



August 5, 2024

**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  
MCA Unit #146  
Incident Number nAPP2321651067  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the MCA Unit #146 (Site). The purpose of the assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of crude oil and produced water at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number nAPP2321651067.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit G, Section 27, Township 17 South, Range 32 East, in Lea County, New Mexico (32.8073564° N, -103.7518694° W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On August 4, 2023, a flowline rupture resulted in the release of approximately 10 barrels (bbls) of produced water and 1 bbl of crude oil onto the surface of the well pad. No released fluids were recovered. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on August 23, 2023. The release was assigned Incident Number nAPP2321651067.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

The Site was characterized to assess applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization are summarized below and detailed in the NMOCD permitting portal Form C-141 Site Characterization section. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 60 feet below ground surface (bgs) based on the nearest groundwater well data. A borehole (BH-4) was drilled approximately 0.5 miles northeast of the Site on March 23, 2020. The borehole was drilled during remediation activities associated with Incident Number NJXK1621825385. The borehole was advanced to a depth of 60 bgs

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via air rotary drilling rig, and no groundwater was encountered. The boring log is included in Appendix A. The location of borehole BH-4 is presented on Figure 1.

The closest continuously flowing or significant watercourse is greater than 300 feet from the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, 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: 10,000 mg/kg

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

## **SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS**

Assessment activities were conducted at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven assessment soil samples (SS01 through SS06 and SS08) were collected around the visible release extent from a depth of 0.5 feet bgs to confirm the lateral extent of the surface release. Four assessment soil samples (SS07 and SS09 through SS11) were collected within the release extent, to assess the surface soil within the release. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The assessment 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 at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Cardinal Laboratories for analysis of the following constituents of concern (COC): 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 EPA Method 4500.

Laboratory analytical results for assessment soil samples SS01 through SS06 and SS08, collected around the release extent, indicated that all COC concentrations were compliant with the most stringent Table I Closure Criteria and confirmed the lateral extent of the surface release. Laboratory analytical results for assessment soil samples SS07 and SS09 through SS11, collected within the release extent, indicated that chloride and/or TPH concentrations exceeded the Site Closure Criteria. Laboratory analytical results are summarized on the attached Table 1. Based on visible staining in the release area and laboratory analytical results for the assessment soil samples, excavation activities were scheduled.

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## EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

During June 2024, Ensolum personnel returned to the Site to oversee excavation of impacted soil. To direct excavation activities, soil was field screened for volatile aromatic hydrocarbons (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. Excavation activities were performed using a hydrovac, track-mounted backhoe, and transport vehicles. The excavation was completed to depths ranging from 4 feet to 6 feet bgs.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS22 were collected from the floor of the excavation from depths ranging from 4 feet to 6 feet bgs. Composite soil samples SW01 through SW07 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 6 feet bgs. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS and are presented on Figure 3.

Boreholes BH01 and BH02 were advanced within the open excavation to depths of 7 feet and 8 feet bgs, respectively. Soil from the boreholes was field screened for VOCs and chloride. Final depth of the boreholes was determined by field screening results indicating compliance with the most stringent Table I Closure Criteria. Soil samples were selected for laboratory analysis from depths ranging from 6 feet to 8 feet bgs. Borehole BH03 was advanced to a depth of 4 feet bgs west of pumpjack to delineate sidewall sample SW07 to below the most stringent Table I Closure Criteria. Soil from the borehole was field screened for VOCs and chloride. Based on the absence of elevated field screening results, samples were selected for laboratory analysis from depths of 1-foot and 3 feet bgs. Field screening results and observations for the boreholes were logged on lithologic soil sampling logs, which are included in Appendix C. The borehole locations are presented on Figure 2. The excavation and delineation soil samples were handled following the same procedures as described above and submitted to Cardinal Laboratories for analysis of BTEX, TPH, and chloride.

Laboratory analytical results for the excavation floor and sidewall samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. Laboratory analytical results for the delineation samples collected from boreholes BH01 through BH03 indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included as Appendix D.

The excavation measured approximately 4,400 square feet in areal extent. A total of approximately 1,250 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Disposal Facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

## RECLAMATION ACTIVITIES

Upon completion of excavation activities and receipt of final laboratory analytical results, the excavation was backfilled. One representative 5-point composite sample (BF01) was collected from the backfill material. The backfill soil sample was handled and analyzed following the same procedures as described above. Laboratory analytical results for the backfill soil sample confirmed compliance with the NMOCDC requirement for the reclaimed area to contain non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and TPH concentrations less than 100 mg/kg. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical report is included as Appendix D.



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Following backfill activities, the well pad returned to active production activities and the disturbed pasture area was recontoured to match the surrounding topography. The disturbed pasture area was seeded with the BLM sandy sites seed mix #2 at the rate specified in pounds of pure live seed (PLS) per acre.

Species/Cultivar	PLS/Acre
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sand love grass ( <i>Eragrostis trichodes</i> )	1.0
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0

The seed mix was distributed with a broadcast seed spreader and raked in. Photographs of the reclaimed excavation area are provided in Appendix B.

The Site remains a active well pad; therefore, any soil remaining in place on the active well pad that is compliant with the Site Closure Criteria but exceeds reclamation requirements of NMAC 19.15.29.13.D (1) will be removed during plugging and abandonment of the well and final reclamation of the well pad.

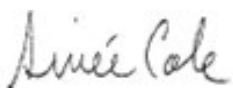
## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the August 4, 2023, release of crude oil and produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements in the top four feet of the pasture area. Additionally, the release was laterally and vertically delineated to the most stringent Table I Closure Criteria. Based on the laboratory analytical results, no further remediation is required.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. Depth to groundwater was estimated to be greater than 60 feet bgs at the Site and no sensitive receptors were identified near the release extent. Maverick believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident nAPP2321651067.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or [acole@ensolum.com](mailto:acole@ensolum.com).

Sincerely,  
**Ensolum, LLC**



Aimee Cole  
Senior Managing Scientist

cc: Bryce Wagoner, Maverick Natural Resources, LLC

### Appendices:

Figure 1 Site Receptor Map  
Figure 2 Assessment Soil Sample Locations  
Figure 3 Excavation Soil Sample Locations





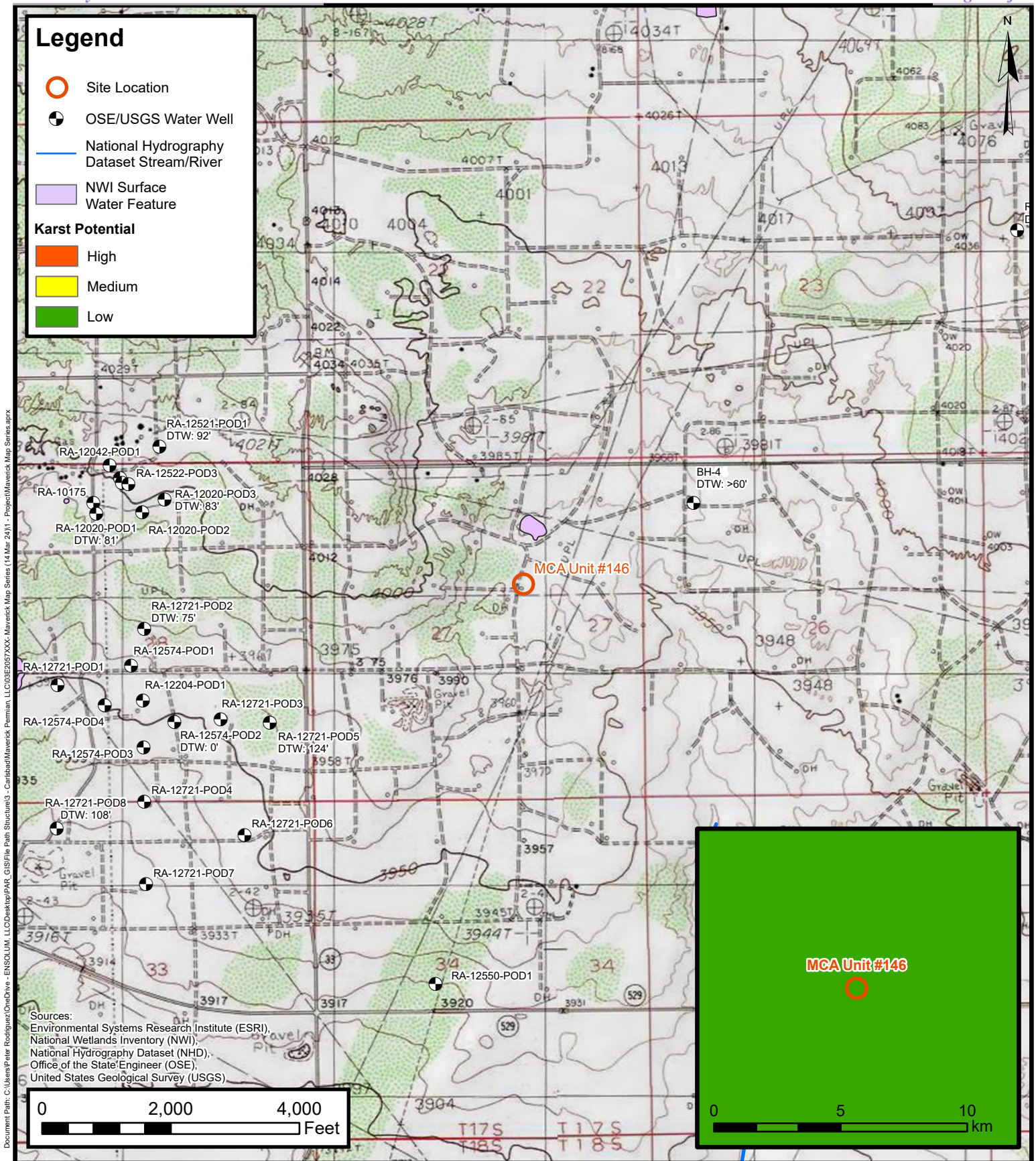
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Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain of Custody Documentation



