823	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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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

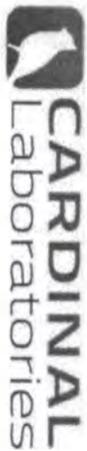
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*Celey D. Keene*

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

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Beau Jennings  
 Address: 601 N. Marland St. STE 400  
 City: Midland State: TX Zip: 79701  
 Phone #: (210)219-8858 Email: bjennings@ensolum.com  
 Project #: 03B147198 Project Owner: Savel Pines 28 Federal #001 SWD  
 Project Location: 37273598, -103.7806  
 Sampler Name: Kaoru Shimada  
 P.O. #: Company: OXY USA  
 Attn: Wade Ditrach  
 Address: City: State: Zip: Phone #: Email:

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					DATE	TIME	BTEX 8021B	TPH 8015M	Chloride 4500
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE					
11448	ES01	4	C	1	X					2-27-24	1148	X	X	X
2	ES02	4	C	1	X					1149	X	X	X	X
3	SW01	0-4	C	1	X					1213	X	X	X	X
	SW02	0-4	C	1	X					1152	X	X	X	X

**PLEASE NOTE:** Quality and Quantity. Customer safety and health are our primary concerns. If any data entry is found to contain a blank, it will be subject to the standard liability and cost for the analysis. All claims, including those for negligence and any other claims whatsoever, shall be deemed waived unless made in writing 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 interruptions, loss of data, or loss of profits, incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated releases or otherwise.

Relinquished By: Kaoru Shimada  
 Date: 1-29-24  
 Received By: [Signature]  
 Date: 1-29-24  
 Received By: [Signature]

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other: LVD

Observed Temp. °C: 5.4  
 Corrected Temp. °C: LVD

Sample Condition:  
 Cool Intact:  Yes  No  
 Other:  Yes  No

Checked By: [Signature]

Thermometer ID: 4433  
 Correction Factor: 0.00

Thermometer Type:  Standard  Matrix (only if sample condition is "Other")  
 Rush:  Cool Intact  Observed Temp. °C

Remarks: Payne/AFENonAFE: 5 Mac Kenzie@ensolum.com

Verbal Results:  Yes  No  
 All Results are emailed. Please provide Email address: [Signature]  
 Add'l Phone #: [Signature]

FORM-006 R 3.2 10/07/21  
 † Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinallabsnm.com



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

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October 11, 2024

SAMANTHA MACKENZIE  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: SAND DUNES FED 28 #1 SWD

Enclosed are the results of analyses for samples received by the laboratory on 10/07/24 13:15.

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.

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 01 0.25 (H246080-01)**

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	10/07/2024	ND	2.05	102	2.00	2.15	
Toluene*	<0.050	0.050	10/07/2024	ND	2.06	103	2.00	2.04	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.12	106	2.00	2.98	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.22	104	6.00	3.48	
Total BTEX	<0.300	0.300	10/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	8320	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	205	103	200	1.52	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 69.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.3 % 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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 02 0.25 (H246080-02)**

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	10/07/2024	ND	2.05	102	2.00	2.15	
Toluene*	<0.050	0.050	10/07/2024	ND	2.06	103	2.00	2.04	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.12	106	2.00	2.98	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.22	104	6.00	3.48	
Total BTEX	<0.300	0.300	10/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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>3600</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
<b>DRO &gt;C10-C28*</b>	<b>17.7</b>	10.0	10/07/2024	ND	205	103	200	1.52	
<b>EXT DRO &gt;C28-C36</b>	<b>17.3</b>	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 96.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.9 % 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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 03 0.25 (H246080-03)**

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	10/07/2024	ND	2.05	102	2.00	2.15		
Toluene*	<0.050	0.050	10/07/2024	ND	2.06	103	2.00	2.04		
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.12	106	2.00	2.98		
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.22	104	6.00	3.48		
Total BTEX	<0.300	0.300	10/07/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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>2360</b>	16.0	10/07/2024	ND	400	100	400	3.92		

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	10/07/2024	ND	211	106	200	1.34		
<b>DRO &gt;C10-C28*</b>	<b>62.8</b>	10.0	10/07/2024	ND	205	103	200	1.52		
<b>EXT DRO &gt;C28-C36</b>	<b>57.0</b>	10.0	10/07/2024	ND						