FIGURES



## Site Receptor Map

MCA Unit #146

Maverick Permian, LLC

Incident Number: nAPP2321651067

G-27-17S-32E

Lea County, New Mexico

FIGURE

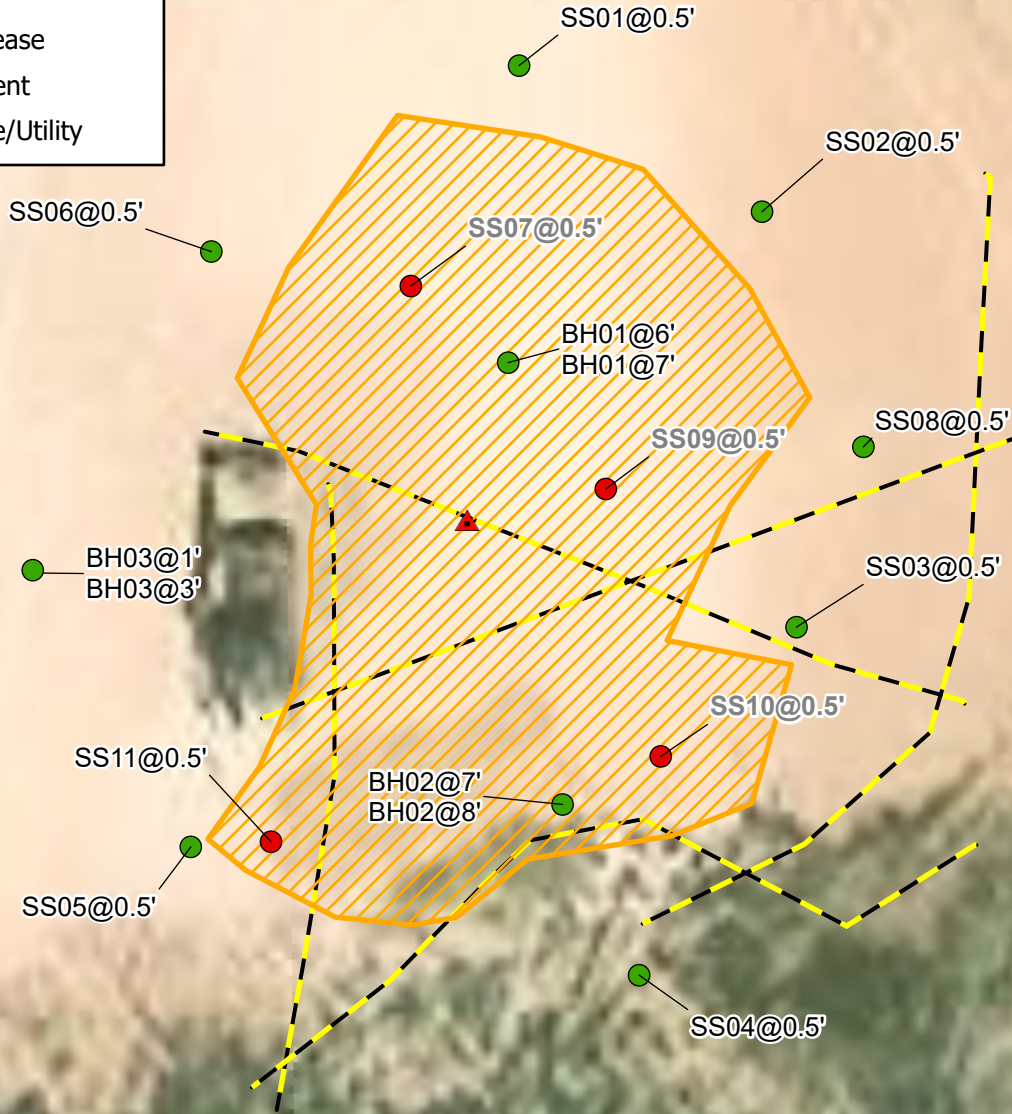
1



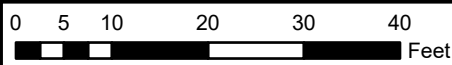


# Legend

- Assessment Soil Samples  
Compliant with Closure  
Criteria
- Assessment Soil Samples  
with Concentrations  
Exceeding Closure  
Criteria
- ▲ Point of Release
- ▨ Release Extent
- Pipeline/Line/Utility



Notes:  
 Sample ID @ Depth Below Ground Surface.  
 Samples in bold indicate sample exceeded applicable  
 Closure Criteria.  
 Samples in gray removed during excavation  
 activities.



Sources: Environmental Systems Research Institute (ESRI)

## Delineation Soil Sample Locations

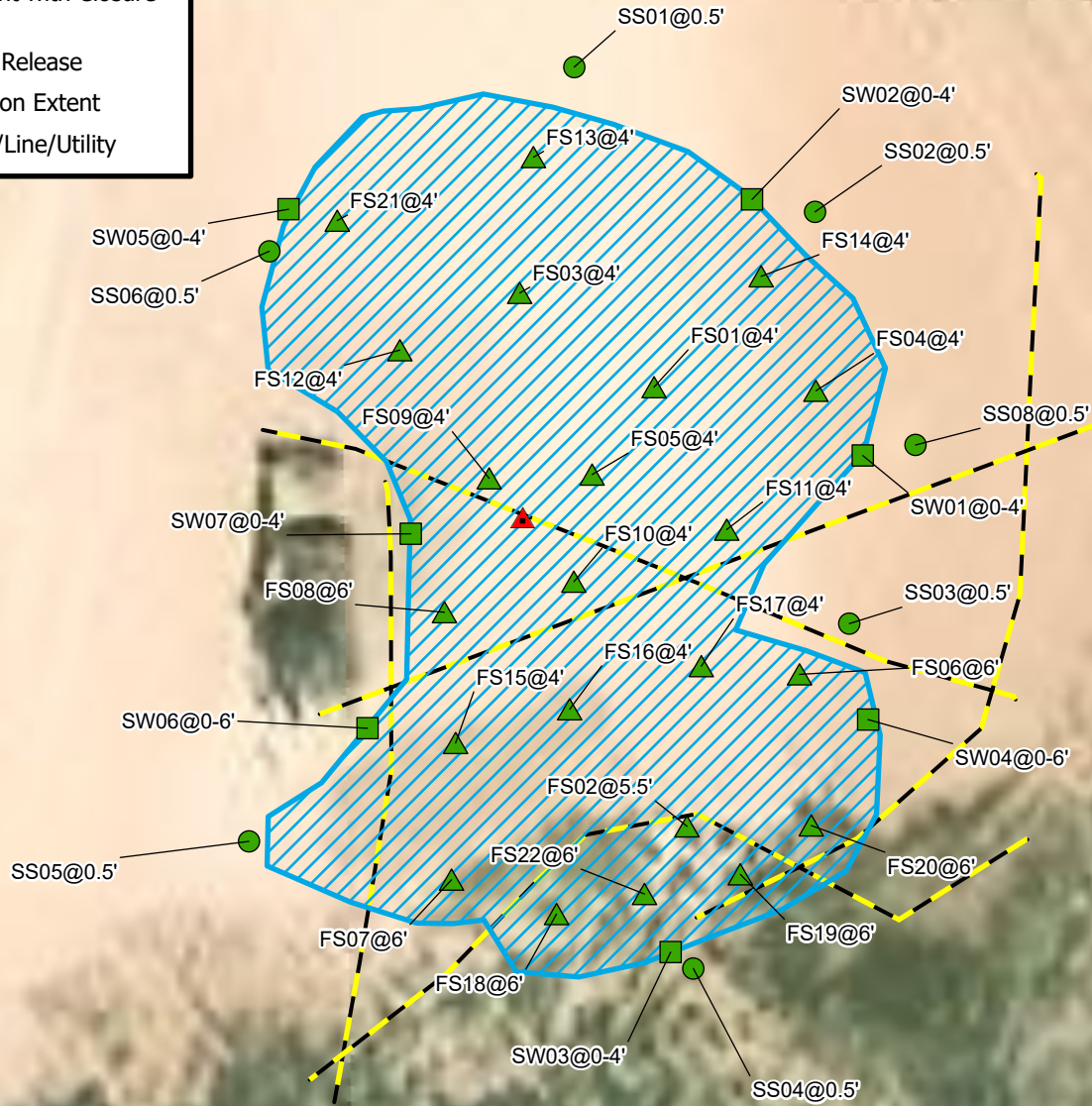
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 Unit G, Sec 27, T17S, R32E  
 Lea County, New Mexico

FIGURE  
2

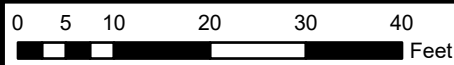


**Legend**

- ▲ Excavation Floor Soil Samples Compliant with Closure Criteria
- Excavation Sidewall Soil Samples Compliant with Closure Criteria
- Assessment Soil Samples Compliant with Closure Criteria
- ▲ Point of Release
- ▨ Excavation Extent
- Pipeline/Line/Utility



Notes:  
Sample ID @ Depth Below Ground/Surface.



Sources: Environmental Systems Research Institute (ESRI)

**Excavation Soil Sample Locations**

Maverick Permian, LLC

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Incident Number: nAPP2321651067

Unit G, Sec 27, T17S, R32E

Lea County, New Mexico

**FIGURE****3**



TABLES





TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS MCA Unit 146 Release Maverick Permian, LLC Lea County, New Mexico										
Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
Assessment Soil Samples										
SS01	03/13/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS02	03/13/2024	0.5	<0.050	<0.300	<10.0	14.9	10.6	14.9	25.5	96.0
SS03	03/13/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS04	03/13/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
SS05	03/13/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SS06	03/13/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
SS07	03/13/2024	0.5	0.109	0.788	11.0	6,220	1,870	6,231	8,101	1,760
SS08	03/13/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS09	03/13/2024	0.5	<0.050	<0.300	<10.0	6,570	1,750	6,570	8,320	16,600
SS10	03/13/2024	0.5	0.870	82.4	1,640	33,600	5,640	35,240	40,880	4,800
SS11	03/13/2024	0.5	1.400	90.1	1,830	27,200	4,400	29,030	33,430	8,000
Delineation Soil Samples										
BH01	06/05/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH01	06/05/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH02	06/05/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH02	06/05/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH03	07/30/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH03	07/30/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
Excavation Floor Soil Samples										
FS01	06/04/2024	4	<0.050	15.1	65.1	94.3	59.9	159	219	32.0
FS02	06/04/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	512
FS03	06/07/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
FS04	06/07/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
FS05	06/07/2024	4	<0.050	<0.300	<10.0	43.3	38.2	43.3	81.5	512
FS06	06/07/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS MCA Unit 146 Release Maverick Permian, LLC Lea County, New Mexico										
Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
FS07	06/20/2024	6	<0.050	<0.300	<10.0	13.4	<10.0	13.4	13.4	448
FS08	06/07/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS09	06/13/2024	4	<0.050	<0.300	<10.0	233	200	233	433	672
FS10	06/13/2024	4	<0.050	<0.300	<10.0	61	53.3	60.7	114	912
FS11	06/13/2024	4	<0.050	<0.300	<10.0	43	46.1	42.5	88.6	256
FS12	06/13/2024	4	0.144	3.67	22	481	548	503	1,051	976
FS13	06/13/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	512
FS14	06/13/2024	4	<0.050	<0.300	<10.0	313	278	313	591	864
FS15	06/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	896
FS16	06/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	944
FS17	06/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS18	06/17/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS19	06/17/2024	6	<0.050	<0.300	<10.0	44	26.7	43.7	70.4	864
FS20	06/17/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	640
FS21	06/13/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	928
FS22	06/17/2024	6	<0.050	<0.300	<10.0	52	19	52	70.4	496
Excavation Sidewall Soil Samples										
SW01	6/7/2024	0 - 4	<0.050	<0.300	<10.0	16.3	<10.0	16.3	16.3	704
SW02	6/7/2024	0 - 4	<0.050	<0.300	<10.0	10.6	<10.0	10.6	10.6	144
SW03*	6/7/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW04	6/7/2024	0 - 6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
SW05	6/14/2024	0 - 4	<0.050	0.7	<10.0	11	<10.0	<10.0	<10.0	368
SW06	6/14/2024	0 - 6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SW07	6/14/2024	0 - 4	<0.050	0.432	<10.0	234	36.4	234	270	2,880



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS MCA Unit 146 Release Maverick Permian, LLC Lea County, New Mexico										
Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
Backfill Soil Sample										
BF01	6/18/2024	NA	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0

Notes:  
bgs: below ground surface  
mg/kg: milligrams per kilogram  
NMOCD: New Mexico Oil Conservation Division  
NMAC: New Mexico Administrative Code  
NA: Not Analyzed  
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics  
DRO: Diesel Range Organics  
ORO: Oil Range Organics  
TPH: Total Petroleum Hydrocarbon  
Grey text represents samples that have been excavated  
\* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation requirement in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH.  
Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.




## APPENDIX A

### Referenced Well Records

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212C-MD-02067		TETRA TECH		LOG OF BORING BH-4			Page 1 of 3							
Project Name: MCA 123 Injection Line Release														
Borehole Location: GPS: 32.810847°, -103.743217°				Surface Elevation: 3973 ft										
Borehole Number: BH-4				Borehole Diameter (in.): 8	Date Started: 3/23/2020		Date Finished: 3/23/2020							
WATER LEVEL OBSERVATIONS														
				While Drilling <u>▽ DRY</u> ft Upon Completion of Drilling <u>▽ DRY</u> ft										
				Remarks:										
DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX		MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS	
			ExStik	PID				LL	PI	MINUS NO. 200 (%)	GRAPHIC LOG			
5			208	1.6								4	-SM- SILTY SAND; Brown, dense, dry, with no odor, with no staining.	BH-4 (0'-1')
			361	1.7									BH-4 (2'-3')	
			657	1.9									BH-4 (3'-4')	
			2.0	2.1									BH-4 (4'-5')	
10			2.03	1.9								14		BH-4 (6'-7')
			1.95	2									BH-4 (9'-10')	
15			9.45	3.1								14	-SM- SILTY SAND; Light brown, dense, dry, with no odor, with no staining.	BH-4 (14'-15')
			3.75	3.2									BH-4 (19'-20')	
25			2.81	1.4									BH-4 (24'-25')	
Sampler Types:		Split Spoon	Acetate Liner	Operation Types:		Mud Rotary	Hand Auger	Notes: Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value.						
		Shelby	Vane Shear			Continuous Flight Auger	Air Rotary							
		Bulk Sample	California			Wash Rotary	Direct Push							
		Grab Sample	Test Pit			Core Barrel								
Logger: Devin Dominguez				Drilling Equipment: Air Rotary				Driller: Scarborough Drilling						

212C-MD-02067		 TETRA TECH		LOG OF BORING BH-4				Page 2 of 3						
Project Name: MCA 123 Injection Line Release														
Borehole Location: GPS: 32.810847°, -103.743217°					Surface Elevation: 3973 ft									
Borehole Number: BH-4				Borehole Diameter (in.): 8		Date Started: 3/23/2020		Date Finished: 3/23/2020						
DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		
												While Drilling <input checked="" type="checkbox"/> DRY ft Upon Completion of Drilling <input checked="" type="checkbox"/> DRY ft		
Remarks:												DEPTH (ft)	REMARKS	
MATERIAL DESCRIPTION														
30			1.87	1.7									29	BH-4 (29'-30')
35														BH-4 (34'-35')
40			1.67	1.8									39	BH-4 (39'-40')
45														
50			587	1.7										BH-4 (49'-50')
Sampler Types:		<input checked="" type="checkbox"/> Split Spoon	<input type="checkbox"/> Acetate Liner	Operation Types:		<input type="checkbox"/> Hand Auger	Notes:			Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value.				
		<input type="checkbox"/> Shelby	<input type="checkbox"/> Vane Shear			<input type="checkbox"/> Mud Rotary								
		<input type="checkbox"/> Bulk Sample	<input type="checkbox"/> California			<input type="checkbox"/> Continuous Flight Auger								
		<input type="checkbox"/> Grab Sample	<input type="checkbox"/> Test Pit			<input type="checkbox"/> Wash Rotary								
						<input type="checkbox"/> Core Barrel								
Logger: Devin Dominguez				Drilling Equipment: Air Rotary				Driller: Scarborough Drilling						



212C-MD-02067		TETRA TECH		LOG OF BORING BH-4		Page 3 of 3									
Project Name: MCA 123 Injection Line Release															
Borehole Location: GPS: 32.810847°, -103.743217°				Surface Elevation: 3973 ft											
Borehole Number: BH-4			Borehole Diameter (in.): 8	Date Started: 3/23/2020		Date Finished: 3/23/2020									
<div>WATER LEVEL OBSERVATIONS</div> <div>While Drilling <u>▽</u> DRY ft    Upon Completion of Drilling <u>▽</u> DRY ft</div> <div>Remarks:</div>															
DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION		DEPTH (ft)	REMARKS
55			ExStik	PID				LL	PI						
60			491	1.4										60	BH-4 (59'-60')
								Bottom of borehole at 60.0 feet.							
<div>Sampler Types:</div> <div><div> Split Spoon</div><div> Shelby</div><div> Bulk Sample</div><div> Grab Sample</div><div> Acetate Liner</div><div> Vane Shear</div><div> California</div><div> Test Pit</div></div>								<div>Operation Types:</div> <div><div> Mud Rotary</div><div> Continuous Flight Auger</div><div> Wash Rotary</div><div> Hand Auger</div><div> Air Rotary</div><div> Direct Push</div><div> Core Barrel</div></div>				<div>Notes:</div> <div>Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value.</div>			
Logger: Devin Dominguez				Drilling Equipment: Air Rotary				Driller: Scarborough Drilling							



## APPENDIX B

### Photographic Log

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## Photographic Log

Maverick Permian, LLC

MCA Unit #146

Incident Number nAPP2321651067



Photograph 1

Date: 8/4/2023

Description: Initial release

View: Southeast



May 29, 2024 9:04:55 AM  
32.80727N 103.75197W  
232° SW  
Hobbs, Lea County 88240  
United States

Photograph 2

Date: 5/29/2024

Description: Excavation activities

View: Southwest



Jun 4, 2024 10:26:36 AM  
32.80719N 103.75191W  
255° W

Photograph 3

Date: 6/4/2024

Description: Excavation activities

View: West



Date & Time: Fri, Jun 07, 2024 at 12:27:49 YDT  
Position: +032.8074301° / +103.7521421° (+13.91ft)  
Altitude: 3951ft (+24.2ft)  
Datum: WGS-84  
Azimuth/Heading: 105° S39E 2878mils True (+13.9)  
Elevation Angle: -06.9°  
Horizon Angle: +00.0°  
Zoom: 0.5X

Photograph 4

Date: 6/7/2024

Description: Excavation activities

View: Southeast





# Photographic Log

Maverick Permian, LLC

MCA Unit #146

Incident Number nAPP2321651067



Photograph 5 Date: 6/10/2024  
Description: Excavation activities  
View: Southwest



Photograph 6 Date: 6/12/2024  
Description: Excavation activities  
View: Northeast



Photograph 7 Date: 6/26/2024  
Description: Backfilled excavation  
View: Southeast




Photograph 8 Date: 6/26/2024  
Description: Backfilled excavation  
View: Southeast




## APPENDIX C


### Lithologic Soil Sampling Logs

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								Sample Name: BH01		Date: 6/5/2024	
								Site Name: MCA Unit #146			
								Incident Number: nAPP2321651067			
								Job Number: 03E2057101			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: Mario Sarkis		Method: Hand Auger	
Coordinates: 32.80738°N, -103.75201°W								Hole Diameter: 3 in		Total Depth: 7 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0		Open excavation to 4 ft bgs			
						1					
						2					
						3					
						4		Silty Sand: Tan to light gray to gray, loose, very fine grain, non plastic			
D	<173	77.0	N	BH01	5	5	SM				
D	<173	179.7	N	BH01	6	6					
D	<173	60.1	N	BH01	7	7					
Total depth of boring is 7 ft bgs											



							Sample Name: BH02		Date: 6/5/2024	
							Site Name: MCA Unit #146			
							Incident Number: nAPP2321651067			
							Job Number: 03E2057101			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: Mario Sarkis		Method: Hand Auger	
Coordinates: 32.80725°N, -103.75201°W							Hole Diameter: 3 in		Total Depth: 8 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
						0		Open excavation to 6 ft bgs		
						1				
						2				
						3				
						4				
						5				
D	<173	20.6	N	BH02	6	6		Silty Sand: Tan to light gray to gray, loose, very fine grain, non plastic		
D	<173	25.1	N	BH02	7	7	SM			
D	<173	41.2	N	BH02	8	8				
Total depth of boring is 8 ft bgs										

								Sample Name: BH03		Date: 7/30/2024	
								Site Name: MCA Unit #146			
								Incident Number: nAPP2321651067			
								Job Number: 03E2057101			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: Mario Sarkis		Method: Hand Auger	
Coordinates: 32.80725°N, -103.75201°W								Hole Diameter: 3 in		Total Depth: 4 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	<173	1.1	N	BH03	0.5	0.5		Fine sand: Brown, very fine grain, non plastic, non cohesive			
D	<173	1.2	N	BH03	1	1		Same as above			
D	<173	1.1	N	BH03	2	2		Same as above			
D	<173	1.2	N	BH03	3	3		Same as above			
D	<173	1.7	N	BH03	3	4		Fine sand: Light gray, very fine grain, non plastic, non cohesive			
Total depth of boring is 4 ft bgs											



## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

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

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March 18, 2024

AIMEE COLE

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MCA UNIT 146 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 03/13/24 15:14.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/13/2024	Sampling Date:	03/13/2024
Reported:	03/18/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: SS 07 0.5' (H241296-01)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.109</b>	0.050	03/14/2024	ND	1.70	84.9	2.00	19.3	
<b>Toluene*</b>	<b>0.314</b>	0.050	03/14/2024	ND	1.84	92.2	2.00	19.7	
<b>Ethylbenzene*</b>	<b>0.176</b>	0.050	03/14/2024	ND	1.91	95.5	2.00	20.1	
<b>Total Xylenes*</b>	<b>0.189</b>	0.150	03/14/2024	ND	5.69	94.9	6.00	19.9	
<b>Total BTEx</b>	<b>0.788</b>	0.300	03/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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>1760</b>	16.0	03/14/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10*</b>	<b>11.0</b>	10.0	03/14/2024	ND	210	105	200	2.71		
<b>DRO &gt;C10-C28*</b>	<b>6220</b>	10.0	03/14/2024	ND	209	104	200	6.83		
<b>EXT DRO &gt;C28-C36</b>	<b>1870</b>	10.0	03/14/2024	ND						

Surrogate: 1-Chlorooctane 96.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 201 % 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/13/2024	Sampling Date:	03/13/2024
Reported:	03/18/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: SS 08 0.5' (H241296-02)**

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	03/14/2024	ND	1.70	84.9	2.00	19.3		
Toluene*	<0.050	0.050	03/14/2024	ND	1.84	92.2	2.00	19.7		
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.91	95.5	2.00	20.1		
Total Xylenes*	<0.150	0.150	03/14/2024	ND	5.69	94.9	6.00	19.9		
Total BTEX	<0.300	0.300	03/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	03/14/2024	ND	448	112	400	3.64		

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	03/14/2024	ND	210	105	200	2.71	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	209	104	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.9 % 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/13/2024	Sampling Date:	03/13/2024
Reported:	03/18/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: SS 09 0.5' (H241296-03)**

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	03/14/2024	ND	1.70	84.9	2.00	19.3		
Toluene*	<0.050	0.050	03/14/2024	ND	1.84	92.2	2.00	19.7		
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.91	95.5	2.00	20.1		
Total Xylenes*	<0.150	0.150	03/14/2024	ND	5.69	94.9	6.00	19.9		
Total BTEX	<0.300	0.300	03/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	16600	16.0	03/14/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/14/2024	ND	210	105	200	2.71	
DRO >C10-C28*	6570	10.0	03/14/2024	ND	209	104	200	6.83	
EXT DRO >C28-C36	1750	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 184 % 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/13/2024	Sampling Date:	03/13/2024
Reported:	03/18/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: SS 10 0.5' (H241296-04)**

BTEx 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.870</b>	0.500	03/15/2024	ND	1.70	84.9	2.00	19.3	
<b>Toluene*</b>	<b>14.1</b>	0.500	03/15/2024	ND	1.84	92.2	2.00	19.7	
<b>Ethylbenzene*</b>	<b>21.5</b>	0.500	03/15/2024	ND	1.91	95.5	2.00	20.1	
<b>Total Xylenes*</b>	<b>45.9</b>	1.50	03/15/2024	ND	5.69	94.9	6.00	19.9	
<b>Total BTEX</b>	<b>82.4</b>	3.00	03/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 165 % 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>4800</b>	16.0	03/14/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>1640</b>	50.0	03/14/2024	ND	210	105	200	2.71	
<b>DRO &gt;C10-C28*</b>	<b>33600</b>	50.0	03/14/2024	ND	209	104	200	6.83	
<b>EXT DRO &gt;C28-C36</b>	<b>5640</b>	50.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 193 % 48.2-134

Surrogate: 1-Chlorooctadecane 706 % 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/13/2024	Sampling Date:	03/13/2024
Reported:	03/18/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: SS 11 0.5' (H241296-05)**

BTEx 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>1.40</b>	0.500	03/15/2024	ND	1.70	84.9	2.00	19.3	
<b>Toluene*</b>	<b>17.0</b>	0.500	03/15/2024	ND	1.84	92.2	2.00	19.7	
<b>Ethylbenzene*</b>	<b>25.3</b>	0.500	03/15/2024	ND	1.91	95.5	2.00	20.1	
<b>Total Xylenes*</b>	<b>46.5</b>	1.50	03/15/2024	ND	5.69	94.9	6.00	19.9	
<b>Total BTEX</b>	<b>90.1</b>	3.00	03/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 147 % 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>8000</b>	16.0	03/14/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>1830</b>	50.0	03/14/2024	ND	210	105	200	2.71	
<b>DRO &gt;C10-C28*</b>	<b>27200</b>	50.0	03/14/2024	ND	209	104	200	6.83	
<b>EXT DRO &gt;C28-C36</b>	<b>4400</b>	50.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 176 % 48.2-134

Surrogate: 1-Chlorooctadecane 558 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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.
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.
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

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "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

Company Name: Envision LLC							P.O. #:		BILL TO				ANALYSIS REQUEST			
Project Manager: Alvin Cole																
Address: 601 N. Main Street St. 4E, 400																
City: Midland State: TX Zip: 79701																
Phone #: 720-384-7365 Fax #:																
Project #: 03E2057101 Project Owner: Mulvey LLC																
Project Name: MCA Unit 146 Release																
Project Location:																
Sampler Name: Noah Baker							Fax #:									
FOR LAB USE ONLY																
Lab I.D.							(G)RAB OR (C)OMP.									
Sample I.D. D244							# CONTAINERS									
							GROUNDWATER									
							WASTEWATER									
							SOIL									
							OIL									
							SLUDGE									
							OTHER :									
							ACID/BASE:									
							ICE / COOL									
							OTHER :									
							DATE									
							TIME									
S507 0.5' G 1 X							3/13/24 1225		X				BTEX			
S508 0.5' G 1 X							3/13/24 1230		X				TPH			
S509 0.5' G 1 X							3/13/24 1235		X				Chlorides			
S510 0.5' G 1 X							3/13/24 1240		X							
S511 0.5' G 1 X							3/13/24 1245		X							
N/E NED 3/13/24																
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Relinquished By: [Signature]							Date: 3.13.24		Received By: [Signature]							
Time: 15:14																
Date:																
Time:																
Delivered By: (Circle One)							Observed Temp. °C 3.4		Sample Condition Cool Intact Yes Yes No No				CHECKED BY: [Signature] (initials)			
Corrected Temp. °C																
Turnaround Time:							Standard Rush									
Thermometer ID #140																
Correction Factor °C																
Bacteria (only) Sample Condition Cool Intact Yes Yes No No																
Corrected Temp. °C																
Verbal Result: Yes No Add'l Phone #:																
All Results are emailed. Please provide Email address:																
REMARKS: A/C/O/D Envision, Inc.																



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

March 19, 2024

AIMEE COLE

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MCA UNIT 146 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 03/14/24 8:53.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 03/14/2024  
 Reported: 03/19/2024  
 Project Name: MCA UNIT 146 RELEASE  
 Project Number: 03E2097101  
 Project Location: MAVERICK

Sampling Date: 03/13/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: SS 01 0.5' (H241315-01)**

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	03/14/2024	ND	1.93	96.3	2.00	12.7	
Toluene*	<0.050	0.050	03/14/2024	ND	2.01	100	2.00	13.5	
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.96	98.0	2.00	13.7	
Total Xylenes*	<0.150	0.150	03/14/2024	ND	6.02	100	6.00	13.9	
Total BTEX	<0.300	0.300	03/14/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/14/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/14/2024	ND	207	103	200	0.730	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	205	103	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.5 % 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/14/2024	Sampling Date:	03/13/2024
Reported:	03/19/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK		

**Sample ID: SS 02 0.5' (H241315-02)**

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	03/14/2024	ND	1.93	96.3	2.00	12.7	
Toluene*	<0.050	0.050	03/14/2024	ND	2.01	100	2.00	13.5	
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.96	98.0	2.00	13.7	
Total Xylenes*	<0.150	0.150	03/14/2024	ND	6.02	100	6.00	13.9	
Total BTEX	<0.300	0.300	03/14/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	03/14/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/14/2024	ND	207	103	200	0.730	
DRO >C10-C28*	14.9	10.0	03/14/2024	ND	205	103	200	1.10	
EXT DRO >C28-C36	10.6	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 96.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/14/2024	Sampling Date:	03/13/2024
Reported:	03/19/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK		

**Sample ID: SS 03 0.5' (H241315-03)**

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	03/14/2024	ND	1.93	96.3	2.00	12.7	
Toluene*	<0.050	0.050	03/14/2024	ND	2.01	100	2.00	13.5	
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.96	98.0	2.00	13.7	
Total Xylenes*	<0.150	0.150	03/14/2024	ND	6.02	100	6.00	13.9	
Total BTEX	<0.300	0.300	03/14/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	03/14/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/14/2024	ND	207	103	200	0.730	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	205	103	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 96.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.7 % 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/14/2024	Sampling Date:	03/13/2024
Reported:	03/19/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK		

**Sample ID: SS 04 0.5' (H241315-04)**

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	03/14/2024	ND	1.93	96.3	2.00	12.7	
Toluene*	<0.050	0.050	03/14/2024	ND	2.01	100	2.00	13.5	
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.96	98.0	2.00	13.7	
Total Xylenes*	<0.150	0.150	03/14/2024	ND	6.02	100	6.00	13.9	
Total BTEX	<0.300	0.300	03/14/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	03/14/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/14/2024	ND	207	103	200	0.730	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	205	103	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 98.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/14/2024	Sampling Date:	03/13/2024
Reported:	03/19/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK		

**Sample ID: SS 05 0.5' (H241315-05)**

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	03/14/2024	ND	1.93	96.3	2.00	12.7		
Toluene*	<0.050	0.050	03/14/2024	ND	2.01	100	2.00	13.5		
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.96	98.0	2.00	13.7		
Total Xylenes*	<0.150	0.150	03/14/2024	ND	6.02	100	6.00	13.9		
Total BTEX	<0.300	0.300	03/14/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	03/14/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/14/2024	ND	207	103	200	0.730	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	205	103	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 95.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.2 % 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  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	03/14/2024	Sampling Date:	03/13/2024
Reported:	03/19/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2097101	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK		