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 04 0.25 (H246080-04)**

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	10/07/2024	ND	2.05	102	2.00	2.15		
Toluene*	<0.050	0.050	10/07/2024	ND	2.06	103	2.00	2.04		
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.12	106	2.00	2.98		
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.22	104	6.00	3.48		
Total BTEX	<0.300	0.300	10/07/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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>3320</b>	16.0	10/07/2024	ND	400	100	400	3.92		

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	10/07/2024	ND	211	106	200	1.34		
<b>DRO &gt;C10-C28*</b>	<b>1660</b>	10.0	10/07/2024	ND	205	103	200	1.52		
<b>EXT DRO &gt;C28-C36</b>	<b>989</b>	10.0	10/07/2024	ND						

Surrogate: 1-Chlorooctane 95.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 05 0.25 (H246080-05)**

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	10/07/2024	ND	2.05	102	2.00	2.15	
Toluene*	<0.050	0.050	10/07/2024	ND	2.06	103	2.00	2.04	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.12	106	2.00	2.98	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.22	104	6.00	3.48	
Total BTEX	<0.300	0.300	10/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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
<b>Chloride</b>	<b>4560</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
<b>DRO &gt;C10-C28*</b>	<b>251</b>	10.0	10/07/2024	ND	205	103	200	1.52	
<b>EXT DRO &gt;C28-C36</b>	<b>147</b>	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.6 % 49.1-148

Cardinal Laboratories

\*=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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 06 0.25 (H246080-06)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	5600	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	205	103	200	1.52	
EXT DRO >C28-C36	12.5	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 91.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.4 % 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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 07 0.25 (H246080-07)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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>1630</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
<b>DRO &gt;C10-C28*</b>	<b>346</b>	10.0	10/07/2024	ND	205	103	200	1.52	
<b>EXT DRO &gt;C28-C36</b>	<b>157</b>	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 08 0.25 (H246080-08)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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>1840</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
<b>DRO &gt;C10-C28*</b>	<b>5170</b>	10.0	10/07/2024	ND	205	103	200	1.52	
<b>EXT DRO &gt;C28-C36</b>	<b>2240</b>	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 84.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 146 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 09 0.25 (H246080-09)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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>224</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
<b>DRO &gt;C10-C28*</b>	<b>12.4</b>	10.0	10/07/2024	ND	205	103	200	1.52	
<b>EXT DRO &gt;C28-C36</b>	<b>16.7</b>	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 10 0.25 (H246080-10)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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
<b>Chloride</b>	<b>3080</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
<b>DRO &gt;C10-C28*</b>	<b>47.3</b>	10.0	10/07/2024	ND	205	103	200	1.52	
<b>EXT DRO &gt;C28-C36</b>	<b>34.6</b>	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 11 0.25 (H246080-11)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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
<b>Chloride</b>	<b>2000</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/07/2024	ND	211	106	200	1.34	
<b>DRO &gt;C10-C28*</b>	<b>1750</b>	10.0	10/07/2024	ND	205	103	200	1.52	
<b>EXT DRO &gt;C28-C36</b>	<b>919</b>	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 84.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 12 0.25 (H246080-12)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	3200	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/08/2024	ND	211	106	200	1.34	
DRO >C10-C28*	3790	10.0	10/08/2024	ND	205	103	200	1.52	
EXT DRO >C28-C36	1590	10.0	10/08/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 13 0.25 (H246080-13)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	<b>224</b>	16.0	10/07/2024	ND	400	100	400	3.92	

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	10/08/2024	ND	188	94.0	200	0.679	
<b>DRO &gt;C10-C28*</b>	<b>11.2</b>	10.0	10/08/2024	ND	175	87.5	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/08/2024	ND					

Surrogate: 1-Chlorooctane 90.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.0 % 49.1-148

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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 14 0.25 (H246080-14)**

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	10/08/2024	ND	2.15	108	2.00	0.419		
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860		
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121		
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119		
Total BTEX	<0.300	0.300	10/08/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6800	16.0	10/08/2024	ND	400	100	400	11.3	QM-07	

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	10/08/2024	ND	188	94.0	200	0.679		
DRO >C10-C28*	<10.0	10.0	10/08/2024	ND	175	87.5	200	3.74		
EXT DRO >C28-C36	<10.0	10.0	10/08/2024	ND						