**Sample ID: SS 06 0.5' (H241315-06)**

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	03/14/2024	ND	1.93	96.3	2.00	12.7		
Toluene*	<0.050	0.050	03/14/2024	ND	2.01	100	2.00	13.5		
Ethylbenzene*	<0.050	0.050	03/14/2024	ND	1.96	98.0	2.00	13.7		
Total Xylenes*	<0.150	0.150	03/14/2024	ND	6.02	100	6.00	13.9		
Total BTEX	<0.300	0.300	03/14/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	03/14/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/14/2024	ND	207	103	200	0.730	
DRO >C10-C28*	<10.0	10.0	03/14/2024	ND	205	103	200	1.10	
EXT DRO >C28-C36	<10.0	10.0	03/14/2024	ND					

Surrogate: 1-Chlorooctane 86.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.2 % 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

Notes and Definitions

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

Cardinal Laboratories

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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

Company Name:	Ensign, LLC	<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>			
---------------	-------------	----------------	--	-------------------------	--	--	--

Project Manager:	Aimee Cole	P.O. #:	
------------------	------------	---------	--

Address:	601 N. Mandeville St. Ste. 400	Company:	Ensign, LLC
----------	--------------------------------	----------	-------------

City:	Milledgeville	Attn:	Aimee Cole
-------	---------------	-------	------------

Phone #:	720-384-7365	Fax #:	
----------	--------------	--------	--

Project #:	03E2057101	Project Owner:	Maverick
------------	------------	----------------	----------

Project Name:	MCA Unit 146 Release	State:	
---------------	----------------------	--------	--

Project Location:		City:	
-------------------	--	-------	--

Sampler Name:	Noah Duker	State:	
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FOR LAB USE ONLY		Phone #:	
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Sample I.D.	Perkin	Fax #:	
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Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					DATE	TIME					
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE							
SS01	0.5'	1			X			3/13/24	1130	X	X	X		
SS02	0.5'	1			X			3/13/24	1140	X	X	X		
SS03	0.5'	1			X			3/13/24	1150	X	X	X		
SS04	0.5'	1			X			3/13/24	1200	X	X	X		
SS05	0.5'	1			X			3/13/24	1210	X	X	X		
SS06	0.5'	1			X			3/13/24	1220	X	X	X		
NFE														
NAD														

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising from this contract or tort, shall be limited to the amount paid by the client for the analyses. 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 its 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 reasons or otherwise.

Relinquished By:	Noah Duker	Date:	3-14-24	Received By:	Aimee Cole
------------------	------------	-------	---------	--------------	------------

Relinquished By:	Noah Duker	Date:	3-14-24	Received By:	Aimee Cole
------------------	------------	-------	---------	--------------	------------

Delivered By: (Circle One)	Observed Temp. °C	Corrected Temp. °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time:	Standard	Bacteria (only) Sample Condition
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Sampler - UPS - Bus - Other:	Observed Temp. °C	Corrected Temp. °C	Cool Intact	Yes	Thermometer ID #140	Rush	Cool Intact
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FORM 006 R 3-24 07/11/23

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





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

June 06, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA UNIT 146 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 06/04/24 13:52.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	06/04/2024	Sampling Date:	06/04/2024
Reported:	06/06/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057101	Sample Received By:	Shalyn Rodriguez
Project Location:	32.8073, -103.7518		

**Sample ID: FS 01 4 (H243145-01)**

BTEx 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/04/2024	ND	2.06	103	2.00	1.40	
Toluene*	1.95	0.050	06/04/2024	ND	2.21	111	2.00	0.368	
Ethylbenzene*	4.56	0.050	06/04/2024	ND	2.23	112	2.00	1.64	
Total Xylenes*	8.51	0.150	06/04/2024	ND	6.83	114	6.00	2.00	
Total BTEX	15.1	0.300	06/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 142 % 71.5-134

Chloride, SM4500Cl-B			mg/kg					Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/05/2024	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*	65.1	10.0	06/04/2024	ND	190	95.0	200	0.789	
DRO >C10-C28*	94.3	10.0	06/04/2024	ND	184	91.9	200	0.999	
EXT DRO >C28-C36	59.9	10.0	06/04/2024	ND					

Surrogate: 1-Chlorooctane 86.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.8 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	06/04/2024	Sampling Date:	06/04/2024
Reported:	06/06/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 146 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057101	Sample Received By:	Shalyn Rodriguez
Project Location:	32.8073, -103.7518		

**Sample ID: FS 02 5.5 (H243145-02)**

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	06/04/2024	ND	2.06	103	2.00	1.40		
Toluene*	<0.050	0.050	06/04/2024	ND	2.21	111	2.00	0.368		
Ethylbenzene*	<0.050	0.050	06/04/2024	ND	2.23	112	2.00	1.64		
Total Xylenes*	<0.150	0.150	06/04/2024	ND	6.83	114	6.00	2.00		
Total BTEx	<0.300	0.300	06/04/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	06/05/2024	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	06/05/2024	ND	190	95.0	200	0.789	
DRO >C10-C28*	<10.0	10.0	06/05/2024	ND	184	91.9	200	0.999	
EXT DRO >C28-C36	<10.0	10.0	06/05/2024	ND					

Surrogate: 1-Chlorooctane 92.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.5 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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



---

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

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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.
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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Cardinal Laboratories

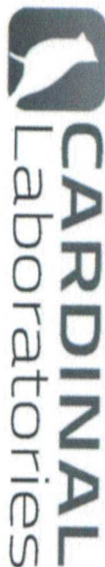
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A handwritten signature in black ink, appearing to read "Mike Snyder".

---

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



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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

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June 11, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/05/24 14:49.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/05/2024  
 Reported: 06/11/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073-103.7518

Sampling Date: 06/05/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BH 01 6' (H243200-01)**

BTX 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	06/07/2024	ND	1.88	94.0	2.00	8.16		
Toluene*	<0.050	0.050	06/07/2024	ND	1.98	99.0	2.00	9.03		
Ethylbenzene*	<0.050	0.050	06/07/2024	ND	2.00	100	2.00	9.96		
Total Xylenes*	<0.150	0.150	06/07/2024	ND	6.23	104	6.00	8.62		
Total BTX	<0.300	0.300	06/07/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/07/2024	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	06/06/2024	ND	193	96.3	200	1.94	
DRO >C10-C28*	<10.0	10.0	06/06/2024	ND	214	107	200	0.944	
EXT DRO >C28-C36	<10.0	10.0	06/06/2024	ND					

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/05/2024  
 Reported: 06/11/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073-103.7518

Sampling Date: 06/05/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BH 01 7' (H243200-02)**

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	06/07/2024	ND	1.88	94.0	2.00	8.16		
Toluene*	<0.050	0.050	06/07/2024	ND	1.98	99.0	2.00	9.03		
Ethylbenzene*	<0.050	0.050	06/07/2024	ND	2.00	100	2.00	9.96		
Total Xylenes*	<0.150	0.150	06/07/2024	ND	6.23	104	6.00	8.62		
Total BTEx	<0.300	0.300	06/07/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	06/07/2024	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	06/06/2024	ND	193	96.3	200	1.94	
DRO >C10-C28*	<10.0	10.0	06/06/2024	ND	214	107	200	0.944	
EXT DRO >C28-C36	<10.0	10.0	06/06/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/05/2024  
 Reported: 06/11/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073-103.7518

Sampling Date: 06/05/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BH 02 7' (H243200-03)**

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	06/07/2024	ND	1.88	94.0	2.00	8.16		
Toluene*	<0.050	0.050	06/07/2024	ND	1.98	99.0	2.00	9.03		
Ethylbenzene*	<0.050	0.050	06/07/2024	ND	2.00	100	2.00	9.96		
Total Xylenes*	<0.150	0.150	06/07/2024	ND	6.23	104	6.00	8.62		
Total BTEx	<0.300	0.300	06/07/2024	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	<16.0	16.0	06/07/2024	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	06/06/2024	ND	193	96.3	200	1.94	
DRO >C10-C28*	<10.0	10.0	06/06/2024	ND	214	107	200	0.944	
EXT DRO >C28-C36	<10.0	10.0	06/06/2024	ND					

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 131 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/05/2024  
 Reported: 06/11/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073-103.7518

Sampling Date: 06/05/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BH 02 8' (H243200-04)**

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	06/07/2024	ND	1.88	94.0	2.00	8.16		
Toluene*	<0.050	0.050	06/07/2024	ND	1.98	99.0	2.00	9.03		
Ethylbenzene*	<0.050	0.050	06/07/2024	ND	2.00	100	2.00	9.96		
Total Xylenes*	<0.150	0.150	06/07/2024	ND	6.23	104	6.00	8.62		
Total BTEx	<0.300	0.300	06/07/2024	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	
Chloride	16.0	16.0	06/07/2024	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	06/06/2024	ND	193	96.3	200	1.94	
DRO >C10-C28*	<10.0	10.0	06/06/2024	ND	214	107	200	0.944	
EXT DRO >C28-C36	<10.0	10.0	06/06/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 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

---

### 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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "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

<b>Project Manager:</b> Beaux Jennings <b>Address:</b> 604 N Marland St, Suite 400 <b>City:</b> Midland <b>Phone #:</b> 210-219-0058 <b>Project #:</b> 03E2057101 <b>Project Name:</b> MCA 146 <b>Project Location:</b> 32.8073, -103.7518 <b>Sample Name:</b> Mafio Sarcinis		<b>P.O. #:</b> <b>Company:</b> Ensoium LLC <b>Attn:</b> Wade Dittich <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> 575-390-2020 <b>Fax #:</b>	
<b>FOR LAB USE ONLY</b>		<b>Matrix</b>	
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.
H443800	BH01	6	# CONTAINERS
1	BH01	7	GROUNDWATER
2	BH02	7	WASTEWATER
3	BH02	8	SOIL
4	BH02	8	OIL
			SLUDGE
			OTHER :
			ACID/BASE:
			ICE / COOL
			OTHER :
			DATE
			TIME
			BTEX
			TPH
			Chlorides

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**Relinquished By:** [Signature] **Received By:** [Signature] **Date:** 6/5/24