Surrogate: 1-Chlorooctane 94.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.3 % 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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 15 0.25 (H246080-15)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>6960</b>	16.0	10/08/2024	ND	400	100	400	11.3	

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	10/08/2024	ND	188	94.0	200	0.679	
<b>DRO &gt;C10-C28*</b>	<b>153</b>	10.0	10/08/2024	ND	175	87.5	200	3.74	
<b>EXT DRO &gt;C28-C36</b>	<b>70.6</b>	10.0	10/08/2024	ND					

Surrogate: 1-Chlorooctane 90.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 16 0.25 (H246080-16)**

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	10/08/2024	ND	2.15	108	2.00	0.419		
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860		
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121		
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119		
Total BTEX	<0.300	0.300	10/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>5200</b>	16.0	10/08/2024	ND	400	100	400	11.3		

TPH 8015M		mg/kg		Analyzed By: MS							S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	<50.0	50.0	10/09/2024	ND	188	94.0	200	0.679			
<b>DRO &gt;C10-C28*</b>	<b>6080</b>	50.0	10/09/2024	ND	175	87.5	200	3.74			
<b>EXT DRO &gt;C28-C36</b>	<b>2280</b>	50.0	10/09/2024	ND							

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 236 % 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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 17 0.25 (H246080-17)**

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	10/08/2024	ND	2.15	108	2.00	0.419		
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860		
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121		
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119		
Total BTEX	<0.300	0.300	10/08/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	10/08/2024	ND	400	100	400	11.3		

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	10/08/2024	ND	188	94.0	200	0.679		
DRO >C10-C28*	<10.0	10.0	10/08/2024	ND	175	87.5	200	3.74		
EXT DRO >C28-C36	<10.0	10.0	10/08/2024	ND						

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 18 0.25 (H246080-18)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/08/2024	ND	400	100	400	11.3	

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	10/08/2024	ND	188	94.0	200	0.679	
DRO >C10-C28*	<10.0	10.0	10/08/2024	ND	175	87.5	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/08/2024	ND					

Surrogate: 1-Chlorooctane 99.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 19 0.25 (H246080-19)**

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	10/08/2024	ND	2.15	108	2.00	0.419		
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860		
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121		
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119		
Total BTEX	<0.300	0.300	10/08/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	10/08/2024	ND	400	100	400	11.3		

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	10/08/2024	ND	188	94.0	200	0.679		
DRO >C10-C28*	<10.0	10.0	10/08/2024	ND	175	87.5	200	3.74		
EXT DRO >C28-C36	<10.0	10.0	10/08/2024	ND						

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	10/07/2024	Sampling Date:	10/07/2024
Reported:	10/11/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Alyssa Parras
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: CS 20 0.25 (H246080-20)**

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	10/08/2024	ND	2.15	108	2.00	0.419	
Toluene*	<0.050	0.050	10/08/2024	ND	2.07	103	2.00	0.0860	
Ethylbenzene*	<0.050	0.050	10/08/2024	ND	2.09	105	2.00	0.0121	
Total Xylenes*	<0.150	0.150	10/08/2024	ND	6.25	104	6.00	0.119	
Total BTEX	<0.300	0.300	10/08/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	10/08/2024	ND	400	100	400	11.3	

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	10/08/2024	ND	188	94.0	200	0.679	
DRO >C10-C28*	457	10.0	10/08/2024	ND	175	87.5	200	3.74	
EXT DRO >C28-C36	174	10.0	10/08/2024	ND					

Surrogate: 1-Chlorooctane 98.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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