**Relinquished By:** [Signature] **Received By:** [Signature] **Date:** 6/5/24

**Delivered By:** (Circle One) **Observed Temp.:** 5.9°C **Sample Condition:** Cool Intact **Checked By:** [Signature]

**Sampler - UPS - Bus - Other:** **Corrected Temp.:** °C **Yes** **No** **Yes** **No** **Yes** **No**

**Turnaround Time:** **Standard** **Rush** **Bacteria (only)** **Sample Condition** **Thermometer ID** **#113** **#140** **Correction Factor** **-0.5°C** **Yes** **No** **Yes** **No** **Observed Temp.:** °C **Corrected Temp.:** °C

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





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

June 13, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/07/24 15:04.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 01 0-4' (H243285-01)**

BTX 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	06/11/2024	ND	1.84	91.8	2.00	6.36		
Toluene*	<0.050	0.050	06/11/2024	ND	1.85	92.6	2.00	4.76		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.92	96.1	2.00	2.89		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.59	93.1	6.00	2.69		
Total BTX	<0.300	0.300	06/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	704	16.0	06/11/2024	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	06/10/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	16.3	10.0	06/10/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/10/2024	ND					

Surrogate: 1-Chlorooctane 67.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.5 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 02 0-4' (H243285-02)**

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	06/11/2024	ND	1.84	91.8	2.00	6.36		
Toluene*	<0.050	0.050	06/11/2024	ND	1.85	92.6	2.00	4.76		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.92	96.1	2.00	2.89		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.59	93.1	6.00	2.69		
Total BTEX	<0.300	0.300	06/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.3 % 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	144	16.0	06/11/2024	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	06/10/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	10.6	10.0	06/10/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/10/2024	ND					

Surrogate: 1-Chlorooctane 67.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 65.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 03 4' (H243285-03)**

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	06/11/2024	ND	1.84	91.8	2.00	6.36		
Toluene*	<0.050	0.050	06/11/2024	ND	1.85	92.6	2.00	4.76		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.92	96.1	2.00	2.89		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.59	93.1	6.00	2.69		
Total BTEx	<0.300	0.300	06/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.1 % 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	560	16.0	06/11/2024	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	06/10/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	<10.0	10.0	06/10/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/10/2024	ND					

Surrogate: 1-Chlorooctane 71.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 69.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 04 4' (H243285-04)**

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	06/11/2024	ND	1.84	91.8	2.00	6.36		
Toluene*	<0.050	0.050	06/11/2024	ND	1.85	92.6	2.00	4.76		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.92	96.1	2.00	2.89		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.59	93.1	6.00	2.69		
Total BTEX	<0.300	0.300	06/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	06/11/2024	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	06/10/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	<10.0	10.0	06/10/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/10/2024	ND					

Surrogate: 1-Chlorooctane 67.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 05 4' (H243285-05)**

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	06/11/2024	ND	1.84	91.8	2.00	6.36		
Toluene*	<0.050	0.050	06/11/2024	ND	1.85	92.6	2.00	4.76		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.92	96.1	2.00	2.89		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.59	93.1	6.00	2.69		
Total BTEx	<0.300	0.300	06/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.7 % 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	512	16.0	06/11/2024	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	06/10/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	43.3	10.0	06/10/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	38.2	10.0	06/10/2024	ND					

Surrogate: 1-Chlorooctane 54.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 53.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 06 6' (H243285-06)**

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	06/11/2024	ND	2.02	101	2.00	0.275		
Toluene*	<0.050	0.050	06/11/2024	ND	2.14	107	2.00	0.753		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	2.13	107	2.00	0.930		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	6.57	110	6.00	1.86		
Total BTEx	<0.300	0.300	06/11/2024	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	208	16.0	06/11/2024	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	06/10/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	<10.0	10.0	06/10/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/10/2024	ND					

Surrogate: 1-Chlorooctane 71.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 69.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 08 6' (H243285-07)**

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	06/11/2024	ND	2.02	101	2.00	0.275		
Toluene*	<0.050	0.050	06/11/2024	ND	2.14	107	2.00	0.753		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	2.13	107	2.00	0.930		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	6.57	110	6.00	1.86		
Total BTEx	<0.300	0.300	06/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	06/11/2024	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	06/10/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	<10.0	10.0	06/10/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/10/2024	ND					

Surrogate: 1-Chlorooctane 69.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.2 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 03 0-4' (H243285-08)**

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	06/11/2024	ND	2.02	101	2.00	0.275		
Toluene*	<0.050	0.050	06/11/2024	ND	2.14	107	2.00	0.753		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	2.13	107	2.00	0.930		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	6.57	110	6.00	1.86		
Total BTEX	<0.300	0.300	06/11/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/11/2024	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	06/11/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane 72.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/07/2024  
 Reported: 06/13/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/07/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 04 0-6' (H243285-09)**

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	06/11/2024	ND	2.02	101	2.00	0.275		
Toluene*	<0.050	0.050	06/11/2024	ND	2.14	107	2.00	0.753		
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	2.13	107	2.00	0.930		
Total Xylenes*	<0.150	0.150	06/11/2024	ND	6.57	110	6.00	1.86		
Total BTEx	<0.300	0.300	06/11/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	06/11/2024	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	06/11/2024	ND	168	83.9	200	1.44	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	166	83.1	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane 73.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.0 % 49.1-148

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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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A handwritten signature in black ink, appearing to read "C. 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

Company Name: Ensolum, LLC		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: Aimee Cole		Company: Ensolum					
Address: 3122 National Parks Hwy		Attn: Aimee Cole					
City: Carlsbad		Address: 3122 National Parks Hwy					
State: NM Zip: 88220		City: Carlsbad					
Phone #: (720) 384-7365 Fax #:		State: NM Zip: 88220					
Project #: 03E2057101 Project Owner: Maverick K		Phone #:					
Project Name: MCA 146		Fax #:					
Project Location: 32.8073564, -103.7518694							
Sampler Name: Omar Hamdy							
FOR LAB USE ONLY							
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING
					GROUNDWATER		
					WASTEWATER		
					SOIL		
					OIL		
					SLUDGE		
					OTHER:		
					ACID/BASE:		
					ICE / COOL		
					OTHER:		
					DATE	TIME	
1213285	SW01	0-4'			6/3/24	8:55	BTEX
	SW02	0-4'				9:00	TPH
	ES03	4'				12:30	Chlorides
	ES04	4'				9:10	
	ES05	4'				9:15	
	ES06	6'				9:55	
	ES07-OH	6'				10:05	
	ES08	0-4'				9:45	
	SW03	0-4'				9:45	
	SW04	0-6'				9:50	

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Relinquished By: <i>[Signature]</i>	Date: 6/17/24	Received By: <i>[Signature]</i>	Date: 6/17/24
Time: 14:10		Time: 14:10	
Relinquished By: <i>[Signature]</i>	Date: 6/17/24	Received By: <i>[Signature]</i>	Date: 6/17/24
Time: 15:04		Time: 15:04	

Delivered By: (Circle One) ☒ On-site ☐ UPS - Bus - Other: ☐ Corrected Temp. °C

Sample Condition: ☒ Sample Intact ☐ Cool ☐ Yes ☐ No ☐ Yes ☐ No

Checked By: (Initials) *AD*

Turnaround Time: ☐ Standard ☒ Rush ☐ Bacteria (only) ☐ Sample Condition ☐ Observed Temp. °C ☐ Corrected Temp. °C

Thermometer ID #443 *142*

Correction Factor: 0.3°C

Remarks: *ACOLE@ensolum.com/m5arhise@ensolum.com*

Verbal Result: ☐ Yes ☐ No ☐ Add'l Phone #:

All Results are emailed. Please provide Email address:





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

June 19, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/13/24 13:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/13/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Alyssa Parras

**Sample ID: FS 09 4' (H243444-01)**

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	06/18/2024	ND	1.96	97.8	2.00	1.74		
Toluene*	<0.050	0.050	06/18/2024	ND	1.97	98.4	2.00	1.41		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.88	93.8	2.00	1.19		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.84	97.3	6.00	1.19		
Total BTEX	<0.300	0.300	06/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	672	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/18/2024	ND	199	99.4	200	1.73	
DRO >C10-C28*	233	10.0	06/18/2024	ND	230	115	200	1.78	
EXT DRO >C28-C36	200	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/13/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Alyssa Parras

**Sample ID: FS 10 4' (H243444-02)**

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	06/17/2024	ND	1.96	97.8	2.00	1.74		
Toluene*	<0.050	0.050	06/17/2024	ND	1.97	98.4	2.00	1.41		
Ethylbenzene*	<0.050	0.050	06/17/2024	ND	1.88	93.8	2.00	1.19		
Total Xylenes*	<0.150	0.150	06/17/2024	ND	5.84	97.3	6.00	1.19		
Total BTEx	<0.300	0.300	06/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	912	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/18/2024	ND	199	99.4	200	1.73	
DRO >C10-C28*	60.7	10.0	06/18/2024	ND	230	115	200	1.78	
EXT DRO >C28-C36	53.3	10.0	06/18/2024	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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/13/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Alyssa Parras

**Sample ID: FS 11 4' (H243444-03)**

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	06/17/2024	ND	1.96	97.8	2.00	1.74		
Toluene*	<0.050	0.050	06/17/2024	ND	1.97	98.4	2.00	1.41		
Ethylbenzene*	<0.050	0.050	06/17/2024	ND	1.88	93.8	2.00	1.19		
Total Xylenes*	<0.150	0.150	06/17/2024	ND	5.84	97.3	6.00	1.19		
Total BTEX	<0.300	0.300	06/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	256	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/17/2024	ND	199	99.4	200	1.73	
DRO >C10-C28*	42.5	10.0	06/17/2024	ND	230	115	200	1.78	
EXT DRO >C28-C36	46.1	10.0	06/17/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/13/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Alyssa Parras

**Sample ID: FS 12 4' (H243444-04)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.144</b>	0.050	06/18/2024	ND	1.96	97.8	2.00	1.74	
<b>Toluene*</b>	<b>0.952</b>	0.050	06/18/2024	ND	1.97	98.4	2.00	1.41	
<b>Ethylbenzene*</b>	<b>0.935</b>	0.050	06/18/2024	ND	1.88	93.8	2.00	1.19	
<b>Total Xylenes*</b>	<b>1.64</b>	0.150	06/18/2024	ND	5.84	97.3	6.00	1.19	
<b>Total BTEX</b>	<b>3.67</b>	0.300	06/18/2024	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
<b>Chloride</b>	<b>976</b>	16.0	06/17/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>21.9</b>	10.0	06/18/2024	ND	199	99.4	200	1.73	
<b>DRO &gt;C10-C28*</b>	<b>481</b>	10.0	06/18/2024	ND	230	115	200	1.78	
<b>EXT DRO &gt;C28-C36</b>	<b>548</b>	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/13/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Alyssa Parras

**Sample ID: FS 13 4' (H243444-05)**

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	06/17/2024	ND	1.96	97.8	2.00	1.74		
Toluene*	<0.050	0.050	06/17/2024	ND	1.97	98.4	2.00	1.41		
Ethylbenzene*	<0.050	0.050	06/17/2024	ND	1.88	93.8	2.00	1.19		
Total Xylenes*	<0.150	0.150	06/17/2024	ND	5.84	97.3	6.00	1.19		
Total BTEX	<0.300	0.300	06/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 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	512	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/17/2024	ND	199	99.4	200	1.73	
DRO >C10-C28*	<10.0	10.0	06/17/2024	ND	230	115	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	06/17/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/13/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Alyssa Parras

**Sample ID: FS 14 4' (H243444-06)**

BTX 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	06/17/2024	ND	1.96	97.8	2.00	1.74		
Toluene*	<0.050	0.050	06/17/2024	ND	1.97	98.4	2.00	1.41		
Ethylbenzene*	<0.050	0.050	06/17/2024	ND	1.88	93.8	2.00	1.19		
Total Xylenes*	<0.150	0.150	06/17/2024	ND	5.84	97.3	6.00	1.19		
Total BTX	<0.300	0.300	06/17/2024	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	
Chloride	864	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/18/2024	ND	199	99.4	200	1.73	
DRO >C10-C28*	313	10.0	06/18/2024	ND	230	115	200	1.78	
EXT DRO >C28-C36	278	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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 client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/13/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/13/2024  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Alyssa Parras

**Sample ID: FS 21 4' (H243444-07)**

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	06/17/2024	ND	1.96	97.8	2.00	1.74		
Toluene*	<0.050	0.050	06/17/2024	ND	1.97	98.4	2.00	1.41		
Ethylbenzene*	<0.050	0.050	06/17/2024	ND	1.88	93.8	2.00	1.19		
Total Xylenes*	<0.150	0.150	06/17/2024	ND	5.84	97.3	6.00	1.19		
Total BTEx	<0.300	0.300	06/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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	928	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/17/2024	ND	199	99.4	200	1.73	
DRO >C10-C28*	<10.0	10.0	06/17/2024	ND	230	115	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	06/17/2024	ND					

Surrogate: 1-Chlorooctane 99.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

**BILL TO**

ANALYSIS REQUEST

Project Manager: Aimee Cole

P.O. #:

Address: 3122 National Parks Hwy

Company: Ensolum

City: Carlisbad

State: NM Zip: 88220

Attn: Aimee Cole

Phone #: 844500 7775

Fax #:

Address: 3122 National Parks Hwy

Project #: 03E2057103

Project Owner: Maverick

City: Carlisbad

Project Name: MCA 146

State: NM Zip: 88220

Project Location: 32.8073564

Phone #:

Sample Name: Over Hardy

Fax #:

FOR LAB USE ONLY

FOR LAB USE ONLY		Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV	SAMPLING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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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 analyses. 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 hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:

Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

Relinquished By:

Received By:

REMARKS: a cole@ensolum.com m.sarkis@ensolum.com

Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time:	Standard	Bacteria (only)	Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PP	Thermometer ID #113	Rush <input checked="" type="checkbox"/>	Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Observed Temp. °C
				Correction Factor -0.5°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

---

June 18, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/14/24 14:49.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/14/2024  
 Reported: 06/18/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/14/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 07 0-4 (H243471-01)**

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	06/14/2024	ND	2.00	100	2.00	0.552	
Toluene*	<0.050	0.050	06/14/2024	ND	1.98	98.9	2.00	0.457	
Ethylbenzene*	<b>0.102</b>	0.050	06/14/2024	ND	2.01	101	2.00	0.651	
<b>Total Xylenes*</b>	<b>0.330</b>	0.150	06/14/2024	ND	5.83	97.2	6.00	0.698	
<b>Total BTEX</b>	<b>0.432</b>	0.300	06/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 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>2880</b>	16.0	06/17/2024	ND	432	108	400	3.64	

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	06/14/2024	ND	185	92.5	200	2.28	
<b>DRO &gt;C10-C28*</b>	<b>234</b>	10.0	06/14/2024	ND	180	90.2	200	2.72	
<b>EXT DRO &gt;C28-C36</b>	<b>36.4</b>	10.0	06/14/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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

---

Cardinal Laboratories

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A handwritten signature in black ink, appearing to read "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

Company Name: Ensolum, LLC		P.O. #:		ANALYSIS REQUEST									
Project Manager: Aimee Cole		Company: Ensolum, LLC											
Address: 3122 National Parks Hwy		Attn: Aimee Cole											
City: Las Alamos		Address:											
State: NM Zip: 88320		City:											
Phone #: 720-384-7365 Fax #:		State:											
Project #: 03E2057101 Project Owner:		Zip:											
Project Name: MCA 146		Phone #: 720-384-7365											
Project Location: 38,8073,-103,7518		Fax #:											
Sampler Name: Mario Sarmas		PRESERV		SAMPLING									
FOR LAB USE ONLY													
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	Chlorides
H243471	SW07	0-4	C	1	GROUNDWATER	✓	✓		6/14/24	1156	✓	✓	✓
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 hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.													
Relinquished By:		Date: 6/14/24		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		All Results are emailed. Please provide Email address:			
Time: 1449		Date: 6/14/24		Received By: [Signature]		REMARKS: aol@ensolum.com/msarmas@ensolum.com							
Relinquished By: [Signature]		Time:		Date:		Turnaround Time: 24-48 hrs		Standard Rush <input type="checkbox"/> 48 hr <input type="checkbox"/>		Bacteria (only) Sample Condition			
Delivered By: (Circle One)		Observed Temp. °C		Sample Condition		CHECKED BY: (Initials)		Thermometer ID #44		Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Corrected Temp. °C	
Sampler - UPS - Bus - Other:		Corrected Temp. °C		Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		APC		Correction Factor -0.5°C		140		48 hr	

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



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---

June 18, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/14/24 14:49.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/14/2024  
 Reported: 06/18/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/14/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 05 0-4 (H243472-01)**

BTX 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	06/14/2024	ND	2.00	100	2.00	0.552	
<b>Toluene*</b>	<b>0.068</b>	0.050	06/14/2024	ND	1.98	98.9	2.00	0.457	
<b>Ethylbenzene*</b>	<b>0.181</b>	0.050	06/14/2024	ND	2.01	101	2.00	0.651	
<b>Total Xylenes*</b>	<b>0.453</b>	0.150	06/14/2024	ND	5.83	97.2	6.00	0.698	
<b>Total BTX</b>	<b>0.702</b>	0.300	06/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 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>368</b>	16.0	06/17/2024	ND	432	108	400	3.64	

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	06/14/2024	ND	185	92.5	200	2.28	
<b>DRO &gt;C10-C28*</b>	<b>11.4</b>	10.0	06/14/2024	ND	180	90.2	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	06/14/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/14/2024  
 Reported: 06/18/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/14/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: SW 06 0-6 (H243472-02)**

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	06/14/2024	ND	2.00	100	2.00	0.552		
Toluene*	<0.050	0.050	06/14/2024	ND	1.98	98.9	2.00	0.457		
Ethylbenzene*	<0.050	0.050	06/14/2024	ND	2.01	101	2.00	0.651		
Total Xylenes*	<0.150	0.150	06/14/2024	ND	5.83	97.2	6.00	0.698		
Total BTEX	<0.300	0.300	06/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 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	
Chloride	176	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/14/2024	ND	185	92.5	200	2.28	
DRO >C10-C28*	<10.0	10.0	06/14/2024	ND	180	90.2	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	06/14/2024	ND					

Surrogate: 1-Chlorooctane 95.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/14/2024  
 Reported: 06/18/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/14/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 15 4 (H243472-03)**

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	06/14/2024	ND	2.00	100	2.00	0.552		
Toluene*	<0.050	0.050	06/14/2024	ND	1.98	98.9	2.00	0.457		
Ethylbenzene*	<0.050	0.050	06/14/2024	ND	2.01	101	2.00	0.651		
Total Xylenes*	<0.150	0.150	06/14/2024	ND	5.83	97.2	6.00	0.698		
Total BTEX	<0.300	0.300	06/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.7 % 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	896	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/14/2024	ND	185	92.5	200	2.28	
DRO >C10-C28*	<10.0	10.0	06/14/2024	ND	180	90.2	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	06/14/2024	ND					

Surrogate: 1-Chlorooctane 92.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/14/2024  
 Reported: 06/18/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/14/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 16 4 (H243472-04)**

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	06/17/2024	ND	2.08	104	2.00	0.854		
Toluene*	<0.050	0.050	06/17/2024	ND	2.21	111	2.00	0.484		
Ethylbenzene*	<0.050	0.050	06/17/2024	ND	2.21	110	2.00	0.347		
Total Xylenes*	<0.150	0.150	06/17/2024	ND	6.75	112	6.00	1.04		
Total BTEX	<0.300	0.300	06/17/2024	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	944	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/15/2024	ND	185	92.5	200	2.28	
DRO >C10-C28*	<10.0	10.0	06/15/2024	ND	180	90.2	200	2.72	
EXT DRO >C28-C36	<10.0	10.0	06/15/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/14/2024  
 Reported: 06/18/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/14/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Alyssa Parras

**Sample ID: FS 17 4 (H243472-05)**

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	06/17/2024	ND	2.08	104	2.00	0.854		
Toluene*	<0.050	0.050	06/17/2024	ND	2.21	111	2.00	0.484		
Ethylbenzene*	<0.050	0.050	06/17/2024	ND	2.21	110	2.00	0.347		
Total Xylenes*	<0.150	0.150	06/17/2024	ND	6.75	112	6.00	1.04		
Total BTEX	<0.300	0.300	06/17/2024	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	64.0	16.0	06/17/2024	ND	432	108	400	3.64		

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	06/14/2024	ND	221	110	200	1.99	
DRO >C10-C28*	<10.0	10.0	06/14/2024	ND	233	116	200	1.14	
EXT DRO >C28-C36	<10.0	10.0	06/14/2024	ND					

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

**(575) 393-2326 FAX (575) 393-2476**  
**Ensolium, LLC**

# Bill To

[illegible]



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June 19, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/17/24 14:26.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/17/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 18 6' (H243509-01)**