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

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

<b>Company Name:</b> Ensolum, LLC <b>Project Manager:</b> Samantha Mackenzie <b>Address:</b> 601 N. Marland St. STE 400 <b>City:</b> Midland <b>Phone #:</b> 703-357-3545 <b>Project #:</b> 03B1417197 <b>Project Name:</b> Sand Pines Feal 28 #1 SWP <b>Project Location:</b> <b>Sampler Name:</b> Kaoru Shimada		<b>State:</b> TX <b>Zip:</b> 79701 <b>Project Owner:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> 575-390-2828 <b>Fax #:</b>		<b>BILL TO</b> <b>P.O. #:</b> <b>Company:</b> Oxy USA, Inc. <b>Attn:</b> Wade Dittich <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> 575-390-2828 <b>Fax #:</b>		<b>ANALYSIS REQUEST</b>	
PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing 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 interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, 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.							
<b>Relinquished By:</b> K. Shimada Date: 10-7-24 Time: 1:45 <b>Received By:</b> [Signature] Date: [Blank] Time: [Blank]		<b>Delivered By:</b> (Circle One) UPS - Bus - Other: [Blank]		<b>Observed Temp. °C:</b> 4.4 <b>Corrected Temp. °C:</b> 3.8		<b>Sample Condition:</b> Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Bacteria (only) Sample Condition: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	
<b>Turnaround Time:</b> [Blank]		<b>Thermometer ID #:</b> 4437140 <b>Correction Factor:</b> -0.10		<b>Standard:</b> <input checked="" type="checkbox"/> <b>Bacteria (only) Sample Condition:</b> <input type="checkbox"/> Standard <input type="checkbox"/> Rush		<b>Observed Temp. °C:</b> [Blank] <b>Corrected Temp. °C:</b> [Blank]	
<b>REMARKS:</b>							



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

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

<b>Company Name:</b> Ensolum, LLC	<b>P.O. #:</b>	<b>BILL TO</b>	<b>ANALYSIS REQUEST</b>
<b>Project Manager:</b> Samantha MacKenzie	<b>Company:</b> Oxy USA, Inc.		
<b>Address:</b> 601 N. Marientfeld St. STE 400	<b>Attn:</b> Wade Dittrich		
<b>City:</b> Midland	<b>Address:</b>		
<b>Phone #:</b> 703-357-3545	<b>State:</b> TX <b>Zip:</b> 79701		
<b>Project #:</b> 03B1417197	<b>Project Owner:</b>		
<b>Project Name:</b> Sand Dunes Fed 28 #1 SWD	<b>City:</b>		
<b>Project Location:</b>	<b>State:</b> <b>Zip:</b>		
<b>Sampler Name:</b> Kaoru Shimada	<b>Phone #:</b> 575-390-2828		
<b>FOR LAB USE ONLY</b>	<b>Fax #:</b>		

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX 8021B	TPH 8015M	Chloride 4500Cl	Hold
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
11	CS11	0.25	C	1	X						10-7-24	10:36	X	X		
12	CS12	0.7	C	1	X						10-7-24	10:35	X	X		
13	CS13	0.7	C	1	X						10-7-24	10:34	X	X		
14	CS14	0.7	C	1	X						10-7-24	10:32	X	X		
15	CS15	0.7	C	1	X						10-7-24	10:31	X	X		
16	CS16	0.7	C	1	X						10-7-24	10:30	X	X		
17	CS17	0.7	C	1	X						10-7-24	10:27	X	X		
18	CS18	0.7	C	1	X						10-7-24	10:26	X	X		
19	CS19	0.7	C	1	X						10-7-24	10:24	X	X		
20	CS20	0.25	C	1	X						10-7-24	10:23	X	X		

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**Relinquished By:** K. Shimada  
**Received By:** [Signature]  
**Date:** 10-7-24  
**Time:** 1:35  
**Received By:** [Signature]

**Delivered By:** (Circle One)  UPS  Bus  Other  
**Observed Temp. °C:** 44.4  
**Corrected Temp. °C:** 38.8  
**Sample Condition:** Cool Intact  Yes  No  
**Checked By:** [Signature]  
**Turnaround Time:** Standard  Rush   
**Thermometer ID #:** #1140  
**Correction Factor:** 0.0 °C  
**Bacteria (only) Sample Condition:** Cool Intact  Yes  No  
**Observed Temp. °C:**  
**Corrected Temp. °C:**

† 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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November 12, 2024

SAMANTHA MACKENZIE

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: SAND DUNES FED 28 #1 SWD

Enclosed are the results of analyses for samples received by the laboratory on 11/06/24 15:35.

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".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: FS 03 0.5' (H246776-01)**

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	11/09/2024	ND	1.67	83.7	2.00	21.5	
Toluene*	<0.050	0.050	11/09/2024	ND	1.75	87.3	2.00	17.0	
Ethylbenzene*	<0.050	0.050	11/09/2024	ND	1.89	94.6	2.00	13.4	
Total Xylenes*	<0.150	0.150	11/09/2024	ND	5.69	94.9	6.00	13.4	
Total BTEX	<0.300	0.300	11/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>928</b>	16.0	11/08/2024	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	11/07/2024	ND	201	100	200	0.524	
<b>DRO &gt;C10-C28*</b>	<b>764</b>	10.0	11/07/2024	ND	188	93.8	200	0.0245	
<b>EXT DRO &gt;C28-C36</b>	<b>277</b>	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

Cardinal Laboratories

\*=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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: FS 04 0.5' (H246776-02)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>528</b>	16.0	11/08/2024	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	11/07/2024	ND	201	100	200	0.524	
<b>DRO &gt;C10-C28*</b>	<b>273</b>	10.0	11/07/2024	ND	188	93.8	200	0.0245	
<b>EXT DRO &gt;C28-C36</b>	<b>104</b>	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: FS 05 0.5' (H246776-03)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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
<b>Chloride</b>	<b>1410</b>	16.0	11/08/2024	ND	384	96.0	400	4.08	

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	11/07/2024	ND	201	100	200	0.524	
<b>DRO &gt;C10-C28*</b>	<b>62.2</b>	10.0	11/07/2024	ND	188	93.8	200	0.0245	
<b>EXT DRO &gt;C28-C36</b>	<b>21.5</b>	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: FS 06 0.5' (H246776-04)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	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
<b>Chloride</b>	<b>96.0</b>	16.0	11/08/2024	ND	384	96.0	400	4.08	

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	11/07/2024	ND	201	100	200	0.524	
<b>DRO &gt;C10-C28*</b>	<b>24.3</b>	10.0	11/07/2024	ND	188	93.8	200	0.0245	
EXT DRO >C28-C36	<10.0	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: FS 07 1' (H246776-05)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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
<b>Chloride</b>	<b>96.0</b>	16.0	11/08/2024	ND	384	96.0	400	4.08	

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	11/07/2024	ND	201	100	200	0.524	
<b>DRO &gt;C10-C28*</b>	<b>17.9</b>	10.0	11/07/2024	ND	188	93.8	200	0.0245	
EXT DRO >C28-C36	<10.0	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SW 03 0-0.5' (H246776-06)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	64.0	16.0	11/08/2024	ND	384	96.0	400	4.08	

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	11/07/2024	ND	201	100	200	0.524	
DRO >C10-C28*	<10.0	10.0	11/07/2024	ND	188	93.8	200	0.0245	
EXT DRO >C28-C36	<10.0	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 125 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SW 04 0-0.5' (H246776-07)**

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	11/08/2024	ND	2.29	115	2.00	6.50		
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57		
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71		
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76		
Total BTEX	<0.300	0.300	11/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	32.0	16.0	11/08/2024	ND	384	96.0	400	4.08		

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	11/07/2024	ND	201	100	200	0.524		
DRO >C10-C28*	<10.0	10.0	11/07/2024	ND	188	93.8	200	0.0245		
EXT DRO >C28-C36	<10.0	10.0	11/07/2024	ND						

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

Cardinal Laboratories

\*=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  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SW 05 0-0.5' (H246776-08)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	48.0	16.0	11/08/2024	ND	384	96.0	400	4.08	

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	11/07/2024	ND	201	100	200	0.524	
DRO >C10-C28*	<10.0	10.0	11/07/2024	ND	188	93.8	200	0.0245	
EXT DRO >C28-C36	<10.0	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SW 06 0-1' (H246776-09)**

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	11/08/2024	ND	2.29	115	2.00	6.50		
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57		
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71		
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76		
Total BTEX	<0.300	0.300	11/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	80.0	16.0	11/08/2024	ND	384	96.0	400	4.08		

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	11/07/2024	ND	201	100	200	0.524		
DRO >C10-C28*	<10.0	10.0	11/07/2024	ND	188	93.8	200	0.0245		
EXT DRO >C28-C36	<10.0	10.0	11/07/2024	ND						

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: DS 01 0.25' (H246776-10)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	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	11/08/2024	ND	384	96.0	400	4.08	

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	11/07/2024	ND	201	100	200	0.524	
DRO >C10-C28*	<10.0	10.0	11/07/2024	ND	188	93.8	200	0.0245	
EXT DRO >C28-C36	<10.0	10.0	11/07/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 SAMANTHA MACKENZIE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	11/06/2024	Sampling Date:	11/05/2024
Reported:	11/12/2024	Sampling Type:	Soil
Project Name:	SAND DUNES FED 28 #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	03B1417197	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: DS 02 0.25' (H246776-11)**