BTX 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	06/18/2024	ND	1.80	90.2	2.00	9.11		
Toluene*	<0.050	0.050	06/18/2024	ND	1.82	91.1	2.00	6.57		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.89	94.3	2.00	4.36		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.54	92.3	6.00	4.25		
Total BTX	<0.300	0.300	06/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	06/19/2024	ND	416	104	400	7.41		

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	06/18/2024	ND	207	103	200	2.81	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	217	108	200	0.405	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 132 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/17/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 19 6' (H243509-02)**

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	06/18/2024	ND	1.80	90.2	2.00	9.11		
Toluene*	<0.050	0.050	06/18/2024	ND	1.82	91.1	2.00	6.57		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.89	94.3	2.00	4.36		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.54	92.3	6.00	4.25		
Total BTEx	<0.300	0.300	06/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.4 % 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	864	16.0	06/19/2024	ND	416	104	400	7.41	

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	06/19/2024	ND	207	103	200	2.81	
DRO >C10-C28*	43.7	10.0	06/19/2024	ND	217	108	200	0.405	
EXT DRO >C28-C36	26.7	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 89.8 % 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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/17/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 20 6' (H243509-03)**

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	06/18/2024	ND	1.80	90.2	2.00	9.11		
Toluene*	<0.050	0.050	06/18/2024	ND	1.82	91.1	2.00	6.57		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.89	94.3	2.00	4.36		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.54	92.3	6.00	4.25		
Total BTEX	<0.300	0.300	06/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	06/19/2024	ND	416	104	400	7.41		

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	06/18/2024	ND	207	103	200	2.81	
DRO >C10-C28*	<10.0	10.0	06/18/2024	ND	217	108	200	0.405	
EXT DRO >C28-C36	<10.0	10.0	06/18/2024	ND					

Surrogate: 1-Chlorooctane 125 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/17/2024  
 Reported: 06/19/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/17/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 22 6' (H243509-04)**

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	06/18/2024	ND	1.80	90.2	2.00	9.11		
Toluene*	<0.050	0.050	06/18/2024	ND	1.82	91.1	2.00	6.57		
Ethylbenzene*	<0.050	0.050	06/18/2024	ND	1.89	94.3	2.00	4.36		
Total Xylenes*	<0.150	0.150	06/18/2024	ND	5.54	92.3	6.00	4.25		
Total BTEx	<0.300	0.300	06/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 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	496	16.0	06/19/2024	ND	416	104	400	7.41		

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	06/19/2024	ND	207	103	200	2.81	
DRO >C10-C28*	51.8	10.0	06/19/2024	ND	217	108	200	0.405	
EXT DRO >C28-C36	18.6	10.0	06/19/2024	ND					

Surrogate: 1-Chlorooctane 94.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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\*=Accredited Analyte

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 client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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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.
- 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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A handwritten signature in black ink, appearing to read "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

[illegible]



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

---

June 26, 2024

AIMEE COLE  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/20/24 13:45.

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, flowing style.

Celey D. Keene  
Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM, LLC  
 AIMEE COLE  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 06/20/2024  
 Reported: 06/26/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073, -103.7518

Sampling Date: 06/20/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FS 07 6' (H243664-01)**

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	06/25/2024	ND	2.05	102	2.00	1.31	
Toluene*	<0.050	0.050	06/25/2024	ND	2.14	107	2.00	1.43	
Ethylbenzene*	<0.050	0.050	06/25/2024	ND	2.11	106	2.00	1.19	
Total Xylenes*	<0.150	0.150	06/25/2024	ND	6.52	109	6.00	0.742	
Total BTEX	<0.300	0.300	06/25/2024	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	448	16.0	06/21/2024	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2024	ND	202	101	200	0.403	
DRO >C10-C28*	13.4	10.0	06/24/2024	ND	201	101	200	4.95	
EXT DRO >C28-C36	<10.0	10.0	06/24/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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 client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

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

[illegible]



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

---

June 24, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 06/18/24 13:46.

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 fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 06/18/2024  
 Reported: 06/24/2024  
 Project Name: MCA 146  
 Project Number: 03E2057101  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 06/18/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BF 01 (H243572-01)**

BTX 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	06/21/2024	ND	1.99	99.5	2.00	4.24	
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23	
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88	
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83	
Total BTX	<0.300	0.300	06/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/20/2024	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	06/20/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 78.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.6 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

---

August 02, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 146

Enclosed are the results of analyses for samples received by the laboratory on 07/30/24 15:52.

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 fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 07/30/2024  
 Reported: 08/02/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 07/30/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BH 03 1 (H244541-01)**

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	07/31/2024	ND	2.25	112	2.00	10.9	
Toluene*	<0.050	0.050	07/31/2024	ND	2.40	120	2.00	12.3	
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.54	127	2.00	12.6	
Total Xylenes*	<0.150	0.150	07/31/2024	ND	7.53	125	6.00	12.3	
Total BTEX	<0.300	0.300	07/31/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/01/2024	ND	432	108	400	3.64	

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	07/31/2024	ND	190	94.9	200	3.44	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	183	91.5	200	2.32	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 86.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.0 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 07/30/2024  
 Reported: 08/02/2024  
 Project Name: MCA 146  
 Project Number: 03E2057103  
 Project Location: 32.8073564,-103.7518694

Sampling Date: 07/30/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: BH 03 3 (H244541-02)**

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	07/31/2024	ND	2.25	112	2.00	10.9	
Toluene*	<0.050	0.050	07/31/2024	ND	2.40	120	2.00	12.3	
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.54	127	2.00	12.6	
Total Xylenes*	<0.150	0.150	07/31/2024	ND	7.53	125	6.00	12.3	
Total BTEX	<0.300	0.300	07/31/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/01/2024	ND	432	108	400	3.64		

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	07/31/2024	ND	190	94.9	200	3.44	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	183	91.5	200	2.32	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 96.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.6 % 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

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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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "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

Company Name: Ensolum, LLC				P.O. #:		ANALYSIS REQUEST	
Project Manager: Aimee Cole				Company: Ensolum, LLC			
Address: 3122 National Parks Hwy				Attn: Aimee Cole			
City: Carlsbad				State: NM		Zip: 88220	
Phone #: (720) 384-7365				Fax #:			
Project #: 03E2057103				Project Owner:			
Project Name: MCA 146				City:			
Project Location: 32,8073564-103,7518694				State:		Zip:	
Sampler Name: Mario Sanchez				Phone #:			
FOR LAB USE ONLY				Fax #:			

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING		ANALYSIS															
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	Chlorides											
1244541	BH03	1	G	1			✓					✓		7/30/24	1215	✓	✓	✓											
2	BH03	3	G	1			✓					✓		7/30/24	1218	✓	✓	✓											

**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 analyses. 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 hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>[Signature]</i>		Date: 7/30/24		Received By: <i>[Signature]</i>		Date: 7/30/24	
Relinquished By:		Date:		Received By:		Date:	
Time:		Time:		Time:		Time:	

Observed Temp. °C	Corrected Temp. °C	Sample Condition	CHECKED BY: <i>[Signature]</i>
3.6		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	
		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Turnaround Time:	Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only) <input type="checkbox"/>	Sample Condition
Thermometer ID: #445		Cool <input type="checkbox"/> Intact <input type="checkbox"/>	Observed Temp. °C
Correction Factor: -0.5°C		Yes <input type="checkbox"/> No <input type="checkbox"/>	Corrected Temp. °C

**REMARKS:** ALOPE@ensolum.com / mario.sanchez@ensolum.com



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QUESTIONS  
  
Action 370435

QUESTIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	370435
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2321651067
Incident Name	NAPP2321651067 MCA UNIT #146 @ 30-025-00717
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-00717] MCA UNIT #146

Location of Release Source	
Please answer all the questions in this group.	
Site Name	MCA UNIT #146
Date Release Discovered	08/04/2023
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion   Flow Line - Production   Crude Oil   Released: 1 BBL   Recovered: 0 BBL   Lost: 1 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion   Flow Line - Production   Produced Water   Released: 10 BBL   Recovered: 0 BBL   Lost: 10 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)	A flowline rupture resulted in the release of 1 bbl of oil and 10 bbls of produced water onto the facility pad. The release was constrained to the wellpad and did not flow off into the adjacent pasture.

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QUESTIONS, Page 2

Action 370435

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:
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Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 08/05/2024
--	--

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QUESTIONS, Page 3

Action 370435

**QUESTIONS (continued)**

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:
	331199
	Action Number:
	370435
	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 51 and 75 (ft.)
What method was used to determine the depth to ground water	Attached Document
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 ½ and 1 (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	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

**Remediation Plan**

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

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

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

Chloride	(EPA 300.0 or SM4500 Cl B)	2880
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	1051
GRO+DRO	(EPA SW-846 Method 8015M)	503
BTEX	(EPA SW-846 Method 8021B or 8260B)	15
Benzene	(EPA SW-846 Method 8021B or 8260B)	0.1

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	05/29/2024
On what date will (or did) the final sampling or liner inspection occur	06/17/2024
On what date will (or was) the remediation complete(d)	06/17/2024
What is the estimated surface area (in square feet) that will be reclaimed	4400
What is the estimated volume (in cubic yards) that will be reclaimed	1250
What is the estimated surface area (in square feet) that will be remediated	4400
What is the estimated volume (in cubic yards) that will be remediated	1250

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

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

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QUESTIONS, Page 4  
  
Action 370435

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	370435
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(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	R360 ARTESIA LLC LANDFARM [FEEM0112340644]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Aimee Cole Email: <a href="mailto:acole@ensolum.com">acole@ensolum.com</a> Date: 08/05/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5  
  
Action 370435

QUESTIONS (continued)

Operator:  Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	370435
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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Action 370435

**QUESTIONS (continued)**

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	Action Number:	370435
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	368289
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/31/2024
What was the (estimated) number of samples that were to be gathered	3
What was the sampling surface area in square feet	600

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	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	4400
What was the total volume (cubic yards) remediated	1250
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	4400
What was the total volume (in cubic yards) reclaimed	1250
Summarize any additional remediation activities not included by answers (above)	See attached Closure Request for details regarding remediation activities and soil sample results.

*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: Aimee Cole Email: acole@ensolum.com Date: 08/05/2024
--	--



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Action 370435

QUESTIONS (continued)

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Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

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

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CONDITIONS

Action 370435

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:
	331199
	Action Number:
	370435
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation closure approved.	8/5/2024
amaxwell	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.	8/5/2024
amaxwell	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	8/5/2024