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	11/08/2024	ND	2.29	115	2.00	6.50	
Toluene*	<0.050	0.050	11/08/2024	ND	2.21	110	2.00	5.57	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	2.29	115	2.00	5.71	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	6.78	113	6.00	5.76	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	32.0	16.0	11/08/2024	ND	384	96.0	400	4.08	

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	11/08/2024	ND	217	109	200	4.43	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	187	93.7	200	5.05	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04 The RPD for the BS/BSD was outside of historical limits.
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







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September 19, 2024

BEAUX JENNINGS  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: LEA LAND CALICHE PIT

Enclosed are the results of analyses for samples received by the laboratory on 09/16/24 14:00.

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".

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 BEAUX JENNINGS  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	09/16/2024	Sampling Date:	09/13/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	LEA LAND CALICHE PIT	Sampling Condition:	Cool & Intact
Project Number:	03B1417160	Sample Received By:	Tamara Oldaker
Project Location:	OXY		

**Sample ID: LEA LAND CALICHE PIT 0.5' (H245619-01)**

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	09/17/2024	ND	2.04	102	2.00	2.40	
Toluene*	<0.050	0.050	09/17/2024	ND	1.91	95.7	2.00	2.59	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	1.93	96.4	2.00	2.47	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	5.72	95.4	6.00	2.68	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.3 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>560</b>	16.0	09/17/2024	ND	416	104	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	09/17/2024	ND	204	102	200	0.238	
<b>DRO &gt;C10-C28*</b>	<b>98.6</b>	10.0	09/17/2024	ND	202	101	200	5.70	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 70.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.3 % 49.1-148

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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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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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 426320

**QUESTIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2218940420
Incident Name	NAPP2218940420 SAND DUNES 28 FED 1 SWD @ 30-015-26194
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-015-26194] SAND DUNES 28 FEDERAL #001

<b>Location of Release Source</b>	
<i>Please answer all the questions in this group.</i>	
Site Name	SAND DUNES 28 FED 1 SWD
Date Release Discovered	07/05/2022
Surface Owner	Federal

<b>Incident Details</b>	
<i>Please answer all the questions in this group.</i>	
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

<b>Nature and Volume of Release</b>	
<i>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.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Flow Line - Injection   Produced Water   Released: 15 BBL   Recovered: 1 BBL   Lost: 14 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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**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 426320

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**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>No</b>
Reasons why this would be considered a submission for a notification of a major release	<i>Unavailable.</i>

*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: 01/29/2025
--	---

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 3

Action 426320

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**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	NM OSE iWaters Database Search
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)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**Remediation Plan**

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

Requesting a remediation plan approval with this submission	Yes
<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)	8320
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	8360
GRO+DRO (EPA SW-846 Method 8015M)	6080
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	06/24/2024
On what date will (or did) the final sampling or liner inspection occur	11/05/2024
On what date will (or was) the remediation complete(d)	11/05/2024
What is the estimated surface area (in square feet) that will be reclaimed	9146
What is the estimated volume (in cubic yards) that will be reclaimed	6
What is the estimated surface area (in square feet) that will be remediated	9146
What is the estimated volume (in cubic yards) that will be remediated	6

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

QUESTIONS, Page 4

Action 426320

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**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	No
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	No
(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: 01/29/2025
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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 426320

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**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 426320

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	<b>397617</b>
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	<b>11/05/2024</b>
What was the (estimated) number of samples that were to be gathered	<b>6</b>
What was the sampling surface area in square feet	<b>9145</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	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	9146
What was the total volume (cubic yards) remediated	6
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	9146
What was the total volume (in cubic yards) reclaimed	6
Summarize any additional remediation activities not included by answers (above)	NA

*The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.*

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Wade Dittrich Title: Environmental Coordinator Email: wade_dittrich@oxy.com Date: 01/29/2025
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Action 426320

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Reclamation Report</b>	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 426320

**CONDITIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 426320
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**CONDITIONS**

Created By	Condition	Condition Date
crystal.walker	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	1/30/2025
crystal.walker	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. The OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	1/30/2025
crystal.walker	A revegetation report will not be accepted until revegetation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	1/30/2025
crystal.walker	All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.	1/30/2025